

LIFE SCIENCE IN SKÅNE

– a survey of companies in the sector



426 companies

7 500 employees

Medtech largest subsector

Half of companies are located in science parks



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This analysis has been prepared by Øresundsinstitutet as part of the Interreg-project Greater Copenhagen Life Science Analysis Initiative and was written by Kristoffer Dahl Sørensen, Sofi Eriksson, Camilla Neve Lieknins and Emil Persson.

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Cover photo: News Øresund

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GREATER COPENHAGEN LIFE SCIENCE ANALYSIS INITIATIVE is an EU-project aimed at increasing knowledge about the region's life science cluster. The focus is on the demand for labourers, future expertise needs, and more. The project has received funding through the EU-programme Interreg Öresund-Kattegat-Skagerrak and will continue until 31 December 2021. The project's lead partner is Medicon Valley Alliance, and the partner is Øresundsinstitutet. Region Skåne and Region Zealand are co-funding the project.



MEDICON VALLEY is the bi-national life science cluster spanning Eastern Denmark and the Skåne region of Southern Sweden. Today, the Danish-Swedish region is marketed internationally with the name 'Greater Copenhagen', and its increasing population has reached more than four million residents. In Sweden, the same geographical area is often called the 'Øresund Region'.

PREFACE

There are 426 life science enterprises in Skåne, and together they employ 7 500 people in the region. That is around 1 500 more than the number of people employed by the same companies five years ago. In the interim, 92 new life science enterprises have emerged in Skåne. More than half of Skåne's life science businesses are based in science parks, and medtech is the largest subsector in the region: these are several of the main results of the survey of companies presented in this report. In addition, Skåne's life science businesses responded to questions about their needs for new staff and for new expertise in the future. It emerged that the primary need is for more competences in STEM, as well as sales and marketing.

The coronavirus pandemic has changed the situations of many businesses, but the life science sector appears to be one of the sectors to have weathered the crisis well to date. This is also apparent in Skåne; this spring, around 100 of Skåne's life science companies answered questions about whether the coronavirus pandemic had made it necessary for them to dismiss staff members. Around 80 per cent responded that this had not been the case; a smaller subgroup comprising 12 companies had or expected it would be necessary to dismiss employees because of the pandemic.

Approximately 60 of the businesses in Skåne in this survey are active on both sides of the Øresund Strait. Around 100 Danes work in life science companies in Skåne, and 20 of them have a Danish CEO. These are several examples of links across the strait that are evident in this report based on the Danish-Swedish Medicon Valley.

Conducting a survey of the life science sector is a challenge. The sector comprises many scientific disciplines and areas of focus, and there is no established statistic definition that encompasses the entire life science sector. Øresundsinstitutet and Medicon Valley Alliance thus identified a need to supplement analytics with manual research in which life science enterprises are surveyed via direct contact and interviews. This report is the result of that collaboration and a part of the joint Interreg-project Greater Copenhagen Life Science Analysis Initiative. The businesses' future needs are surveyed with a special focus on labour force and expertise, and forthcoming reports will also review the university training programmes offered in the life sciences. In addition, they will focus more intently on the sector's links across the Øresund Strait, and Denmark's life science enterprises will be surveyed, as Skåne's have been here to offer a comprehensive depiction of the Danish-Swedish life science cluster Medicon Valley, which is Scandinavia's largest.

Copenhagen and Malmö, 18 November 2020

Johan Wessman
Øresundsinstitutet



FOTO: NEWS ØRESUND

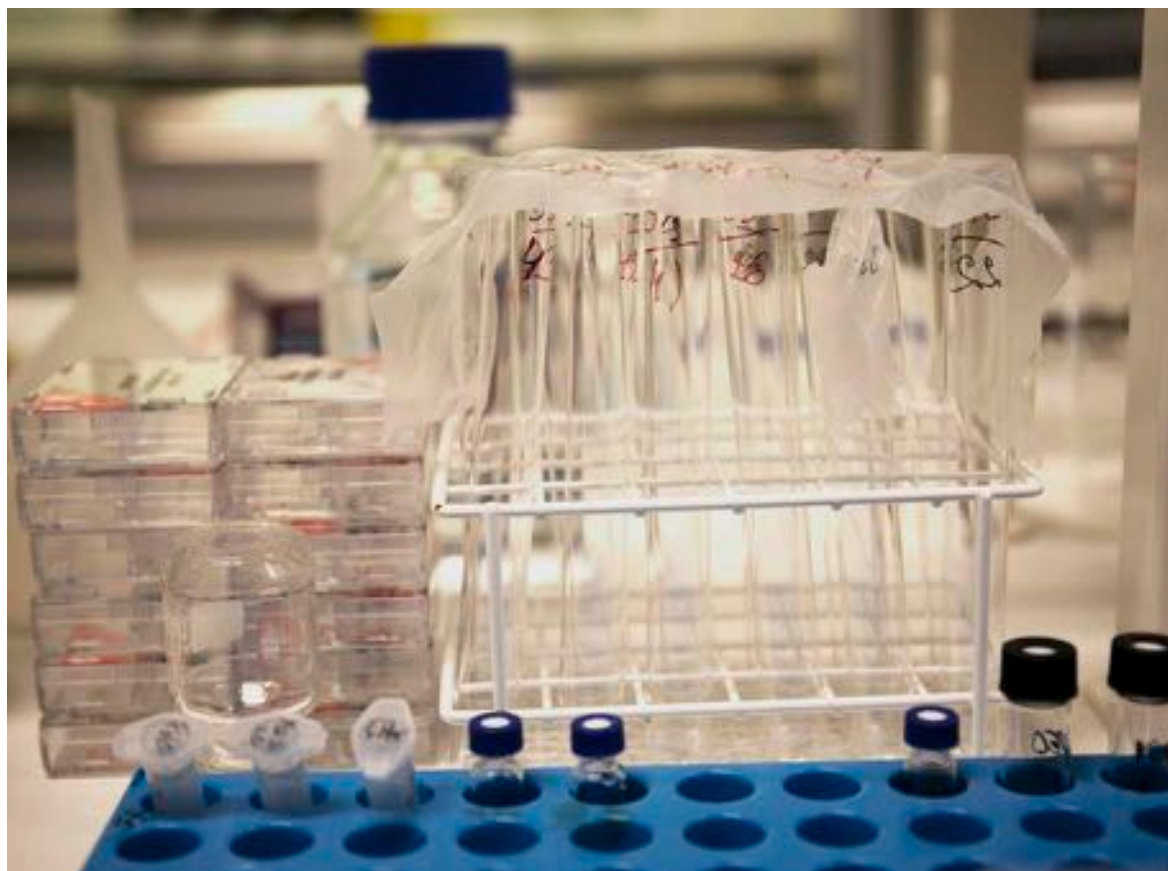


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426 enterprises

Skåne's life science sector comprises 426 companies. Around half of them can be classified as micro-companies with nine employees or fewer. There are around 100 small companies with 10-49 employees and ca 25 medium-sized companies with 50-249 employees. Six life science companies with more than 250 employees were identified. While most of the enterprises are micro-companies, two-thirds of employees work in medium-sized or large companies.



PHOTO: NEWS ØRESUND

HALF OF THE COMPANIES ARE LOCATED IN SCIENCE PARKS. Of the 426 life science companies identified, around half are located in the parks Medeon, Ideon, Medicon Village and the incubator SmiLe. With its 225 registered companies, Lund is the municipality in Skåne with the greatest number of life science companies.

92 new companies

92 new life science enterprises have seen the light of day since 2015. Together, they employ around 220 people. 64 of the newly-founded companies are in Lund Municipality.

MALMÖ IS THE LARGEST LIFE SCIENCE CITY.

Malmö and Lund have traded places since 2015, and Malmö is now Skåne's largest life science city in terms of the number of employees at the companies surveyed. The city's life science companies employ around 2 700 people. CMO-consultancy and medtech are the largest subsectors, and in terms of employment, the CDMO PolyPeptide is largest with its 279 employees.

7 500

According to the most recent company data available, the life science industry employs 7 500 people in Skåne. The sector has grown in recent years – in 2015 there were just under 6 000 people working at Skåne's life science companies. Employment has increased in all of Skåne and in various subsectors, but the majority of the employment increase has been in Skåne's largest urban centres for the life sciences: Malmö and Lund.

MEDTECH LARGEST SUBSECTOR.

In terms of employment and turnover, the largest subsector is medtech – medtech companies employ ca 3 100 people. Medtech is also the largest subsector in Lund and outside the largest urban centres in Skåne. Medtech is the second-largest subsector in Malmö and Helsingborg. The second-largest subsector in Skåne on the whole is pharma, followed by contract research and biotech.



PHOTO: GELLAVISION

POSITIVE DEVELOPMENT FOR LIFE SCIENCE IN SKÅNE DESPITE STRUCTURAL CHALLENGES

The 426 life science enterprises identified in Skåne are growing on the whole and employ ca 7 500 people locally in Skåne. There are approximately 1 500 more employees in the businesses surveyed than there were five years ago. Most of the companies interviewed reported that it has not been necessary to dismiss employees because of the coronavirus pandemic. However, measures are needed to resolve structural challenges relating to e.g. the funding climate, and there is both a need for – and a short-age of – more competence in STEM and sales and marketing.

Employment has risen since 2015

The region has highlighted the life sciences as one of Skåne's six specialist areas. The survey shows that this strength consists of 426 identified life science businesses, and that these businesses have generated 1 500 new jobs in Skåne in five years. Around 7 500 people are employed by the life science companies according to the most recent figures available from 2018-2020. The rise in employment corresponds to ca 25% as compared to 2015, when approx. 6 000 people were employed in the life science companies surveyed. Positive employment development has thus been evident in all of Skåne – both in Malmö and Lund and in northwest Skåne and elsewhere in the region, where Helsingborg and Kristianstad are the largest cities. Lastly, all of the life science subsectors, i.e. medtech, biotech, pharma, contract research and -manufacturing, as well as ICT and foodtech, have grown – particularly the life science enterprises focused on ICT and biotech.

PHOTO: BIOGAIA

Malmö and Lund – life science centres

Most of Skåne's life science sector is concentrated around Malmö and Lund – the two main cities in the so-called MalmöLund Region. 341 of the 426 life science companies in Skåne were identified in the two urban centres. In addition, ca 68% of all of those employed in the life science companies identified in Skåne are in these two cities. Both cities have seen employment rise since 2015, but there has been particular growth in the companies identified in Malmö, which employ ca 2 700 today. That corresponds to a ca 46% development; the same companies employed around 1 800 five years ago. In Lund, ca 2 400 work in the identified companies, compared to 2 000 in 2015 – a positive development of ca 21%. Although both urban centres have university and incubation environments for the life sciences, the cities' life science environments differ. In Malmö for example, the companies are fewer, but larger; there is a strong representation of headquarters, national offices and contract research and -manufacturing activities. Lund's profile has a stronger research orientation, with larger universities and science parks, and there are a greater number of smaller R&D companies and a prominent biotech subsector.

Ownership changes influence sector development

As in other sectors, acquisitions and new ownership structures can lead to a company's expansion or relocation. The life science sector is by no means an exception, and acquisitions for billions are a frequent occurrence.

MORE THAN 200 RESEARCH PROJECTS ABOUT COVID-19 IN MEDICON VALLEY

Since this spring, over 200 research projects about the novel coronavirus that causes covid-19 have been started at universities and hospitals in Medicon Valley. In addition, many businesses in the region are venturing into corona research, either with universities or on their own. More information can be found in the report 'State of Medicon Valley 2020', downloadable from ØresundsInstitutet's and Medicon Valley Alliance's websites.

Over time and today still, ownership change has altered Skåne's life science sector in both positive and negative ways, in both Malmö, Lund and Helsingborg. For example, the medtech sector in Lund has been transforming since 2013, when the American medtech group Baxter International Inc. acquired the largest and oldest part of Gambro, which was de-listed from the Stockholm market in 2006, acquired by two Swedish investment companies and subsequently divided into three companies. The ownership decision will mean fewer employees at Baxter in Lund by 2022. In Malmö, the contract research and -manufacturing sector employs ca 300 more people compared to 2015, after e.g. the Chinese Shanghai Dongbao Biopharmaceutical took over Ferring Pharmaceuticals' factory in 2006 and established its subsidiary Rechon Life Science AB, which then expanded. In Helsingborg, Pfizer sold Pharmacia's local business activity in 2006 to the world's largest medical products company Johnson & Johnson, which renamed the site; last year they invested 20 million EUR in what has since been known as McNeil AB. It employs more people today than five years ago. Outside of the region's larger cities, HemoCue in Ängelholm was acquired by Danish Radiometer Medical for 1.7 billion kr. in 2013; this has since increased profits and employee numbers.

STEM expertise and sales and marketing competence in shortage and demand

Expertise in the natural sciences, technical, legal and commercial areas are the primary areas in which the identified life science companies in Skåne, in all subsectors, see a shortage. These are also the areas in which the companies hope or expect to expand their staff, regardless of uncertainties related to Covid-19, as a poll conducted by ØresundsInstitutet for this report showed. 72 life science companies in Skåne expressed a need for expertise, while 126 experienced that there was a shortage of expertise. In other words, it can be difficult to recruit microbiologists, biostatisticians, production technicians, regulatory experts, or salespeople with professional knowledge of the field. In general, individuals with expertise in the STEM fields (Science, Technology, Engineering and Mathematics) are seen to be in shortage. The expertise in question is both broad and specific competence in the natural sciences, and the companies seeking these competences include both small and large biotech, pharma and medtech companies, and contract research and foodtech

PHOTO: BIOGAIA



enterprises. The poll conducted also shows that 52% of the companies interviewed have not found it difficult to recruit specific expertise; 48% report the contrary. According to around one-fourth of the businesses interviewed, the balance between fields of study in the educational system and the demand for specific competences in the life science sector is suboptimal. Nonetheless, ca 9 out of 10 of the companies interviewed report that they are not considering leaving Skåne due to a shortage of expertise.

Life science companies in Skåne

Four essential efforts could improve the life science sector in Skåne overall: An improved investment- and capital climate; more local and regional collaboration; fewer bureaucratic obstacles, and stronger education and training. This was revealed in a poll conducted by ØresundsInstitutet to which around 75 life science businesses in Skåne responded. In addition, around 20 companies emphasise the importance of various other measures as well as more international marketing of Medicon Valley. Despite the need for these efforts to be implemented, the companies interviewed report good infrastructure, high levels of education, a good research environment and personal connections among the reasons why they are located in Skåne.

THE IMPACT OF COVID-19

Many businesses have avoided dismissals despite the coronavirus pandemic

The coronavirus pandemic has contributed to an unemployment rate of 11.1% in Skåne in September 2020, according to the Swedish Public Employment Service. While the commerce-, industry-, service- and hotel-, restaurant- and transportation sectors in Skåne were hit badly this spring, the life science sector appears to have been spared. Of the 125 life science companies interviewed in Skåne, around 100 (ca 80%) responded in a poll conducted for this report by ØresundsInstitutet this spring that it had not been necessary to dismiss staff because of the coronavirus pandemic to date. A smaller group consisting of 12 companies reported in the poll that they had or expected they would have to dismiss employees because of the pandemic.

80%

of 125 life science companies have not found it necessary to dismiss staff

On the contrary, a number of companies, e.g. PolyPeptide Laboratories AB in Malmö, have seen an increase in commissions; the same is true for the life science companies Xintela AB, Amniotics AB, SynAct Pharma, Viraspec and Red Glead Discovery AB in Lund. Also positively for Skåne, 60% of the companies interviewed report that they expect to recruit new employees over the next year. The picture might have changed since the spring however, as some life science companies in the survey reported a number of challenges due to the pandemic, for example limited contact to the healthcare sector, postponed projects and clinical studies, problems with logistics and uncertainties about e.g. the taxation of border commuters. Together, these factors and others might negatively affect the number of employees in the sector.

Upswing for the life science cluster in Skåne – 1 500 new jobs since 2015

After a long period characterised by major closures and relocating production facilities, things have begun to turn around for the life sciences in Skåne. The life science companies in Skåne in this analysis employ around 7 500 people locally in the region. In five years, these companies have created around 1 500 new jobs. In terms of employment, the positive development transcends subsectors and geography.

There are around 7 500 people employed regionally in the 426 life science companies identified in Skåne; that corresponds to an employment increase of ca 25% since 2015, when the same companies employed approx. 6 000 people. This is shown by a survey of the sector based on the most recent figures available and data from 2015-2020.

The sector is thus once again growing in Skåne, although the past 20 years have been characterised by multiple slowdowns, which has had a negative effect on employment. In the 00s, Malmö saw Ferring consolidate in Ørestad in Copenhagen and then sell the factory they had left behind in Limhamn/Malmö to Shanghai Dongbao Biopharmaceutical Company, resulting in around 75 dismissals. In 2010, Becton Dickinson decided to shut down its facility in Helsingborg, and 400 positions vanished as a result. In 2011 in Lund, AstraZeneca closed its R&D facility and 900 people were left without a job, and the following year, McNeil in Helsingborg announced staff cutbacks.

By 2022, Lund will once again be affected by the partial closure of an important actor's facilities when Baxter, which acquired the manufacturer of dialysis treatment equipment Gambro in 2013, moves all of its production to Italy. The result will be a ca 80% reduction in staff: instead of the 900 who were employed before the acquisition, the staff will consist of 150. Slumps are thus still part of the life science sector in Skåne, but upswings for many other companies in the area mean that the sector is continuing to grow on the whole and is employing an increasing number of people.

The survey of the life science sector in Skåne focuses on private companies and science parks, and around half of the companies are positioned on top of companies where there is an overlap between the life sciences and other sectors in order to offer a more thorough description of the sector's scope. To enable a deeper analysis, the survey does not focus on employees related to the life sciences in academic environments within the healthcare

sector in Skåne, unless those actors are also part of the cluster.

Positive employment development in all of Skåne

Employment in the companies identified has increased all over Skåne. In Malmö and Lund as well as in the northwest and elsewhere in Skåne, where Helsingborg and Kristianstad are the largest cities, employment numbers have risen since 2015. The trend of increasing employment thus also has a broad geographic reach and is not a phenomenon limited to Malmö and Lund. In 2015, around 1 800 people worked at the identified companies in Malmö; today, that number has increased to ca 2 700 for a positive development of ca 46%. In Lund, around 2 000 people were employed in the sector in 2015; today that number is 2 400 – a positive development of around 21%. In northwest Skåne, employment has increased by 8% in the identified companies, but elsewhere in Skåne, it has grown 26%. Malmö in particular is thus heading the positive employment trend in Skåne, and Malmö and Lund are crucial for the life science sector in the area: around 2/3 of the region's life science employees are employed in the two cities.

92 new startups since 2015 – but big companies are advancing employment

Positive employment developments in Skåne, with around 1 500 more employees in companies since 2015, can be ascribed in part to the many new startups in the region. Over the past five years, 92 new life science companies have been created; of these, 70% are located in Lund, and they have created employment for the around 220 people who work at them. Another, more significant explanation for the employment increase can be found at the larger, research-intensive companies with some production in the life science sector: they are the

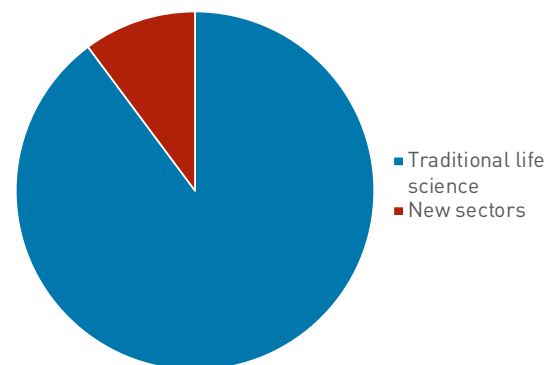
COMPANY SURVEY

SKÅNE'S 10 LARGEST LIFE SCIENCE COMPANIES – EMPLOYEES IN THE REGION

Company	Municipality	Subsector	Employees 2015	Employees 2020 ¹
McNeil AB	Helsingborg	Pharma	610	665
Gambro Lundia AB (Baxter)	Lund	Medtech	841	573
Nolato Medical Solutions	Båstad/ Hörby/ Lomma	Medtech	247	385
PolyPeptide Laboratories AB	Malmö	CMO	182	279
HemoCue AB	Ängelholm	Medtech	261	257
TePe Munhygienprodukter AB	Malmö	Medtech	181	253
QPharma AB	Malmö	CMO	142	250
Arjo Sverige AB	Malmö	Medtech	118	190
Rechon Life Science AB	Malmö	CMO	76	178
Atos Medical AB	Malmö/ Hörby	Medtech	100	155

¹ Number of employees according to most recent available data from 2017-2020. Source: Bisnode, data from the companies
Contract manufacturing organisations (CMO) and contract research organisations (CRO) are companies that are commissioned to either develop and/or manufacture e.g. pharmaceuticals for other companies in the life sciences.

NUMBER EMPLOYED IN THE LIFE SCIENCE SECTOR IN SKÅNE



Number of employees according to most recent available data from 2017-2020. Source: Bisnode, data from the companies.

ones primarily pulling employment in a positive direction. In Lund, the medtech- and biotech companies CellaVision, Hansa Biopharma and BioInvent International have grown by a total of ca. 135 employees. In Malmö, the contract research organisations Rechon Life Science, QPharma, PolyPeptide

Laboratories and the oral hygiene company TePe Munhygienprodukter have grown by a total of 400 employees. And in Helsingborg in northwest Skåne, the pharma companies McNeil and Teva and the manufacturer of plastics for medical solutions Nolato have grown by a total of 117 employees. In addition, Nolato has grown with around 100 new employees at its facilities in Hörby and Lomma. Large companies' importance for employment is also evident in that 65% of all life science employees in Skåne work in a medium-sized or large company with 50-249 or more than 250 employees, respectively.

All subsectors are growing – greatest progress in medtech

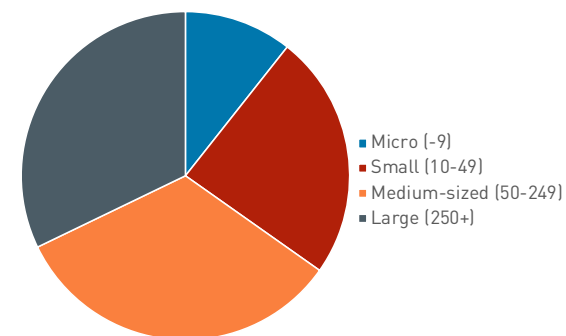
All subsectors in the life sciences in Skåne have seen increased employment. Companies in the subsectors pharma, biotech, medtech and contract research employ a greater total number than they did in 2015. In five years, the companies identified in medtech have gone from employing a total of ca 2 800 to 3 100 people; that corresponds to around 42% of all employees in the life science sector in Skåne. Pharma companies employ ca 1 200 today, compared to 1 050 in 2015. Biotech companies employ 850, compared to 550 in 2015. Contract research organisations – both CROs and CMOs now employ 1 550, up from ca 1 050 in 2015.

The figures show that medtech was the largest subsector in 2015 and remains it today – even if pharma and biotech were treated as a single category. If contract research were categorised together with biotech and pharma however, that category would be largest, with around 3 500 employees.

As it is, medtech is a vital subsector for Skåne. Large manufacturers like Arjo, Getinge, Atos Medical, Gambro, Nolato and HemoCue have traditionally characterised medtech in southern Sweden, and six of the ten largest companies in Skåne are active in medtech. In addition, there are a great many small and medium-sized medtech companies; almost every third company in Skåne is active in medtech.

Employment figures indicate that the life science sector is growing in a broad sense in Skåne, but that the positive development has been greatest for medtech. Medtech has continued to progress in spite of Baxter – which acquired Gambro in 2013 – under-

LIFE SCIENCE COMPANIES IN SKÅNE NUMBER OF EMPLOYEES IN ORDER OF COMPANY SIZE



Number of employees in Skåne according to most recent available data from 2017-2020. Source: Bisnode, data from the companies.

taking major restructuring and dismissals in the city over the past year, which it will continue to do. With the cutbacks planned at Baxter until 2022, there is a risk of progress waning in the subsector.

The figures also show an increased number of employees in the companies whose activities fall in the overlap between the life sciences and Information Communication Technology (ICT) and food. Healthtech or e-health and foodtech companies, as these companies are also called, comprise new subsectors in the life science cluster and employ a total of around 650 people; in 2015, that number was around 450.

NUMBER OF EMPLOYEES IN SKÅNE'S LIFE SCIENCE COMPANIES PER SUBSECTOR

Subsector	Employees in Skåne 2015	Employees in Skåne 2020 ¹
Medtech	2 700	3 070
Pharma	1 050	1 200
CMO	710	1 060
Biotech	550	850
CRO	330	500
ICT/Healthtech	230	400
Foodtech	220	260
Other	80	130

¹ Number of employees according to most recent available data from 2017-2020. Source: Bisnode, data from the companies

LARGE AND MEDIUM-SIZED COMPANIES EMPLOY GREATEST NUMBER

Skåne's large and medium-sized companies are responsible for two-thirds of employment in the life science sector in Skåne. In Malmö and northwest Skåne, large and medium-sized companies are responsible for nearly three-fourths of employment in the areas. In Lund, where there are a multitude of small and micro-companies, large and medium-sized companies are responsible for just half of employment.

A quarter of the companies are in overlapping market sectors

426 companies have been identified in the life science cluster in Skåne; of them, 308 can be categorised as pharma-, biotech-, medtech- and contract research companies. Around 72% of all of the life science companies thus belong to what can be considered a core segment of the life sciences. The remaining ca 28% of the life science companies identified – comprising 118 companies – make up a supplementary segment in the overlap between the life sciences and other sectors. The overlap is primarily between traditional life science and ICT; for example, the software company Capish Nordic AB is active in the life science and the food sectors, as well as between them; the same is true of other biotech companies such as e.g. Glucanova AB.

Although these companies operate in overlapping sectors, their work is decidedly focused in the life sciences; this may mean healthtech or e-health companies that develop e.g. apps, algorithms and software solutions, and foodtech companies that develop healthier foodstuff based on biotechnical research to prevent illness and disease. Like the other subsectors in the core segment, the companies in this supplementary segment have seen positive employment development since 2015. They are also located primarily in Malmö and Lund and employ ca every 10th employee in the life science sector's total labour force in Skåne.

Two new subsectors have thus emerged as new technologies, treatments and business conditions have made it possible for some companies that

formerly belonged to other, separate sectors – such as the IT and the food sector – to be considered part of the life science sector. However, these companies are primarily micro-companies and small businesses with few employees.

The biggest companies grow bigger still and dominate in Malmö

Six of the ten largest life science companies in Skåne are located in Malmö. That is an increase from 2015, when four of the ten largest companies were located in the city. With their growth and global headquarters in the city, the global medtech manufacturer Arjo, the Chinese contract research organisation Rechon Life Science, and the global contract research manufacturers PolyPeptide Laboratories and QPharma have helped secure Malmö's position as the city in which the largest number of life science companies are located. The other four of the ten largest companies are located in Lund, Helsingborg, Ängelholm, Båstad and Hörby. In terms of employees, the largest company is the pharma company McNeil in Helsingborg, which produces e.g. the stop-smoking product Nicorette. First a subsidiary of first the Danish LEO Pharma and today of the American Johnson & Johnson, McNeil has been a part of the life science sector in Helsingborg for over 100 years. The second-largest company is the medtech manufacturer Baxter in Lund; over the next few years however, it will fall on the list as a result of relocated production units. The third-largest is the contract research organisation PolyPeptide Laboratories in Malmö, although the total number of employees at Nolato Medical Solutions is higher if the company's facilities around Skåne are counted as one. Three different subsectors thus represent the three largest companies in Skåne, and half of the ten largest companies are active in medtech. Eight of the ten largest companies have grown and employed more people over the past five years.

Skåne's largest companies have a decisive influence on how many employees are in the region's various urban areas. In Malmö, three out of four employees are at medium-sized and large companies with more than 50 employees. The distribution is more even in Lund: half of the total number of employees works in micro-companies or small companies with fewer than 49 employees, and the other

half works in medium-sized or large companies. In northwest Skåne, where Helsingborg is the largest city, 56% of the employees are at large companies with more than 250 employees; this is due to McNeil and the medtech manufacturer HemoCue. Elsewhere in Skåne, where Kristianstad is the largest city, nearly three out of four are employed in medium-sized or large companies with more than 50 employees, as in Malmö. This can be attributed to Nolato and the medtech company Atos Medical.

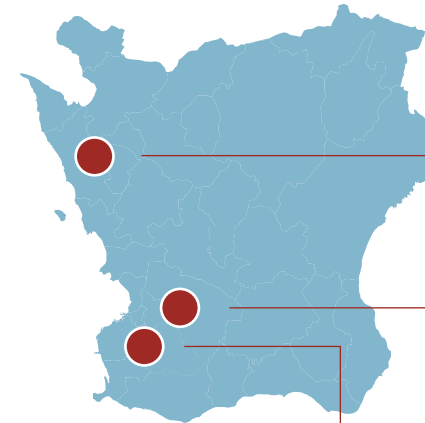
The employee constellation in Lund, where employment is mostly in smaller companies, gives Lund the status of a centre for many, albeit it small, R&D companies compared to the rest of Skåne. In addition, Lund is where the largest science parks (in terms of the number of member companies) Ideon and Medicin Village are located, and where the largest number of startups have been founded since 2015. Unlike the R&D- and incubation profile, the high percentage of employees in medium-sized and large companies in e.g. Malmö is an indication that the city has a different profile, with a greater number of companies with manufacturing units.

Around 75 listed companies in Sweden

Of the 426 life science companies in Skåne, around 75 – corresponding to ca 18% – are publicly traded in Sweden. The majority of the listed companies are active in biotech and medtech and located in Lund. In addition, many smaller companies are listed, e.g. the medtech company GPX Medical from Lund as of this October. Larger companies such as Arjo, Probi, Camurus and CellaVision are also listed, however. Most listed companies are headed by a Swedish CEO. However, 20 companies were also identified in Skåne – both publicly traded and privately owned – with a Danish CEO.

Danish and Swedish life science are thus linked in a variety of ways across the Øresund. Based on the surveyed companies, there are approx. 100 Danes who commute to around 30 life science companies, primarily in Malmö and Lund. In addition, 11 Danish life science companies have been publicly offered in Sweden since 2014. Furthermore, Swedish pharma- and biotech companies in Malmö and Lund receive support from Danish investors, Novo Nordisk Foundation, and BioInnovation Institute in Copenhagen.

BUSINESSES IN SKÅNE



NORTHWEST SKÅNE

58

Number of life science companies

1 800

Number of employees in life science companies

LARGEST SUBSECTORS

Pharma: 790

Medtech: 740

Foodtech: 170

CMO: 70

MALMÖ

116

Number of life science companies

2 700

Number of employees in life science companies

LARGEST SUBSECTORS

CMO: 980

Medtech: 830

ICT/Healthtech: 320

Pharma: 230

LUND

225

Number of life science companies

2 400

Number of employees in life science companies

LARGEST SUBSECTORS

Medtech: 1 030

Biotech: 630

CRO: 360

Pharma: 140

ELSEWHERE IN SKÅNE

28

Number of life science companies

600

Number of employees in life science companies

LARGEST SUBSECTORS

Medtech: 470

Pharma: 40

Foodtech: 20

Biotech: 20

Skåne's life science cluster is one of Sweden's three main life science clusters; the other two are Stockholm-Uppsala and Gothenburg-Västra Götaland. A distinctive feature of Skåne's life science cluster is that medtech is the largest subsector in terms of the number of employees. Most of the region's companies are located in Lund and Malmö, and the greatest number of people are also employed there. The mix of subsectors varies between the urban areas.



IDEON SCIENCE PARK

- **Founded:** 1983
- **Focus area:** Healthtech/med-tech and some biotech. 30% of the companies are active in the life sciences. Ideon also focuses on 'smart cities', 'transportation of the future', and 'smart materials'
- **Ownership:** Ideon is run through three companies:
 - o **IDEON AB** is the marketing company that heads strategic operations and conducts the local innovation system, owned by Castellum and Wihlborgs and reports to the SUN Foundation. **CEO:** Mia Rolf
 - o **IDEON OPEN** is engaged by established companies looking to revitalise their innovation work. Owned by Lund University, the Municipality of Lund and Wihlborgs. **CEO:** Arne Hansson
 - o **IDEON INNOVATION** runs the incubator operations at Ideon – both on-site and digitally. Owned by Lund University, the Municipality of Lund, and Wihlborgs. **CEO:** Ola Andersson
- **The buildings are owned by:** Wihlborgs Fastigheter AB and Castellum AB
- **Total number of companies at Ideon:** 414
- **Total number of companies in incubation program:** 21
- **Total number of employees at Ideon:** 10 000
- **Moreover:** Ideon was Sweden's first science park. The first buildings were funded by IKEA in the 1980s



SMILE INCUBATOR AB

- **Founded:** 2007 as Lund Life Science Incubator (LSI), moved to Medicon Village in 2012, changed its name to SmiLe Incubator i 2016
- **Focus area:** Biotech, pharma, medtech, and e-health
- **Ownership:** Region Skåne, Lund Municipality, Lund University and Medicon Village
- **CEO:** Ebba Fåhraeus
- **Total number of startups in SmiLe Incubator:** 23
- **Total number of employees at SmiLe Incubator:** ca 100
- **Moreover:** The admission process for the incubator can take up to nine months

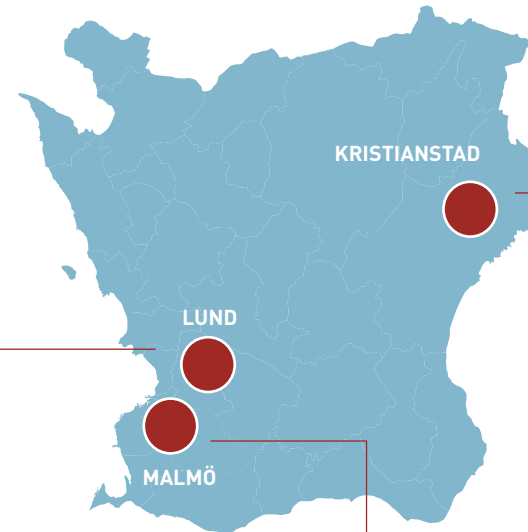


MEDICON VILLAGE

- **Founded:** 2012
- **Focus area:** Pharmaceuticals, medtech, and biotech
- **Ownership:** Medicon Village is divided into two companies, both of which are owned by the Mats Paulsson Foundation for Research, Innovation and Societal Development
- Medicon Village Innovation AB, **CEO:** Kerstin Jakobsson
- **The buildings are owned by:** Medicon Village Fastigheter AB, property manager: Erik Jagesten
- **Total number of companies**

- at Medicon Village:** 150
- **Total number of employees at Medicon Village's companies:** ca. 2 200
- **Moreover:** The bio-incubator SmiLe is located at Medicon Village. Medicon Village is expanding and the new building The Spark was inaugurated in 2019. Around 2/3 of the premises are rented to Lund University and Region Skåne. There is also a Lund Municipality enterprise – Future by Lund – at Medicon Village

SKÅNE'S SCIENCE PARKS IN THE LIFE SCIENCES



Skåne's science parks are developing rapidly. Medeon will expand in October with a new building, half of which is already rented out today. Medicon Village inaugurated its new main building, The Spark, last autumn, and soon the area will also be home to Helgonagården 7:10 – a 'smart living' residential complex – and two new cancer clinics that will head cancer treatment and research on the site. In recent years, SmiLe Incubator has taken new healthtech companies under its wing, employed new advisors and gotten a more international profile and staff. Internationalisation has also been in focus at Ideon with the new UN innovation centre, which is part of UNOPS and coordinated with the Copenhagen headquarters. And finally, Krinova has a new CEO – Christian Nyhlén – and renewed funding from the Municipality of Kristianstad in the amount of 1.5 SEK p.a. from 2021–2023.



MEDION SCIENCE PARK & INCUBATOR

- **Founded:** 1985 under the name Ideon-Malmö, changed its name to Medeon in 1998
- **Focus area:** Pharma, medtech, biotech, and health care
- **Ownership:** The City of Malmö and Wihlborgs Fastigheter
- **CEO:** Ulf G. Andersson
- **The buildings are owned by:** Wihlborgs Fastigheter
- **Total number of companies at Medeon:** ca. 60
- **Total number of employees in the companies at Medeon:** 400–450
- **Moreover:** Medeon is Sweden's oldest science park dedicated solely to the life sciences



KRINOVA INCUBATOR & SCIENCE PARK

- **Founded:** 1999
- **Focus area:** Food
- **Ownership:** Kristianstad Municipality owns 40% of Krinova Incubator & Science Park, 40% is owned by the municipality's subsidiary Kristianstads Industribyggnads AB, and 20% is owned by Kristianstad University
- **CEO:** Nikolas Larsson (acting managing director).
- **Total number of companies at Krinova:** 106
- **Total number of employees at Krinova's companies:** ca. 350
- **Moreover:** On behalf of the six municipalities of northeastern Skåne, Region Skåne and Kristianstad University, Krinova Incubator & Science Park provides innovation support to small and medium-sized companies in all sectors, food enterprises, and to students and researchers. More than 500 companies have received support to date.

Source: Based on information provided by the science parks in interviews. Information is also based on the science parks' websites and on previous reports published by Øresundsinstittet.



PHOTO: NEWS ØRESUND



MALMÖ – SKÅNE'S LARGEST LIFE SCIENCE CITY

The life science cluster in Malmö has developed strongly over the past five years. Employment at life science companies has risen, with the number of employees going from 1 800 to about 2 700, and companies have consolidated in the city, among them Atos Medical AB and the publicly traded company Arjo AB. Medeon Science Park and its manufacturing companies, such as TePe, QPharma and APL, are expanding their facilities. 19 new businesses have been created. Malmö also excels as a city of importance when it comes to generating pharmaceutical developments, and many companies have established their headquarters in the urban centre.

Since 2015, Malmö has grown to become Skåne's largest life science city and the home of a number of manufacturing companies, of which PolyPeptide Laboratories is the largest. The city is also the Swedish home of the largest Danish pharmaceutical companies – Novo Nordisk, H. Lundbeck, and LEO Pharma – and also hosts a number Scandinavian and global headquarters. Medeon Science Park, known

as Sweden's first science park focused specifically on the life sciences, has expanded: this October it will inaugurate its new, 4 000m² building, more than half of which has already been rented out.

The companies identified in the sector employ around 2 700 people in Malmö Municipality, and the number of people employed in the sector has increased by about 850 since 2015. This indicates a

shift: in 2015, Lund Municipality had the highest number of employees in the life science sector. Measured by the number of employees, the largest subsector in the municipality is contract research and -manufacturing organisations. The second largest subsector is medtech.

New headquarters, old production companies

Malmö has enjoyed success as a life science city in a number of ways since 2015; one area to get a boost in Malmö has been medtech. Atos Medical moved its headquarters from Hörby to Malmö in 2015. In late 2016, the listed medtech group Getinge decided to hive off Arjo and list it on the stock market; a year later the split was complete. The company's base had been in Malmö since 2012, where it was known as Arjo Huntleigh and was one of three production divisions at Getinge. As an independent listed company, since 2018 Arjo has increased the number of employees at what is now its headquarters in Malmö from 120 to 190. Arjo employs around 6 200 people around the globe. Arjo and Atos Medical establishing their presences in Malmö is part of a larger trend in which more companies from diverse sectors are relocating their headquarters or national offices to the city. The trend has played a role in the fact that six of Skåne's ten largest life science companies are now based in Malmö. It also highlights Malmö's importance as a city with vital headquarters activity.

Moreover, Malmö is an important manufacturing city for the life sciences. The companies PolyPeptide, QPharma and Svar Life Science (formerly Euro Diagnostica) are a few of the larger enterprises with production activity in the city. Along with Nordic Drugs, all of them have historical roots that link them to the global pharma company Ferring Pharmaceuticals, which was founded in Malmö in 1950 by Frederik Paulsen Sr. The company's International PharmaService Center and R&D are in Ørestad, sales and marketing are in Malmö, and the headquarters is in Switzerland, and it is currently completing a new research centre near Kastrup to which it will relocate from the iconic black skyscraper in Ørestad that the company moved into in 2002; at the time, the move consolidated product development from Malmö, Copenhagen and Kiel. Ferring has been and continues to be an important part of the life science sector in Malmö and the Øresund Region, as the founder's son, Frederik Paulsen Jr., now owns the aforementioned companies via a number of foundations, as well as Ferring Pharmaceuticals.

Science park expansion, broad success and new networks

Another enduring life science actor in Malmö is Medeon Science Park. Established in 1985 under the name Ideon-Malmö, it is Sweden's oldest science park dedicated to the life sciences. In 1998 it changed its name to Medeon. In October the park – in collaboration with the property developer Wihlborgs – saw the premises expand with more office and lab space, as the current capacity was already fully in use. New expansion plans will follow.

– When the first building is complete, we'll start planning the next one, and our objective will be to bring in new enterprises; these could be companies from Skåne and Denmark, but also from outside Medicon Valley, says Ulf G. Andersson, CEO of Medeon.

There are also successful developments in the biotech-, pharma- and contract research sectors in Malmö, where employee numbers have been on the rise since 2015. The employment rate has also risen

MALMÖ

116

Number of life science companies in Malmö

2 700

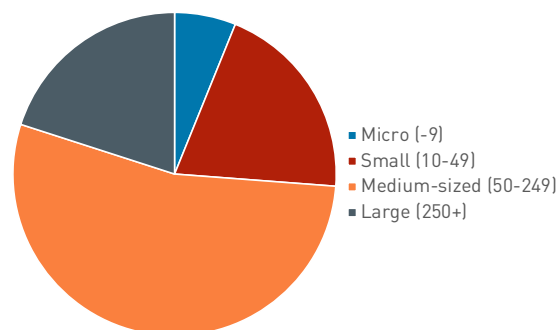
Number of employees in the life science companies in Malmö

NUMBER OF EMPLOYEES IN MALMÖ'S LIFE SCIENCE COMPANIES PER SUBSECTOR

Subsector	Employees in Malmö 2015	Employees in Malmö 2020 ¹
CMO	620	980
Medtech	530	830
ICT/Healthcare	180	320
Pharma	200	230
Biotech	130	190
CRO	50	110
Other	20	30
Foodtech	<10	<10

¹ Number of employees according to most recent available data from 2017-2020. Source: Bisnode, data from the companies

LIFE SCIENCE COMPANIES IN MALMÖ – NUMBER OF EMPLOYEES IN ORDER OF COMPANY SIZE



Number of employees in Skåne according to most recent available data from 2017-2020. Source: Bisnode, data from the companies.

MOST WORK IN MEDIUM-SIZED COMPANIES

Medium-sized companies, with between 50 and 249 employees, are responsible for more than half of the employment in the life science sector in Skåne. Malmö's two biggest companies, TePe Munhygienprodukter AB and PolyPeptide Laboratories AB, provide around one-fifth of employment. Every fourth employee in Malmö's life science sector works in a micro-company or a small company.

in the crossover ICT companies whose activities are in IT and the life sciences and include the development of apps, software and digital solutions for individuals and the rest of the life science sector. Capish Nordic, Flow Neuroscience and Perigee are a few of the approx. 30 companies were identified in Malmö with dominant links to the life sciences. They employed a total of 179 people in 2015, as opposed to today's 322, according to the latest available figures from 2018-2019.

With the positive employment development across subsectors, there are a total of around 2 700 people working in the 116 life science companies identified in Malmö; in 2015, there were 1 800 people working in the sector – there has thus been an increase of ca. 46%.

The life science sector in Malmö and Greater Copenhagen has also been able to enjoy an extra boost, as the partnering conference Nordic Life Science Days, arranged by SwedenBio, has been held in Malmö rather than in Stockholm since 2017. In 2019, around 800 companies and organisations were represented by ca 1 300 participants from a total of 40 different companies, and the number of Danish participants has tripled since the trade show moved to Malmö.

The Danish-Swedish link was strengthened further this March by the increase in Malmö University's involvement in transregional research activities driven by e.g. Medicon Valley Alliance. At the core of the new collaboration are drug delivery, diabetes, digital health, and fertility and reproduction.

Also bolstering the life sciences in Malmö is the fact that it is the only Swedish city to have been

included in Novo Nordisk's global network Cities Changing Diabetes, in which 24 cities – including Copenhagen – collaborate to find solutions for tackling the increase in urban obesity.

Contract manufacturing organisations and contract research organisations – the city's largest subsector

Contract manufacturing and contract research organisations are the largest subsector in Malmö. Such companies are commissioned to develop and manufacture e.g. pharmaceuticals for other companies in the life sciences. According to the most recent statistics available, which span 2018-2020, the sector employs a total of ca 1 100 people full-time; that corresponds to a ca 60% increase from 2015.

The largest life science company in Malmö is the contract development and manufacturing company PolyPeptide Laboratories with its 279 full-time employees in the city's Limhamn district. In just five years, the business has grown and taken on nearly 100 new employees in Malmö, and it is the global headquarters for the privately-owned PolyPeptide Group, which has around 900 employees around the world. In 2019, the company's turnover in Malmö was 788 million SEK. PolyPeptide has seen new orders as a result of the coronavirus crisis, says the company's Global HR Director Jacob Nilsson; it is currently in an expansion phase and expects to increase its staff in Malmö in the years to come.

– We're in a rather expansive phase. We're doing very well, and our problem is more being able to meet demand, says Jacob Nilsson.

PolyPeptide Laboratories is one of many large contract manufacturing and research organisations that develop and manufacture pharmaceuticals on contract for other companies in the sector. Other companies in Malmö include QPharma, Apotek Produktion och Laboratorier (APL), Bioglan, Galenica at Medeon Science Park and Rechon Life Science. The lattermost is owned by the Chinese company Shanghai Dongbao Biopharmaceutical, which acquired Ferring's former pharmaceuticals manufacturing facility in Limhamn in 2006 and created the Swedish subsidiary Rechon Life Science.

The presence of the companies in the city promotes Malmö's position as an important city for the development of pharmaceuticals, as well as contributes to increased employment. Like PolyPeptide, most of the companies mentioned above have seen a need to increase their workforce since 2015; Rechon Life Science for example has increased its personnel from 76 to 178, Bioglan from 60 to 100, and Galenica from 35 to 80. As mentioned elsewhere, there are thus 1 000 employees in the subsector according to the most recent statistics available, up from a total of around 670 in 2015. The increase is notable, as approximately 9% of Malmö's life science companies are contract research organisations.

Number of medtech employees almost doubled

The second largest subsector in the Municipality of Malmö is medtech. Approximately 800 people work in the field, according to the most recent statistics available, which are from 2018-2020. That is a ca 50% increase compared to 2015, when the subsector employed approx. 530.

Growth in Malmö's medtech sector can be explained e.g. by a combination of successes enjoyed by both local, older industrial companies and the locally-established divisions of foreign companies. Atos Medical and Arjo, the latter of which was part of the Getinge group until 2017, have both moved their headquarters south from Hörby and Eslöv, respectively, to Malmö, where they have also consolidated their activities. Around 55 people work at Atos Medical's headquarters in Hyllie, and ca 140 work at Arjo's headquarters near Malmö's Central Station.

Furthermore, the manufacturer of oral hygiene products TePe – a company founded in Malmö in 1965 – has also contributed to pushing the medtech sector in the right direction; between 2015 and 2020, the company's staff grew from 181 to 253 as the company's turnover has risen. Parallel to this, in recent years

TePe has laid the foundation for the addition of a total of 15 000m² of warehouse, office and manufacturing space that is anticipated to create 100 new jobs. It is important to note that the Malmö headquarters of the three Swedish companies named here are also global group offices.

As mentioned above, growth in the medtech sector can also be explained by the success of the local divisions and Scandinavian headquarters of American medtech companies such as e.g. Stryker, Djo, and Edwards Lifescience in the city, whose turnover and personnel have increased since 2015. Stryker's progress is particularly notable; according to the most recent data provided from the company, Stryker employs ca 75 people in Malmö – ca 88% more than in 2015.

Finally, medtech is an important subsector for Malmö's Medeon Science Park, which is home to a number of companies such as Medarca and Vibrosense. The science park's scope in the life sciences is broad, however; diabetes, for example, is a major focus there.

Overall stable development for large Danish pharma companies

All of Denmark's three largest pharmaceuticals companies, Novo Nordisk, LEO Pharma and H. Lundbeck, continue to be represented in Malmö with Danish directors, and the total number of employees for the three companies has remained stable since 2015.

In 2015, there were approx. 110 people working for the three companies in Malmö; that number is essentially unchanged in 2019/2020. If looking at the three large pharma companies individually, their development in Malmö has taken somewhat different directions since 2015: employee numbers have increased at Novo Nordisk and LEO Pharma, while H. Lundbeck's staff has decreased in size. Novo Nordisk's branch in Malmö, which is also considered the company's national office for Sweden, has gone from 66 employees in 2015 to 75 in 2020. As mentioned elsewhere, LEO Pharma's facility in Malmö has also enjoyed progress, now counting approx. 25 employees in 2019 – nearly double the number in 2015. There are fewer employees at H. Lundbeck's Malmö facility however: in 2015 there were 31 people on staff, and in 2019 there were 19.

Whether H. Lundbeck's and LEO Pharma's announced plans for strategic reorganisation in the coming years will affect the company's activities in Malmö remains to be seen.

MORE NEW LIFE SCIENCE ENTERPRISES IN MALMÖ – Companies established since 2015

19

Number of companies

34

Number of employees in Malmö

The life science sector is growing, both in terms of employees and the number of companies. 19 new enterprises have been established since 2015 – while active in a number of subsectors, the majority of them were established in medtech, pharmaceuticals and ICT.

The fastest growing of them are the new pharmaceuticals companies: Glenmark Pharmaceuticals Nordic AB was founded in 2017 and already has seven employees; Enorama Pharma and 2A Pharma AB started up in 2016, and they now have five and four employees, respectively.

MALMÖ – A GROWING HEADQUARTERS CAPITAL

The number of people working at life science companies in Malmö has risen by about 850 since 2015. There are around 2 700 people employed at the companies in Malmö; that is an increase of ca. 46% compared to 2015, when around 1 800 people worked in the sector there. Among other things, the positive development is linked to growing headquarters in Malmö and existing companies' expansion. Below is a list of the city's company headquarters with more than 50 employees:

Global headquarters:

Arjo AB
PolyPeptide Laboratories AB
TePe Munhygienprodukter AB
QPharma AB
Bioglan AB
Galenica AB
Mediplast AB
Magle Chemoswed AB
Atos Medical AB
Rechon Life Science AB

National divisions or sales offices:

Stryker AB
Apotek Produktion & Laboratorier AB (APL)
Novo Nordisk Scandinavia AB



PHOTO: NEWS ØRESUND

COMPANIES IN EXPANSION IN MALMÖ

The contract developer and manufacturer QPharma started expansion in 2018 with a new manufacturing facility. Next year their staff in Malmö will expand; CEO Kenneth Stokholm reported to ØresundsInstitutet that they expect a total of 290 and 300 employees. TePe, which produces oral hygiene products, is continuing to expand its warehouse-, office- and manufacturing facilities after phase 1 was completed in 2019. The contract company APL has invested in scaling up production and consolidated a number of activities from Gothenburg in Malmö. In October 2020, Medeon Science Park inaugurated a new, 4 000 m² building and hopes to begin planning for another. The contract company PolyPeptide also has plans to increase production.

GROWING SCIENCE PARK

This October brought more office and lab space to Medeon Science Park: the new, 4 000 m² building is called Forskaren 1 – the Researcher. More than half of the new space has already been rented out to Galenica, a contract manufacturer and one of the around 60 companies at Medeon. The company moved in on 1 October 2020. Companies are able to adapt the rented premises to suit their needs.



PHOTO: NEWS ØRESUND

MALMÖ'S FASTEST GROWING COMPANIES

CMO-consultants, medtech and ICT companies are the ones that grow fastest in Malmö, but all of the subsectors reviewed employ more people now than in 2015. Rechon Life Science AB, QPharma AB and PolyPeptide Laboratories AB are the three companies from Malmö whose growth has been strongest since 2015, with each assuming around 100 new employees.

PHOTO: NEWS ØRESUND



Companies with the most new employees in Malmö since 2015:

QPharma AB +108
Rechon Life Science AB +102
PolyPeptide Laboratories AB +97
Arjo Sverige AB +72
TePe Munhygienprodukter AB +72
MD International AB +58
Galenica AB +45
Bioglan AB +40
Tunstall Nordic AB +35
Stryker AB +35
Svar Life Science AB +32
Arthro Therapeutics AB +24

Together, Malmö's 20 fastest-growing life science companies have increased their number of employees by 730 individuals since 2015. Of the 20 fastest growing companies, 11 are medium-sized, with between 50 and 249 employees, and there are also large companies such as PolyPeptide Laboratories AB and TePe Munhygienprodukter AB, with more than 250 employees. Seven of the fastest-growing companies in Malmö's life science sector are small enterprises with fewer than 50 employees.



PHOTO: NEWS ØRESUND

Danish Sunstone Life Science Ventures is the largest shareholder in the Malmö-based companies Ascelia Pharma and Acarix. The venture capital investment firm owns 19.1% and 9.2% of the companies, respectively. Both of the companies are quoted on Nasdaq Stockholm.

INDUSTRY IMPORTANT IN MALMÖ

There are around 15 life science companies with manufacturing facilities in Malmö. The majority are from the contract research sector, while others are simple companies in biotech and medtech. A common feature of almost all of the production companies is that they have increased their workforce since 2015 – at that time, there were around 1 000 people employed in companies with manufacturing facilities; according to the most recent figures available, production companies now employ around 1 400 people. Several examples are:

PolyPeptide Laboratories AB
TePe Munhygienprodukter AB
Bioglan AB
Rechon Life Science AB
QPharma AB
Apotek Produktion & Laboratorier AB
Svar Life Science AB
Allard Manufacturing AB



PHOTO: NEWS ØRESUND

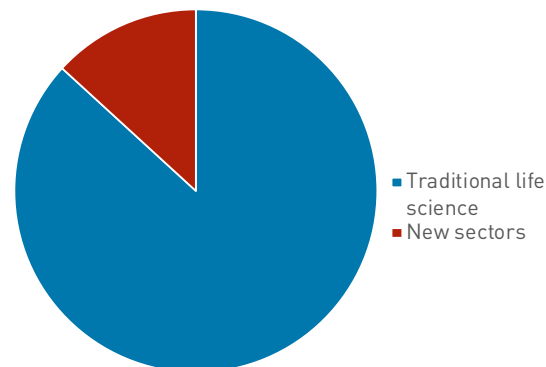
NEW SUBSECTORS IN MALMÖ

Healthtech companies are thriving.

Around 30 companies in Malmö have explicitly focused their activities on ICT related to the life sciences. These companies develop apps, software and digital solutions for other life science actors or their own health-related solutions. The companies are also called healthtech-, e-health- or connected health companies. The sector has been thriving since 2015 in terms of the number of employees and the number of companies. In 2015, around 180 people were employed in the companies identified. According to the most recent figures available for 2018-2020, around 320 people in Malmö are employed in ICT with a life science focus, comprising 12% of Malmö's total employees in the life sciences. The largest company identified is MD International AB – it is also responsible for Min Doktor, which has developed a digital platform for physician consultations. The company was founded in Skåne in 2013, and its headquarters are in Malmö. While the ICT sector explicitly focused on the life sciences is thriving in Malmö and is beginning to resemble a new subsector in the city, only few foodtech companies specifically focused on the life sciences were identified in the city. These few companies are newly established and have only a few employees.



NUMBER OF EMPLOYEES IN THE LIFE SCIENCE SECTOR IN MALMÖ



¹ Number of employees according to most recent available data from 2017-2020. Source: Bisnode, data from the companies

COMPANIES WITH SOME ACTIVITIES IN THE LIFE SCIENCES

A number of other companies active in Malmö have links to the life science sector, even if they are not primarily active in the life sciences, as the companies in our survey are. They offer e.g. IT- and consultant solutions for the life science sector to the global IT giants IBM and Hewlett-Packard. Health and Care is one of the IT company CGI Sverige's ten focus sectors, in which the company

works with e.g. digitalisation and AI solutions in e-health.

The software company Technia works with Product Lifecycle Management in a number e.g. life science, industry and the transport sector.

Sector overlap is not exclusive to the IT sector, however. A number of management consultants and recruiters work actively with the life science sector. The com-

pany Technogarden has offices in Malmö and at Medicon Village in Lund and describes itself as a competence and recruitment partner for industry, IT, life science, management and telecom. Risk management consultants at Risk Pilot list Medtech as one of five focus areas, along with the automotive, transportation, energy and defence sectors.

MALMÖ'S LARGEST LIFE SCIENCE COMPANIES

Company	Subsector	Employees in Malmö ¹
PolyPeptide Laboratories AB	CMO	279
TePe Munhygienprodukter AB	Medtech	253
QPharma AB	CMO	250
Arjo Sverige AB	Medtech	190
Rechon Life Science AB	CMO	178
Apotek Produktion & Laboratorier AB	CMO	110
Svar Life Science AB	Bioteknik	105
Bioglan AB	CMO	100
MD International AB	ICT/Healthtech	80
Galenica AB	CRO	80
Stryker AB	Medtech	75
Novo Nordisk Scandinavia AB	Pharma	75
Mediplast AB	Medtech	64
Magle Chemoswed AB	CMO	62
Tunstall Nordic AB	ICT/Healthtech	55
Atos Medical AB	Medtech	55 ²
Biora AB	Biotech	38
Allard Manufacturing AB	Medtech	35
Djo Nordic AB	Medtech	34
Alfa eCare AB	ICT/Healthtech	33

¹ Number of employees according to most recent available data for 2017-2020. ² Also has 100 employees in Hörby. The companies on this list have 10 or more employees. Source: Bisnode and data from the companies.

Company	Subsector	Employees in Malmö ¹
Wieslab AB	CRO	31
Nordic Drugs AB	Pharma	30
Arthro Therapeutics AB	ICT/Healthtech	27
B3 Healthcare Consulting AB	ICT/Healthtech	26
LEO Pharma AB	Pharma	25
Edwards Lifesciences Nordic AB	Medtech	24
Rubin Medical AB	Medtech	24
Getinge Sverige AB	Medtech	24
H. Lundbeck AB	Pharma	19
Astellas Pharma AB	Pharma	18
Ferring Läkemedel AB	Pharma	17
Capish Nordic AB	ICT/Healthtech	15
Medac Gesellschaft für klinische Spezialpräparat	Pharma	14
Perigee AB	ICT/Healthtech	12
Infotech Scandinavia AB	ICT/Healthtech	12
Ascelia Pharma AB	Biotech	11
Softpro Medical Solutions AB	ICT/Healthtech	11
Trialbee AB	ICT/Healthtech	11
Bruun & Maté	Other	11
Sawbones Europe AB	Other	10

OTHER COMPANIES

Medtech: Acarix AB, Aktiv Ortopedteknik AB, A. Menarini Diagnostics, Chromalytica AB, Cleer4u AB, Cortec Medical AB, Dianovator*, Erol AB, Finn Medicinen Scandinavia AB, Gordiamkey AB, Innovosens AB*, Medarca AB*, Medexa Diagnostisk Service AB, Miclev Medical Products AB, Medtrust Sweden AB, Onemed Sverige AB, Probation Labs Sweden AB, Skindicator AB*, Spirel AB, Transunit AB, Vibrosense Dynamics AB, Vitrosorb AB, Zimmer Biomet Sweden AB

Biotech: Aptahem AB, Apoglyx AB*, Axichem AB, BTB Pharma AB, Cyxone AB*, Danpet AB, Ebba Biotech AB, Framtix Holdings AB*, In Vitro Plant-Tech AB, Mercodia AB, Micromorph AB, Sartorius Stedim Data Analytics AB, Swedencare AB, Swedencare Nordic AB

Pharma: 2A Pharma AB*, Abarceo AB*, Apoex AB, Besins Healthcare Nordic AB, Enorama Pharma*, Gabaather AB, Glenmark Pharmaceuticals Nordic AB*, Pila

Pharma AB, SB1 Pharma AB, WNT Research

CRO: Propharma Group AB, SYNLAB, Analytics & Services Sweden AB

ICT/Healthtech: Akutsyster i Skåne AB, Checkup AB, Docly Healthcare AB*, First & Ten AB*, Flow Neuroscience AB, Healthmind AB, Journal Digital Sverige AB, Learning 2 Sleep L2S AB, Mapcog Science AB, Medcardapps AB, My E-Health AB, Open Logger Systems AB, Poptek Gipsteknik AB, Safe Care Svenska AB, Tonttu AB, Voxeyes AB*, Vårdinnovation Sverige AB*, Worddiagnostics AB*

Foodtech: Nutragreen, Veg of Lund AB*, Wellbemed Sweden*

Other: Biotechpro AB, Diabridge AB, Livio Egg and Sperm Bank AB*, Nordic Center of Neurofeedback AB, Prenet AB, Stairway Medical AB

*Company founded in 2015 or later

MEDEON WANTS TO BE THE NERVE CENTRE FOR THE LIFE SCIENCES IN GREATER COPENHAGEN

Medeon Science Park & Incubator's aim is to be a meeting point for the life sciences – not just for Malmö, but for the whole Øresund Region, according to Medeon's CEO Ulf G. Andersson. He believes that bureaucracy and financial regulations make recruitment from Denmark to Skåne difficult, especially for small companies. He is pleased however that the science park will be expanding soon, providing better growth opportunities to smaller companies from Medeon and elsewhere.

For Medeon's CEO Ulf G. Andersson, there are many positive aspects to the park's location in Malmö. The short distance to Copenhagen, Lund, two airports, and a series of nearby hospitals and universities make the park an attractive base for a life science company, he says; the location positions Medeon centrally in the Greater Copenhagen Region.

– We feel more at home in Greater Copenhagen and in Medicon Valley than in any national context, says Ulf G. Andersson. On the whole, he finds that the region is well suited for life science purposes.

He has been heading the science park since 2014. Established in 1985, Medeon is Sweden's oldest science park exclusively for life science enterprises. The scope is broad: diagnostics, medtech, pharma and biotech are the primary areas of focus for the science park's ca 60 companies, and there is also an incubator. Between 400-450 people work on-site. Three of them are full-time employees of the Medeon organisation, and it should be mentioned that there is also a network of experts employed on a consultant basis; there is thus a total of 20-25 people who advise the companies about their business operations.

Seeking interaction in the border region is not without its challenges, however. ID-checks, currency discrepancies, and public funding pools that cannot be used transnationally due to national regulations do not facilitate integration between Denmark and Sweden, says Ulf G. Andersson.

In addition, he believes that differences in banking systems and diverging regulations for tax returns and remuneration prevent more Swedes and Danes from accepting employment on the other side of the strait – including positions on company boards. This is a shame, he says, because

it shrinks the recruitment base, especially for small companies.

– Larger companies like Novo Nordisk and Lundbeck can solve those issues; they have a presence on both sides. But for small companies, taking inventory of Danish and Swedish competences is hard work, says Ulf G. Andersson.

While Lund is strong in the field of cancer research, Medeon and Malmö are among the leaders in the field of diabetes in particular, he says. One manifestation of that is the Medeon-run

network Diabetes Samverkan Sverige (Diabetes Alliance Sweden), an organisation in which 120 public and private actors work together to strengthen and improve research and treatment of the disease, which affects around 500 000 Swedes.

Medeon's active engagement in the field of diabetes also includes its role as a sparring partner in Novo Nordisk's programme Cities Changing Diabetes. Malmö is part of the network, where 26 large cities work together to create solutions in the area. Furthermore, one of Ulf G. Andersson's goals is to utilise routine dentist visits in Skåne as a preliminary screening opportunity for a range of chronic diseases, including diabetes, to catch troubling indications early. He believes that this ties in to the global focus on prevention rather than treatment in health care.

– This is something we'd like to launch in 2020. We've gotten a very positive response from Region Skåne and from Lund and Malmö Universities, he says.

Another development, scheduled for the autumn of 2020, is the addition of a new building on Medeon's premises. The wish for larger offices and more lab space came from Medeon's companies themselves; according to Ulf G. Andersson, the science park is currently "filled to the brim".

"We feel more at home in Greater Copenhagen and in Medicon Valley than in any national context."

The 4 000m² building Forskaren 1 (The Researcher 1) will be built by the property concern Wihlborgs, which owns 40% of Medeon. The City of Malmö owns the other 60% of the science park and is collaborating with Wihlborgs on the expansion.

In 2017, the City of Malmö decided to increase funding for Medeon in order to further facilitate the diabetes research being done on site. Today, the science park receives about 4 million SEK annually from the City of Malmö, and Wihlborgs contributes 2.8 million SEK per year. In addition, a number of private partners and projects contribute between half a million and a million SEK each year.

According to Ulf G. Andersson, the prospect of a new building on the premises will be for the sole benefit of Medeon's ca 60 companies, among which are Biora AB and Galenica AB. As Medeon's largest company, the latter will preside over a little more than half of the space in the new building, where a large part of the capacity is already rented out. Expansion is important, Ulf G. Andersson points out, to ensure a mix of large, established companies and smaller ones, and the ball is already rolling to construct another building.

– When the first building is complete, we'll start prospecting for the next one, and the goal will be to bring in new companies. That could mean companies from Skåne and Denmark, but also from beyond Medicon Valley, he says.

In his over 30 years in the sector, Ulf G. Andersson has noticed the emergence of more one-person companies. He believes this is related to people's increased willingness to take risks and start companies on their own. Another important factor is that big pharma-, medtech- and pharmaceutical concerns are no longer as sequestered as they used to be and are more open to external ideas, he says.

– One-person companies have the ideas, says Ulf G. Andersson, and he points out that in addition to innovation strength, they often have a range of consultant associates, so there are actually many people working on each case.

His hope is that Skåne's smaller companies will be able to collaborate more extensively with larger companies in the Copenhagen area. Medeon's plan for 2020 and beyond is thus to continue its close collaboration with Medicon Valley Alliance, SmiLe Incubator and other life science actors, for example by hosting investment meetings, hopefully on the Danish side of the Øresund as well. Developing stronger links to Copenhagen Bio Science Park (COBIS) and the northern German trade



Ulf G. Andersson,
CEO Medeon.

PHOTO: NEWS ØRESUND

network Life Science Nord is also an ambition.

– We'd like to work our way in and make new contacts – not for dinner dates, but for bringing together companies with common interests and needs, says Ulf G. Andersson.



PHOTO: NEWS ØRESUND

MEDEON SCIENCE PARK & INCUBATOR

- **Founded:** 1985 under the name Ideon-Malmö, changed its name to Medeon in 1998
- **Focus area:** Pharma, medtech, biotech, and health care
- **Ownership:** The City of Malmö and Wihlborgs Fastigheter
- **CEO:** Ulf G. Andersson
- **The buildings are owned by:** Wihlborgs Fastigheter
- **Total number of companies at Medeon:** ca. 60
- **Total number of employees in the companies at Medeon:** 400-450
- **Moreover:** Medeon is Sweden's oldest science park dedicated solely to the life sciences



PHOTO: NEWS ØRESUND



LUND – CENTRE OF R&D, BIOTECH AND STARTUPS

The life science sector in Lund is on a positive development trajectory. In just five years, employment has grown by ca 400 jobs to around 2 400 positions. Baxter's closure in Lund has entailed a slight setback for employment in medtech, however. Lund continues to position itself as an important research city, and large-scale building projects have been and continue to be underway in Medicon Village, BMC, ESS and MAX IV. 64 new companies have been founded since 2015 – that is the highest number anywhere in Skåne.

Over half of Skåne's 426 life science companies are located in Lund Municipality, and 2 400 people are employed there. Overall, there has been a positive development for employment at the city's life science companies, with 400 new positions in Lund since 2015. The life science cluster in Lund is thus important for Skåne: Every third life science employee in Skåne is in Lund. Furthermore, companies in Lund employed the greatest number of

people in the life sciences in Skåne in 2015. Today the situation has changed, and life science companies in Malmö employ a greater number of people than those in Lund.

Lund is known for having Skåne's largest science parks, namely Ideon and Medicon Village, and the incubator SmiLe. All of these are important elements in Lund's life science ecosystem, as more than half of the companies identified are located in one

of the three innovation environments. Furthermore, Skåne's science parks are vital for the Øresund Region's life science cluster as a whole with the knowledge, networks and trans-Øresund collaboration they generate and promote.

The university hospital and the academic environment are also essential life science actors in Lund, and a great deal of research is conducted within them. One result of this is that there are a large number of spinout companies in Lund – many of them from Lund University, for example Spectronic Medical, Hansa Biopharma or Guard Therapeutics. The link between the research environments at the university, the high-level education and the life science companies is thus extremely important.

The life science sector in Lund is recognised as Skåne's largest biotech sector, and Lund is also the municipality with the greatest number of life science companies, most of which are small in size; there are more large companies based in Malmö, while Lund tends to be the base for smaller R&D companies. All of this bears witness to the high volumes of innovation- and research capacity in Lund and emphasises the city's vital importance as a research centre in the life science sector in Skåne. The strong position will be reinforced further in the coming years, e.g. when the expansion of the medical faculty (BMC) is complete, and when the neutron research facility European Spallation Source (ESS) is ready for operation in 2023. An important task will be bringing awareness to Lund's life science students of the career opportunities the industry has to offer; in that respect, the newly established division of the student organisation Synapse might prove important, both for building bridges and as a source of inspiration. In terms of employee numbers, medtech is the largest subsector in Lund, although numbers have decreased since 2015, primarily due to Baxter's acquisition and reorganisation of what was formerly Gambro. Baxter will relocate its production by 2022 – a development with certain parallels to AstraZeneca's move nearly a decade ago. It will be important for Lund to retain and activate the experience people bring from large companies in established enterprises and new startups, as they did after AstraZeneca's closure.

Medtech largest sector, despite Baxter's closure

In a way, the picture from 2015 is unchanged: Medtech continues to be the largest subsector in Lund. On the whole however, the medtech sector is the only subsector in Lund in which the number of employees

has sunken slightly in the past five years; around 1 000 people in the 63 companies identified are now employed in the subsector. In 2015, that number was around 1 100. The reduction is due primarily to Baxter (formerly Gambro) moving its production to Italy – a move that will be ongoing until 2022. This has led to the company employing approx. 500 today, compared to ca 850 in 2015. In a few years, only 150 people will work at the facility. Gambro, which started up in Lund with the development of a single-use artificial kidney in 1964, was sold to the American medtech group in 2013, and many subsequent changes have affected the facility in Lund. The current reorganisation in Lund goes back further still, however. Until 2005, Gambro led 150 dialysis clinics around the globe from its base in Lund under the name Gambro HealthCare. The following year however, changes were made to the ownership structure, and Gambro was de-listed from the stock market in Stockholm and acquired by two Swedish investment firms that divided Gambro

LUND

225

Number of life science companies in Lund

2 400

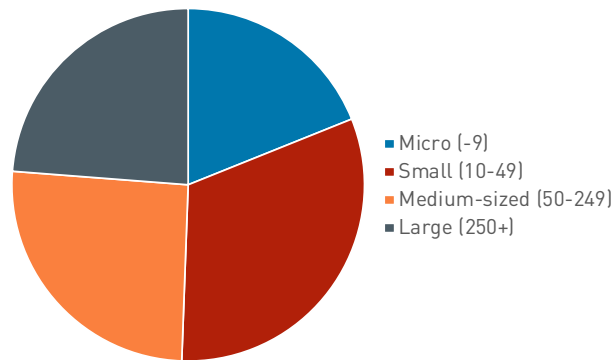
Number of employees in the life science companies in Lund

NUMBER OF EMPLOYEES IN LUND'S LIFE SCIENCE COMPANIES PER SUBSECTOR

Subsector	Employees in Lund 2015	Employees in Lund 2020 ¹
Medtech	1 120	1 030
Biotech	370	630
CRO	260	360
Pharma	100	140
Other	60	90
ICT/Healthtech	50	80
Foodtech	30	70
CMO	<10	10

¹ Number of employees according to most recent available data from 2017-2020. Source: Bisnode, data from the companies

LIFE SCIENCE COMPANIES IN LUND – NUMBER OF EMPLOYEES IN ORDER OF COMPANY SIZE



Number of employees in Skåne according to most recent available data from 2017-2020. Source: Bisnode, data from the companies.

into three parts: Gambro HealthCare (dialysis clinics), CaridianBCT (blood technology), and Gambro (dialysis equipment). All three parts of the former Gambro have since been resold. Gambro HealthCare was sold to the British private equity company Bridgepoint in 2007; CaridianBCT was sold to the Japanese technology company Terumo Corporation in 2011; and in 2013, the final, but original part – with dialysis equipment – was sold to Baxter. It can be mentioned here that following the change in ownership to Bridgepoint – the first part, Gambro HealthCare – became Diaverum. Today, Diaverum manages ca 400 dialysis clinics worldwide and has ca 11 000 employees, around 170 of whom work in Sweden; the company's global headquarters has been located in Malmö since moving there from Lund in 2019. Diaverum is also preparing for an IPO before the end of 2020.

It is remarkable that despite Baxter's restructuring in Lund, the number of medtech employees has not dropped more sharply in the past five years, however – this is an indication that many other medtech companies in Lund have expanded in the same period. One of them is the medtech company CellaVision, which has gone from having 61 employees in 2015 to 114 in 2020. A total of 17 companies in all subsectors have increased their personnel by more than 10 employees in the past five years, and around half of the 225 companies identified have increased their staff numbers in general, whilst approx. 25 companies, including Baxter, have decreased their number of employees.

Although employment in medtech has dropped slightly, there has been a total increase in all

HALF WORK IN SMALL COMPANIES

Small and micro-companies are responsible for a larger part of employment in Lund than in Skåne as a whole. Nearly half of the employees in the life science sector in Lund work in small or micro-companies, compared with just over one-third in Skåne as a whole and just over one-fourth in Malmö and Helsingborg.

other subsectors. As a result, employment in the municipality has grown on the whole since 2015, with approx. 400 more employees in life science companies. Companies in Lund are thus growing in general despite Baxter's restructuring.

Skåne's biotech sector: biggest in Lund

Following medtech, biotech is the largest subsector in Lund Municipality; the biotech companies identified employ around 630 people. Compared to Malmö Municipality, Lund's biotech sector employs three times as many people. Biotech is thus an important strength in Lund, and Swedish, global companies such as Probi, Alligator Bioscience and Hansa Biopharma have e.g. headquarters in the city. This June, the lattermost company's drug candidate Idefirix was recommended for market approval by an expert committee at the European Medicines Agency (EMA). A final approval and launch are expected in the fourth quarter of 2020. The drug will be developed in collaboration with the American genetic therapy company Sarepta Therapeutics, which may have to pay 2.6 billion SEK for Hansa Biopharma's first drug. Another research collaboration emerged this summer between Alligator Bioscience and the Copenhagen-based Scandion Oncology after Janssen – a subsidiary of Johnson & Johnson – ended a contract in 2019 for Alligator Bioscience's cancer drug, which could have brought the Lund-based company up to 4.3 billion SEK, but ultimately generated 376 million SEK.

Another example of a biotech company in Lund is

the startup Asgard Therapeutics, which demonstrates how Danish and Swedish actors such as BioInnovation Institute in Copenhagen and The Wallenberg Center for Molecular and Translational Medicine can support a company using various means. The general focus on biotech and medtech in Lund is also reflected in the types of member companies at the science parks Medicon Village and Ideon and the incubator SmiLe, where around half of all companies are active in biotech or medtech. At Ideon Science Park, biotech and medtech combined with ICT also comprise the majority of the park's life science companies.

Most work in smaller companies

One difference between Malmö and Lund is that while the majority of the ten largest life science companies are located in Malmö Municipality, Lund Municipality tends to have the greatest number of smaller R&D companies, and generally speaking the most life science companies on the whole.

Since 2015, 64 new companies have been established specifically in medtech and biotech, as well as e.g. contract research organisations and ICT companies. There is a significant group of new ICT companies that can be considered e-health companies, as the CEO of SmiLe Incubator Ebba Fähræus notes.

– The area that has expanded most in recent years is e-health companies, app-based or data-based enterprises. They are multiplying, she says.

Nearly 100 companies with R&D activities were identified in the municipality – a number that might possibly be higher in reality. Around half of the 2 400 people work in small or micro-companies; this is more than elsewhere in Skåne.

Many R&D companies started off as spinouts from Lund's academic environment: examples are companies like BIBB Instruments, Abliva (formerly NeuroVive Pharmaceutical) and SpectraCure. It can thus be said that Lund Municipality is more focused on R&D in the life sciences – preferably in smaller medtech and biotech companies, whilst Malmö and northwest Skåne have more companies in medtech, pharma and contract research with larger production facilities. The picture has grown more defined over the years, with the closure of AstraZeneca's facility in 2012 and the announcement that Baxter (formerly Gambro) would be moving production to Italy by 2022. In the years to come, it will be vital for the municipality to retain the knowledge and experience of its many researchers and company leaders. Adroit Science, Iconovo and Red Glead Discovery are examples of successful companies

from Lund's science park environment. They were all started by former AstraZeneca employees, clearly demonstrating that new jobs can emerge – even when Baxter's reorganisation is complete in a few years. Even if Baxter is moving its production, they still see good reasons to stay in Lund.

– We're interested in open innovation, where we have a continuous dialogue with incubators to strengthen our collaboration in networks. I see strong potential in precisely our region, says Per-Ola Wictor, Director of HD Therapy and Water Technologies at Baxter and site lead in Lund.

Lund develops its R&D position further

Lund has a strong position in R&D as the municipality in Skåne in which the greatest number of life science companies have been established since 2015. And the city's position in R&D will become stronger still in the years to come, when the first experiments can be conducted at the neutron research facility European Spallation Source (ESS) starting in 2023. Forum Medicum, a new, 16 000m² building for the Faculty of Medicine (BMC) at Lund University, is scheduled for completion in the same year. Furthermore, a protein microscope that received €34 million in funding from the Novo Nordisk Foundation will be complete at the materials research laboratory MAX IV. Last November, the seven-storey, 17 000m² office building and meeting place The Spark opened at Medicon Village. In addition, the new cancer clinic Perituskliniken opened up to patients this September. The entrepreneur family from Skåne Göran Ennerfelt and Antonia Axelsson Johnson, the family Rune and Johan Andersson from the Mellby Gård group, and the Mats Paulsen family – which also contributed startup capital for the establishment for Medicon Village around a decade ago – have invested a total of 200 million SEK in establishing the clinic. This autumn, another cancer clinic will open on the premises, this one funded by the Rausing family, which founded the packaging company Tetra Pak in Lund in 1951. The two new cancer clinics at Medicon Village will strengthen the research and treatment of cancer in the city, and the construction projects will conceivably make Lund's profile in the life sciences even more international. Ideon Science Park also has a more global slant now that UNOPS – the UN's global unit for project implementation, opened an innovation centre in the park in 2019.

– Instead of being a science park in Lund and for Lund, we have made it very clear that we are a science park for the world that is located in Lund, says Ideon's CEO Mia Rolf.

MANY NEW BUSINESSES IN LUND

Newly established companies since 2015

64Number of
companies**171**Number of employees
in Lund

The innovative environment surrounding Lund University and in Lund's science parks has given rise to a wealth of new companies in recent years. The majority of the new enterprises are micro-companies with few employees, but there are also several larger businesses among them. The foodtech company SBM Life Science, with 26 employees, was founded in 2016 as a subsidiary of the global SBM group. SmiLe alumni Diagnostics AB and Amniotics AB are biotech companies based in Medicon Village with 14 and 10 employees, respectively. The medical imaging company Corsmed AB, founded in 2016, also has 10 employees in Lund.

LIFE SCIENCE LABOUR FORCE OF THE FUTURE BEING TRAINED IN LUND

With its 30 000 students, Lund University is one of the largest universities in Sweden, not to mention Scandinavia. The partially independent faculty LTH School of Engineering (LTH) was founded in 1961. Many of Skåne's life science companies source expertise from the university, and Lund's science parks are located in close proximity to the university campus.

Number of students at Lund University by subject area in the autumn term of 2019:

Law and sociology 12 428

Technology 6 417

Natural sciences 5 816

Humanities and theology 5 719

Medicine and odontology 1 995

Healthcare and nursing 1 519

Other areas 1 444

Arts 1 188

Unknown 833

Students can be registered for more than one area or at multiple institutions in a single term, and the values in the above table can thus not be tallied.

Source: Swedish Higher Education Authority



PHOTO: NEWS ØRESUND

BAXTER'S STAFF IN LUND DECREASES

The medtech company Gambro Lundia AB, which is part of Baxter, is in the midst of a restructure. The company is Lund's largest life science enterprise and had almost 850 employees in 2015. According to the most recent data from the company, the number of employees was down to around 485 people, and the personnel will continue to decrease in the future. Read more about Baxter's reorganisation in an interview with the company's site lead and director of HD Therapy and water Technologies, Per-Ola Victor, on page 90-91.

LUND'S LIFE SCIENCE SECTOR IS CHARACTERISED BY SMALL COMPANIES

The life science sector in Lund comprises a large number of small companies. Around half of the people employed in the city's life science companies work in companies with fewer than 50 employees; that is a higher share than anywhere else in Skåne. Many of the companies are based in Lund's science parks, Medicon Village and Ideon Science Center, or linked to the incubator SmiLe.



PHOTO: NEWS ØRESUND

NEW BIG BUSINESSES EMERGING

Together, CellaVision AB, Hansa Biopharma AB, BioInvent International AB and PRA International Sweden AB had around 150 employees in 2015. Today, the same companies employ around 315 people. They are the four companies to have grown fastest in Lund since 2015, and several are linked to the innovation area that surrounds Lund's science parks. Hansa Biopharma is a spinoff from Lund University, and two of the companies are linked to Ideon.



PHOTO: CELLAVISION

The companies in Lund with the largest number of new employees since 2015

CellaVision AB +53

Hansa Biopharma AB +42

BioInvent International AB +40

PRA International Sweden AB +31

Alligator Bioscience AB +29

Immunovia AB +27

Camurus AB +26

SBM Life Science AB +26

Red Glead Discovery AB +20

Saga Diagnostics AB +14

Together, Lund's 10 fastest-growing life science companies have increased the number of employees by over 300 people since 2015 – the companies personnel has more than doubled. In total, 17 Lund-based companies have increased their employee numbers by 10 people or more since 2015. Several of the fast-growing companies are linked to Lund's science parks, Medicon Village and Ideon, Lund University, or the incubator SmiLe.



PHOTO: NEWS ØRESUND

Skåne University Hospital (SUS) is the third-largest hospital in Sweden and is located in both Malmö and Lund. The majority of its 12 000 employees are in Lund, however. The hospital works closely with the life science sector in the municipality.

THE LIFE SCIENCE INDUSTRY IN LUND IS ADDING ON

With the new research facilities ESS and MAX IV, Lund's life science sector will have a state-of-the-art research environment on its home turf. Adjacent to the research facilities is the new district Brunnsög, where the new Science Village Scandinavia is being planned that will be home to e.g. the facilities The Loop and Space.

There are building projects elsewhere in the municipality as well. The Biomedical Centre (BMC) at Lund University is adding on the building Forum Medicum, which will be completed in 2023. The new cancer clinic Peritus opened its doors this September. Another cancer clinic, funded by the Rausing family, will open later this year.

The Spark – a seven-storey building with meeting places and offices for life science companies – opened at Medicon Village in November 2019.



PHOTO: NEWS ØRESUND

NEW SUBSECTORS IN LUND

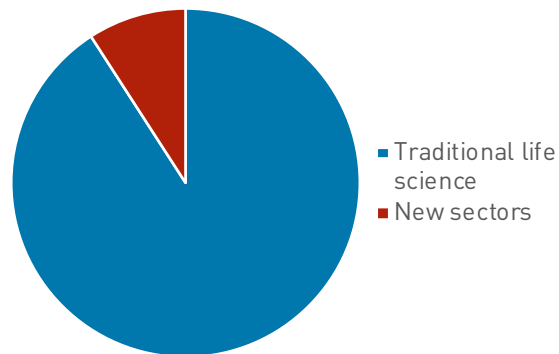
Healthtech and foodtech employing more people.

Around 30 companies have been identified as focusing specifically on ICT related to the life sciences. They can also be called e-health-, connected health- or healthtech companies, and they develop apps, software or digital solutions for other life science actors or for their own health-related solutions. The companies are small in terms of personnel, a number of them are startups, and around half of them are located in Lund's three science parks. Ca 75 people are employed in the companies identified, according to the most recent available figures for 2018-2020. Around 50 people were employed at the companies in 2015, so they can be said to be growing on the whole, and more people can be said to be employed in the subsector. Another subsector that employs around the same number of people in Lund comprises the ten foodtech companies identified which are particularly focused on the life sciences and that strive with their R&D to make food manufacturing more sustainable. Around 70 people are employed in these companies, i.e. ca double the number employed in 2015. Employment in the new subsectors in foodtech, ICT and other areas with a focus on life sciences makes up 10% of the total life science employment.



PHOTO: NEWS ØRESUND

NUMBER OF EMPLOYEES IN THE LIFE SCIENCE SECTOR IN LUND



¹Number of employees according to most recent available data from 2017-2020. Source: Bisnode, data from the companies

COMPANIES WITH SOME ACTIVITIES IN THE LIFE SCIENCES

A number of companies in Lund operate in the borderland between life science and other sectors, e.g. Optifreeze, which works with technology to preserve taste, shape and texture in a variety of foods.

There are also companies in the tech environment that work with the life science industry to

some degree. Schneider Electric Buildings works in part with healthcare solutions for digital hospitals. Qliktech works with data analysis that is used in part by the life science sector, and the large company Sigma Connectivity and Ericsson have branches in the life science sector.

There are a number of areas in

which companies are active in the borderland between life science and other sectors. The consultancy company EC Konsult AB names medtech as one of the sectors that enlists their services frequently, and the machinery manufacturer Pall Norden works with e.g. lab instruments and lab machinery for the life science sector.

LUND'S LARGEST LIFE SCIENCE COMPANIES

Company	Subsector	Employees in Lund ¹
Gambro Lundia AB (Baxter)	Medtech	573
CellaVision AB	Medtech	114
TFS Trial Form Support AB	CRO	111
Biolinvent International AB	Biotech	75
Camurus AB	Pharma	70
PRA International Sweden AB	CRO	68
Repligen Sweden AB	Biotech	66
Hansa Biopharma AB	Biotech	58
Alligator Bioscience AB	Biotech	56
Inpac i Lund AB	Other	48
Probi AB	Biotech	45
Immunovia AB	Biotech	38
Biogaia AB	Biotech	35
Red Glead Discovery AB	CRO	34
Bone Support AB	Medtech	28
SBM Life Science AB*	Foodtech	26
Genovis AB	Biotech	24
Stryker (Jolife AB)	Medtech	23
IHE, Institutet för Hälso- och Sjukvårdsekonomi	CRO	22
Aventure AB	Foodtech/ Biotech	22
Phase Holographic Imaging PHI AB	Medtech	20
Braincool AB	Medtech	17
Enzymatica AB	Medtech	17
Obducat Technologies AB	Medtech	16
Senzagen AB	Biotech	16
Spago Nanomedical AB	Biotech	16

Company	Subsector	Employees in Lund ¹
Saromics Biostructures AB	CRO	16
Xintela AB	Biotech	15
Cantargia AB	Biotech	14
Saga Diagnostics AB*	Biotech	14
Truly Labs AB	CRO	14
Glycorex Transplantation AB	Medtech	13
SpectraCure AB	Medtech	13
Avidicare AB	Medtech	12
Triomed AB	Medtech	12
Iconovo AB	Biotech	12
Idogen AB	Biotech	12
Miltenyi Biotec Norden AB	Biotech	12
Active Biotech AB	Biotech	12
Medicinsk Bildteknik Sverige AB	Medtech	11
Ceva Animal Health AB	Pharma	11
Timeline Bioresearch AB	CRO	11
Exini Diagnostics AB	ICT/Healthtech	11
Cross Technology Solutions AB	ICT/Healthtech	11
Corsmed AB*	Medtech	10
Xvivo Perfusion Lund AB	Medtech	10
Amniotics AB*	Biotech	10
Carbiotix AB	Biotech	10
EQL Pharma AB	Pharma	10
CR Competence AB	CRO	10
MVIC AB	CRO	10
Redoxis AB	CRO	10
I-Mind Consulting In Medicon Valley AB	ICT/Healthtech	10

¹Number of employees according to most recent available data for 2017-2020. The companies on this list have 10 or more employees. Source: Bisnode and data from the companies.

OTHER COMPANIES

Medtech: AB FIA Odarslövs Mölla, Bibbinstruments AB, CapSense Biosystems AB*, Clinical Laserthermia Systems AB, Compacta AB, European Institute of Science AB, Fahl Scandinavia AB*, Fisher Scientific GTF AB, Gantus AB, Gelexcell Competence AB*, Glycoprobe AB, Glycorex UBP AB, GPX Medical AB*, Gutfeeling labs AB*, In2Cure AB*, Invent Medic Sweden AB, Lifeassays AB, Lohmann & Rauscher AB, Lument AB, Lumito AB, M Care AB, Medow AB*, Medvasc AB, Neolund AB*, Neuronano AB, Novosense

AB, Pharmiva AB, Polarcool AB*, Preisler Instrument AB, Prolight Diagnostics AB, Prostalund AB, Random Walk Imaging AB, Sangair AB*, Scandinavian Chemotech AB, Sensodetect AB, Smidi AB, Spermosen AB*, Speximo AB, Swipp AB*, Syntach AB, Tendo AB*, TEQCool AB*, Thyrolytics AB*, Tilly Medical Products AB, Umansense AB, Verutech AB, Viraspec AB*, VWR International AB



* Company founded in 2015 or later

>> OTHER COMPANIES, CONTINUED

Biotech: Acousort AB, Acrivon AB*, Akuru Pharma AB*, AligND Systems*, Alteco Medical AB, Anamar AB, Animal Probiotics Sweden AB, Asgard Therapeutics AB*, Bioextrax AB, Cellevate AB, Cell Invent Sweden AB*, Colzyx AB, Combigene AB, Diagonal Pharma AB*, Diaprost AB, Ecozyme AB*, Edvince AB, Enza Biotech AB, Gedeo Biotech AB, Genomica AB, Guard Therapeutics, Igelösa Life Science AB, Immunobiotech Medical Sweden AB, Nordic Biolabs AB, Novozymes Sweden AB, Panion Animal Health AB*, Reccan Diagnostics AB*, Rhovac AB*, Selectimmune Pharma AB*, Sinntaxis AB*, Swepharm AB, Synact Pharma AB*, TigerQ AB*, Ziccum AB*

Pharma: Adroit Science AB, Canimguide Therapeutics AB, Follicum AB, Greenleaf Medical AB, Hamlet Pharma AB, Metina AB, Neurovive Pharmaceutical AB, Oncorena AB, Pharamlundensis AB, Pharmnovo, Probare i Lund AB, Pronoxis AB, Receptorpharma AB*, Respiratorius AB, Scius Pharma Support AB, Truly Translational Sweden AB, Xinnate AB*, Zambon Sweden*

CMO: Biotage Lund, Canopus Medical AB*

CR0: 4Pharma*, Bioperm AB, Emmace Consulting AB, Imagen - IT AB, Innovagen AB, IVRS AB*, JE PolyDesign AB*, Klifo AB*, Larix Sweden AB*, Medetect AB, Ramidus

AB, Solve Research and Consultancy AB, Visiopharm LRI AB*, Zelmic AB

ICT/Healthtech: Accumbo AB, Bionamic AB*, Cardiolund AB, Cerner Sverige AB, Distributed Medical AB, EDC Scandinavia AB, Industry Frontiers AB*, Infonomy AB, Itacih AB*, Jag Patient AB*, Krucom AB, Leuko3ena AB*, Medbeat AB, Medotemic AB, Medviso AB, NöjdPatient Norden AB*, PainDrainer AB*, Pampett AB, Philips AB, Poow Application AB, Pro Curis AB, QLUCore AB, Software Point AB, Virotea AB*, WordDiagnostics AB*

Foodtech: AB Svenska Bioforce, Celac Sweden AB, Crop Tailor AB, Doublegood AB, Glucanova AB, Nordic Rebalance AB*, Smartfish AB, Thylabisco

Other: AB Ninolab, Agardh Consulting AB*, BioFinans AB, BioStock AB*, Birka Biostorage AB, Brainlit AB, Bulb Intelligence AB, Concidera Health AB*, Encorus AB, Epista Life Science Sweden AB*, GAEU Consulting AB*, Göran Brorsson & Partners AB, Kärnkonsult Lars Norgren AB, Landqvist Waldö Medicinsk Konsult AB*, MultiHelix AB*, N4 Sverige AB, NY Consulting AB, Omik Bioscience AB, Qadvis Ear AB*, Resanitec AB*, Swedish Biomimetrics 3000 AB, Symbioteq AB, Ventac Partners AB, Wayinia International AB*

* Company founded in 2015 or later



PHOTO: NEWS ØRESUND



PHOTO: NEWS ØRESUND

IDEON REACHES OUT TO REGIONAL AND GLOBAL ACTORS

Medtech is one of the areas of focus at Ideon, where 30% of the around 400 companies are active in the life sciences. The goal for the coming years is to recruit more ICT competence to Sweden. Ideon is also currently working to create more international ties through a new collaborative endeavour with the UN and would like to see more exchange with Copenhagen.

As Sweden's first science park, Ideon has been a hotbed for technological innovation for 37 years, bringing forth e.g. bluetooth technology and medical ultrasound. Many years of working in innovation have resulted in an extensive network in Skåne, in the rest of Sweden and all around the globe. If it were up to the CEO of Ideon Mia Rolf, there would be an increase in the professional interaction with e.g. Copenhagen Business School and the Technical University of Denmark.

– We aren't fully integrated yet, and I think that Skåne, Malmö and Lund are somewhat looked down upon in Copenhagen. We aren't very cool, but maybe that's something that we – and others – need to work with in the context of the Greater Copenhagen collaboration, says Mia Rolf from her office at Ideon.

She believes closer cooperation with Denmark should be obvious for Sweden's oldest science park, which houses 414 large and small companies and employs around 10 000 people. Around 30% of the companies are active in the life sciences, and healthtech/medtech are areas of focus at Ideon. Bone Support AB and Enzymatica AB are two examples of companies at Ideon, and pharmaceuticals are also developed there, e.g. at Camurus AB.

Other companies such as CellaVision AB and Precise Biometrics AB illustrate the overlapping of healthtech and ICT in the sector. In addition to its emphasis on healthtech/medtech, Ideon also focuses on 'smart cities', 'transportation of the future' and 'smart materials'.

– We like to see ourselves as part of Greater Copenhagen. Together we have a reservoir of 190 000 students; that's the largest recruitment base in Scandinavia. 80 000 of those students are on the Swedish side, in Skåne. That's a very large proportion, she says.

Adequate recruitments are a specific focus for Ideon; according to Mia Rolf, for innovation in Lund to continue, it is vital that enough people with the right skills want to work at the science park, which is just 500m from Lund University.

That's why Ideon entered into a partnership with Blue Science Park in Karlskrona, Kista Science City near Stockholm, Mjärdevi Science Park by Linköping, Luleå Science Park in Norrland and Lindholmen Science Park in Gothenburg last autumn. The plan is for all of the parks to look to other European countries in order to attract highly qualified workers to Sweden.

– Our plan is to reach out to our neighbours and attract talents to our parks, because if our companies aren't able to grow the way they want to, they'll move on, says Mia Rolf, who has been CEO of Ideon

since 2016. She adds that recruitment efforts will be taking place in cities like Amsterdam and Gdansk in the autumn if everything goes according to plan.

Many of the companies at Ideon have a hard time finding people with the right expertise, says Mia Rolf. There is a particular demand for those skilled in programming, embedded systems, and digital, intelligent technology. Precisely these competences are important for the six parks, which together have around 2 400 companies in ICT (Information and communications technology). In recent years ICT has been a strong development motor in the area of e.g. healthtech, says Mia Rolf.

Attracting talent – which is also one of the main objectives in Sweden's new life science strategy – is not the only thing uniting the six science parks in the recruitment partnership. Another goal is to collaborate on e.g. artificial intelligence and cyber-security so Sweden can become one of the EU's so-called Digital Innovations Hubs (DIH), where the aim is to advise and assist small- and

medium sized companies in the digital shift.

In recent years, turning the focus toward Europe and the rest of the world has been an important developmental focus for Ideon, says Mia Rolf, not least because many of our companies have global ambitions early on.

– Instead of being a science park in Lund and for Lund, we have been very clear that we are a science park for the world that is located in Lund, she says.

Ideon's international focus was reinforced when UNOPS – the UN's global unit for project implementation, whose headquarters is in Copenhagen – opened an innovation centre in the park in October 2019. The centre's focus is on disruptive technology. Since 2017, all communication at the site has been in English, and contributing to global objectives has become one of the admission criteria for Ideon's incubator programme, which can currently accommodate 21 companies.

The buildings at the Ideon site are owned by the real estate companies Wihlborgs and Castellum. According to Mia Rolf, that has made it possible for companies from abroad, such as Huawei, Sony and Schneider Electronics, to establish their bases in the park; this differs from other science parks in Skåne, where public funding means that the parks are only accessible for Swedish companies. This does not mean that there is no local focus, however.

– We will create more jobs and businesses in Lund. That is our mission. But how we do that is up to us, so our operations can actually be freer and more international, says Mia Rolf.

When it comes to building up the life science sector in Skåne, Mia Rolf believes that more appropriate labour market rules for start-up companies are a necessity, as independent contractors are widely employed. In addition, she believes that Ideon contributes two things to the sector: Growth and knowledge. She maintains that the park's courses for open innovation and scale-ups can help established life science businesses as well as startups.

– The competence necessary for growth can be completely different: the alliances that need securing, the markets to enter, how to set up a board of directors; it gives the best possible support. We offer the life science sector everything that surrounds innovation, says Mia Rolf.



Mia Rolf, CEO Ideon.

PHOTO: NEWS ØRESUND



PHOTO: NEWS ØRESUND

IDEON SCIENCE PARK

- **Founded:** 1983
- **Focus area:** Healthtech/medtech and some biotech. 30% of the companies are active in the life sciences. Ideon also focuses on 'smart cities', 'transportation of the future', and 'smart materials'
- **Ownership:** Ideon is run through three companies:
 - o **IDEON AB** is the marketing company that heads strategic operations and conducts the local innovation system, owned by Castellum and Wihlborgs and reports to the SUN Foundation. CEO Mia Rolf
 - o **IDEON OPEN** is engaged by established companies looking to revitalise their innovation work. Owned by Lund University, the Municipality of Lund and Wihlborgs. CEO Arne Hansson
 - o **IDEON INNOVATION** runs the incubator operations at Ideon – both on-site and digitally. Owned by Lund University, the Municipality of Lund, and Wihlborgs. CEO Ola Andersson
- **The buildings are owned by:** Wihlborgs Fastigheter AB and Castellum AB
- **Total number of companies at Ideon:** 414
- **Total number of employees at Ideon:** 10 000
- **Moreover:** Ideon was Sweden's first science park, and its first buildings were funded by IKEA in the 1980s

MEDICON VILLAGE SCALES UP WITH A NEW BUILDING AND NEW COMPETENCES

The science park Medicon Village in Lund is a meeting place, says Kerstin Jakobsson, CEO of Medicon Village Innovation AB. The new building "The Spark" has created new possibilities to connect in an innovative life science environment, she explains. In just eight years, the science park has become the home base for more than 150 companies and organisations, as well as 2 200 employees in research, development and service, and this autumn there will be a new range of competences on site with the opening of the specialist clinic Perituskliniken, where the primary focus is on cancer.

– The goal is create solid and sustainable relationships, and a strong meeting place makes that possible. From the beginning, we've worked to define which steps are important for us to create a strong community and bring in the right companies, says Medicon Village's head of communications Anette Orheim.

In 2019, Medicon Village opened the doors

of its new building, The Spark: 17 000 m² on seven floors, with open workstations, small and large offices and rooms for conferences and meetings. The office complex is the newest side

shoot to grow from Medicon Village, which also contains restaurants, a sports hall and a fitness centre. Expanding the science park also means growth for the meeting place itself.

– The organised meetings are often a result of the spontaneous ones, the unexpected meetings. People find people they never knew they needed. We talk about an "intersection for success"; that the meeting is where one plus one equals three. All the work we do revolves around our members connecting with the right organisations and people, and the meeting is a medium, Anette Orheim explains. And the name of the new office complex builds on just that, says Kerstin Jakobsson.

– "The Spark". This is where the spark is; this is where the meetings are – meetings between individuals who create the spark that leads to a good idea.

Medicon Village's particular focus is on major medical areas in life science: cancer, diabetes, respiratory- and lung disease and inflammation. The science park is divided in two companies, both of which are owned by the Mats Paulsson Foundation for Research, Innovation and Societal Development. The foundation owns both Medicon Village Innovation AB and Medicon Village

Fastighets AB, the latter of which owns Medicon Village's buildings. According to Kerstin Jakobsson, that gives them unique possibilities to develop the science park's facilities. Furthermore, the pharmaceuticals company AstraZeneca, which was formerly based in what is now Medicon Village, left behind a number of instruments that are now

useful for Medicon Village's incubator, SmiLe Incubator. That's why as she sees it, the science park has three distinct and unique possibilities to offer its companies.

– We can help them increase their visibility in a community here. We can help them connect with the right competences and capital; that is, with the meeting. The third thing is what we call sharing economy. It's not just about sharing equipment, but also about sharing competence.

Since The Spark was inaugurated last year, the building has become the workplace for around 70 companies and 500 employees, around half of which are relocations from Medicon Village. The other half are new arrivals, and the science park now houses around 2 200 employees and 150 companies. Among them are Lund University, Region Skåne and Lund Municipality, and there are also numerous private service companies. In addition, there are also many development companies based in Medicon Village; Alligator Bioscience AB, Genovis and SenzaGen AB are just a few of the biotech companies one might bump into there. Kerstin Jakobsson speaks about the triad of research, public and private enterprises at Medicon Village. She believes that the combination of companies that can get ideas to grow is something special.

– It's truly unique that we have the full range of innovation support actors here – Region Skåne,

"It's truly unique that we have the full range of innovation support actors here."

which is public, but also private actors who back new research and useful innovation; that means we have both private and public actors on site who support our companies in their innovation.

Soon Medicon Village will welcome yet another enterprise and be able to boast fortified competences and expertise for the hub and the community established there.

– When Perituskliniken opens here, we'll have the research, the companies that can take charge of the ideas and innovation support, and both treatment and care. That is positively unique, says Kerstin Jakobsson.

Perituskliniken is a Swedish specialist clinic focused on work with cancer, primarily of the prostate. When it opens in Medicon Village, the hope is that it will complement the public health system in both diagnostics and treatment. The clinic expects to be able to receive 15-20 patients a day for treatment and examination, around 30 patients daily for diagnostic imaging, and about 13 patients per day for operations. For the science park that means – in addition to the new competences it will bring – around 35 new employees.

Kerstin Jakobsson is happy about the new additions to Medicon Village, which she believes promote the science park's current and future focus.

– It remains to create an environment in which companies can develop further. It is still important that the companies, organisations, Lund University and Region Skåne – the triad – continue to develop, and that we have that mixture of small companies and somewhat larger companies that continue to grow. And the meeting place is important, so they can come into contact.

She acknowledges however that they're facing a challenge when it comes to successfully maintaining that as demands increase on the sector and competence in the region. She believes on the whole that the life science sector could become better at transforming the region's quality research and innovation into commercial success.

– That's where there's a need for a broad scope on top of the specific focus. We need to do more transdisciplinary work whilst becoming more highly specialised, she explains, continuing:

– But you have to look globally and find the right competences around the world, because they're not here, and they're not in Denmark.



Kerstin Jakobsson,
CEO Medicon Village.

PHOTO: NEWS ØRESUND



PHOTO: NEWS ØRESUND

MEDICON VILLAGE

- **Founded:** 2012
- **Focus area:** Pharmaceuticals, medtech, and biotech
- **Ownership:** Medicon Village is divided into two companies, both of which are owned by the Mats Paulsson Foundation for Research, Innovation and Societal Development
 - Medicon Village Innovation AB, CEO: Kerstin Jakobsson
 - Medicon Village Fastighets AB (premises owner), Property manager: Erik Jagesten
- **Total number of companies at Medicon Village:** 150
- **Total number of employees at Medicon Village's companies:** ca 2 200
- **Moreover:** The bio-incubator SmiLe is located at Medicon Village. Medicon Village is expanding and the new building The Spark was inaugurated in 2019. Around 2/3 of the premises are rented to Lund University and Region Skåne. There is also a Lund Municipality enterprise – Future by Lund – at Medicon Village

PARTNERING LARGE AND SMALL COMPANIES CAN BOOST LIFE SCIENCE IN THE ØRESUND REGION

Danish-Swedish collaboration can be strengthened with funding from foundations, transregional projects and a greater openness from Denmark's large life science enterprises, according to Ebba Fåhraeus, CEO of SMILe Incubator AB at Medicon Village in Lund.

It's not because of forgetfulness that the doors to the offices and labs here stand open.

– Everyone should feel welcome to interact with the others here, says Ebba Fåhraeus, CEO of SMILe Incubator, the incubator for life science startups at Medicon Village in Lund.

Until 2010, the premises she shows us belonged to the Swedish-British medicinals company AstraZeneca, which decided to shut down its research division in Lund and dismiss 900 employees.

Today that closure is history. Medicon Village took over AstraZeneca's site and in 2012 SMILe moved into Medicon Village and started using some of the spaces and lab facilities for incubation.

Around 50 companies have hatched and graduated from SMILe, and ca. 20 life science projects are currently receiving guidance from the incubator's business strategic advisors; in three to six years, the entrepreneurs will have refined their business models enough to run their companies on their own. Gedeo Biotech, MedVasc and Sinntaxis are among the enrolled companies, and Saga Diagnostics, SARomics Biostructures and Xintela are alumni.

The companies are financed by SMILe's investor network, which raises its own capital, and with public funds from e.g. Vinnova, the Swedish Agency for Economic and Regional Growth, and the EU. To improve conditions for the life science sector in the Øresund Region, Ebba Fåhraeus calls for more interaction between Denmark and Sweden on the funding front.

She believes that there is potential in Danish and Swedish foundation resources in particular – they aren't subject to the same limitations by national regulations as public support programmes, and in terms of legislation, it can thus be easier for them to support initiatives and companies across the Øresund.

– It would benefit the entire region if the geographic limitations to how funds can be used could be overcome, says Ebba Fåhraeus.

Occasionally, she adds, public funding from Region Skåne, Lund Municipality and Lund University, which co-finance SMILe with Medicon Village, is a challenge when it comes to working with Denmark, since Swedish tax funds should be used in Sweden, but that's by no means a "show stopper", according to Ebba Fåhraeus.

– There's always a bit of a language barrier, and there's also a physical barrier. But it is easier for a company from Skåne to collaborate with Stockholm than with Copenhagen? No – working with Copenhagen is easier, she says.

SMILe runs events and boot camps with the Danish CO-BIS, DTU and CBS as well as

projects with other innovation actors in Skåne, and in the future they're aiming for a more intensive collaboration with European incubators.

Although Ebba Fåhraeus sees a strong willingness in the industry to collaborate with smaller companies, she believes that larger life science companies, particularly in Denmark, could be even more collaborative and open to Skåne's smaller enterprises.

– We have a lot of small startups on one side of the bridge. On the other side are a number of large companies and foundations, and I believe the challenges that lie ahead have to do with how we can get them to work together in a constructive way, so none of them swallows the others, she says.

When Ebba Fåhraeus became the head of SMILe just about five years ago, the incubator was called Lund Life Science Incubator and had three employees. In 2016 the incubator was rebranded and given the name SMILe, short for "Styrker menneskers liv, innovation, life science og entreprenørskab" (Strengthen people's lives, innovation, life science and entrepreneurship). Today 16 people are employed

"It would benefit the entire region if the geographic limitations to how funds can be used could be overcome."

at the incubator, and they advise around 20 startup companies with 100 employees.

– There are more non-Swedes than Swedes on my team, I think. We're completely international. The incubator companies need to be Swedish, and that has to do with our funding. But the companies' employees are of 20-25 different nationalities, says Ebba Fåhraeus, adding that they also coach non-Swedish startups in boot camp programmes.

The recent years' reorganisation at SMILe in hasn't changed that there are traditionally many biotech companies in the incubator; this has to do with the fact that they have cell laboratories, which are suitable for research in e.g. immunotherapy. Besides those, 50-60% of the companies admitted are from Lund University, where cancer research is a strong area. But with powerful megatrends like sensor technology, preventative healthcare and self-management of chronic diseases they have begun to change with new kinds of companies.

– The area that has expanded most in recent years is e-health companies, app-based and data-based enterprises. There are more of them to come, says Ebba Fåhraeus, remarking that the healthtech agenda is big in Skåne and the rest of Sweden as well as in Denmark, where the strategy 'Vision for eHealth 2025' aims to make Sweden the world's leading country in healthtech. In addition, SMILe has been running the digital eight-week programme Health2B for several years, which is specifically aimed at healthtech startups. SMILe also collaborates with Danish, Swedish and Norwegian actors in a forum for startups called HealthTech Nordic.

The increased focus on bringing healthtech-companies into the incubator in recent years doesn't mean however that SMILe is situating itself more within healthtech, says Ebba Fåhraeus. Taking a clear stance like that doesn't make sense, because the sector is growing increasingly transdisciplinary, and the winds of new technologies as well as artificial intelligence and machine learning are blowing in all directions.

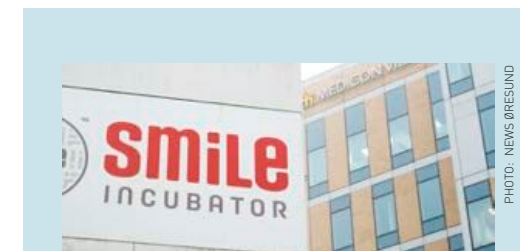
– Pharma companies are suddenly really interested in e-health solutions that will help patients manage their dosage. I think that there is a lot of crossover, and there are great advantages to companies from different fields meeting and having exchanges, she says.

Working together requires however that the large life science companies of the Øresund Region and the Danish and Swedish health services are more responsive to startup companies' 'sense of urgency', says Ebba Fåhraeus.



Ebba Fåhraeus, CEO SMILe.

– A three-person company that needs to sell something needs an income. But a lot of large companies have a 'no rush of urgency' mindset, and while they're thinking and evaluating, the small companies die and we lose a lot of interesting innovation and business opportunities, she says.



SMILE INCUBATOR

- **Founded:** 2007 as Lund Life Science Incubator (LSI), moved to Medicon Village in 2012, changed its name to SMILe Incubator in 2016
- **Focus area:** Biotech, pharma, medtech, and e-health
- **Ownership:** Region Skåne, Lund Municipality, Lund University and Medicon Village
- **CEO:** Ebba Fåhraeus
- **Total number of startups in SMILe Incubator:** 23
- **Total number of employees at SMILe Incubator:** ca. 100
- **Moreover:** The admission process for the incubator can take up to nine months



PHOTO: NEWS ØRESUND & RECIPHARM

NORTHWEST SKÅNE – MEDTECH AND BIG PHARMA

Since 2015, over 100 people have entered employment at life science companies in northwest Skåne – an area that markets itself as the Helsingborg Family. There are around 1 800 total employees in the sector there. Most of the enterprises are in medtech and pharma and located in Helsingborg Municipality, but there are a number of small and large companies with international headquarters outside of Helsingborg, in Ängelholm and Torekov. Unlike in Malmö and Lund, where there are a large number of small companies, there are few, but larger companies in northwest Skåne in which employment is generally concentrated.

The life science environment in Malmö and Lund spans more broadly across a variety of subsectors, and on a whole, there are more companies that call those cities home. In northwest Skåne, a smaller total number of life science companies focus primarily on two subsectors: medtech and pharma. In terms of employment, there has been positive development in both of the two subsectors since

2015, contributing to an overall rise in employment in the area.

The 58 life science companies identified in northwest Skåne employ a total of ca. 1 800 people in northwest Skåne. Medtech companies – comprising a few large businesses, Nolato and HemoCue, and many smaller companies or smaller departments of larger companies – employ

ca. 40% of these, i.e. ca. 700 people. The pharma companies, the largest of which is indisputably McNeil, employ around 800 people.

McNeil strengthens Helsingborg's position in the life sciences, as it can be seen as more than simply one of Helsingborg's workplaces; in terms of the number of employees, it is also the largest life science company in Skåne with its 665 employees. The pharma company has its origins in both Denmark and Sweden, and its historical roots go back to Danish LEO Pharma – originally called Københavns Løveapoteks Kemiske Fabrik. The company's first subsidiary was AB LEO in Helsingborg, and it manufactured stool softening pills. Today, many owners and company names later, McNeil is a subsidiary of the world's largest healthcare company, Johnson & Johnson, which has 130 000 employees around the world. Johnson & Johnson has owned McNeil since 2006, and in 2019 decided to invest €20 million in the facility.

The medtech company HemoCue also has links to LEO, which signed its first license agreement with two regional innovators in 1979 and established the company HemoCue in 1988. Today, HemoCue is part of the Danish Radiometer Group, which is in turn part of the Danaher Corporation.

Many larger companies in and around Helsingborg

In addition to McNeil, there are a number of foreign as well as Swedish companies instrumental for the increased growth and employment rates in northwest Skåne. The Israeli medicine manufacturer Teva and the American medtech company Boston Scientific, for example, have facilities in Helsingborg; like McNeil's, Teva's turnover and employee numbers have been on the rise since 2015. The Scandinavian headquarters for the American medtech manufacturer Bard – which was acquired by Becton Dickinson and Company (BD) in 2017 – is also located in Helsingborg. Thus, through the acquisition, BD has continued to have a presence in the city, as well as its own regulatory facility, albeit on a smaller scale than before: BD decided to cut back production in 2009 – as AstraZeneca did around the same time in Lund – and around 400 employment positions vanished from Helsingborg.

The HemoCue headquarters is located just outside of Helsingborg in Ängelholm. The manufacturer of point-of-care testing systems has around 260 employees in the town, and the company's owner, the Danish Radiometer Medical, has



PHOTO: NEWS ØRESUND

NORTHWEST SKÅNE

58 **1 800**

Number of life science companies in northwest Skåne

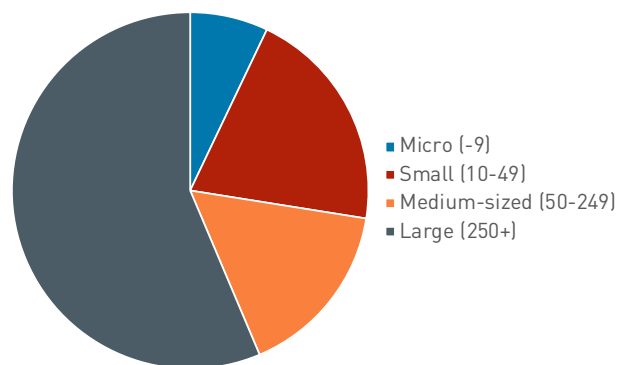
Number of employees in the life science companies in northwest Skåne

NUMBER OF EMPLOYEES IN NORTHWEST SKÅNE'S LIFE SCIENCE COMPANIES PER SUBSECTOR

Subsector	Employees in northwest Skåne 2015	Employees in northwest Skåne 2020 ¹
Pharma	710	790
Medtech	670	740
Foodtech	170	170
CMO	90	70
CRO	20	20
Biotech	20	20
ICT/Healthtech	<10	<10
Other	<10	<10

¹ Number of employees according to most recent available data from 2017-2020. Source: Bispnode, data from the companies

LIFE SCIENCE COMPANIES IN NORTHWEST SKÅNE – NUMBER OF EMPLOYEES IN ORDER OF COMPANY SIZE



Number of employees in Skåne according to most recent available data from 2017-2020. Source: Bisnode, data from the companies.

EMPLOYMENT DOMINATED BY LARGE COMPANIES

McNeil AB, HemoCue AB and Nolato Medical Solutions are responsible for 56% of employment in the life science sector in northwest Skåne. Nowhere else in the region are large companies responsible for so large a share of employment. That is in spite of the medtech company Becton Dickinson's major cutbacks in Helsingborg nearly a decade ago.

its headquarters in Copenhagen. The global plastic group Nolato with its medical solutions division oversees its facilities, which are spread around the area and in the rest of Skåne and Sweden, from its headquarters in Torekov. The total number of employees in Nolato's facilities in Skåne has risen since 2015. There were 247 people employed there until 2020, at which point 385 of the almost 6 000 total employees were located in Skåne. Another important player is Gelita, the German foodtech manufacturer of gelatine and collagen peptides for e.g. the food- and pharmaceuticals industries. Gelita has a large manufacturing plant in Klippan that employs around 160 people, and the contract research company Recipharm has a production facility in Höganäs with 65 employees.

A number of large international companies have a presence in northwest Skåne with important R&D- and production facilities; the area can thus be said to be one of the parts of Skåne in which the largest proportion of employees work in a large or medium-sized life science company. In other words, employment is concentrated primarily in a small number of large enterprises; this differs from e.g. Lund. However, the number of micro- and small companies comprises 90% of all of the 58 companies identified, bearing witness to the fact that more startups and smaller companies also characterise the sector in the area. This is even apparent in a broader sense – and even outside the life science sector – at Helsingborg's Blue Science Park, which collaborates with e.g. Ideon Science Park in Lund in e-health and ICT.

Helsingborg's pharma sector is growing

In general, the life science sector in northwest Skåne has grown as the number of employees has increased since 2015. There have been positive developments in both medtech and pharma, while employment numbers in contract research and foodtech have decreased slightly.

The pharma sector in Helsingborg consists primarily of McNeil. The company that emerged from Danish LEO Pharma around a century ago manufactures the stop-smoking product Nicorette, which is known around the world. Since 2006, the company has been part of the world's largest healthcare company, Johnson & Johnson, and it generates the majority of the employment in pharmaceuticals in Helsingborg. With its ca. 665 employees, it is one of Helsingborg's largest employers. For comparison, there were only around 610 people working at McNeil in 2015. The company's turnover in 2018 was 1.6 billion SEK, thus surpassing that of Baxter (formerly Gambro). Measured in employee numbers, it is now Skåne's largest life science company. It also interacts with students in the local community to inspire them in their course of study.

– We meet students on a regular basis over a period of three years to show them how university life is, so they can get a sense of what it would be like to follow a university path and how it connects to the industry, says Jody Lodge.

In 2019, Johnson & Johnson invested ca. €20 million in the Helsingborg facility to strengthen production capacity there and upgrade the subsidiary with a broader product portfolio. As a result,

McNeil not only develops and manufactures the stop-smoking product Nicorette, but is also a global manufacturer of Rhinocort, a nasal spray for allergies. Furthermore, a product that will compete with Strepsils is currently being developed at the facility, which, in addition to a manufacturing plant, also includes an R&D department with 85 employees and a distribution centre that employs 30 located 10 km outside Helsingborg.

Another large pharma company in Helsingborg is the Israeli Teva, which has its Swedish headquarters in the city and employs around 70 people today; in 2015 it employed around 50. Employment in the pharma sector in northwest Skåne is thus concentrated in few companies, whilst employment in medtech is linked to a greater number of larger companies and a multitude of smaller companies.



PHOTO: MCNEIL

PHOTO: NEWS ØRESUND



5 NEW COMPANIES SINCE 2015
Newly established companies since 2015

5

Number of companies

4

Number of employees in northwest Skåne

The medtech companies Hygiene of Sweden AB and Suturion AB started their activities in northwest Skåne in 2016 and 2018, respectively. In addition, the Danish ICT-company QLife started a holding company in Helsingborg after Swedish investments in 2019. The ICT-company Neki Sverige was founded in Landskrona that same year. A new company was also founded in Ängelholm recently – in 2018 Berlind Life Sciences AB was established there in the municipality.

MORE VISIBILITY TO HELP RECRUITMENT AT MCNEIL

Jody Lodge, the CEO of northwest Skåne's largest life science company, McNeil AB, wants the company to be more visible on its home turf in Helsingborg. He believes that increasing awareness of and knowledge about the company can be helpful for recruitment. Despite stiff competition for attracting talent, McNeil AB hasn't found it difficult to recruit new staff for the time being, however. Read more in an interview with Jody Lodge on page 74-55.



PHOTO: NEWS ØRESUND



PHOTO: NEWS ØRESUND

PHARMA AND MEDTECH DOMINATE THE LIFE SCIENCE SECTOR IN NORTHWEST SKÅNE

Together, the subsectors pharmaceuticals and medtech employ more than 1 500 people in northwest Skåne – that corresponds to around 85% of the total employment in the life science industry in the area. Medtech is a major subsector in all of Skåne, whilst the pharma sector is unmistakably focused in northwest Skåne. More people work in the subsector pharma in northwest Skåne than in the rest of Skåne together.

PHOTO: NEWS ØRESUND



Companies with more than 50 employees are responsible to 72.5% of employment in northwest Skåne's life science sector. That is a higher share than in Skåne's life science sector on the whole, where large and medium-sized companies are responsible for 65.5% of employment.

400 POSITIONS VANISHED FROM HELSINGBORG IN 2009

In February 2009, the American medtech company Becton Dickinson announced that it would be closing its factory in Helsingborg. Around 400 jobs disappeared from the life science sector in northwest Skåne when the factory was dismantled. The group has a total of ca 65 000 employees around the world.

Two companies in Helsingborg today have links to the group that once owned the large facility. One is Becton Dickinson Infusion Therapy AB, with five employees in regulatory affairs. The other company in Helsingborg with a connection to Becton Dickinson is Bard Norden AB, with 35 employees. The Becton Dickinson group acquired Bard for 24 billion USD in 2017; one result of the acquisition was that the group once again increased its presence in Helsingborg, albeit to a lesser degree than previously.



PHOTO: NEWS ØRESUND

MOST GROWTH IN LARGE COMPANIES
The pharma company McNeil AB secures its position as the area's largest life science company. In 2015, the company had 610 employees in Helsingborg; according to data from 2020 however, there are now 665 people.

Nolato Medical Solutions has 107 employees in Båstad Municipality and a total of 385 employees in Skåne, and has increased its personnel in Båstad by over 45 people since 2015.

PHOTO: NEWS ØRESUND



Companies with the most new employees in northwest Skåne since 2015:

- McNeil AB +55
- Nolato Medical Solutions +46
- Teva Sweden AB +16
- Airsonett AB +13
- Allard Support for Better Life AB +12
- AB Cernelle +11
- Boston Scientific Nordic AB +10
- Intigena Nordic AB +10
- Medilens Nordic AB +7

Today, the nine fastest-growing life science companies in northwest Skåne have a total of 180 more employees than in 2015. Together, the companies have 990 employees according to the most recent data, compared with around 810 employees in 2015. The greatest increase has been in the large companies McNeil AB and Nolato Medical Solutions, but staff numbers have also risen in many small and medium-sized companies.

NEW SUBSECTORS IN NORTHWEST SKÅNE

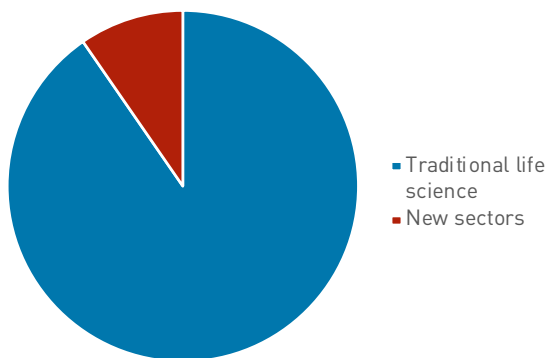
Few foodtech- and healthtech companies.

Fewer ICT companies with particular focus on the life sciences have been identified in northwest Skåne in comparison to Malmö and Lund. The ICT companies can also be called e-health-, connected health- or healthtech companies, and they develop apps, software or digital solutions for their own health-related solutions. These are a small number of startups that employ few people. One of these healthtech companies is Qlife from Copenhagen. Qlife works with home testing of blood samples, and it has been listed in Sweden since February 2020 – see page 93 for more info. The holding company QLife Holding AB was created in Helsingborg parallel to the company's IPO. Furthermore, only a few foodtech companies with a particular focus on the life sciences were identified in the area. Around 170 people are employed at the few foodtech companies; this is more than in Lund and Malmö. The high number of employees is primarily due to the presence of the foodtech company Gelita Sweden AB, which has production in Klippan. The company is part of the German Gelita group, which is a leader in collagen peptides for the food- and pharmaceuticals industries. The few companies in ICT and foodtech employ around 10% of the total life science employees in northwest Skåne.



PHOTO: NEWS ØRESUND

NUMBER OF EMPLOYEES IN THE LIFE SCIENCE SECTOR IN HELSINGBORG



¹ Number of employees according to most recent available data from 2017-2020. Source: Bisnode, data from the companies

COMPANIES WITH SOME ACTIVITIES IN THE LIFE SCIENCES

Although the life science sector in northwest Skåne is mainly comprised of the companies in the following spread, there are a number of other companies in the area with some activity related to the life sciences. The companies whose activities take place in overlapping sectors are from a number of different sectors.

The Landskrona-based Oatly, which produces food based on oats, works in the borderland

between food production and foodtech. The packaging company Treform Packaging, which is also based in Landskrona, manufactures plastic packaging for multiple industries, including life science.

Nederman Holding AB in Helsingborg works with industrial air filtration in e.g. the life science industry. Another company there is Navet AB, which helps companies in a variety of sectors, including the life science sectors, with

expansion, marketing solutions and more.

Since 2015, Ängelholm has been the home of the tech company Herpatech AB, which considers life science companies one of its four main partners.

The technology consultancy firm Jelmtch Produktutveckling AB in Örkelljunga aims its operations at e.g. medtech companies.

THE LARGEST LIFE SCIENCE COMPANIES IN NORTHWEST SKÅNE

Company	Subsector	Municipality	Employees in northwest Skåne
McNeil AB	Pharma	Helsingborg	665
HemoCue AB	Medtech	Ängelholm	257
Gelita Sweden AB	Foodtech	Klippan	156
Nolato Medical Solutions	Medtech	Båstad	107 ²
Teva Sweden AB	Pharma	Helsingborg	67
Recipharm Höganäs AB	CMO	Höganäs	65
Intigena Nordic AB	Medtech	Helsingborg	48
Bard Norden AB	Medtech	Helsingborg	35
Camp Scandinavia AB	Medtech	Helsingborg	35
AB Cernelle	Pharma	Ängelholm	34
Boston Scientific Nordic AB	Medtech	Helsingborg	25
Kulzer Nordic AB	Medtech	Helsingborg	25

Company	Subsector	Municipality	Employees in northwest Skåne
Medilens Nordic AB	Medtech	Helsingborg	21
Svenska Labex AB	Medtech	Helsingborg	21
Nordicare Ortopedi & Rehab AB	Medtech	Höganäs	16
Toxicon AB	CRO	Landskrona	16
Airsonett AB	Medtech	Ängelholm	13
Allard Support for better life AB	Medtech	Helsingborg	12
J.H. Orsing AB	Medtech	Helsingborg	11
Mediflex AB	Medtech	Helsingborg	11
EPS Vascular AB	Medtech	Höganäs	11
Medidyne AB	Medtech	Ängelholm	11
Sarstedt AB	Medtech	Helsingborg	10
Abcur AB	Pharma	Helsingborg	10

¹ Number of employees according to most recent available data for 2017-2020. ² Also has 278 employees in Hörby/Lomma. The companies on this list have 10 or more employees. Source: Bisnode and data from the companies.

OTHER COMPANIES

Medtech: Adcare AB (Helsingborg), Axotan AB (Helsingborg), Becton Dickinson Infusion Therapy AB (Helsingborg), Brotech AB (Höganäs), Ferle Produkter AB (Helsingborg), Hygiene of Sweden AB* (Landskrona), Isakssons Gummifabrik AB (Båstad), Labex Reagens AB (Helsingborg), Ljungberg & Kögel AB (Helsingborg), Macopharma Nordic AB (Helsingborg), Medivet Scandinavian AB (Ängelholm), Meditech Nordic AB (Helsingborg), Scanex Medical Systems AB (Helsingborg), Spectronic Medical AB (Helsingborg), Spectronic Research AB (Helsingborg) Suturion AB* (Helsingborg), TG Instrument AB (Helsingborg), Vigmed AB (Helsingborg)

Biotech: Aqilion AB (Helsingborg), Indienz AB (Svalöv), Percell Biolytica (Åstorp), Tikomed AB (Höganäs)

Pharma: Acucort AB (Helsingborg), Niconovum AB (Helsingborg), Salfarm Scandinavia AB (Helsingborg), Vetoquinol Scandinavia AB (Åstorp)

CMO: Advance Pharma in Scandinavia AB (Helsingborg)

CRO: Capra Science Antibodies AB (Ängelholm)

ICT/Healthtech: Neki Sverige AB* (Landskrona), Qlife Holding AB* (Helsingborg)

Foodtech: Fipros AB (Svalöv), Protista Food AB (Helsingborg)

Other: Bertind Life Science AB* (Ängelholm), Wiphe Widov Pharmaceutical Engineering (Höganäs)

* Company founded in 2015 or later



PHOTO: NEWS ØRESUND & BIOGAIA



ELSEWHERE IN SKÅNE – MEDTECH AND FOOD IMPACT EMPLOYMENT

Since 2015, employment development in the life sciences has been positive in the rest of Skåne – albeit to a lesser degree than in Malmö, Lund and northwest Skåne. Fewer companies and employees are also typical for the area, although it has also served as a point of departure for the Swedish multinational medtech businesses Arjo and Atos Medical. Medtech remains most important for employment in the area, together with research and development. In addition to medtech, Krinova Incubator & Science Park in Kristianstad does its part for employment and innovation in the focus areas food, environment and health.

While the life science enterprises in Skåne revolve around Malmö, Lund and Helsingborg, there are a number of small companies – and a few larger ones – dispersed in the rest of Skåne, in towns such as Eslöv, Hörby, Vellinge, Svedala and Lomma. There are just under 600 employees at

the 28 companies identified in the rest of Skåne; that is just below the same number of employees as at McNeil in Helsingborg. Although the sheer volume of the sector in more rural areas is not particularly large compared to the region's urban centres, the numbers are rising. In 2015, there were

around 470 people employed at companies located in the rest of the region. The positive development in employment is not only a trend seen in Malmö, Lund and Helsingborg: there is also employment growth in smaller towns, although the total number of employees there is significantly lower.

Medtech employs the majority

Approximately half of the identified companies in the rest of Skåne are active in medtech. Around 470 are employed in the subsector, compared to ca 380 in 2015 – that corresponds to a positive employment development in medtech of ca 24%.

There are significant historical precedents for medtech here in this part of Skåne: it was here that the Swedish multinationals Arjo and Atos Medical were founded.

Arjo was established by a local entrepreneur in Eslöv in 1957 and was first quoted in 1993, before being acquired by the listed medtech group Getinge two years later. The company headquarters was moved to Malmö under the name Arjo Huntleigh, and in 2017, Arjo once again became an independent listed company when it was broken away from Getinge.

Atos Medical is privately owned by the French investment firm PAI Partners and has around 750 employees around the globe. Unlike Arjo, the company still has around 140 people working at the original factory and R&D centre in Hörby, where both turnover and employee numbers have increased since 2015. Like Arjo's, Atos Medical's headquarters were also moved to Malmö in 2015 in order to be closer to clients as well as markets. All in all, the various reorganisations of the two companies have suppressed the medtech sector in the rest of Skåne, to the advantage of Malmö and abroad, although there has been a slight increase in employment since 2015. Nonetheless, Atos Medical's facility in Hörby is sizeable and continues to be important for local employment. The same is true for the companies Trelleborg Group and Nordic Plastics Group, for whom medtech is one of a number of business areas managed from the headquarters in Trelleborg. Likewise, the plastic manufacturer Nolato – which has a partial focus on medical solutions – has production and development facilities in Hörby and Lomma, where a total of around 280 people are employed. In 2017, Nolato invested in a new 3 700m² building in Hörby; according to the company, the new premises means that additional employees will be recruited to the area.



PHOTO: BIOGAIA

ELSEWHERE IN SKÅNE

28

Number of life science companies elsewhere in Skåne

600

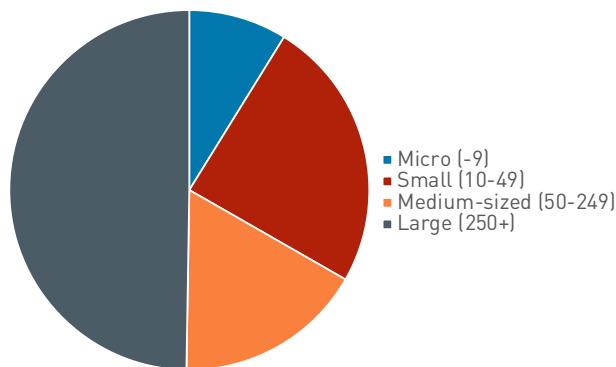
Number of employees in life science companies elsewhere in Skåne

NUMBER OF EMPLOYEES IN LIFE SCIENCE COMPANIES ELSEWHERE IN SKÅNE PER SUBSECTOR

Subsector	Employees in the region 2015	Employees in the region 2020 ¹
Medtech	380	470
Pharma	40	40
Biotech	30	20
Foodtech	10	20
Other	<10	10
CRD	<10	<10
ICT/Healthtech	<10	<10
CMO	<10	<10

¹ Number of employees according to most recent available data from 2017-2020. Source: Binsode, data from the companies

LIFE SCIENCE COMPANIES ELSEWHERE IN SKÅNE – NUMBER OF EMPLOYEES IN ORDER OF COMPANY SIZE



Number of employees in Skåne according to most recent available data from 2017-2020. Source: Bisnode, data from the companies.

Other subsectors affect employment – primarily food

Around half of the companies in the rest of Skåne are associated with other sectors than medtech. There is the same variation of biotech-, pharma-, contract research -, foodtech- and ICT companies as in Malmö and Lund, but on a far smaller scale; i.e., there are only a few companies in each subsector and a total of approx. 100 employees. The companies are primarily small. In addition to the life science companies identified, Krinova Incubator & Science Park in Kristianstad contributes to growth and innovation in the rest of Skåne when it

comes to food as a field, where there are also potential links to the life sciences. There are approx. 100 companies and 350 employees based in the park, and this September the Municipality of Kristianstad renewed its commitment to provide annual support of 1.5 million SEK until 2023, under the condition that Region Skåne also provides funding, as it has previously. Krinova can thus on the whole be seen as a large company in the area that enables startup companies – both in the life sciences and in other fields – to be active even outside Malmö and Lund, and prioritises the field of food – besides medtech – in the rest of Skåne.

HALF WORK IN LARGE COMPANIES

Nearly half of the people employed in the life science sector outside Skåne's largest cities work in the large company Nolato Medical Solutions. The area's medium-sized company, Atos Medical AB, is responsible for around one-fourth of employment. Large and medium-sized companies are responsible for a slightly higher share of employment in the area than in Skåne on the whole.

BIG BUSINESSES GROWING MOST

Nolato Medical Solutions and Atos Medical AB are the two companies outside Skåne's largest cities that have seen the most outstanding growth since 2015. Both companies are focused on medtech and have facilities in Hörby and have their headquarters elsewhere than in Hörby. Nolato Medical Solutions is based in Torekov, in Båstad Municipality, and Atos Medical AB moved its headquarters to Malmö in 2015.

PHOTO: NEWS ØRESUND



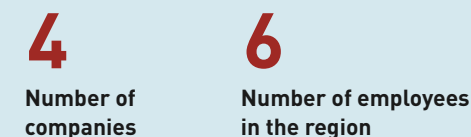
Companies with the most new employees elsewhere in Skåne since 2015:

- Nolato Medical Solutions +92
- Atos Medical AB +40
- Kronosept AB +7
- Medical Valley Invest AB +6
- Meroving AB +6
- Chemotechnique MB Diagnostics AB +5
- Phadebas AB +5

Increased employment in the life science sectors outside Skåne's largest cities since 2015 has primarily been in two companies: Nolato Medical Solutions and Atos Medical AB. Together, the companies have created around 130 new jobs in Hörby and Lomma since 2015.

Although the greatest employment increase has been in the two largest companies in the area, there has been positive employment development in many companies since 2015. The medtech company Kronosept AB was founded in 1947 and has had its production in Eslöv since the 1970s. In 2015, it had 18 employees, and today it employs 25 people, according to the most recent data from 2019.

4 NEW COMPANIES SINCE 2015
Newly established companies since 2015



The life science industry is growing outside Skåne's urban centres, too. The Kristianstad-based foodtech company Phadebas was founded in 2017. In 2018, the ICT company Aiten Health AB, whose focus is on solutions for people with high blood pressure, was started in Vellinge. 2019 saw the arrival of Prebona Healthcare AB, a subsidiary of Prebona AB, in Simrishamn. Din Gravidcoach Sverige AB was founded in the life science municipality Hörby in 2017. The company has links to the science park Medeon in Malmö.

HEADQUARTERS HEAD FOR MALMÖ

In recent years, two of Skåne's large life science enterprises have moved their headquarters from smaller municipalities in central Skåne to Malmö. The medtech company Arjo was founded in Eslöv in 1957 and had its IPO in 1993. Two years later, Arjo was acquired by the global medtech company Getinge. In 2013 the factory moved from Eslöv to Poland, and when Arjo was hived off from the Getinge group in 2017, the company headquarters was once again in Malmö.

The medtech company Atos Medical AB was founded in a neighbouring municipality to Eslöv – Hörby – in 1986. The company's base remained in Hörby until 2015, when the headquarters moved to Malmö in order to "get closer to its clients and markets". Atos Medical AB continues to have its production facilities and R&D operations in Hörby Municipality.

PHOTO: NEWS ØRESUND



3 700 M2 NEW SPACE IN HÖRBY

The ground was broken for Nolato Medical Solution's expansion in Hörby in August 2017. The new building adds 3 700 new square meters, bringing the total area of Nolato's facility in Hörby up to 11 000m2. The new building was completed in 2019 and is Nolato's second expansion in just ten years. The factory was also expanded by around 3700 m2 in 2011.

BIOGAI EXPANDS IN ESLÖV

The biotech company BioGaia works with probiotic dietary supplements and has secured the rights to a new, 9000 square metre building plot in Eslöv Municipality, where they will expand their factory. The company also expanded in Eslöv in 2017, when it added new lab facilities that will serve as a competence centre in cooperation with external actors such as the state research institution and innovation partner RISE, Lund University and the Swedish University of Agricultural Science in Uppsala.

NEW SUBSECTORS ELSEWHERE IN SKÅNE

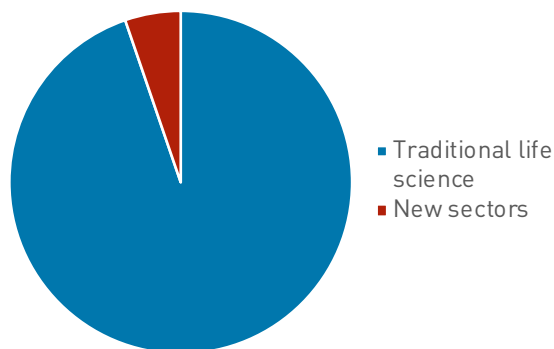
Few foodtech- and healthtech companies.

Only a few ICT companies with a specific focus on the life sciences were identified in the rest of Skåne. They are startups, and they employ a small number of people. The companies are also called healthtech-, e-health- or connected health companies, and they do not employ as many people in the rest of Skåne as they do in Malmö and Lund. The same is true for the foodtech companies with a particular focus on the life sciences. Only a small number were identified, and they employ around 20 people. Together, the number of employees in the healthtech- and foodtech companies make up 5% of the total number of life science employees in the rest of Skåne. These new subsectors are thus relatively small in the area. More broadly however, there are around 100 companies in the rest of Skåne aimed at food, environment and health in various ways. The companies are located in Krinova Incubator & Science Park in Kristianstad, which is Sweden's oldest and largest incubator when it comes to food. It works with the life sciences in new and innovative ways. The companies at Krinova are not included in the statistical life science survey, however – read more on the method on page 105-108.



PHOTO: NEWS ØRESUND

NUMBER OF EMPLOYEES IN THE LIFE SCIENCE SECTOR ELSEWHERE IN SKÅNE



¹ Number of employees according to most recent available data from 2017-2020. Source: Bisnode, data from the companies

COMPANIES WITH SOME ACTIVITIES IN THE LIFE SCIENCES

A number of companies outside the largest cities in Skåne work primarily in other sectors but have some operations in the life sciences. While the majority of the employees work in other areas, Trelleborg Industri AB also manufactures products for the healthcare and life science industries. Another manufacturer in Trelleborg is the plastics producer

Nordic Plastics Group AB, which, like Trelleborg Industri AB, includes the life science sector as one of its customer segments.

Validus Engineering AB in Staffanstorps works with e.g. engineering design, multiphysics and structural analysis. The company produces asthma inhalers, but also works with paper, renewable energy and offshore platforms.

Kristianstad is the location of the IT company AceIQ, which has customers and partners in a variety of sectors, including life science.

SolidX is a consultancy firm registered in Eslöv. The company works with e.g. the automotive and telecom sectors, but its customers also include prominent life science companies such as AstraZeneca.

THE LARGEST LIFE SCIENCE COMPANIES ELSEWHERE IN SKÅNE

Company	Subsector	Municipality	Employees elsewhere in Skåne
Nolato Medical Solutions	Medtech	Hörby/Lomma	278 ²
Atos Medical AB	Medtech	Hörby	140 ³
Swevet AB	Pharma	Sjöbo	34
Chemotecnique MB Diagnostics AB	Medtech	Vellinge	25
Kronosept AB	Medtech	Eslöv	25
Biogaia Production AB	Biotech	Eslöv	21
Intertek Scanbi Diagnostics AB	Foodtech	Lomma	15
Gertab Sjukvårdsprodukter AB	Medtech	Lomma	13
Meroving AB	Other	Kristianstad	11

¹ Number of employees according to most recent available data for 2017-2020. ² Also has 107 employees in Båstad. ³ Also has 55 employees in Malmö. The companies on this list have 10 or more employees. Source: Bisnode and data from the companies.

OTHER COMPANIES

Medtech: Alyko Medical AB (Lomma), Entomed Medtech AB (Svedala), ETAC Sverige AB (Eslöv), Hjälpmedelsteknik Sverige AB (Lomma), JCM Elektronik AB (Lomma), Medicpen AB (Lomma), Somedic SenseLab AB (Hässleholm)

Biotech: Chr. Hansen Sweden AB (Bromölla)

Pharma: Medical Valley Invest AB (Vellinge)

CRO: NordicBiocube AB (Eslöv), Pro Diagnostics Scandinavia AB (Vellinge)

ICT/Healthtech: Aiten Health AB* (Vellinge), LBM Elektronik AB (Hörby)

Foodtech: Caldic Ingredients Sweden AB (Östra Göinge), Eurofins Food & Feed Testing Sweden AB (Kristianstad), Phadebas AB* (Kristianstad)

Other: Ceffort AB (Kävlinge), Din Gravidcoach Sverige AB* (Hörby), Prebona Healthcare AB* (Simrishamn)

*Company founded in 2015 or later



PHOTO: BIOGAIA

KRINOVA WANTS TO BUILD BRIDGES – BETWEEN FOOD AND LIFE SCIENCE AND OVER THE ØRESUND STRAIT

Food is a major profile area for Krinova Incubator & Science Park in Kristianstad in northwest Skåne. Among other things, they have been able to collaborate with the incubator SmiLe from the science park Medicon Village in Lund, as well as the science park Medeon in Malmö, to link food and life science. Work with food also generates trans-Øresund opportunities, but collaboration with Denmark could be much stronger still, according to Charlotte Lorentz Hjorth, who left her post after nine years as Krinova's CEO on 15 May 2020.

Opposite the reception area at Krinova Incubator & Science Park there is a timeline detailing the science park's history and development. Last year Krinova celebrated its 20-year anniversary. Over the course of the science park's life thus far, the red brick building has gone from

something of an office hotel to a venue where innovation support and development projects on a local level are in focus, as are regional and national assignments. Today, the more than 20 employees at Krinova work actively with around 270 companies all over Sweden. Among them are e.g. the company Miso AB, (Microbial Solutions), which is dedicated to yeast for the brewing industry; Trioplast AB, which produces packaging solutions, and Hypro AB, which develops tractor processors. 106 of Krinova's companies and around 350 employees are based at the science park in Kristianstad. Krinova works on a national level, not least because one of its primary profile areas is food – the entire food chain.

– The focus is on food, but not on any particular niche within it. We include the whole value chain – from soil to soil, one might say. From primary production to biogas, and around it goes, explains Charlotte Lorentz Hjorth. She continues:

– We mainly have regular offices; a food company generally doesn't require them. So they stay where they need to be in order to keep their production running smoothly. We aren't so limited geographically, but in that respect we're much more like a cluster.

Krinova Incubator & Science Park is part-owned by Kristianstad Municipality (40%) and by the municipality's subsidiary Kristianstads Industribyggnads AB

(40%). The final 20% is owned by Kristianstad University. Krinova collaborates with e.g. other incubators and science parks in Skåne to bring together food and the life sciences. According to Charlotte Lorentz Hjorth, Krinova, Medeon and SmiLe Incubator started a development project to respond to the need to clarify the boundaries between the food industry and the life sciences, which are indisputably related. "You are what you eat", she says. The project has explored links between food and diabetes from a user perspective and formulated several problems.

– The next step is that we've identified a number of areas where there's a definitive need for innovative solutions, and we want to extend an invitation to the commercial sector, since that's where the experts are. Then we can find a solution to these challenges together, she explains. Data from Statistics Sweden (SCB) show that the food sector in Sweden sold food for 296 billion SEK in 2018; this is an increase of 15 billion SEK compared to 2017. According to Charlotte Lorentz Hjorth, the sector has a great deal of possibilities in Sweden, and she also believes that Krinova's work with and focus on food extends beyond the local, regional and national assignments and opens up for trans-Øresund collaboration – collaboration that she maintains holds strong potential for development and improvement.

She feels that there has been a decrease in collaboration across the Øresund, and it has grown harder to find Danish collaborative partners interested in the same projects as Krinova.

– Our strategic synergy has faced some challenges in the Øresund Region in recent years, and I'd like to

see it prioritised once again. Together we're stronger. Precisely that trans-Øresund strategic synergy is one of Krinova's focal points for the years to come: they plan to work on strengthening their bonds to educational institutions in Skåne as well as in Denmark, where they already collaborate with the Technical University of Denmark (DTU) and University College Absalon. For example, they had planned a joint food hackathon with the latter institution for this May; this was cancelled due to the current pandemic and will resume next year. This is just one example of collaboration that should be intensified. According to Charlotte Lorentz Hjorth, there is pertinent research that can benefit both countries being done on both sides of the Øresund, and joining forces can strengthen the region as a whole.

While there is room for improvement when it comes to trans-Øresund collaboration, Krinova Incubator & Science Park was also studied as a business model when a new centre for innovation focused on food was established in the Mexican city of Matamoros, near the American border, in 2018.

– They started their work there in the Obama-era, and the two cities of Matamoros and Brownsville, Texas worked together to build a science park on the border. This was before Trump's wall. With Obama it was the opposite – he wanted to build bridges, says Charlotte Lorentz Hjorth. She goes on:

– They came here because they had seen that there were two countries connected by a bridge and by innovation. They chose the Øresund Region, Denmark and Sweden.

Krinova is involved in many different projects, which Charlotte Lorentz Hjorth maintains is only natural when the interest is in foodstuffs – both when the interest is in focusing on food issues, and also when the focus is on linking food and life science. Projects might concern e.g. enzymes, bacteria cultures or food colouring. If the interest is solely in life science collaboration, however, the projects usually end up elsewhere.

Charlotte Lorentz Hjorth explains that Krinova prioritises proactivity and cooperation for defining possibilities and challenges, and that this is possible thanks to their broad expertise, many resources and a well-developed network – which she also believes to be the reason that Krinova was voted Sweden's most innovative incubator by colleagues in the trade organisation Swedish Incubators & Science Parks (SISP) in 2017.

– I believe that it is because we have expertise, resources and network. We help create possibilities for innovation by systematising and outfitting for challenges and possibilities, as well as carrying out

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trend analyses, research and collaboration. That means we don't see ourselves as simply a service provider for the companies; we are involved in the creation. That is part of our fundamental set of values and the way we work.

PHOTO: NEWS ØRESUND



Charlotte Lorentz Hjorth, former CEO Krinova.

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KRINOVA INCUBATOR & SCIENCE PARK

- **Founded:** 1999
- **Focus area:** Food, environment, and health
- **Ownership:** Kristianstad Municipality owns 40% of Krinova Incubator & Science Park, 40% is owned by the municipality's subsidiary Kristianstads Industribyggnads AB, and 20% is owned by Kristianstad University
- **CEO:** Nikolas Larsson (acting managing director)
- **Total number of companies at Krinova:** 106
- **Total number of employees at Krinova's companies:** ca. 350
- **Moreover:** On behalf of the six municipalities of northeastern Skåne, Region Skåne and Kristianstad University, Krinova Incubator & Science Park provides innovation support to small and medium-sized companies in all sectors, food enterprises, and to students and researchers. More than 500 companies have received support to date.



PHOTO: NEWS BRISUND

SECTOR OVERLAP

New life science subsectors employ around 800 in Skåne – mostly in food and ICT

Three out of four life science companies in Skåne analysed in this survey belong to the subsectors pharma, biotech, medtech and contract research. The remaining quarter comprises 118 companies with a life science focus that are located where life science overlaps with another sector – primarily ICT and food. The companies generate new subsectors in the cluster, employ 800 people, and are situated primarily in Malmö and Lund. A further 64 companies with peripherally overlapping sectors can to a degree be considered part of Skåne's life science sector.

Of the 426 life science companies identified in Skåne, 308 can be categorised within pharma, biotech, medtech and contract research. Around 75% of all of the life science companies thus belong to what can be seen as a core segment when it comes to the life sciences. The remaining ca 25% of the life science companies identified – corresponding to 118 companies – can be said to comprise a supplementary segment; while all of the companies can be said to focus on the life sciences, they cannot be said to be distinctly in pharma, biotech, medtech or contract research. Instead, companies in the supplementary segment encompass three subgroups: IT- and software development (ICT), the food industry (foodtech), and other areas such as consultants with a life science focus. These companies are thus in overlapping industrial sectors, both in life sciences and another sector.

Companies in overlapping sectors have been included in order to provide a more thorough overview of the life science sector in Skåne, as new technology, treatments and business conditions make it possible for these companies, which were previously part of separate sectors such as IT- and the food industry, to be included as part of the life science sector. In addition to the supplementary segment, a more peripheral segment was also identified that encompasses 64 companies with only a partial life science focus. Industrial sectors overlap to a lesser degree here. Employees at these companies and the number of companies are not included in the actual company survey; instead, they are intended to illustrate that the life science sector can branch out into other industries. A common feature of these companies is their activity in multiple industrial areas; they are thus not focused on the life sciences, unlike the companies in the core and supplementary segments, whose primary focus is life science. The sector overlap aspect is thus considered on two

levels, where companies work either primarily or secondarily with the life sciences.

Most sector overlap with ICT

With 59 companies, ICT companies make up the greatest part of the supplementary segment of companies with overlapping sectors and a focus on the life sciences. These companies can also be referred to as healthtech-, medical devices- or e-health businesses, as they use software, algorithms and programming to develop digital and data-driven solutions for their own health-related products or for other actors in the life science industry, and many of them can be classified as in the borderland between medtech and ICT. The majority of the ICT-businesses are located in Malmö and Lund. Medotemic AB in Lund for example develops apps and software solutions for movement analysis; Tunstall Nordic AB in Lund develops virtual platform solutions for users in the healthcare sector, and Capish Nordic AB in Malmö develops software for data analysis that can accelerate pharmaceutical production.

– The more data you have, the more value our software will create. The variation and volume of data is the deciding factor, says CEO Eva Kelty; see more about how the company works with the sector overlap between life science and ICT in the interview on page 66-67.

Life science businesses in ICT have had positive development since 2015, at which time ca 230 people were employed. According to the most recent figures available, from 2018-2020, around 400 people are employed in the 59 ICT businesses. Compared with the contract research- or pharma sectors in Skåne, of which there are a total of 48 and 42 companies, respectively, the subsectors employ between ca 1200-1500 people each. This is an indication that while the ICT companies

focused on life science may be plentiful, they are primarily micro- and small businesses with few employees. Many of them, for example Accumbo AB or PainDrainer AB in Lund, are part of the network HealthTech Nordic; another ICT company – itACiH AB – is part of Skåne's Mobile Heights network, which has a partial focus on digital health. Furthermore, around one-third of the 59 ICT companies are located in the science parks Medeon, Ideon, Medicon Village or in the incubator SmiLe. CEO Ebba Fähræus has noted a development.

– The area that has expanded most in recent years is e-health companies, app-based or data-based enterprises. They are multiplying, she says. In the interview on page 42-43, she goes into more detail about how new tech has increased the sector's transdisciplinarity.

Sector overlap into food – mainly in Lund

In addition to the 59 ICT companies in the supplementary segment of companies in overlapping industrial sectors with a special focus on the life sciences, there are also 20 foodtech companies. These companies have been categorised as companies with sector overlap, as they are located in the borderland between the food industry and biotech. A common factor for them is that they utilise R&D knowledge to e.g. create healthier and more sustainable foodstuff. For example, SBM Life Science AB in Lund develops protection products for crops, and the biotech- and foodtech company Glucanova AB develops enzymes and proteins for healthier oat products.

– In traditional life science people also work with raw materials and transform them into e.g. medicine. In a foodtech company, people work with naturally occurring raw materials. In our case that material is oat, and we have different biotechnical ways of turning it into high-fibre oat drinks, says Jörgen Holm, CEO of Glucanova AB. In the interview on page 64-65, he talks more about how companies work in the sector overlap between the life sciences and food production.

Half of the foodtech companies are located in Lund, and the rest are spread out in Malmö and the rest of Skåne. Similarly to the ICT companies, they are primarily small and micro-companies. A total of around 260 people are employed in Skåne's foodtech companies – an increase since 2015, when 220 were employed, according to available data. As a subsector, foodtech – like ICT – has thus developed positively as a subsector. Foodtech employs fewer people however, and there are fewer companies ac-

tive in the area compared to the subsectors pharma, biotech, medtech and ICT.

Other industrial sectors also overlap with the life sciences

In addition to ICT- and foodtech companies, there is a third subgroup in the supplementary segment that can be difficult to categorise in terms of a distinct sector overlap. However, it consists of various companies focused on the life sciences as well as consultant services, e.g. Bruun og Maté AB and Ny Consulting AB in Lund. Packaging companies and cleaning services targeting life science are also part of this subgroup, which consists of 39 primarily small and micro-companies in Malmö and Lund. There are around 130 people employed in the subgroup – a slight increase since 2015, at which time the number was ca 80. Unlike the ICT- and foodtech businesses, the companies identified are not focused on any particular sector overlap, but are considered as an additional sector overlap in the supplementary segment in various ways, and may count multiple companies and employees.

Sector overlap with ICT can be secondary

In addition to the supplementary segment, a more peripheral segment can also be identified. This group of businesses includes 64 companies that focus only partially on the life sciences, as they also work in other industrial areas. The sector overlap is thus weaker than the supplementary segment in which the companies' main focus is the life sciences. Most of the 64 companies are in Malmö and Lund. In terms of size, the companies may be large, medium-sized, small or micro-companies, and most have sector overlap with the ICT sector, albeit to a lesser degree than the supplementary segment with ICT companies, as the companies here are also active in other industrial areas such as logistics, cleantech and finance. For example, ARM Sweden AB, Sigma Connectivity Engineering AB and Qliktech International AB are categorised in this segment, as they e.g. develop digital solutions to improve the healthcare system and patient treatment. As sector overlap is secondary and difficult to determine however, these companies and their employees are not included in the actual survey; they are intended to illustrate that multiple companies in the core- and supplementary segment are active on the periphery of the life science sector, and that there are crossovers of many kinds between life science and other sectors.



PHOTO: BIOBIA

METHOD

The companies in the life science cluster in Skåne were identified based on data requested from Statistics Sweden (SCB) and our own research in printed sources. Life science companies and the companies in sector overlaps can be categorised in various ways. Based on other surveys and analyses of the sector, Øresundsinstittet categorised life science as a core segment comprising pharma, biotech, medtech and contract research (CMO and CRO) and a supplementary segment comprising ICT and food and other services. Read more about the method on page 105-108.

GLUCANOVA – IN THE BORDERLAND BETWEEN LIFE SCIENCE AND THE FOOD INDUSTRY

The company Glucanova AB in Lund has been developing products in the foodtech sector since 2013. According to the company's CEO Jörgen Holm, they develop products that taste good but can also help prevent and treat certain diseases of affluence. The company is not focused on one single retail user market, but instead sees the opportunities that collaborating with the healthcare sector offers.

Yoghurt, smoothies, soups, ice cream and pudding. Some might not consider them products one immediately associates with the life science sector, but the Lund-based company Glucanova sees it differently.

– We're a biotech company. We work with molecules and enzymes and with transforming raw materials from biotech to food, says Jörgen Holm, CEO of Glucanova.

Since Glucanova was established in 2013, the company has been developing oat-based liquid foods from its premises in Lund. There are also other Swedish companies, such as the probiotics companies Probi AB and BioGaia AB and the other oat company Oatly AB, working to develop foods and supplements based on biotechnical processes. For Glucanova's six employees, it's not just about developing products that taste good, but according to Jörgen Holm, the products should also contribute to both preventing and treating certain diseases such as type 2 diabetes, cardiovascular diseases and high blood pressure. Glucanova works with biotechnical processes in which soluble fibres – beta-glucans, which are considered important with health-promoting qualities – are used to realise that vision. Thus, according to Jörgen Holm, the company is active in traditional life science as well as in the food industry – or more specifically, in foodtech. The company's employees include people trained in nutritional science as well as in foodtech, biochemists, and biomedical professionals.

– In traditional life science people also work with raw materials and transform them into e.g. medicine. In a foodtech company people work with naturally occurring raw materials. In our case that

material is oats, and we have different biotechnical ways of turning it into high-fibre oat drinks, says Jörgen Holm. He goes on:

– Unlike in for example medtech however, an edible product needs to taste good, and it's also important to us that the alterations we make to the oat also contribute to illness prevention. We are very close to the pharma industry; the difference is that a pharma company's influence begins when

sick people need to be cured, while we'd rather not have any sick people at all.

As Jörgen Holm explains, Glucanova's products are also intended to help in the treatment of individuals with diagnosed illnesses. The company conducts research and clinical studies on both healthy individuals and people with confirmed diagnoses, working with doctors and clinics to scientifically verify the products' qualities and be

able to provide documented clinical evidence.

One of the challenges for the sector, he points out, is that big food companies aren't the ones creating innovation, but instead simply manage the products they have. Jörgen Holm finds it regretful for the sector that the large companies don't take part in innovation and reconceptualization. He is convinced that is due to a fear of failure, and because taking risks is unrewarded; he believes that the reason innovation takes place in all of the small companies and startups is precisely because they dare to take risks. Several years ago, a number of food consortia competed for funding from The European Institute of Innovation & Technology (EIT). One of them was a consortium of large companies and major universities from Sweden, Denmark and other Scandinavian countries. Another was a

"We are very close to the pharma industry; the difference is that a pharma company's influence begins when sick people need to be cured, while we'd rather not have any sick people at all."

consortium from Germany, Austria and Switzerland. According to Jörgen Holm, the consortium was of the conviction that their innovative solutions would only succeed if smaller companies were also involved. Glucanova was one of those companies, and the consortium was granted the funding.

– They said that what had been decisive for their victory was that their consortium had recognised that innovation takes place above all in small companies, says Jörgen Holm.

The consortium that the three German-speaking nations established was given the name Rising Food Stars. Today it comprises 51 companies from all over Europe, and Glucanova is the only Swedish company in the network. Rising Food Stars is part of EIT Food, which is Europe's leading innovative endeavour in the area of food and consists of a network of major European universities, research centres and larger companies.

Glucanova has also developed a liking for working globally rather than only in Sweden and the Øresund Region. Their products and high-fibre oat ingredients can be adapted to markets around the globe, and they thus also work to deliver them to the global market for existing as well as new brands. Glucanova works with the business-to-business aspect all over the world, with the exception of South America. Their own products have yet to be launched on a business-to-consumer market; like pharmaceuticals, the products need to be approved around the world. Jörgen Holm explains that in Europe, approval is given by e.g. EFSA (European Food Safety Authority), whilst in the USA, approval is granted by the FDA (US Food and Drug Administration).

– Pharmaceuticals look the same whether you sell them in the USA, China, Germany, Sweden or Denmark. But when it comes to food, there is another aspect, namely cultural differences. I can develop a product in Germany and test it with German doctors in German hospitals using the same patent and biotechnology. In Hong Kong, I develop the product to adapt it for China, but in terms of the biotech, it still has the same characteristics as it did in Germany. When everything is ready, I have knowledge about how the products should be for users in Germany and in China, says Jörgen Holm.

But the multifaceted nature of the products and the possibility to adapt them to many markets is precisely what the company hopes to take more advantage of by not only selling to a retail user market. Because the products have preventative and healing qualities, Jörgen Holm also sees a unique possibility for collaboration with the healthcare se-



Jörgen Holm, CEO
Glucanova.

PHOTO: NEWS ØRESUND

ctor – that's a possibility on which they're already at work, even if, as he says, the framework for public purchase in Sweden is complicated.

– We have projects where we work with elder care and hospitals. We are part of subprojects that work with elderly individuals who are undernourished, where we work with Region Skåne's lifestyle academy (Region Skånes livsstilsakademi), he explains.



PHOTO: NEWS ØRESUND

GLUCANOVA AB

- **Founded:** 2013
- **Branches in the life sciences:** Foodtech/biotech
- **Focus area:** Oat products
- **Ownership:** Private
- **CEO:** Jörgen Holm
- **Turnover 2019:** 10 million SEK
- **Gross year-end result 2019:** -5 million SEK
- **Total number of employees in Lund:** 6
- **Total number of Øresund commuters from Denmark:** 0
- **Moreover:** Glucanova AB is a subsidiary of the corporation Aventure Holding AB, whose parent company, Aventure AB – which also located in Lund – is a biotech company that develops functional foods. Glucanova was founded by Professor Rickard Öste, who created Oatly, another Swedish foodtech company that works with oats, in Lund

PLENTIFUL CLINIC STUDIES AND A WILLINGNESS TO ADOPT DATA-DRIVEN TECHNOLOGY ARE IMPORTANT FOR THE SOFTWARE COMPANY CAPISH

The increasing recognition that intelligent data analysis can accelerate the development of products and pharmaceuticals is something of which the software company Capish Nordic AB in Malmö wants to take advantage. But there could be greater openness among life science companies when it comes to using new, data-based technology from the software sector, according to the CEO of Capish Eva Kelty. Large numbers of clinical studies in the region is also important for them as a data company, she says.

In recent years the importance of Big Data-use in the life science sector has become more pronounced. The use of advanced data-programming can give a competitive edge, as intelligent data use can accelerate clinical development so that pharmaceuticals and medtech products can reach the market more quickly, as consultant firms such as e.g. Deloitte and Ernst & Young have described. In the report 'Pulse of the Industry' from 2019, the latter wrote that "data will ultimately become the most valuable product" in the life science sector.

One of the companies in Skåne that works with data software related to the life science sector is Capish, an enterprise with 15 full-time employees at its premises near the main railway station in Malmö.

– I would say that a lot of it is about providing access to data and having the opportunity to work with it in an easy and intuitive way, says the CEO of Capish Eva Kelty, referring to their software platform Capish Reflect, which can e.g. help researchers explore data, generate hypotheses or plan for new studies.

Capish was started up in the early '00s by Staffan Gestrelus, who had also founded another IT company in Lund back in the 1990s; that company, QlikTech, is now a global data-analysis company. Since its founding, Capish has worked with various prototypes, and the product Capish Reflect is about to be introduced in Europe and the USA.

In development work in recent years Capish has collaborated and tested the user-friendliness of software at hospital clinics in Skåne and in pharma companies in Sweden and abroad.

Although life science is the business area in focus for Capish, the company's software can benefit many other sectors, says Eva Kelty, because, as she says, "data is data".

Nonetheless, starting in the life science sector

was opportune, in part because they wanted to promote a more conceptual, patient-oriented way of using data in the sector rather than simply seeing data as something relational in a database, and in part because several of the employees, including Eva Kelty, have a background in the medical sector.

– Life science is interesting for us because it gives us a way to influence society and help people access better and faster treatment.

We see many things we can do that would help a lot of companies, says Eva Kelty, adding that if the software can be used in the life science sector,

which is subject to the most intensive regulations, it can also be adapted to other sectors.

On a global level, a series of large pharmaceuticals companies have already joined forces with software developers to further data analysis and artificial intelligence in the development of pharmaceuticals. Among these are e.g. Janssen, Novartis, Pfizer, Sanofi, Gilead and AstraZeneca, which entered into partnerships in 2019 with Google and Microsoft as well as smaller companies such as ProteinQure and Iktos.

Capish is also on the lookout for other strategical collaborations – also on the Danish side of the Øresund – and their software can operate in all corners of the sector, says Eva Kelty. Biotech, medtech and pharma are all relevant – as long as the companies with which they're working have enough data.

– The more data you have, the more value our software will create. The volume and variation of data are a decisive factor, says Eva Kelty. In that respect, she adds, Skåne has a structural weakness compared to Zealand and the Copenhagen area, where there are more large life science companies that have more data because they have greater capacity to conduct more clinical studies. An environment with more clinical studies is thus also useful



Eva Kelty,
CEO Capish.

PHOTO: NEWS ØRESUND

for software companies surrounding the 'traditional' life science industry; this was the situation to a greater degree till around 2011, when AstraZeneca had its activities in Lund, Eva Kelty points out.

That is one of the reasons why Capish is also considering partnerships in Zealand – work on this had been scheduled to begin this spring, but it was delayed because of the coronavirus pandemic, Eva Kelty says. She does see good development potential within Skåne however, where many R&D companies are set to accelerate their development in the coming years, and they will thus need software analysis.

– Data is power. All of the activities in R&D companies go toward generating data, because data is needed to support applications (ed. note: to health authorities). I think that companies will be more focused on reusing data, because each data point is very expensive to generate and if you just put it in a file and forget about it, you miss out on everything you can do with it, says Eva Kelty.

There are a lot of consultancy- and software companies in Skåne, Eva Kelty says, and this is supported by Region Skåne, which spotlighted ICT (Information Communication Technologies) as one of seven regional areas of economic strength; there are around 23 000 people employed within ICT, distributed, it should be noted, among a broad range of its subsectors. Qlucore AB in Lund for example is another company that works with data visualisation in the life sciences. One of the challenges for the sector is the recruitment of workers with data programming experience, according to Eva Kelty. Another limiting factor is related to a generally hesitant attitude when it comes to increased data use in companies in the life science sector, she says.

– The companies are slow to change the way they work and to adapt new technology and change their processes. From my point of view, that has been the greatest challenge, says Eva Kelty, and that's a shame, because as she says:

– It's easy to 'get stuck with the thinking in one field'. When you broaden your horizons, you can hopefully learn from other sectors, she says.



PHOTO: NEWS ØRESUND

CAPISH NORDIC AB

- **Founded:** 2001
- **Branches in the life sciences:** Data software
- **Focus area:** Data exploration and visualization
- **Ownership:** Private
- **CEO:** Eva Kelty
- **Turnover 2019:** 0
- **Gross year-end result 2019:** -17 million SEK
- **Total number of employees in Malmö:** 15
- **Total number of Øresund commuters from Denmark:** 0
- **Moreover:** The founder of Capish Staffan Gestrelus was previously founder and CEO of the IT company QlikTech, which started in Lund in 1993 and now has 2 000 employees around the globe, 430 of whom are in Lund



PHOTO: POLYPEPTIDE

LABOUR MARKET AND THE NEED FOR EXPERTISE

Companies hope to recruit in R&D and sales and marketing

More scientists and more salespeople. Regardless of their subsector, most life science companies cite R&D as the most relevant expertise to recruit if they are able to augment their staff in the coming years in spite of the uncertainty brought on by Covid-19. Expertise in sales and marketing is cited as the second-most important area.

If life science companies in Skåne have the opportunity to recruit new employees despite the uncertain atmosphere caused by Covid-19, what they'll need more than anything else are more people with competence in R&D and sales and marketing. Of the 13 potential areas for recruitment, the majority of the 126 companies interviewed would like to recruit more personnel with scientific expertise and skills in sales and marketing. Firmly established companies as well as startups in Skåne have hopes of recruiting within these areas. Primarily medtech and biotech companies want to recruit more competence in R&D and sales and marketing, but pharma companies and contract research organisations also indicate the same need, albeit to a lesser degree.

The companies' primary intention to recruit within R&D may seem challenging from a recruitment perspective, as some have attested to a lack of expertise in the natural sciences; this is described in greater more detail on page 70-71. Nonetheless, 52% of the companies interviewed report that they

have not experienced difficulties recruiting specific expertise in Skåne. The companies' other central intention to recruit within sales and marketing is an indication that more companies are now in a position in which their research has matured and their clinical development has advanced and is ready to be transformed into a commercial business.

Primarily medtech and biotech companies need R&D expertise

Of 13 potential areas, 65 of the total of 126 companies interviewed reported that they intended to recruit more expertise in R&D if they were in a position to expand their staff. This indicates that more personnel with a background in the natural sciences would promote and further the companies' development. Companies that could require more R&D expertise include both large, medium-sized and small companies in the pharma-, biotech-, medtech- and contract research sectors in Skåne.

THE COMPANIES PLAN TO RECRUIT IN THESE AREAS

Area for recruitment	Number of companies	
R&D	65	MEDTECH
Sales	50	R&D
Marketing	31	Sales
Laboratory	31	Marketing
Production	21	BIOTECH
IT and Technology	16	R&D
Regulatory Affairs	15	Laboratory
Economy	14	Marketing
Storage and logistics	12	PHARMA
Communications	11	R&D
		Sales
		Laboratory

Source: Questionnaire with 126 respondents from life science companies in Skåne. Responses in multiple categories were possible.

METHOD

All of the life science companies in the core segment in Skåne – comprising pharma-, biotech-, medtech companies and contract research organisations – were contacted via telephone between late 2019 and the summer of 2020. Companies with the greatest number of employees were prioritised first. 126 life science companies in Skåne with varying staff sizes contributed input specifically for the survey of expertise: 23 pharma companies, 43 biotech companies, 48 medtech companies and 21 contract research organisations. Around 135 life science companies in Skåne responded to the questions, i.e. ca. 1/3 of the companies identified. Information on the methods used in the report on page 105-108.

Medtech firms consider sales and marketing expertise most relevant

Following R&D, 50 of the companies interviewed report that, if given the chance, they would recruit expertise in sales; 31 would recruit in marketing. Once again, the need goes beyond sector boundaries, as both large, medium-sized and small companies in various subsectors express the same need, e.g. Novo Nordisk Scandinavia AB in Malmö. The need for expertise is most pronounced in the medtech companies, however, which can feasibly relate to the fact that more answers were reported by medtech companies than by other subsectors.

Need for expertise in production, IT/technology and regulatory affairs

Following R&D and sales and marketing are a number of areas within which the companies reported a need for expertise, but to a lesser degree: namely in production, IT/technology and regulatory affairs. Here as well, the need is expressed primarily by medtech and biotech companies, which also report a need for expertise within these areas, even if some contract research organisations also expressed the need for expertise within production. The lowest reported need for expertise is in law, distribution and HR.

Expertise in the natural sciences, technology, regulatory affairs, quality assurance and sales are difficult to recruit

The areas of expertise for which life science companies in Skåne consider it difficult to recruit are predominantly related to the STEM programmes (Science, Technology, Engineering and Mathematics). Companies report that expertise in regulatory affairs and quality assurance, as well as in sales and marketing, also pose a recruitment challenge. There is also a question of expertise in several different areas such as e.g. knowledge of Scandinavian languages. Around 52% of the businesses interviewed report however that they have not experienced difficulties recruiting specific expertise.

Regardless of subsector, the expertise that life science businesses in Skåne deem to be in short supply is in the natural sciences, technology, and legal, and commercial areas. In other words, a microbiologist, data manager, regulatory expert or salesperson with diabetes expertise can be difficult to recruit.

Around 48% of the businesses interviewed report that recruiting certain expertise has been a challenge. At the same time, 52% of the companies have no challenges sourcing expertise; half of the life science businesses interviewed thus have difficulty finding the right expertise, whilst the other half does not.

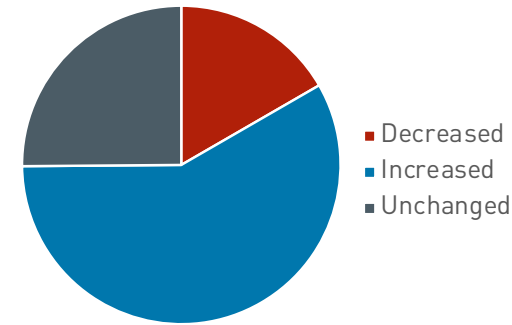
According to the companies, the majority of the expertise lacking in all subsectors in Skåne is in R&D/the natural sciences. The second largest shortage is within the fields of technology, engineering and mathematics: the lacking expertise is thus predominantly related to the STEM programmes (Science, Technology, Engineering and Mathematics). However, there is also a shortage of expertise

in regulatory affairs, quality assurance and sales and marketing. Lacking expertise in the natural sciences is perceived primarily by biotech companies, while medtech companies perceive an expertise shortage in technology. Lacking expertise in regulatory affairs and quality assurance is associated primarily with biotech- and pharma companies, which also report an inaccessibility of expertise in sales and marketing.

Greatest difficulty recruiting broad and specialised expertise in the natural sciences

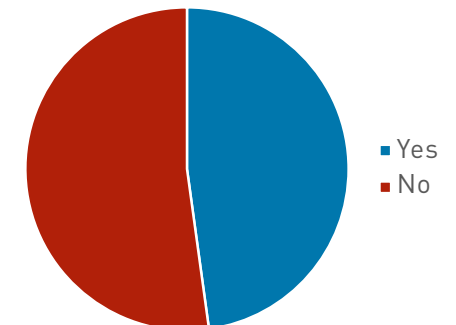
Around 30 of the ca 70 businesses interviewed report that they have had difficulty recruiting expertise in the natural sciences. The expertise in question is both broad and specific; it might be for example expertise in microbiology and peptide chemistry, which is relevant for the area of a company's commercial activity, or it could also be general R&D expertise, preferably with experience in clinical development and project management in pharmaceuticals production. The

CHANGE IN THE COMPANIES' EMPLOYEE NUMBERS SINCE 2015



Based on data from 402 companies. Source: Bisnode, data from the companies

IT IS DIFFICULT TO RECRUIT SPECIFIC EXPERTISE?

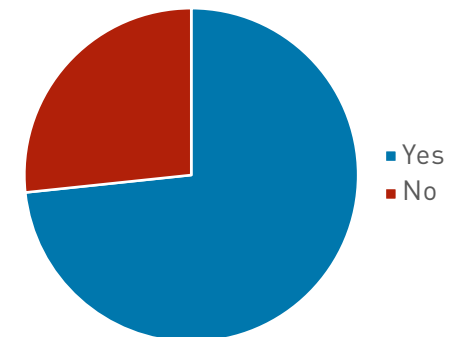


Based on survey responses from 138 companies.

companies that have experienced challenges recruiting expertise in the natural sciences include both small and large biotech-, pharma-, medtech-, contract research and food companies, although the majority are biotech companies. Expertise in the natural science of the broadest variety is thus on the whole the area in which the greatest number of the businesses interviewed find it most difficult to recruit. The challenge can be greater still for startup companies, says Filipe Pereira, who is part of the biotech company Asgard Therapeutics, which was founded in 2018.

– The best expertise and the best people are much more expensive in this region, he says.

DO TRAINING AND EDUCATION CORRESPOND WELL TO THE DEMAND FOR EXPERTISE?



Based on survey responses from 120 companies.

Expertise in technology, engineering and mathematics second-most difficult to access

Expertise in technology, engineering and mathematical areas are also difficult to recruit in general, according to ca 25 of the ca 70 companies interviewed. Here too, a broad range of different subfields are encompassed, e.g. production operators, civil engineers and programmers. Large and small biotech-, pharma-, medtech- and contract research businesses report challenges recruiting expertise in technology, engineering and mathematical fields; medtech companies comprise the majority of the companies interviewed. Expertise in technical and technological fields is the next most challenging area in which to recruit for life science businesses in Skåne.

This is the case with e.g. Capish Nordic AB, a Malmö-based data company whose focus is on the life sciences.

– We need programmers, and they are hard to come by, says CEO Eva Keltý. The CEO of Ide-

on Science Park, Mia Rolf, also notes that many companies have a hard time accessing expertise in e.g. programming, embedded systems and digital intelligent technology.

It doesn't help that a number of companies in Skåne, e.g. PolyPeptide and McNeil, cite the need for increased use of technological and technical know-how, as certain manufacturing processes are in the course of becoming automatised.

Companies want more expertise in regulatory affairs, quality assurance, and sales and marketing in Skåne

In addition to a lack of diversified expertise in the STEM-programmes, 17 of ca 70 interviewed companies report that they have faced challenges when recruiting expertise in regulatory affairs and quality as-

insurance. The same challenges are faced when recruiting from these fields in all of the sectors of the life science industry in Skåne. Large and small biotech-, pharma- and medtech companies indicate difficulties obtaining RA/QA expertise; the issue is less pronounced for the contract research organisations interviewed.

Although the medtech company Arjo AB in Malmö reports no difficulties sourcing expertise of any kind, CEO Joacim Lindoff mentions that the lack of expertise in RA/QA could be remedied with new study programmes in education.

– One thing that's still missing is education in the regulatory aspect, either as independent training or as a complement to e.g. engineer training programmes, he says.

The challenge of recruiting regulatory expertise in Skåne coincides with the EU's tightening of rules for manufacturers of medical devices with the new Medical Device Regulation (MDR); this is not likely to alleviate difficulties recruiting in the area. Due to the coronavirus pandemic, however, the new regulations have been postponed until May 2021 for implementation and management related to the coronavirus.

When it comes to recruitment challenges in Skåne, contract research- and medtech companies find it less difficult to recruit expertise in sales and marketing. Nonetheless, large and small biotech- and

pharma companies in Skåne particularly report difficulties recruiting sales and marketing personnel. A total of 17 companies of the ca 70 interviewed report that access is limited to sales and marketing know-how. Pharma- and biotech companies also point out that it is difficult to find sales personnel who are familiar with the products or the area of disease in and with which they are expected to work. According to e.g. Niels Abel Bonde, Managing Director at Novo Nordisk Scandinavia AB in Malmö, this is a greater challenge in Skåne than in for example Copenhagen or Stockholm. Many companies also named people with a profile in the natural sciences and commercial aptitude as being in short supply.

Language, entrepreneurship and international experience

Various areas of expertise in e.g. Scandinavian languages, entrepreneurship, leadership, logistics and support, tender management and international experience in general were also highlighted by one or a small number of companies as expertise that is difficult to find and recruit. Furthermore, one or a small number of companies report that it is difficult to recruit Danes in general and note that it is challenging to attract people to positions outside of Skåne's larger cities.

Most businesses have been able to avoid dismissing employees due to the coronavirus pandemic

8 of 10 life science companies in Skåne report that they have not had to reduce their staff since the beginning of the coronavirus pandemic. A smaller group of companies however reports that they have made or expect to make employees redundant as a result of the pandemic, and a few companies expect to or have already recruited more employees as a result of the pandemic. PolyPeptide Laboratories for example has a new assignment to develop chemical material for a Covid-19 vaccine in collaboration with the American Novavax.

Of the 125 life science companies interviewed in Skåne, around 100 – i.e. 80% – reported that to date, it has not been necessary to reduce their personnel because of the pandemic. However, around 10 companies in biotech, medtech and contract research find it necessary or are planning to dismiss employees because of the pandemic. Around 10 other companies in the same sectors expect to or have already recruited new employees due to the pandemic. PolyPeptide in Malmö is one company to have received new assignments due to the pandemic.

mic. Despite a relatively low number of dismissals, the pandemic gave rise to many challenges this spring – both of logistic and strategical nature and in terms of recruitment, labour legislation, sales, and finance. There is a risk that the consequences of the unknown factors of the pandemic in the spring might affect employee numbers in the long run.

For most companies, employee numbers have remained unchanged

When asked whether the pandemic has resulted in

dismissals, 106 of the 125 total companies interviewed report that this has not been the case. The majority of the companies thus have the same number of employees as before the pandemic was declared in March of 2020. Compared to other sectors, then, the life science sector in Skåne has not experienced the mass dismissals seen elsewhere, and employee numbers at the companies are thus largely unchanged.

Smaller group of companies affected differently

Of the total 125 companies interviewed, a small group of 12 small-scale life science companies, primarily in medtech, but also in biotech and contract research, report that they have had to or expect that they will have to dismiss employees due to the pandemic.

In contrast, another group of seven companies has experienced success due to the coronavirus pandemic. The companies are primarily small and large businesses in medtech and contract research. They have received new assignments and seen increased demand for their products and services, and it has been necessary to accelerate recruitment processes, as they plan to hire new staff or expect that they will need to do so in the near future because of the pandemic.

This has been the case for e.g. PolyPeptide Laboratories in Malmö; as a contract research organisation, they have seen positive development as the American biotech and vaccine company Novavax has enlisted the Malmö-based organisation to develop chemical material for a vaccine against Covid-19.

The companies that have experienced or expect to experience positive or negative effects due to the pandemic each comprise approx. 20% of the 125 companies interviewed. Notably, companies within the same subsector, e.g. medtech, may be affected by the pandemic in dramatically different ways.

Companies face many challenges despite unchanged employee numbers

Even if the number of employees has remained stable, this spring the pandemic had – and may continue to have – consequences on all subsectors and in businesses of all sizes. Businesses in which employee numbers have remained unchanged report e.g. that their sales have been ineffective, as salespeople have worked from home and had limited contact to the healthcare sector. Visits to clinics have been or remain restricted; clinical studies have been delayed; university hospitals are or have been occupied, and visiting care homes for client purposes is or has been difficult, as some have expounded.



PHOTO: POLYPEPTIDE

Other challenges are linked to difficulties communicating with partners who are involved in vaccine development; that clients can take a longer time entering contracts; that employees are working reduced hours, and that new projects and recruitment plans have been put on hold, as others have described.

For others, delivery failure has created problems, prevented new employment, and has become a reality together with increased work pressure. In addition, getting new assignments can be difficult, and it can be harder to attract risk capital, as some report. At the same time, there is also a chance that more private and public capital can be generated as a reaction to a greater focus on health, as some businesses see it: for example, the Swedish venture capital company Almi Invest has secured 400 million SEK from the government to invest in Swedish life science startups in a new support package to bridge the crisis.

Respondents also expressed concern about tax issues for Danish employees with Swedish contracts who have worked from home instead of crossing the Øresund Bridge to Sweden, which may make it more difficult for companies in Skåne to recruit from Denmark in the long- and short term.

Others however report that they have continued to work as usual. Furthermore, as in other sectors, cancelled flights and closed borders have also been challenging factors, according to some.

A number of these challenges were also pointed out in Swecare's member survey of the life science sector in April-May 2020; difficulties concerning sales, export and limited access to clients have been particularly problematic. The consequences of the many unknown factors might affect the number of life science employees in Skåne in the long term.

MCNEIL PUTS STRONG CONNECTIONS TO LEARNING INSTITUTIONS FIRST – FOR INSPIRATION, AND TO MAKE CONTACTS EARLY ON

Visibility and interaction with the local community and educational institutions are important tools for recruiting expertise in the long term, says Jody Lodge, CEO of McNeil AB in Helsingborg. While he sees no shortage of expertise in the region, he believes there may be challenges ahead.

The Helsingborg-based pharmaceuticals manufacturer McNeil is over a hundred years old and one of Skåne's few large life science companies, employing 665 people full-time. The person heading the company – which is best known for its production of the stop-smoking product Nicorette – is neither a Swede nor a Dane, but an American by the name of Jody Lodge. Sitting in his office at the Helsingborg unit, he explains that his entry into the company back in 2017 brought him to an important realisation.

– When I first came here and told locals where I worked, they didn't know what I was talking about. I explained the location to them and I told them the address

and they still didn't know what I was talking about. So I asked them: Do you know where McDonalds is? And everybody knew where McDonalds was. The reason why I tell this story is that since McNeil has been here for so long, the company has become such a part of the environment and the backdrop that people who have grown up here don't even see it anymore. It's not a weakness per se, but there's a gap if people in your hometown don't even know you exist, says Jody Lodge.

The experience showed him how important it is to be open and connect with the local community as a company. That's one reason why McNeil takes part in different career fairs in the region and co-facilitates the programme Bridge to Employment with Lund University and a local upper secondary school. The programme was established in 1992 by the American medicinal company Johnson & Johnson – which owns McNeil – and has since been a global initiative to inspire high school students to choose careers in technology and the health industry.

– We meet students on a regular basis over a pe-

riod of three years to show them how university life is, so they can get a sense of what it would be like to follow a university path and how it connects to the industry, says Jody Lodge.

The McNeil story started back in 1908 in Copenhagen when two pharmacists bought the pharmacy Løveapoteket. The business became Københavns Løveapoteks Kemiske Fabrik, now known as LEO Pharma. In 1914 the business branched out to Sweden with the subsidiary AB LEO in Helsingborg, where the first product was stool-softening pills.

Over the course of the 20th century there were changes to the company name, ownership and product portfolio, but

Nicorette has been the company's primary product since 1978, and in 2006 Johnson & Johnson acquired the Helsingborg company from Pfizer.

Today the company's facilities include manufacturing- and administrative buildings with 550 employees and a distribution centre with around 30 employees ten kilometres away. On top of that, there are R&D facilities with 85 employees who are responsible for supporting global product development in the category consumer health at Johnson & Johnson of which McNeil is a part. The category has three subareas: cough and cold, smoking cessation, and digestive health.

The number of full-time employees at McNeil has risen nine per cent in the past five years. In 2015 there were 610 full-time employees – today there are 665. Jody Lodge isn't expecting any significant increase in the number of employees; although production volume is expected to rise, the facility will also use more automation in its manufacturing.

The facility itself is Helsingborg's third-largest private workplace, following Ica and Ikea, and it

“There's a high concentration of life science companies in this region, and I think the demand will surpass the supply. That's just my impression.”

is considered the largest manufacturer of so-called self-care products in the Øresund Region; i.e., over-the-counter medication that can be purchased in for example supermarkets.

McNeil's production volume will increase, says Jody Lodge, because millions of smokers around the world will need Nicorette in their efforts to stop smoking.

– Looking toward the future, we see more technology involving more robots and automatization than what we use today. The need for employees who can support that technology will still exist in the future. That's not to say we don't have that technology now; it means that we'll be putting more focus on it, he says.

According to Jody Lodge, generally speaking, technical expertise is what McNeil will need in the years to come. There will be a particular demand for people who understand and can implement technical solutions for problems. While McNeil has no trouble recruiting, he says, he has the impression that the supply of technical expertise in the future won't be able to meet the demand from the companies in the region.

– There's a high concentration of life science companies in this region, and I think that the demand will surpass the supply. That's just my impression, says Jody Lodge.

For the moment he isn't worried however, because McNeil has good networks and links to the student environment, as Jody Lodge points out – and on top of that, the Helsingborg company works actively to develop employees' competences further so they can handle new tasks, he explains.

– We have a good history of bringing people in and helping them grow in their positions, and since we have such diverse roles, people can spend their entire careers here and do different things. The result is that some of our employees have been here for over 40 years, says Jody Lodge.

Jody Lodge believes that another factor in McNeil's favour is Johnson & Johnson's presence in Stockholm and Uppsala, where there are three subsidiaries – including Janssen – active within the American concern's other two primary groups: pharmaceuticals and medical devices.

– We aren't necessarily looking outside of the region for expertise, because we believe that Johnson & Johnson has more to offer both northern and southern Sweden, not just in little pockets here and there, says Jody Lodge. As he sees it, the future looks bright for the facility in Helsingborg.



Jody Lodge,
CEO McNeil AB.

PHOTO: NEWS ØRESUND



PHOTO: NEWS ØRESUND

MCNEIL AB

- **Founded:** 1914 under the name AB LEO, which was a subsidiary of the Danish LEO Pharma, changed its name to McNeil in 2006 after it was acquired by Johnson & Johnson. Prior to the acquisition McNeil was owned by e.g. Pfizer
- **Branches in the life sciences:** Pharma
- **Focus area:** Over-the-counter medicines (OTC)
- **Ownership:** Private (Johnson & Johnson corporation)
- **CEO:** Jody Lodge
- **Turnover 2018:** 1.6 billion SEK
- **Gross year-end result 2018:** 674.4 million SEK
- **Total number of employees in Helsingborg:** 665
- **Total number of Øresund commuters from Denmark:** 0
- **Moreover:** In 2017 McNeil became a carbon-neutral facility – the only one of its kind within Johnson & Johnson

CHEMISTS AND ENGINEERS WITH A FLAIR FOR AUTOMATION GAIN IMPORTANCE FOR POLYPEPTIDE

PolyPeptide Group, formerly part of the pharma manufacturer Ferring Pharmaceuticals, has access to the expertise needed to fuel growth in Malmö, says Jacob Nilsson, global HR director of PolyPeptide. He predicts however that in the years to come, companies will be competing for the chemists and engineers who can work with automated and digital processes in pharmaceuticals development.

PolyPeptide is one of Skåne's larger life science companies, with facilities in France, Belgium, the USA and India. There are approximately 275 full-time employees with 27 different ethnic backgrounds working at the facility in the Limhamn district in southwestern Malmö, and the plan is to recruit even more staff in the coming year, says Jacob Nilsson.

– We're in a rather expansion phase. We're doing very well, and our problem is more about being able to meet the demand, he says, and adds that the corona pandemic has meant new orders from PolyPeptide, and that they are currently working on a Covid-19 vaccine.

We meet in the reception area, where a painting of a ship ornaments one wall. The red brick building was once the headquarters for a company that manufactured ship mooring; today, peptides – that is, chains of amino acids – are produced here. Their clients include everything from researchers and small-scale biotech companies to 15 of the world's largest medicine enterprises.

PolyPeptide is thus a CDMO – a Contract Development Manufacturing Organization – as they don't develop their own pharmaceuticals, but instead manufacture products and processes and provide regulatory support that other enterprises can use to further develop e.g. pharmaceuticals and cosmetics.

Before next year, PolyPeptide plans to recruit personnel for their communications, depot, logistics and distribution. It will be important however to bring in expertise in the core business of peptide chemistry in conjunction with process technology, digital platforms and automation to the company,

says Jacob Nilsson; he explains that manual processes will be increasingly converted to automated and digital processes.

– We have a need for more process knowledge, which means chemists and engineers with talent for processes and automation. Recruiting chemists is easy enough, but people who know automation and Manufacturing Execution Systems are more difficult. There are a lot of companies fighting over them, says Jacob Nilsson.

In other parts of the life science sector, there is also focus on accelerating the development of e.g. peptides with more digital automation; Novo Nordisk for example is working with an American robotics company to increase the efficiency of molecule- and peptide development. As a result, numerous companies are seeking the same competences

within automation, and the competition has stiffened, Jacob Nilsson remarks, as those with expert knowledge understand how valuable they are.

– If we have one problem, it's that we are considered attractive and offer our employees good training, and they typically move on after two or three years, says Jacob Nilsson. The staff is thus divided into a rotating group of employees and a stable group of staff members who have been there for more than ten years.

PolyPeptide is also on the lookout for new skilled workers via LinkedIn, headhunters and their own website, says Jacob Nilsson. He also believes that many of Skåne's startups are a talent pool for expertise. The company also looks to Denmark for skilled experts; the capital city's higher education institutions are good at peptide chemistry, he says. There are several fundamental challenges however: Danes

obviously know Denmark better than Sweden, and many would prefer to work ten minutes from home than an hour away, says Jacob Nilsson.

– Things like that are hard to compete with. If it were easier, we'd like to have more people here from Denmark. Speaking perfect Swedish isn't important. The most important thing is the expertise, he says, adding that 14 of their 275 employees commute to Sweden from Denmark, and even the director of PolyPeptide in Malmö is Danish.

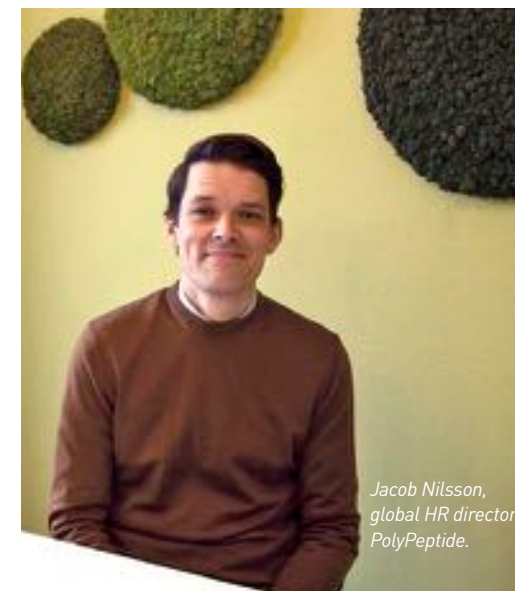
One reason it can be difficult to recruit from Denmark is the difference between the CDMO sector and the traditional pharmaceuticals sector, according to Jacob Nilsson. Clients often come with new requests on a weekly basis, and that requires great flexibility; in the pharmaceuticals sector, there is presumably more time for development, he says. Recruiting from the pharma sector isn't as simple since the core business is different, but it does happen.

Various challenges related to getting the right expertise to come to Malmö won't mean that PolyPeptide will leave Skåne, Jacob Nilsson says; they are happy to be in Limhamn, where Frederik Paulsen founded the company in 1952. The factory was originally called Nordiska Hormonlaboratoriet and later became Ferring Pharmaceuticals. The name PolyPeptide first emerged in 1996, when the company became independent from Ferring and PolyPeptide Group was created. In 2016 PolyPeptide closed its facility in Hillerød to consolidate it with the Malmö facility. In the past five years, the annual turnover of PolyPeptide's branch in Sweden's third-largest city has doubled, and today it is around 812 million SEK.

PolyPeptide is happy with its location in Medicon Valley and considers the proximity to the bridge an advantage. The company is also currently discussing expanding their production facility in Limhamn with the County Administrative Board (Länsstyrelsen) and is anticipating an update on that in the coming 6 months.

He believes that the life science and CDMO sectors in the region will see more competition from India and China. Besides a building permit, Jacob Nilsson's hopes for the future include that more engineers and chemists will be trained in peptide chemistry in Skåne.

– We'd like to see more people studying to become engineers or chemists, we'd like to become more attractive to Danish chemists, and for Sweden to include more peptide chemistry in training programmes, he says.



Jacob Nilsson,
global HR director
PolyPeptide.

PHOTO: NEWS ØRESUND



PHOTO: NEWS ØRESUND

POLYPEPTIDE LABORATORIES AB

- **Founded:** 1952 under the name Nordiska Hormonlaboratoriet by Fredrik Paulsen, changed its name to PolyPeptide in 1996 and became independent from Ferring Pharmaceuticals
- **Branches in the life sciences:** CDMO (Contract Development Manufacturing Organization)
- **Focus area:** Peptide technology
- **Ownership:** Private
- **CEO:** Jens Fricke
- **Turnover 2019:** 788 million SEK
- **Gross year-end result 2019:** 57.5 million SEK
- **Total number of employees in Malmö:** 279
- **Total number of employees globally:** ca 900
- **Number of Øresund commuter employees from Denmark:** 14
- **Moreover:** In 2019 the pharmaceutical substances manufactured at the company's Malmö facility weighed around 300 kg

NOVO NORDISK IN MALMÖ WANTS MORE COLLABORATION WITH THE SWEDISH HEALTH SERVICES AND A LARGER RECRUITMENT BASE

The headquarters of Scandinavia's largest pharmaceuticals company, Novo Nordisk, is in Bagsværd near Copenhagen, and the company's Swedish office is in Malmö. Earlier this year in that very same southern Swedish city, the City of Malmö, Malmö University and Region Skåne became part of Novo Nordisk's global programme Cities Changing Diabetes, partnering up to address social and cultural factors that can lower the incidence of obesity and type 2-diabetes in urban environments. Novo Nordisk in Malmö is also looking to forge alliances with the health care services and hopes for improvements to the recruitment parameters in southern Sweden.

In 2014, Novo Nordisk started the partnership programme Cities Changing Diabetes in collaboration with Steno Diabetes Center Copenhagen and the University College London in response to a rise in diabetes in urban areas.

Malmö is now one of 26 cities around the world that has joined the fight against diabetes, which afflicts 500 000 Swedes.

– We should be part of the solution, not part of the problem. To reach that end, we'll be in close dialogue with the health services about how we can help Sweden –

people with diabetes in Sweden and the health care system – to achieve improved diabetes treatments, says Niels Abel Bonde, managing director of Novo Nordisk Scandinavia AB's Swedish branch.

According to the programme, there were 437 million people in the world with diabetes in 2017, and that number will rise to 736 million by 2045 unless the worldwide rise in obesity is curbed. The goal is to lower it by 25%.

Collaborative projects like Cities Changing Diabetes and other improvement initiatives are just the kind in which Niels Abel Bonde would like to see Novo Nordisk in Malmö involved more. He sees a lack of social initiative and responsibility to quash overweight and obesity in all of Sweden and finds there is a need for greater openness from the health care system to collaborate with the industrial sector. Novo Nordisk has the products, and as he sees it, the company has a strong position in southern Sweden, but has yet to enter sustainable collaborations further north, where there are also

challenges – Niels Abel Bonde reports however that one of those desired collaborations is now underway. He explains that diabetes treatment involves continuous innovations arriving on the market; new products are constantly being developed within the field of diabetes and new knowledge is continually being added, and this should be put into practice in the healthcare system.

– It's about the health services staying up to date on technological developments, in part with improved treatments. Soon we'll also be launching an insulin pen that can upload data to the cloud, improving access for the treating physician as well as the patient. It's a completely different diabetes treatment.

In the autumn of 2019, Novo Nordisk got the thumbs up from the US Food and Drug Administration (FDA) for the next generation of the molecule Semaglutide, which is used to treat type-2 diabetes with a tablet rather than an injection. In early 2020, the Committee for Medicinal Products for Human Use (CHMP) under the European Medicines Agency (EMA) was also positive about approving the product, which already received approval from the European Commission (EC) in the early spring.

Niels Abel Bonde expects the new products to lead to more jobs in the green building on Carlsgatan 3, adjacent to Malmö Central railway station, in the years to come; today there are 68 employees there. In the past, the Malmö office – which was established in 2000 – was a joint office for Den-

"There's more to it than just knowing your insulin well – understanding the health care system within which you're working is also important."

mark, Norway, England and Sweden, but since 2007 there have been offices in each respective country. The Malmö office works with sales and marketing of Novo Nordisk's product portfolio in Sweden, as well as with clinical research and clinical testing in Sweden. According to Niels Abel Bonde, that requires staff with a combination of health care-related expertise and commercial training.

– It's more than sales and marketing personnel. Our potential growth area as I see it is in government affairs and related to obesity. [What's needed is] people who can work with those responsible for making decisions in Swedish society or in the Swedish healthcare system on a national or regional level, says Niels Abel Bonde. He adds:

– We're aiming to move toward greater insight into the Swedish health care system, so we can grow from focusing only on our products to becoming a part of the healthcare system and being in a position to help with improved diabetes treatments in Sweden. And there's more to it than just knowing your insulin well – understanding the healthcare system within which you're working is also important.

As Niels Abel Bonde sees it, the challenge doesn't lie in training programmes. On the contrary, he believes that Lund- and Malmö Universities offer many solid university training programmes, e.g. in HR, management, biotech and health economics. The question is more about finding sales and marketing profiles with experience in the pharmaceuticals industry, or pharma profiles with marketing expertise.

They primarily need Swedes, he adds; individuals who understand Swedish culture and who speak the language. But Niels Abel Bonde finds that there aren't enough people in Malmö with strong marketing and sales profiles in the pharmaceuticals industry. There are people who fit the bill in Copenhagen, he explains, but they don't speak Swedish and they don't have the same insight into Swedish culture and society as Swedes. There are also suitable candidates in Stockholm, which is where most similar companies are located, but he says that even if Swedes are used to long commutes, the competition is strong.

– All of our competitors and colleagues are based in Stockholm. In a sense, that means that the recruitment base in Malmö is different than in a capital city. The recruitment parameters are more difficult. There are more people in Stockholm and there's more pharma there – and borrowing from your neighbour isn't as easy in Malmö as it is there. So getting the best people can be a challenge. Swedish speakers, that is, he says.



Niels Abel Bonde,
managing director Novo
Nordisk Scandinavia AB.

PHOTO: NEWS ØRESUND



PHOTO: NEWS ØRESUND

NOVO NORDISK SCANDINAVIA AB

- **Founded:** 2000
- **Branches in life sciences:** Pharma
- **Focus area:** Diabetes, haemophilia, overweight and obesity
- **Ownership:** Private
- **CEO:** Niels Abel Bonde
- **Turnover 2019:** 1.1 billion SEK
- **Gross year-end result 2018:** 39.7 million SEK
- **Total number of employees in Malmö:** 75
- **Total number of employees globally:** 42 700
- **Total number of Øresund commuter employees from Denmark:** 5
- **Moreover:** Novo Nordisk Scandinavia AB is the Swedish branch of Novo Nordisk Region Europe A/S, which is part of Novo Nordisk A/S, owned by Novo Nordisk Holdings A/S in Denmark

Focused efforts in four main areas can improve the life science sector in Skåne

Improved conditions for investment and capital, more local and regional collaboration, fewer bureaucratic obstacles and better opportunities for professional training – when asked how the life science sector in Skåne could be improved, the ca 75 companies surveyed cite various efforts necessary in these four main areas. Most companies in all sectors highlight improved conditions for investment and capital and increased regional and local collaboration as most important.

A good research environment, a high level of education, and good infrastructure: these are factors that the majority of the life science companies interviewed consider valuable in Skåne. But conditions in the sector could be improved. Four general areas in which more work should be done were identified based on the input of around 70 large and small companies in Skåne. Improved conditions surrounding investment and capital, more local and regional collaboration, fewer bureaucratic obstacles and stronger training opportunities: according to the companies, these are the main elements that can improve the sector in Skåne. In a survey conducted via telephone and email, companies were asked directly about the areas on which the sector in Skåne needs to focus greater effort. Some of the companies' answers relate to multiple areas where greater attention is needed.

Improvements to investment and capital conditions most frequently cited

Skåne's smaller biotech- and medtech companies in particular report that the opportunities to attract risk capital need to be improved. In various ways, the ca 20 companies have a restrained desire for improved conditions relating to capital, e.g. via investment meetings and investor networks. The currency difference is also an issue. There is also a pronounced challenge for companies that have been active for around ten years when it comes to attracting risk capital; the issue of generating capital is thus not limited to younger companies. Improved capital relations are also highlighted, albeit to a lesser degree, by pharma companies and contract research organisations. In an interview on page 88-89, Martina Kvist Reimer, Executive Vice President of Red Glead Discovery in Lund, emphasises the problem of large life science companies being absent in Skåne; in Denmark, for example, such companies support smaller companies with funds.

– We don't have companies like that in Skåne. We don't have them in Sweden at all, and it's a huge structural disadvantage, she says.

Not all companies have difficulty raising capital, however: the biotech startup Asgard Therapeutics in Lund for example is receiving support from the Novo Nordisk Foundation's BioInnovation Institute in Copenhagen, which provides funding to Danish as well as Scandinavian startups and research projects in a variety of programmes. Companies specifically point out that capital conditions are better in Copenhagen, as well as in Stockholm, Belgium and Holland, than they are in Skåne.

More local and regional collaboration a necessity

Broad collaboration between companies, cities, authorities, healthcare systems, educational institutions and trade organisations need to be expanded in various ways, according to ca 20 companies. The need for increased, focused efforts is voiced by pharma-, biotech-, medtech- and contract research companies, and Novo Nordisk and Arjo highlight for example the need for closer collaboration between the industry and the healthcare sector. In addition, there may be a need to establish or strengthen network groups, workshops and sector-related niche fora and to stimulate more commerciopolitical collaboration between the larger urban centres of Skåne and Copenhagen. Another measure might be to create closer links between business schools and startup environments, or to promote partnerships between larger life science companies in Zealand and smaller companies in Skåne.

– We have a lot of small startups on one side of the bridge, and on the other side are a number of large companies and foundations. I think the challenges that lie ahead have to do with how we can get them to work together in a constructive way, says Ebba Fåhraeus, CEO of SmiLe Incubator

in Lund – see more on page 42-43.

Companies voice a general need for increased collaboration; this should be understood both internally, referring to within the sector itself, and externally, outside of the sector and between other actors.

Lift the bureaucratic obstacles for the commute to work

Around 15 companies cited bureaucratic differences between Denmark and Sweden of some kind as an area requiring increased efforts and in which improvements should be made; these may be e.g. employment-related affairs, for example that companies wish that dismissing employees in Sweden was as simple a process as in Denmark. Other issues are shorter processing times for work permits, personal identification numbers, bank-id and bank accounts, and faster approval from hospitals for clinical studies. Newly started and established companies alike in pharma-, biotech-, medtech- and contract research emphasise the need for efforts here – examples are the head of the oral hygiene products company TePe Munhygienprodukter AB in Malmö; (see the interview



PHOTO: H. LUNDBECK

on page 86-87) and the CEO of Medeon Science Park, interviewed on page 26-27.

Develop opportunities for professional training – especially in pharma and regulatory affairs

Furthering competences in Skåne should be a general focus according to ca. 20 companies. A wide variety of areas in which focused efforts should be made are primarily voiced by medtech-, pharma- and biotech companies, some of which emphasise e.g. the importance of focusing more on pharma at university level in Skåne. Others expressed that there is a need to give students more practical experience in advanced levels of education. Still others emphasise e.g. the importance of stronger training opportunities in marketing with a focus on pharma or directed at development in regulatory affairs; the institute Atrium in Copenhagen, which offers professional courses and training, is mentioned as a good initiative.

– One thing that’s still missing is education in the regulatory aspect, either as independent training or as a complement to e.g. engineer training programmes, says Joacim Lindoff, CEO of Arjo, who would like to see more collaboration with educational institutions, as he describes in more detail in the interview on page 92-93.

Generally, then, there is interest in boosting the opportunities for professional training and competence development both within the educational system and in the life science industry in Skåne.

There are many other efforts that can improve the sector

In addition to the four main areas for focused efforts named, ca 20 companies – primarily in medtech, pharma and contract research – mention a number of other areas with potential for improvement. Some emphasise the importance of marketing Medicon Valley more internationally. Other issues raised by companies regarded decreasing the cost of clinical studies; facilitating the purchase of and access to lab equipment for startups; lowering the tolls for crossing the Øresund Bridge; the need for more laboratory space; the difficulty of recruiting employees with international experience in the sector; and the need to lower the rent of office space in science parks to enable companies from outside the urban centres to move in.



PHOTO: BIOGAMA

PORTUGUESE RESEARCHERS STARTED BIOTECH COMPANY IN LUND WITH DANISH-SWEDISH SUPPORT – SEE A NEED FOR MORE EFFORTS

The Lund-based biotech company Asgard Therapeutics AB was established in 2018 as a spin-off from Lund University and developed with support from the Swedish Vinnova and the Danish Novo Nordisk Foundation. According to the company's three Portuguese founders, establishing a company in Sweden means good opportunities for funding and cooperation in the Øresund Region, but they also see a need for greater national and regional efforts to promote growth and innovation in the region.

A few short years ago, moving to Lund and starting a business there wasn't even on the horizon for Cristiana Pires, CEO of Asgard Therapeutics, or Filipe Pereira and Fábio Rosa, board members of Asgard Therapeutics. In 2015, Filipe Pereira was leading a research group in Portugal that investigated cell fate engineering in the immune system; Fábio Rosa and Cristiana Pires joined the team as a master student and postdoctoral researcher, respectively.

Then in 2017, the Knut and Alice Wallenberg Foundation in Sweden started a collaborative network in Gothenburg, Linköping, Lund, Umeå and the Science for Life Laboratory (SciLifeLab), founding the Wallenberg Centers for Molecular Medicine (WCMM) to bring together future leaders for the life sciences and molecular medicine in Sweden.

- WCMM in Lund recruited ten research leaders (PI's) from abroad to strengthen regenerative medicine at Lund University. I was recruited for the position in the field of haematopoiesis, and with the position came a large investment package that allowed us to perform ambitious and expensive experiments, says Filipe Pereira.

The research team has always envisioned translating their scientific findings into new therapies for patients; they wanted to merge the fields of cell reprogramming and cancer immunotherapy and develop a method that forces cancer cells to become immunogenic. In order to make that dream reality, in 2017 Filipe Pereira brought his research team to Lund; Cristiana Pires moved her postdoc research and Fábio Rosa started working on his PhD. The following year, in 2018, they published their scientific results in the journal Science Immunology and established Asgard Therapeutics to bring technologies developed in the lab to the clinic.

- There are two reasons why we started the

business: first, we want to help treat cancer and save lives. It's our dream as scientists to see our discoveries serving society. The second reason is that the company is a tool that allows us to attract a certain type of funding required to develop and validate new therapies before first-in-human clinical trials. This is also possible in the university, but not in a

competitive way compared to all of the other companies that develop immunotherapies, explains Cristiana Pires.

Additionally, according to the three Portuguese researchers, there are good opportunities for startups in the Øresund Region.

- In terms of funding, it's easier here than in Portugal. There are more resources involved. Another aspect is that there is a special environment and atmosphere with many life science startups, especially in southern Sweden and Denmark. It's very attractive to us, says Cristiana Pires.

Asgard Therapeutics and Filipe's research group at WCMM have also received funding for their work from e.g. Vinnova, LU Innovation, Sten K. Johnson Foundation and Novo Nordisk Foundation through Novo Seeds and Bio Innovation Institute, and they were also selected for the mentoring program NOME, which is also a Novo Nordisk Foundation endeavour. Despite the company's tender young age, it has managed to raise about SEK 9 million to support the development of a new cancer gene therapy. According to the three co-founders, the reason for this is quality.

- We just have to ensure that we promote quality. Good companies that produce high quality research can get capital from anywhere. I don't think we are competing for limited resources here in the region, but efforts should be directed at translating the best scientific advancements into businesses – to bring the best science into companies, says Filipe Pereira.

"In terms of funding, it's easier here than in Portugal. There are more resources involved."

Opportunities for funding are not the only good thing about southern Sweden and Denmark. According to Filipe Pereira, there is a good research environment in haematopoiesis and cancer research, and this means many collaboration opportunities for Asgard Therapeutics.

- The greatest advantage to having a technology that can be applied to many different types of cancer is that our collaborative efforts have exploded, he says.

Among the company's collaboration partners are doctors, researchers and the university hospital in Lund, and the research centres BRIC and Danstem are among their partners in Denmark.

While Denmark and Sweden offer many opportunities, Filipe Pereira also believes that there are challenges in the Øresund Region.

- Having two strong environments so close to each other sometimes creates a competition of sorts for the best people. It's not a negative thing, but it creates a great need for people with the right skills, he reasons.

And the right skills are expensive in this region, he says. Filipe Pereira would like to see efforts to increase the visibility of the Øresund Region in the rest of the world, so that the region can access the best competences and Sweden and Denmark can jointly lift the region. As he sees it, interaction and collaboration between the two countries will only help with capitalizing on growth. Cristiana Pires agrees:

- I don't think the problem is the competition between Denmark and Sweden. A healthy dose of internal competition is good because it improves the quality of translation efforts in the region.

She believes the challenge lies in the fact that they are a startup company developing advanced therapy medicinal products (ATMPs). ATMPs are medications for human use and are based on genes, tissues or cells; in Asgard's case, what is being developed is a gene therapy for cancer based in cell reprogramming. Cristiana suggests that a closer look should be taken at ATMP production facilities; there are only a few in Sweden, and they are small. As an increasing number of people are working to develop ATMPs in Sweden, she thinks it would be interesting for Sweden or Denmark – or both countries together – to work on increasing access to such facilities. This would both give a global competitive edge and prevent the region from missing out on valuable expertise and development projects.

- Otherwise, companies reach a point in their development where they have to outsource their production to other countries. I think that we will lose a lot of power that way, says Cristiana Pires.

Fábio Rosa sees potential for the region to promote research and innovation of early-stage technologies. He



The founders of Asgard Therapeutics.

calls for efforts where researchers gain entrepreneurial knowledge for technology commercialization, market analysis, and other important aspects of innovation.

- A programme that stimulates this type of entrepreneurial thinking would greatly benefit innovation-related economic growth in Skåne, says Fábio Rosa.



ASGARD THERAPEUTICS AB

- **Founded:** 2018
- **Branches in the life sciences:** Biotech
- **Focus area:** Cancer immunotherapy
- **Ownership:** Private
- **CEO:** Cristiana Pires
- **Turnover:** Data not yet available
- **Gross annual return:** Data not yet available
- **Total number of employees in Lund:** 3
- **Total number of Øresund commuter employees from Denmark:** 0
- **Moreover:** In 2019, Asgard Therapeutics won the Novo Nordisk Foundation's The Nordic Mentor Network for Entrepreneurship (NOME) Competition, and in 2020 Fábio Rosa was voted one of Forbes 30 under 30 as one of Europe's top young science and health care entrepreneurs

THE LINK BETWEEN ORAL HEALTH AND GENERAL HEALTH MAKES TEPE LOOK FORWARD TO MORE PARTNERSHIPS WITH THE LIFE SCIENCE SECTOR

The oral hygiene company TePe Munhygienprodukter AB started out making wooden toothpicks in collaboration with the Faculty of Odontology in Malmö in the 1960s. Today TePe is a global oral health company, and three years ago it was given the distinction life science company of the year in Malmö. According to TePe's CEO Hanna Hageberg Hammar and Marketing and Innovation Director Helena Ossmer Thedius, increased global branding for the region, better infrastructure, less commuter bureaucracy, and more partnerships are factors that can contribute to TePe's growth.

From its global headquarters near the motorway in Malmö's industrial and residential area Fosie, TePe develops, distributes and sells a broad product portfolio of oral hygiene products to the international market. The headquarters is responsible for the entire corporation and its around 350 employees; around 250 of them are employed full-time and work in the Malmö facility. In 2017, the privately-owned company received Malmö City's business award for life science.

The award came as a surprise, says TePe's CEO Hanna Hageberg Hammar, because they hadn't really considered TePe a life science company. Instead of being concerned with the special rules of belonging to a sector, since the company's founding, they have simply focussed on promoting good oral health.

Established by the woodcarver Henning Eklund in Malmö in 1965, the company's first triangular-shaped toothpicks were wooden. Nowadays the oral health products like interdental tooth-brushes and toothbrushes are made of plastic.

But the ambition to spread good oral health has always been in focus, and the task has grown in importance over the years, as health has come to mean more than not having an illness and has also been linked more generally to quality of life, including good oral hygiene and healthy teeth.

Furthermore, science has increasingly recognised that good oral health promotes general health, combined with the paradigm of more preventive care in health services.

– As far as improving quality of life is concerned, our entire vision is linked to life science, says Hanna Hageberg Hammar. Helena Ossmer Thedius adds:

– Depending on the regulations, our products can be considered medtech in some countries. We don't see

ourselves as a medtech company though, but rather as a company that works with preventive oral health.

Even if TePe is linked to the life science sector in terms of improving quality of life, the company doesn't have any partnerships with the life science parks Medeon, Ideon or Medicon Village, nor with any of the other pharmaceuticals- or biotech companies in the Øresund Region.

But the Eklund family, which owns TePe, recently became the second-largest shareholder of Magle Chemoswed, one of Malmö's contract research companies. Via the family's investment company Fosielund, they chose to buy 20 million SEK worth of shares in Magle Chemoswed, which has been publicly traded in Sweden since late June.

TePe is also active in the STEPS-programme with Lund University, where the focus is on more bio-based primary materials and more sustainability in plastic; this is also an active discussion in the Danish medical- and pharmaceuticals industry.

TePe's personnel is also involved in the education at the Faculty of Odontology in Malmö, Tandvårdshögskola, where the first wooden toothpicks were developed in collaboration with the school's experts in the 1960s.

Today TePe has eight subsidiaries globally and started their international expansion by establishing the first subsidiary in Germany in 1997. In Germany, as well as in Scandinavia and the UK, dental care is at the forefront, says Hanna Hageberg Hammar.

If a new collaboration were to start up, it might be with e.g. Novo Nordisk or other actors with expertise in diabetes, say both representatives of the company; good dental hygiene habits are especially important for diabetes patients; otherwise there is a risk of deve-

"Looking at our strategy until 2025, partnerships are one of our success factors."

loping periodontitis, a condition in which the tissues around the teeth become inflamed.

– Looking at our strategy until 2025, partnerships are one of our success factors. We need more partnerships around the world and to bring in more expertise that we don't have today. There are many and very good possibilities in the Øresund Region in terms of the focus there is on diabetes here, as well as on other areas like vascular diseases, says Hanna Hageberg Hammar.

When it comes to the facility in Malmö, there is personnel from more than 25 nations – though there are no commuters from Denmark – working at the company's global headquarters. In 2019, the company's turnover was 846 million SEK – a 35% increase from 2015.

According to both of them, the company's broader internationalisation makes it clear that using English in the workplace is important, so non-Swedish speakers can also be recruited. The development also emphasises the importance of marketing Malmö as well as the region as a whole.

In part, the sense that there many cultural and employment opportunities on both sides of the Øresund Strait will keep people from leaving the region. It can also attract more skilled labourers from abroad, because a unified Øresund Region with a population of around 4 million has greater appeal abroad than just Malmö with its 345 000 residents, say Hanna Hageberg Hammar and Helena Ossmer Thedius.

– Talking about the whole region rather than just Lund, Malmö and Copenhagen is really significant for attracting people to come here and stay, says Hanna Hageberg Hammar. She mentions a new employee from southern Europe who lives in Malmö but also takes Swedish classes in Lund and enjoys Copenhagen's cultural activities.

There are international branding initiatives underway in the region, and it's vital to keep them going and if possible increase the efforts, the two representatives of the company say; even if TePe has succeeded in recruiting people to Malmö from abroad over the years, it remains a task with many associated challenges.

– We see bringing in experience from different kinds of markets as a great advantage. And I think that relocating to the area is easier for people [with that experience] if they see the region as an exciting place, says Hanna Hageberg Hammar. She believes that more Øresund trade shows and international meetings could be a lever for more international branding.

As they see it, there is expertise missing in production technology, materials science, product design, automation, quality assurance, regulatory



Hanna Hageberg Hammar and Helena Ossmer Thedius, TePe.

affairs and odontology. These are areas in which they plan to recruit.

What inhibits TePe's growth in the region is not the lack of risk capital that other life science companies often indicate; instead, they maintain that better infrastructure for commuters and simpler employment legislation between Denmark and Sweden are the key to improved growth conditions.

– We're just a stone's throw from the bridge, and what would be really exciting is if we could bring in expertise from Copenhagen, but commuting needs to be easier, says Hanna Hageberg Hammar.



TEPE MUNHYGIENPRODUKTER AB

- **Founded:** 1965
- **Branches in the life sciences:** Oral health
- **Focus area:** Dental products
- **Ownership:** Private (Eklund family)
- **CEO:** Hanna Hageberg Hammar
- **Turnover 2019:** 846 million SEK
- **Gross year-end result 2019:** 318 million SEK
- **Total number of employees in Malmö:** 253
- **Total number of employees globally:** ca. 350
- **Number of Øresund commuters from Denmark:** 0
- **Moreover:** The Eklund Foundation is contributing €200 000 to odontological research in 2020

DENMARK IS AN IMPORTANT MARKET FOR RED GLEAD DISCOVERY – INCREASED PRESENCE AND INTERACTION IN COPENHAGEN ARE A PRIORITY

The privately-owned CRO company Red Glead Discovery AB in Lund has made presence in Copenhagen a priority and opened an office there. Mobility, trans-Øresund collaboration and proximity to Danish and Swedish clients are decisive for growth, according to two of the company's founders. Another important aspect is directing more capital into companies from Skåne.

In the past five years, Red Glead Discovery, which develops pharmaceuticals for external clients, doubled its number of full-time employees to 34 and tripled its turnover to around 34 million SEK in 2019. That makes the contract researching company one of Lund's fastest growing life science companies. Though based in the science park Medicon Village, the Danish market with its prospering biotech and pharma companies is of great importance for Red Glead.

– In 2018, Denmark was our largest market in terms of profit, says Johan Evenäs, CEO of Red Glead Discovery and one of the company's seven founders.

He shows us around several floors and talks about the various manufacturing machines behind the glass panels there.

Trans-Øresund business activity has revealed the benefits of being close to clients, which is why Red Glead Discovery – as the only Lund-based company – prioritised establishing an office at Copenhagen Bio Science Park (COBIS).

Access to expertise, collaboration opportunities and networking are some of the advantages of being on both sides of the strait, adds Martina Kvist Reimer, executive vice president of the company. Improving the life science sector between Denmark and Sweden is largely a question of mobility, she says, so that traveling back and forth is as easy as possible.

– Without meeting, we can't get to know each other – and that's a prerequisite for good collaboration, says Martina Kvist Reimer.

Being close to clients and local collaboration partners has been decisive for Red Glead Discovery's success since the company was founded in 2011, says Johan Evenäs.

The life science sector is however also "in-

credibly international", he says, pointing out that their staff includes people from 37 different nations such as Germany, Poland, Ukraine, Russia, India and the Middle East. Hence the acquired wisdom that it is almost easier to get a new client in Boston than in Stockholm.

In terms of Medicon Valley's development – particularly in Skåne – it will be important to

bring in experienced project managers from large pharma companies, especially from Denmark, to work in smaller companies, especially in Skåne, Martina Kvist Reimer remarks. They are people who know the ins and outs of the value chain, but as she notes,

significant salary differences can make recruitment difficult.

And finally, with the increasing use of artificial intelligence in the life science sector, access to people who can handle big data will become more important, says Martina Kvist Reimer; there can be a need for smaller companies to recruit people with expertise that is already being utilised in larger companies.

When Red Glead Discovery started up nine years ago they had no external capital. The seven co-founders, including Johan Evenäs and Martina Kvist Reimer, had all worked at AstraZeneca's R&D facility in Lund and had to work unpaid for a year to get Red Glead Discovery up and running. They bought second-hand equipment and no one really believed in the project, says Johan Evenäs. Today, the CRO company develops and sells molecules to around 200 clients, most of which are large pharma companies like Lundbeck, smaller biotech companies like Galecto, and research groups at Lund University and Karolinska Institute.

In Lund, Red Glead Discovery collaborates

"There is very limited public funding in Sweden. To finance a pharma project, you have to go to the EU."

with e.g. SARomics Biosstructures, Truly Labs, Redoxis, Adroit Science and Emmace, and they are currently producing molecules for a vaccine against Covid-19 for the Norwegian biotech company Immunor.

Despite Red Glead Discovery's success, Martina Kvist Reimer feels that the life science sector in Skåne has an overshadowing structural problem: A lack of capital.

This is especially true for startups, she says. What it comes down to is that unlike Denmark, Skåne has no life science companies with over 1 000 employees that offer smaller companies research support via foundations like Lundbeck, LEO Pharma and Novo Nordisk do with their seed programmes, grants and allocations.

– We don't have companies like that in Skåne. We don't have them in Sweden at all, and it's a huge structural disadvantage, says Martina Kvist Reimer, adding that the corona outbreak has clearly revealed funding differences; as a supplement to government support, the Lundbeck Foundation and the Novo Nordisk Foundation have also allocated 80 million crowns for the development of a vaccine.

In addition to a lack of private capital from large companies, Martina Kvist Reimer believes that Denmark has a larger investor base of private biotech entrepreneurs in Denmark that can offer support in the startup phase that Skåne lacks.

As Martina Kvist Reimer sees it, another challenge for life science in Skåne is that the Swedish government authority for R&D funding Vinnova is often focused on supporting future technology that will be important ten years from now rather than offering more assistance for e.g. therapy technologies here and now.

– There is very limited public funding in Sweden. To finance a pharma project, you have to go the EU, she says. As a service provider for many different companies, she finds that a lack of capital is a general problem for many in the sector.

Martina Kvist Reimer is pleased however that Sweden has put the life science sector high on the political agenda. As of 1 April 2020, the R&D deductions (FoU-avdraget) were doubled, going from 10 to 20%, so companies' employer's social security contributions are lower; while she finds the initiative good, she doesn't believe that it is enough, and a solution is difficult. There has been talk of a government-owned life science foundation with contributions from all companies, but as far as she knows, there are no results to date.



Johan Evenäs, CEO
Red Glead Discovery AB.

– Without meeting, we can't get to know each other – and that's a prerequisite for a good collaboration, says Martina Kvist Reimer.



RED GLEAD DISCOVERY AB

- **Founded:** 2011
- **Branches in the life sciences:** CRO (Contract Research Organization)
- **Focus area:** Medicinal chemistry and peptide chemistry
- **Ownership:** Private
- **CEO:** Johan Evenäs
- **Turnover 2019:** 34 million SEK
- **Gross year-end result 2019:** 2.9 million SEK
- **Total number of employees in Lund:** 34
- **Total number of Øresund commuter employees from Denmark:** 0
- **Moreover:** Red Glead Discovery has around 200 different clients in biotech, pharma and academia

BAXTER IS MOVING ITS PRODUCTION TO ITALY – BUT STILL SEES A LOT OF GOOD REASONS TO KEEP R&D IN LUND

One of Lund’s most important industrial businesses, Gambro Lundia AB, has made a lot of changes in the past few years, after having been acquired by the global medtech company Baxter International Inc. in 2013. In the years to come, all of the company’s production will relocate to Italy, but the R&D team for dialysis will stay in Lund, where they’ll collaborate under new terms with colleagues all over the world and take advantage of the strength of Lund’s local networks, says Per-Ola Wictor, Lund Site Lead and Director of HD Therapy and Water Technologies at Baxter.

Although many life science companies in Skåne have celebrated successes in terms of both economy and personnel, one of the region’s largest life science enterprises has been experiencing negative growth for the past five or six years – the Lund-based medtech company Baxter, formerly Gambro.

Since 1964, the company, which originated in Lund, has been researching and manufacturing equipment for dialysis to treat kidney- and liver diseases. It all started when Professor Nils Alwall developed one of the first dialysis machines and began collaborating with Holger Crafoord, who founded Gambro.

Research and production of dialysis equipment has continued until today, but now the company has also been – and will continue to be – marked by great changes.

In 2012, the American global medtech company Baxter International Inc. made an offer to purchase Gambro for 4 billion USD. The agreement was approved in 2013.

The ensuing restructure of R&D and production has been substantial, and the company’s staff in Lund has gone from just under 900 at the time of the acquisition to around 485 local employees – a decrease of around 45%.

As 2022 approaches the number of employees will drop lower still, since production will move from Lund to Italy. 150 R&D-employees will remain in Lund, says Per-Ola Wictor. The facility

will handle e.g. research support functions, regulatory affairs and patent issues.

– For us, the really big changes happened in late 2018, when the decision was made to consolidate the production division in other locations, mainly in Medolla, Italy, says Per-Ola Wictor, Director of HD Therapy and Water Technologies at Baxter and site lead in Lund. Some related R&D activities moved from Lund to India in 2019.

The move was neither due to a lack of productivity nor low quality, but was instead motivated by the long-term total savings made possible by the move. The former Gambro facility also needs to be adapted for a global enterprise like Baxter and find a new, optimised structure.

It’s not the first time that a large medical company in Skåne has restructured its business activities and resulted in lost employment. There was an equally major upheaval around ten years ago when the pharma company AstraZeneca closed a number of R&D facilities, including one in Lund, as part of a major R&D transformation; 900 jobs were lost. 2012 brought another set-back: the American medtech enterprise Becton, Dickinson and Company (BD) cut back production in Helsingborg, resulting in the loss of around 400 positions.

Despite the major changes, Per-Ola Wictor emphasises that there is still very valuable knowledge at Baxter in Lund; that means that unlike AstraZeneca, their story in the region has not come to an end. When AstraZeneca left the city in

“We have exciting collaborations with Lund University and with globally leading doctors at the university hospitals in Malmö and Lund. Obviously, that strengthens our position in research at Baxter.”

2012, it still had 6 500 employees – about 9% of its workforce – in Gothenburg and near Stockholm in Södertälje. For the time being, Baxter’s situation is different.

– While a lot has moved away, we still have quite a bit of activity here that’s important for the company, says Per-Ola Wictor.

In terms of the number of employees, he adds, the facility in Lund is comparable to Baxter’s other facilities in Europe and the US.

– Our strong point in Lund is enormous knowledge about how to go from an idea to a finished product. We know all of the aspects of Renal Care, the part of Baxter that works with different kinds of dialysis treatments needed for acute and chronic kidney failure. A lot of other sites are specialists in one kind of treatment, but in Lund we have the know-how about basically all kinds of treatments, which means that we can combine ideas in a way that no one else can. I see that as a strength, says Per-Ola Wictor.

Because of that, he expects that Baxter will stay in Lund for many years to come – albeit on different terms, shaped by the same globalisation that is underway in many large companies. The establishment of international research facilities like MAX IV and European Spallation Source (ESS), the use of open innovation at incubators and a close relationship to the education- and health sectors are also good reasons to stay in the region, says Per-Ola Wictor, where they still have a need for technical project managers and people with a strong profile in therapies.

– We’re interested in open innovation, and we have an ongoing dialogue with incubators to strengthen our network collaborations. I see very strong potential for our region there in particular, he says, adding:

– We have exciting collaborations with Lund University and with globally leading doctors at the university hospitals in Malmö and Lund. Clearly, that strengthens our position in research at Baxter, says Per-Ola Wictor. He believes that it is important to be pragmatic and open about a new reality in both established and new markets and treatments.

– Having a strong company behind you is positive, says Per-Ola Wictor, adding that the organisation’s new structure demands more collaboration with other facilities around the world.

– 15 years ago, we could go to the person at the next desk if we needed something repaired. Today we might talk to a colleague in India instead. All of



Per-Ola Wictor, Lund Site Lead at Baxter.

our big projects are global projects. We design the parts we’re experts at here, and then the other sites contribute their parts. It works better all the time. It’s all about how we communicate and share information and knowledge with each other, he says.



GAMBRO LUNDIA AB

Founded: 1964

Acquired by Baxter International Inc. in 2013

Branches in the life sciences: Medtech

Focus area: Dialysis machines

Ownership: Baxter International Inc.

Lund Site Lead: Per-Ola Wictor

Turnover in 2018: 1.3 billion SEK.

Gross year-end result in 2018: 66 million SEK.

Number of full-time employees in Lund: 485

Number of Øresund commuter employees in Lund: 0

Number of employees globally: 50 000

Baxter’s global turnover was 11.4 billion USD in 2019; 26% of the turnover was in the EMEA region

ARJO BELIEVES THAT CLOSER COLLABORATION BETWEEN HEALTH SERVICES AND THE INDUSTRY WILL MAKE A STRONGER LIFE SCIENCE SECTOR

With its good access to expertise and infrastructure, the Øresund Region is an attractive location for the medtech company Arjo AB, which was founded in Eslöv in 1957. Joacim Lindoff, CEO of Arjo – now based in Malmö – sees potential for the region to become stronger through improved collaboration between the industry and the healthcare sector and more investments in education and training in regulatory affairs.

The CEO of Arjo AB Joacim Lindoff is happy with the location of the company's headquarters in central Malmö, where 190 of the company's 6 230 global employees now work. 14 of those employees commute from Denmark every day, and when it comes to recruitment, Joacim Lindoff has no complaints.

– We haven't had any trouble finding people with the expertise we've sought to date. In terms of access to skilled labourers, based on what Arjo needs I'd venture to say there is no shortage here, contrary to Gothenburg or Stockholm, says Joacim Lindoff.

"We need to find another way to innovate and come up with new solutions together with the healthcare sector."

Arjo manufacturers solutions and equipment for the healthcare sector, e.g. bath systems, mattresses and lifting devices that can promote better mobility for patients during healthcare whilst reducing the risk for work-related injuries for healthcare personnel. The company is active in around 30 countries and has manufacturing facilities in China, Canada, the Dominican Republic, the UK and Poland. The largest of their manufacturing facilities is in Pozan, Poland and produces medical beds, hygiene and disinfection products, and more.

Arjo's story began in a garage in Eslöv in 1957 when a man called Arne Johansson – whose name is also behind the company name – saw a need to help patients with reduced mobility with hygiene. Arjo's headquarters and largest manufacturing plant were located in Eslöv, and the company continued to grow there over the years, adding more production units, including one in Lynge, Denmark. There have been major organisational changes to the company in the past 12-13 years, however.

– An important need was identified at Arjo in

2007-2008: to consolidate some of the company's manufacturing units. This meant fewer units, but also better control over quality regulatory compliance in our product category, says Joacim Lindoff.

– The other factories were first, before the decision was made to move production from Eslöv to the Polish facilities. Then Arjo's headquarters and part of its marketing and R&D departments moved to Malmö in 2012-2013, he says.

According to Joacim Lindoff, cutbacks were one reason Arjo decided to consolidate facilities and move production. He points out that one of the challenges of the Øresund Region are the high salary and production costs in

the region, and many companies thus decide to move their production to other countries. Baxter, which is another large medtech company in Lund, has chosen to do the same. Towards 2022, their production will move from Lund to Italy. Although Baxter is well known and has thus helped make the Øresund Region attractive, Joacim Lindoff is not worried that the move will have a negative effect on Arjo. He does however see the opportunity to recruit good expertise from Baxter.

– Baxter is a company with a good reputation globally, and their presence in the Malmö-Lund-Copenhagen cluster speaks well of the area, which can make it more interesting for people to make the move here. But I don't think it will affect Arjo, neither in the long- nor the short-term, he says.

In addition to high salary and production costs, Joacim Lindoff emphasises another challenge, one that he believes to be true for all of Scandinavia and not unique to the Øresund Region.

– We need to find another way to innovate and come up with new solutions together with the healthcare sector. We – the industry – can come up with

good ideas in response to needs, but we also need the chance to discuss them with actors from the healthcare sector and test the components, he explains.

He says that the healthcare sector is facing challenges because operating costs are high but care has not been improved, for example because of high workloads. With easier access to the healthcare sector's daily operations and collaboration with those who work within them, he believes that companies from the private industry – like Arjo – would be able to alleviate those challenges by focussing on technical tools, the competence of personnel, and work processes. He sees this as very valuable. Via clients, Arjo has accumulated knowledge about process improvements, and according to Joacim Lindoff, this has resulted in savings, improved quality of care and a reduced number of personnel with work-related injuries. Arjo now wants to bring this experience and advice to the healthcare sector to help more with these challenges.

As far as strengthening the region goes, Joacim Lindoff believes that there is potential in looking at expertise in regulatory affairs and collaborating with the Øresund Region's related education and training programmes, which he believes can become even better.

– One thing that's still missing is education in the regulatory aspect, either as independent training or as a complement to e.g. engineer training programmes. While I'm not exactly sure how things are nowadays, I think that venturing out and investing more in that aspect could lead to an even better foundation, he says.

Despite a lack of regulatory focus in training programmes, Arjo hasn't had difficulty recruiting expertise in that area to date, unlike a number of other companies in Skåne. According to Joacim Lindoff, there is good access to a skilled labour pool in the region because it is an attractive place to live and work for people in the sector, both because of the medtech- and life science cluster in the region and the possibilities for collaboration that higher learning institutions such as Copenhagen Business School, Malmö University and Lund University offer businesses. Arjo already has established collaborations in a variety of training programmes at these three institutions. These collaborative efforts comprise e.g. workshops, business cases, lectures, internships and specialist studies. The infrastructure is also good, says Joacim Lindoff. He says that only few of Arjo's employees live in Malmö, and many of them commute from different parts of Skåne and from Zealand. As Joacim Lindoff sees it, that both Danes and Swedes want to work at the company is a strength; he believes that different perspectives bring better results.

– We Swedes and Danes are pretty similar, but we also have pretty significant cultural differences



Joacim Lindoff, CEO Arjo Sverige AB.

in terms of how we think, how we solve problems, how we view management and so on. That makes the mix much more interesting than it would be if we only recruited from a homogenous Swedish set-up. Cultural diversity shouldn't be underestimated – it brings even more advantages to the region.



ARJO SVERIGE AB

- **Founded:** 1957
- **Branches in the life sciences:** Medtech
- **Focus area:** Hospital equipment
- **Ownership:** Publicly traded on Nasdaq Stockholm (62.7% in Sweden and 37.3% abroad)
- **CEO:** Joacim Lindoff
- **Turnover 2019:** 8.9 billion SEK
- **Gross year-end result 2019:** 671 million SEK
- **Total number of employees in Malmö:** 190
- **Total number of employees globally:** 6 230
- **Number of Øresund commuter employees from Denmark:** 14
- **Moreover:** Arjo AB was part of Getinge AB until December 2017, when the decision was made to split the business activity in two parts, and Arjo AB was quoted on Nasdaq Stockholm. The division was based on the wish for Getinge to focus its strategy on the operation room itself while Arjo focused on equipment for "post acute care" and elder care. Arjo AB and Getinge AB are both part of the enterprise Carl Bennet AB, which has a total of 29 000 employees



DANISH PRESENCE IN SKÅNE

Labour force, capital, research activities and networks link life science in Denmark and Skåne

The life science environments in Denmark and Skåne are connected in a variety of ways: a number of businesses are active with facilities of their own on both sides of the strait, and there are also around 100 Danes working at life science enterprises in Skåne. 20 companies in Skåne have a Danish CEO. The exchange manifests in other ways as well, such as public equity offers, capital funds, research collaborations and incubator programmes.

The nature of Denmark's presence in Skåne's life science sector is both financial and social, as well as research- and network-related. The financial aspect relates in part to the fact that around 60 of the 419 businesses surveyed have facilities on both sides of the Øresund Strait. In addition, private funds are invested by the Novo Nordisk Foundation, Lundbeck Foundation and Sunstone Capital, primarily in small and medium-sized biotech- and medtech companies in Skåne and elsewhere in Sweden. The financial aspect is also related to 11 of the Danish life science companies listed in Sweden over the past five years.

The social aspect refers to the ca. 100 Danes who work in life science companies, primarily in Malmö and Lund, and the 20 companies in Skåne with a Danish CEO.

Denmark and Sweden are also linked by e.g. their research collaborations at European Spallation Source (ESS) and MAX IV and the diabetes project Dia

Union, which is being headed by the Danish-Swedish network organisation Medicon Valley Alliance.

Around 100 Danish life science commuters in Skåne – more commute in the other direction

Skåne's 419 life science companies employ 7 500 people. Of them, there are around 100 Danes who commute to ca. 30 life science companies, primarily in Malmö and Lund. Danish commuters in Skåne comprise only a small part of the total number of employees in Skåne's life science sector, although the figure might be higher, as e.g. loosely associated consultants are not included in the calculation. Commuter figures in the opposite direction – i.e., for Swedes who work in the life science sector in Denmark – are estimated to be higher due to e.g. currency differences; furthermore, in Copenhagen alone, Ferring Pharmaceuticals employs around 150

DANISH COMPANIES LISTED IN SWEDEN

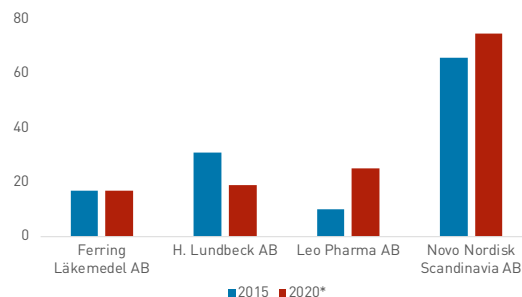
Company	Subsector	Listing time	Stock market	Capital raised
Qlife, Copenhagen/Helsingborg	ICT/Healthtech	2020 Q1	Nasdaq, Stockholm	55 mill. SEK
Scandion Oncology, Copenhagen	Biotech	2018 Q4	Spotlight, Stockholm	26 mill. SEK
2curex, Copenhagen	Biotech	2017 Q4	Nasdaq, Stockholm	14 mill. DKK
Initiator Pharma, Aarhus	Biotech	2017 Q1	Spotlight, Stockholm	20.5 mill. SEK
Acarix, Malmö/Hellerup	Medtech	2016 Q4	Nasdaq, Stockholm	125 mill. SEK
Expres2ion Biotech Holding, Hørsholm	Biotech	2016 Q3	Nasdaq, Stockholm	18 mill. SEK
SynAct, Lund/Holte	Biotech	2016 Q3	Spotlight, Stockholm	32.3 mill. SEK
Rhovac, Lund/Hørsholm	Biotech	2016 Q1	Spotlight, Stockholm	20.3 mill. SEK
Nuevolution, Copenhagen	Biotech	2015 Q4	Nasdaq, Stockholm	250 mill. SEK
Oncology Venture, Hørsholm	Biotech	2015 Q2	Nasdaq, Stockholm	21 mill. SEK
Saniona, Ballerup	Biotech/Pharma	2014 Q2	Nasdaq, Stockholm	17 mill. SEK*

*A new issue in February 2015 generated 24 million SEK. Sources: MedWatch, annual reports, Bisnode

PHOTO: NEWS ØRESUND



NUMBER OF EMPLOYEES AT DANISH PHARMA GIANTS IN MALMÖ



*Number of employees according to most recent available data from 2017-2020. Source: Bisnode, data from the companies

Swedes who reside in Skåne. This is an expertise challenge for the sector in Skåne.

Together with the Danish global company LEO Pharma, two Swedish global companies – the medtech company Arjo and the contract research organisation PolyPeptide Laboratories – have the greatest number of Danish Øresund commuters in Skåne. All three companies are located in Malmö. Numerous biotech-, medtech- and pharma-companies in Lund typically employ one to two Danes.

Relatively few companies have facilities in both Sweden and Denmark

Of all of the life science companies in Skåne, around 60 companies have been classified as cross-border companies, meaning that they have a presence – e.g. offices

– on the Danish as well as the Swedish side of the strait. Around 15% of the companies in Skåne have a primary or a minor facility registered in Denmark.

Companies of this kind are located primarily in Malmö, Lund and Helsingborg and include e.g. Denmark's three largest medicinal companies: Novo Nordisk Scandinavia AB, LEO Pharma AB, and H. Lundbeck AB, as well as the Swedish Getinge AB – all of these are in Malmö. In Lund there are e.g. the software company Visiopharm LRI AB and the contract research organisations Larix Sweden AB and Klifo AB, and the medtech companies Svenska Labex AB and Bard Norden AB are in Helsingborg. The lattermost is part of the American global medtech group Becton, Dickinson and Company (BD).

In addition, there are also companies in Skåne that do not have facilities in both countries, but

SWEDEN COMPANIES IN THE MENTOR PROGRAMME NOME – FUNDED BY NOVO NORDISK FOUNDATION

Company	City	Subsector
Asgard Therapeutics	Lund	Biotech
BioReperia	Linköping	CRO
Cellevate	Lund	Biotech
Gedea Biotech	Lund	Biotech
In2Cure	Lund	Biotech
Lexplore	Stockholm	ICT/Healthtech
MediTuner	Stockholm	Medtech
Saga Diagnostics	Lund	Biotech

Source: NOME

WHAT IS NOME?

The Nordic Mentor Network for Entrepreneurship (NOME) is a Scandinavian and transatlantic mentor network of life science experts that offers free advice to promising life science startups in Scandinavia. The companies are selected by NOME's mentors, and there are 3-4 mentors associated with each company. NOME is run by the Danish incubator undertaking Accelerace Management with the support of six other Scandinavian partner organisations, including Medicon Village in Lund. The NOME initiative was funded by the Novo Nordisk Foundation in 2016. To date, 29 companies have been part of the programme.

PHOTO: NEWS ØRESUND



that do have a transregional history or a contemporary link resulting from changes in ownership or company acquisition. For example, McNeil AB was originally called AB LEO, and in 1914 it became the first subsidiary of the Danish LEO Pharma, which subsequently, in 1883, came under Swedish ownership. Several changes of hands later, Johnson & Johnson acquired it as McNeil AB in 2006. HemoCue in Ängelholm also has links to Denmark, as the company was acquired by Radiometer Medical in 2013 for 1.7 billion DKK.

Most CEOs are Swedes – few CEOs from Denmark and abroad

The CEOs at Skåne's life science companies are predominantly Swedes. The tendency to be headed primarily by Swedes also holds true in the ca 75 Swedish listed companies in Skåne, around 50 of which have a Swedish CEO.

In contrast, there are around 20 life science companies in Skåne with a Danish CEO; of them, five are listed in Sweden and have Danish CEOs. These are e.g. the Medeon Science Park-alumnus Ascelia Pharma AB, which moved its headquarters to Hyllie in Malmö in early 2020, and the biotech companies Hansa Biopharma AB and Acusort AB in Lund.

Ten additional companies were identified as having CEOs who hail from other countries than Sweden and Denmark; these are e.g. the pharma company McNeil AB in Helsingborg, which is headed by an American, and Asgard Therapeutics AB in Lund, which has a Portuguese CEO at the helm.

LUNDBECK FOUNDATION VENTURES – ACTIVE INVESTMENTS IN COMPANIES IN SKÅNE

Company	Votes and capital
Bone Support AB	4.4% largest shareholder

Sources: Lundbeck Foundation and annual reports

NOVO HOLDINGS – ACTIVE INVESTMENTS IN SWEDISH COMPANIES OR COMPANIES WITH DEPARTMENTS IN SWEDEN

Company	Votes and capital
ConvaTec, Bromma	20.25% largest shareholder
Envirotainer AB, Sollentuna	24.9%
Orexo AB, Uppsala	27.1% largest shareholder
Synlab, Malmö	approx. 20%

Sources: Novo Holdings and annual reports

SUNSTONE LIFE SCIENCE VENTURES – ACTIVE INVESTMENTS IN COMPANIES IN SKÅNE

Company	Votes and capital
Acarix	9.2% largest shareholder
Alligator Bioscience	8.1% second largest shareholder
Ascelia Pharma	19.1% largest shareholder
Cantargia	7.5% largest shareholder before selling 30% of the shares in October 2020

Sources: Sunstone and annual reports

BIOINNOVATION INSTITUTE IN COPENHAGEN CAN IMPROVE CAPITAL STRUCTURE IN SKÅNE

Life science companies in Skåne have highlighted better capital structure as crucially important for improving conditions for the sector in Skåne. With the new PreSeed programme at the BioInnovation Institute in Copenhagen, the investment climate is set to improve. The programme aims to support Danish as well as Scandinavian startups and research projects in the life sciences. There is around 25 million DKK to be allocated, and Lund Stem Cell Center and Wallenberg Center for Molecular Medicine were the first to benefit from the arrangement.

It gives better funding opportunities to startups and research groups in the life science sector in Skåne, the rest of Sweden and throughout Scandinavia; according to ca 20 large- and small-scale companies, this has been a definite need in Skåne.

In the new programme PreSeed at BioInnovation Institute (BII) in Copenhagen, up to seven startup companies or research projects can receive financial support, sparring and office space so they can mature and go on to develop further. The up to seven selected startups or research projects each receive an allocation of 3.5 million DKK in the 18-month development programme, according to Jens Nielsen, CEO of BII.

– Our aim is to bring more innovation out of the labs and on to the market as new products and services. We're looking in particular for research and innovation with strong commercial potential in therapeutics, bioindustrials and healthtech, says Jens Nielsen, adding that those chosen for the programme can choose whether or not to work in BII's laboratories.

The story of the BioInnovation Institute, which is located in Copenhagen Science Park (COBIS), officially began in late 2017 with a 392 million DKK grant from the Novo Nordisk Foundation for a three-year setup phase. That will end in late 2020, and the foundation's board will then decide whether BII should be established as an independent foundation with a new seven-year funding term.

Since opening in 2018, the Novo Nordisk-funded life science incubator has supported 78 research projects and startups with more than 335 million DKK. There are currently around 43

projects and startups enrolled in various programmes at BII. BII expects to distribute another 100 million DKK in 2020, says Jens Nielsen.

– Even if BII has offices, labs and a café and event space in Copenhagen, we're a highly international incubator with a major focus on offering researchers and startups in Scandinavia – including the Danish-Swedish biocluster – support and assistance with commercialisation as well as funding through grants and convertible loans with favourable conditions, says Jens Nielsen, who is also a professor at Chalmers University of Technology in Gothenburg.

The opportunities for Scandinavian applicants thus also communicate that BII wants to see more Danish-Swedish collaboration in the life sciences, says Jens Nielsen. He explains that BII is interested in working with Scandinavian universities, hospitals and innovation initiatives as well as private enterprises.

Lund Stem Cell Center and Wallenberg Center for Molecular Medicine in Gothenburg were the first to reap the benefits of BII's PreSeed programme. Researcher Filipe Pereira, who is also part of the business Asgard Therapeutics, works there. BII's 3.5 million DKK grant has given him and his colleagues better conditions for developing their cancer research further.

BII's aspirations for more transregional collaboration with Skåne and the rest of Scandinavia – also in a financial sense – are something that pleases the CEO of the Danish-Swedish cluster organisation Medicon Valley Alliance (MVA) Petter Hartman. With its more than 300 members, MVA works to strengthen the life science sector in the Greater

"We're looking in particular for research and innovation with strong commercial potential in therapeutics, bioindustrials and healthtech."



Jens Nielsen,
CEO BII.

PHOTO: ESSEN ZOLLNER/OLESEN/
BIOINNOVATION INSTITUTE

Copenhagen region.

– That "Scandinavian union mindset" is just what we need if we want to realise our ambition to develop and situate Scandinavia as a life science powerhouse, says Petter Hartman. He is not at all worried that BII's initiative will weaken Skåne's incubator and research park environments in the life sciences.

– From the beginning we've had the desire and ambition for BII to go beyond the Danish national borders and be part of the value creation for the entire region's life science ecosystem. We don't see it as a zero-sum game, but rather as a clear win-win for the entire region. Just like when Danish life science startups find themselves increasingly lacking domestic options and take advantage of the opportunity to raise capital with public equity offers in Sweden, he says.

Examples of Danish companies who have done that could be the biotech companies Scandion Oncology and Saniona or the healthtech company Qlife, which raised 55 million SEK on the Stockholm Nasdaq market in March of this year.

Interest in the PreSeed programme has been substantial to date, BII reports, although they cannot reveal how many applications were submitted before the deadline on 4 June 2020. While most applications came from Denmark, there were also applicants from Sweden, Norway, and Finland, says BII.

The plan is for a selection of applicants to pitch their ideas for actors from academia, large commercial enterprises, investment companies and others. The best projects and startups will then be presented to BII's board of directors – among them Chairman Sten Scheiby, formerly the head

of Coloplast, and Vice-chairman Professor Bo Ahrén from Lund University. The final selection of the up to seven projects took place in September 2020.



PHOTO: NEWS ØRESUND

BIOINNOVATION INSTITUTE

- **Founded:** 2018
- **Focus area:** Healthtech, bioindustrials, and therapeutics
- **Ownership:** Novo Nordisk Foundation
- **CEO:** Jens Nielsen
- **Total number of companies/projects currently at BII:** 43
- **Total number of companies/projects enrolled since the start of BII:** 78
- **Total number of employees at COBIS, where BII is located:** ca. 400
- **Moreover:** Applicants to this year's PreSeed programme include e.g. the University of Turku, University of Helsinki, Oslo University Hospital, University of Oslo, University of Stavanger, Uppsala University, Karolinska Institute, Stockholm University, University of Gothenburg and Royal Institute of Technology

Life science in Skåne is linked to Swedish, Danish and international corporations

Subsidiaries and branches link Skåne's life science cluster to Danish, Swedish and international corporations and investment companies. Other life science enterprises in Skåne are corporations or global, privately-held businesses in their own right. Here are some examples.

ARJO AB: A global, listed medtech company specialising in equipment for care settings, including e.g. safe patient handling and hospital beds. Facilities in Denmark, Canada, China, the Caribbean and Poland. Founded in Eslöv in 1957. HQ in Malmö. Part of the Getinge Group until 2017.
Turnover 2019: 9 billion SEK
Employees 2019: 6 160 (190 employees in Malmö)

CARL BENNET GROUP: Swedish technology-, supply-, and medtech group and the largest shareholder of Arjo AB, Getinge AB, Lifco AB and Elanders AB. The group's turnover was 60 billion SEK in 2019. It has ca 28 800 employees.

ATOS MEDICAL AB: International medtech company. Manufactures products for laryngectomy care and tracheostomy care. Facilities in 22 countries, including the USA, Germany and the UK. Founded in Hörby in 1986, where its primary R&D site is still located. HQ in Malmö. Acquired by PAI Partners from EQT in 2016.
Turnover 2019: 1.7 billion SEK
Employees 2019: 809 (ca 155 employees in Skåne)

PAI PARTNERS: Paris-based European investment company. Invests in healthcare as well as food and consumer companies. Administrates investments of 14 billion EUR and, via investments, employs ca 70 000 people.

BAXTER (GAMBRO LUNDIA AB): Gambro was a formerly listed global medtech company specialising in equipment for dialysis treatments for kidney and liver disease. Acquired by private equity companies in 2006 and divided. In 2013, the final

part of the company – dialysis equipment – was acquired by Baxter International Inc. Founded in Lund in 1964. Former HQ in Lund is now one of the R&D-sites of the Baxter Group.
Turnover 2019: 1.1 billion SEK
Employees 2019: 485 employees in Lund

BAXTER GROUP: American medtech group with a turnover of 11.4 billion USD in 2019 and around 50 000 employees.

HEMOCUE AB: A global medtech, diagnostics company focused on point of care testing equipment for e.g. blood tests. Founded in 1988, but research activities started in 1974 at the hospital in Kristianstad. HQ in Ängelholm.
Turnover 2019: 671 million DKK
Employees 2019: ca 400 (257 employees in Ängelholm)

DANAHER GROUP: In 2013 HemoCue was acquired by the Danish Radiometer Medical and became part of the American tech- and medtech group Danaher. The group's turnover totalled 18 billion USD in 2019. It has ca 60 000 employees.

H. LUNDBECK AB: Swedish national offices in Malmö of the Danish pharma company H. Lundbeck, which specialises in pharmaceuticals for psychiatric and neurological disorders such as depression, schizophrenia and Alzheimer's disease.
Turnover 2019: 48.3 million SEK
Employees 2019: 19 employees in Malmö

LUNDBECK FOUNDATION: Commercial foundation that holds 69% of the shares in H. Lundbeck A/S;

the remaining 31% are publicly traded. The foundation has controlling holdings in Falck and ALK and investments in 20 venture companies. Lundbeck's total turnover in 2019 was 17 billion SEK. It employs ca 5 500 people. Global HQ in Valby, Denmark.



LEO PHARMA AB: Swedish national offices in Malmö of the Danish pharma company LEO Pharma, whose activities are in dermatology and the production of pharmaceuticals for skin diseases and thrombosis.

Turnover 2019: 200 million SEK

Employees 2019: 34 employees in Malmö

LEO FOUNDATION: Commercial and philanthropic foundation and sole shareholder of LEO Pharma. LEO Pharma's total turnover was 10.8 billion DKK in 2019. It has ca 5 800 employees around the globe. Global HQ in Ballerup, Denmark.

MCNEIL AB: Privately-held pharmaceutical manufacturer that produces e.g. the stop-smoking product Nicorette and as a subsidiary supports consumer health at Johnson & Johnson, which owns McNeil. Originally a subsidiary of LEO Pharma, later of Pfizer. HQ in Helsingborg.

Turnover 2018: 1.6 billion SEK

Employees 2019: 665 employees in Helsingborg

JOHNSON & JOHNSON: American, listed medtech group. Largest in the world in terms of turnover and market value. Employs ca 132 000 people. Turnover in 2019 was 81.58 billion USD. HQ in New Jersey, USA.

NOLATO MEDICAL SOLUTIONS: Medtech division of the listed Nolato Group. The division's activity is in plastic- and silicone products, manufacturing everything from asthma inhalers to insulin pens, urine catheters and pregnancy tests to plastic pharmaceutical packaging.

Turnover 2019: 2.5 billion SEK

Employees 2019: 1 624 (27% of the total staff), 385 of whom work in Skåne

THE NOLATO GROUP: Nolato Medical Solutions is one of three divisions of the publicly traded Nolato, whose headquarters are in Torekov (Båstad), Skåne. Other industrial areas are integrated solutions and industrial solutions. The group has units in Sweden, the USA, China, Poland, Hungary and Switzerland. In 2019 it employed ca 6 000 people and had a turnover of 8.9 billion SEK.

NOVO NORDISK SCANDINAVIA AB: Swedish national offices in Malmö of Denmark's largest pharma company Novo Nordisk, which e.g. develops and manufactures pharmaceuticals for diabetes and haemophilia. Established in Malmö since 2000. Works with sales and marketing and runs clinical studies in Sweden.

Turnover 2019: 1.1 billion SEK

Employees 2019: 68 employees in Malmö

NOVO NORDISK FOUNDATION: Industrial and charitable foundation. Its capital is handled by its subsidiary Novo Holdings, which is the largest shareholder of the listed companies Novo Nordisk A/S and Novozymes A/S. Novo Nordisk A/S had a turnover of 122 billion DKK in 2019; Novozymes' turnover was 14.4 billion DKK. Both affiliates have a total of ca 50 000 employees. Global HQ in Bagsværd outside of Copenhagen.

POLYPEPTIDE LABORATORIES AB: Swedish, international, privately-held CDMO, developing and manufacturing proprietary and generic GMP-grade peptides on contract for smaller biotech companies, university projects and large pharma companies. HQ in Malmö.

Turnover 2019: 788 million SEK

Employees 2019: 275 employees in Malmö

POLYPEPTIDE GROUP: Private CDMO group with six facilities in the USA, Europe and India. Separated from Ferring Pharmaceuticals in 1996, but is owned by foundation controlled by Frederik Paulsen, chairman of Ferring Pharmaceuticals. Polypeptide Group employs ca 900 people globally.

QPHARMA AB: Swedish, privately-held company serving international clients that range from the ten largest pharma companies to startups. Ferrosan and Pharmacia formerly owned the company and facility in Malmö, which is its HQ.

Turnover 2019: 349 million SEK

Employees 2020: 250 employees in Malmö



SEVER LIFE SCIENCES BV: Privately-held Dutch company. Owned by foundation controlled by Frederik Paulsen, chairman of Ferring Pharmaceuticals. HQ in Holland.

RECHON LIFE SCIENCE AB: Privately-held Chinese CDMO that develops and manufactures special aseptic injectables and sprays for nasal and oral administration. Its facilities were owned by Ferring Pharmaceuticals until 2006. HQ in Malmö.

Turnover 2019: 316 million SEK

Employees 2019: 178 employees in Malmö

SHANGAI DONGBAO BIOPHARMACEUTIC: Private Chinese pharmaceuticals group that produces and distributes e.g. insulin. Over 20 subsidiaries in China and other countries. HQ in Shanghai, China.

STRYKER AB: Swedish national offices of the American medtech company Stryker; sales- and support functions in Malmö.

Turnover 2019: 1.1 billion SEK

Employees 2019: 132 (75 employees in Malmö and 23 at Stryker/Jolife in Lund)

STRYKER CORPORATION: Manufactures medical and surgical equipment and develops technology for orthopaedics. Employs around 40 000 globally. Turnover of 14.9 billion USD in 2019. Global HQ in Michigan, USA.

TEPE MUNHYGIENPRODUKTER AB: Global oral health/medtech company that manufactures e.g. toothbrushes. Subsidiaries in eight countries, including France, Germany and the UK. Privately held by the Eklund family. Founded in 1965 in Malmö, where its HQ are still located.

Turnover 2019: 846 million SEK

Employees 2019: 350 (253 employees in Malmö)

TEVA AB: Swedish national- and sales offices in Helsingborg of the Israeli pharmaceutical company Teva, which develops and manufactures products in e.g. neurology and respiratory diseases. Offices in Denmark as well.

Turnover 2019: 1.3 billion SEK

Employees 2019: 63 employees in Helsingborg

TEVA PHARMACEUTICAL INDUSTRIES: International Israeli pharmaceutical company with 33 production facilities in 33 countries. Around 43 000 employees; turnover of 16.9 billion USD in 2019. Global HQ in Petah Tikva, Israel.

STATISTICS AND METHOD

There is no established statistic definition that encompasses the entire life science sector. The sector comprises businesses that manufacture molecules, pills, apps, hospital beds and much more. The many scientific disciplines and areas of focus on e.g. disease extend into a multitude of subject areas, making it difficult to apprehend the sector as a whole. This report has been prepared in order to depict the cluster in Skåne more comprehensively, using the methodology described below. The principal foundation of the analysis is a broad extraction of data delivered by Statistics Sweden; this was reviewed and supplemented with additional quantitative and qualitative information to render the most complete representation possible.

The survey of life science companies in Skåne comprises the qualitative and quantitative methods described in the following, with the aim of providing both depth and an overview of the sector. This method triangulation has been necessary, as certain aspects such as e.g. the need for expertise and efforts are better suited to qualitative access, whilst aspects such as employee numbers and business categorisations are better accessed quantitatively.

Quantitative data collection

The quantitative component consists primarily of data requested from Statistics Sweden. The data was received in June 2019 and comprises e.g. company name, location, zip code, and employee number range.

The requested data encompasses 5 sector codes/SNI-codes on a five-digit level. These sector codes were selected in cooperation with Statistics Sweden, and the same codes were also used for industry reports by Growth Analysis and Vinnova to define a core segment of the life science sector.

	SNI-code
Wholesale trade of pharmaceutical goods	46 460
Manufacture of basic pharmaceutical products	21 100
Manufacture of pharmaceutical preparations	21 200
Manufacture of medical and dental instruments and supplies	32 501
Manufacture of irradiation, electromedical and electrotherapeutic equipment	26 600

The requested data also encompasses two other sector codes/SNI-codes on a five-digit level. These codes were also selected in cooperation with Statis-

tics Sweden and have also been utilised by actors such as Growth Analysis and Vinnova to define the life science sector, although these sector codes also relate more broadly to business activity in research.

	SNI-code
Other research and experimental development on natural sciences and engineering	72 190
Research and experimental development on biotechnology	72 110

The seven sector codes/SNI-codes above were supplemented further with 38 other sector codes/SNI-codes on a five-digit level in cooperation with Statistics Sweden. This was done in order to capture as many life science businesses as possible, as well as to capture business activity in relevant sector overlap with the life sciences, in the knowledge that many of the businesses within these sector codes would not be relevant for the survey of companies.

In addition to data from Statistics Sweden, Øresundsintitutet also retrieved data on life science businesses from polls of companies and businesses' websites, as well as from online information about and interviews with the science parks and incubators Medeon, Ideon, Medicon Village and SmiLe. Parallel research and monitoring of relevant news media were also conducted and contributed knowledge about a number of companies. Øresundsintitutet was also in contact with various industrial actors such as Invest in Skåne to gather input on relevant business activities.

Quantitative data processing

The 45 sector codes represent a total of ca. 17 000 business registrations in data extracted from Statis-

	SNI-code
Other general medical practice activities	86 212
Manufacture of other rubber products	22 190
Other dairy production	10 519
Manufacture of other plastic products	22 290
Other human health activities n.e.c.	86 909
Treatment and disposal of hazardous waste	38 220
Construction of residential and non-residential buildings	41 200
Computer consultancy activities	62 020
Computer consultancy activities	62 010
Manufacture of other food products n.e.c.	10 890
Business and other management consultancy activities	70 220
Retail sale in other non-specialised stores with food, beverages or tobacco predominating	47 112
Manufacture of margarine and similar edible fats	10 420
Activities of medical laboratories etc.	86 901
Wholesale of other machinery and equipment n.e.c.	46 699
Wholesale of chemical products	46 750
Wholesale of measuring and precision instruments	46 691
Advisory activities concerning patents and copyrights	69 103
Temporary employment agency activities	78 200
Manufacture of plastic packing goods	22 220
Specialist medical practice activities, not at hospitals	86 222
Specialist medical practice activities, at hospitals	86 221
Engineering activities and related technical consultancy in energy, environment, plumbing, heat and air-conditioning	71 124
Industrial engineering activities and related technical consultancy	71 122
Technical testing and analysis	71 200
Manufacture of other organic basic chemicals	20 140
Manufacture of other inorganic basic chemicals	20 130
Manufacture of breakfast cereals, blended flour mixes and other prepared grain mill products	10 612
Manufacture of household and sanitary goods and of toilet requisites	17 220

	SNI-code
Manufacture of instruments and appliances for measuring, testing and navigation	26 510
Manufacture of perfumes and toilet preparations	20 420
Manufacture of artificial teeth, dentures, dental plates etc.	32 502
Manufacture of soap and detergents, cleaning and polishing preparations	20 410
Manufacture of other chemical products n.e.c.	20 590
Other software publishing	58 290
Other engineering activities and related technical consultancy	71 129
Manufacture of other paper and paperboard	17 129
Other professional, scientific and technical activities n.e.c.	74 900

tics Sweden. Far from all of the companies proved relevant in relation to the definition of life science in this survey however; ultimately, 420 businesses were identified as utilisable. There were thus multiple rounds of large-scale and finer selection.

In the case of the first 7 sector codes, comprising around 850 businesses that are statistically primarily defined as in the life science sector, a specific review was done in which each business was researched online and with the help of data from Bisnode, a European data and analysis company. The companies were deemed relevant if they were active, operating in the sector, had a website, had submitted accounting reports and had more than two registered employees, although exceptions were made for relevant single-person companies in and outside of the science parks. Around 270 businesses were eliminated in the process as they were determined inactive.

The remaining 38 sector codes comprised ca. 16 150 businesses that were statistically secondarily defined as in the life science sector, and a more general review was conducted due to time limitations. First, the life science businesses in the remaining sector codes were assessed using search words such as pharma, med and bio to give an overview of the data material. Of them, 25 sector codes were selected, as they contained a certain portion of life science businesses. Businesses with an estimated more than 4 employees were examined in the same way as the 7 primary sector codes. Businesses with an estimated 0-4 employees in these 25 sector codes were prioritised

due to time limitations. In the remaining 13 sector codes, the share of life science businesses was assessed as small using keyword searches and overall reviews. This technique may mean that some relevant businesses were inadvertently overseen, but time restrictions made this unavoidable.

All sorted data was subsequently transferred to a database program in FileMaker; ØresundsInstitutet commissioned a local IT firm to do programming specifically for this survey. The database contains quantifiable checkboxes, free text fields and drop-down menus, making it possible to enter supplementary business information that was not included in the information from Statistics Sweden. The various fields in the database were operationalised, making it possible to determine the kind of diagrams/tables, and thus findings, could be generated for the survey with the new supplementary business information.

Supplementary data and quantitative poll

In order to do a survey of the cluster, supplementary business information was reviewed via the relevant businesses' websites, annual reports and LinkedIn accounts, and data was added from Bisnode. Figures from second-hand sources such as e.g. company registers is not necessary entirely accurate. Supplementary information on all of the relevant life science businesses was retrieved from the sources above. In addition, a quantitative poll was conducted in which all of the life science businesses from the 7 sector codes assumed relevant in Skåne were contacted via telephone and email between the winter of 2019 and summer of 2020. A special interview guide, built around the database, was developed to make the communication as effective as possible. The interview consisted in part of introductory questions regarding e.g. sector affiliation, transborder- and business activities, and in part of specific questions regarding e.g. needs for expertise, further efforts, and recruitments. In all subsectors, contact with the largest businesses was prioritised most highly, cf the EU Commission's definition of micro- small-, medium-sized and large enterprises:

- Micro: 0-9 full-time employees
- Small: 10-49 full-time employees
- Medium-sized: 50-249 full-time employees
- Large: at least 250 full-time employees

Whenever possible, the businesses were contacted via telephone first rather than email in order

to maximise the response percentage. Businesses with which no contact could be established were either omitted or included with less information. Supplementary business information for the survey via telephone or email was ultimately retrieved from around 135 life science businesses in Skåne. Input for the expertise- and recruitment part of the poll was retrieved from a total of 126 businesses, of which 48 were medtech enterprises, 43 biotech, and 23 pharma; the remaining 12 were e.g. contract research organisations. Around 15 businesses declined to contribute supplementary data via the poll. ØresundsInstitutet was thus in contact with ca 150 businesses in Skåne. Because of the coronavirus pandemic, ØresundsInstitutet sought the businesses that had already been contacted via email and telephone in April and May with supplementary questions for follow-ups, as the responses provided in mid-March regarding employee numbers and the needs for expertise might have changed.

Qualitative interviews

In addition to the ca 150 established contacts with businesses, 15 qualitative in-depth interviews for the report were held via telephone, Microsoft Teams or in a physical meeting. Interviewees included leading employees and directors of life science enterprises or science parks in Skåne. All interviewees were given the opportunity to fact-check their interviews. Five science parks and incubation environments in Skåne were selected for in-depth interviews, as around half of Skåne's life science enterprises are located in these settings, and the actors have a broad knowledge of the sector's conditions and challenges, especially from the perspective of smaller businesses. In addition, ten businesses were selected for in-depth interviews according to selection criteria related to topicality and essentiality, as well as in order to achieve a broad scope in terms of company size and the representation of various subsectors and sector overlap. All interviews were conducted between January 2020 and July 2020 and followed a semi-structured interview guide, which was adjusted for each interview occasion. The questions from the interview guide for the quantitative poll were also posed in the qualitative interviews.

Categorisation – traditional life science and new subsectors

The first division of businesses was based on the bu-

businesses' SNI-codes. As mentioned, 7 sector codes/ SNI-codes were categorised as the traditional core segment of the life science sector via research and external consultations. As many businesses – also outside these SNI-codes – operate in the life science sector, either directly, as researchers, manufacturers or similar, or indirectly, as supporting enterprises or partners of life science businesses, we chose to review multiple SNI-codes manually in order to locate businesses that are designated as supplementary to the core segment. These businesses are active in the life sciences to varying degrees, and we thus sorted these supplementary businesses in two categories: Businesses closely associated with the life sciences, and businesses with some life science associations. Departing from businesses' presentations of themselves in interviews and on websites and LinkedIn, we determined the subcategory to which each business belonged and the extent to which the business was focused on the life sciences. Working in this manner meant that the SNI-codes did not control the categorisation; instead, it was based on independent judgment and company contact.

- **Businesses with a close association to the life sciences:** Businesses describe themselves as life science enterprises, or alternately, describe their primary operations as in the life science sector or as in partnership with life science businesses. As the primary operations of businesses with close associations to the life sciences are within the life science sector, all employees of these businesses are included in the total number of employees in the life science sector in Skåne.

- **Businesses with some life science association:** These businesses operate in or for multiple sectors, including the life science sector, which does not however have any special status in the enterprise's description of itself. The number of employees in the businesses with some life science associations are not included in the total number of employees in Skåne's life science sector, as this would be misleading. Instead, we have chosen to highlight and present some of these businesses throughout the report in order to depict the way in which the life science sector in Skåne cooperates with industry in Skåne more broadly.

Categorisation – subsectors and sector overlap

There are many subsector categorisations in the life sciences, and the boundaries separating subsectors can sometimes be difficult to determine. Øre-

sundsinstittutet – like SwedenBIO, Vinnova and Growth Analysis – has divided the sector into three overarching subsectors: biotech, pharma and med-tech. In addition, contract research organisations (CRO/CMO) are a separate subsector in the survey, as such enterprises are seen as a specialised and integrated subsector in the life sciences, according to SwedenBIO. Furthermore, three sector overlaps have been identified between the life sciences and other sectors, namely ICT, food and other areas such as consultancy companies focused on the life sciences. The presence of ICT specifically in the sector overlap with the life sciences has been highlighted by e.g. SwedenBIO and Growth Analysis. Some enterprises have been categorised as either ICT, foodtech, or other businesses based on the process described above.

Number of employees

Data on the number of employees in the various businesses have been preferentially retrieved from company information. The primary focus has been on the number of full-time employees, and secondarily on the annual work carried out, if necessary, as annual work performed can be distributed over several employees. In telephone and email contact, businesses were asked about the size of their labour force between 2015-2020. If this data was not accessible from the companies themselves, the information was retrieved from Bisnode. As the most recent data from the businesses/Bisnode varied from referring to 2018, 2019 and 2020, the most recent available data was utilised.



PHOTO: H. LUNDBECK

INTERVIEW LIST

- **Johan Evenäs**, CEO, Red Glead Discovery, meeting, 26. November 2020
- **Ulf G. Andersson**, CEO, Medeon Science Park & Incubator, meeting, 16. January 2020
- **Kerstin Jacobsson**, CEO, Medicon Village, meeting, 16. January 2020
- **Ebba Fåhraeus**, CEO, SmiLe Incubator, meeting, 17. January 2020
- **Jacob Nilsson**, Global HR Director, PolyPeptide, meeting 20. January 2020
- **Mia Rolf**, CEO, Ideon Science Park, meeting, 22. January 2020
- **Charlotte Lorentz**, former CEO, Krinova Incubator & Science Park, 31. January 2020
- **Niels Abel Bonde**, General Manager, Novo Nordisk Scandinavia, meeting, 4. February 2020
- **Jody Lodge**, CEO, McNeil, meeting, 5. February 2020
- **Cristiana Pires, Filipe Pereira and Fábio Rosa**, CEO, Asgard Therapeutics, digital meeting, 24. March 2020
- **Martina Kvist Reimer**, Executive Vice President, Red Glead Discovery, telephone, 16. April 2020
- **Hanna Hageberg Hammar & Helena Ossmer Thedius**, CEO & Marketing and Innovation Director, TePe, digital meeting, 22. April 2020
- **Niels Jensen**, CEO, BioInnovation Institute, e-mail, 25. May 2020
- **Joacim Lindoff**, CEO, Arjo, digital meeting, 27. May 2020
- **Eva Kelty**, CEO, Capish Nordic, digital meeting, 4. June 2020
- **Jörgen Holm**, CEO, Glucanova, digital meeting, 11. June 2020
- **Per-Ola Wictor**, Director HD therapy and water technologies, Baxter, telephone, 2. July 2020

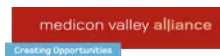
REFERENCE LIST

PRIMARY STATISTICAL SOURCES:

- SCB/Statistics Sweden, including customised analyses

OTHER SOURCES:

- Bisnode, Nordic Business Key, business database
- MedWatch, Danish media outlet focusing on the life science industry
- Life Science Sweden med Kemivärlden, Swedish media outlet focusing in the life science industry
- Sydsvenskan, Swedish media outlet focusing on Southern Sweden
- Rapidus, news agency focusing on growth companies in the Öresund region
- Websites of science parks and incubators: ideon.se, mediconvillage.se, medeon.se, smileincubator.life, krinova.se, innovation.lu.se
- Websites of community networks: HealthTech Nordic, Medicon Valley Alliance, Sweden ICT,
- Region Skåne, Skånska Styrkeområden, Ett underlag till regionalt tillväxt och innovationsarbete i Skåne, 2019
- Region Skåne, Skånes innovationsstrategi för hållbar tillväxt, 2020
- Invest in Skåne, Project pipeline medtech companies in Skåne, 2020
- Ministry of Enterprise and Innovation, En nationell strategi för life science, 2019
- Press releases and annual reports from respective companies.
- In addition, we received data via email and telephone from companies, municipalities, trade organisations, universities and other players.



Greater Copenhagen LIFE SCIENCE analysis initiative

GREATER COPENHAGEN LIFE SCIENCE ANALYSIS INITIATIVE is an EU-project aimed at increasing knowledge about the region's life science cluster Medicon Valley. The focus is on the demand for labourers, future expertise needs, and more. The project has received funding through the EU-programme Interreg Öresund-Kattegat-Skagerrak and will continue until 31 December 2021. The project's lead partner is Medicon Valley Alliance, and the partner is Øresundsinstitutttet.

The primary objective of the GCLSA-project developed and managed jointly by the Danish-Swedish organizations Øresundsinstitutttet and Medicon Valley Alliance is to

- 1) analyze and increase knowledge about the need and demand for competencies and skills and
- 2) support the development of the integrated labor market in the Danish-Swedish life science cluster, Medicon Valley.

Furthermore, the project will establish a bi-national forum which can push this agenda on an ongoing basis thereby addressing an issue of crucial importance for growth and employment on both the Danish and the Swedish side of the Greater Copenhagen region.

Targeting national, regional and local Danish and Swedish policy makers and key opinion leaders from industry and academia, the analysis work and the deliberations of the established Competencies and Skills Forum aim to provide a more qualified point of departure for developing initiatives which

- increase awareness of the supply and demand of labor in the regional life science cluster and facilitate mobility on the bi-national regional life science labor market
- optimize relevant life science educations in Sweden and Denmark including a more coherent approach to the prioritization and distribution of resources for R&D and educational institutions specifically addressing the needs of the life science industry
- highlight the scientific, commercial and societal strongholds of the Medicon Valley region and market the general attractiveness of the region as a first-class destination for both talent and business.
- investigate which factors are decisive when life science companies in the region successfully develop and expand
- provide national and regional stakeholders working with labor market life science related issues a common statistic point of departure and methodology
- help to eliminate obstacles to the free movement of labor (commuting) between Sweden and Denmark

In sum, the analysis work provided, and the forum established will not only help Medicon Valley prosper and grow scientifically, but also help finetune and fuel the growth engine created by public and private stakeholders during the last 20 years, which has helped Medicon Valley to firmly establish itself as the leading and most dynamic and vibrant life science cluster of the Nordics.

ØRESUNDSINSTITUTTET

Øi is an independent Danish-Swedish centre for analytics and information that brings together more than 100 actors from the industry, the public sector and academic institutions with the aim of strengthening knowledge about societal developments on both sides of the Øresund Strait. As a member of Øresundsinstitutttet, you become part of our strong Danish-Swedish network – and gain access to network meetings, facts, analyses and news about developments in the Greater Copenhagen region. www.oresundsinstitutttet.org

MEDICON VALLEY ALLIANCE

MVA is a Gold Label-certified, non-profit member organisation in the Danish-Swedish life science cluster Medicon Valley. Its 300 members include universities, hospitals, human life science businesses, regional governments and service providers that represent the Region's 'double triple-helix'. The activities in MVA focus on strengthening collaborations for a vibrant life science ecosystem in Medicon Valley through networking events and increased collaboration across borders and sectors. www.mva.org

THE VISION

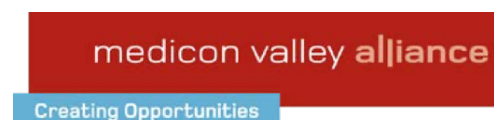
The vision is to be a well-known and respected member-driven contributor to the realisation and positioning of Medicon Valley as the most competitive and vital life science cluster in Northern Europe.

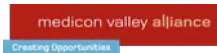
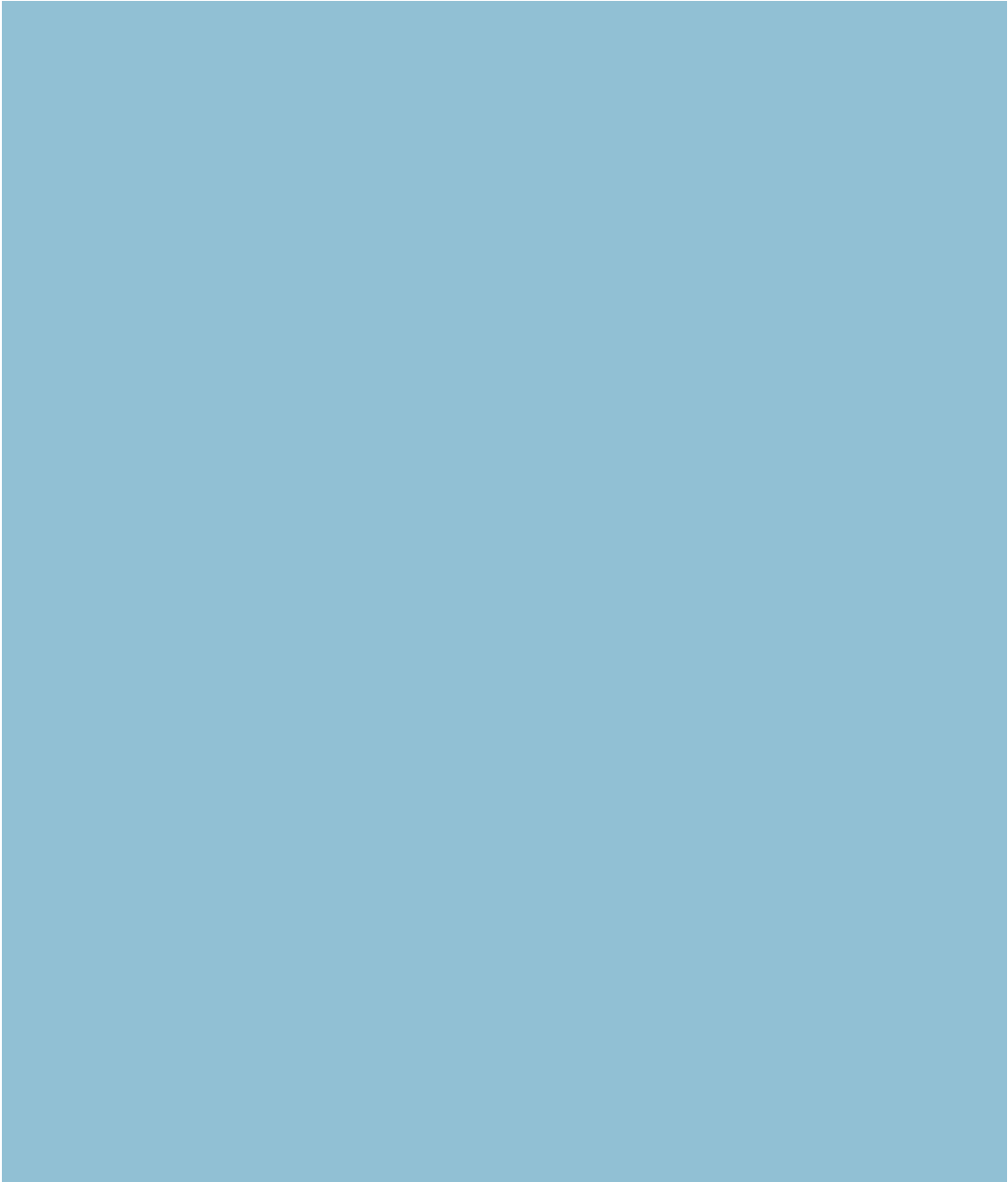
THE MISSION

MVA is committed to realising Medicon Valley's potential by facilitating networking, knowledge-sharing, and collaboration, analysing challenges and potentials, and mobilising support from key opinion leaders.

CALL TO ACTION

Read more about the Danish-Swedish life science cluster organisation Medicon Valley Alliance's events and activities on www.mva.org, where you can also find more information about how YOUR company can benefit from a membership.





Greater Copenhagen
LIFE SCIENCE
analysis initiative
