Life Science West

Enter life science, a growth opportunity

Produced by

SAHLGRENSKA SCIENCE PARK

In collaboration with

BUSINESS REGION

MedTech West

REGION VÄSTRA GÖTALAND

BIO VENTURE HUB

Financed by

European Union
European Regional Development Fund

REGION VÄSTRA GÖTALAND

Content

- Life Science Sweden
- Life Science West
- Looking Ahead
- Summary: Why Invest?

Content

Sweden – The most innovative country in the EU

Sweden is, for five years in a row, recognized as the EU innovation leader in the European Innovation Scoreboard 2016

1. **Sweden**
2. Denmark
3. Finland
4. Germany
5. Netherlands
6. Ireland
7. Belgium
8. United Kingdom
9. Luxembourg
10. Austria

Average performance is measured using a composite indicator building on data for 25 indicators
Source: EU Commission – European Innovation Scoreboard 2016
Photo: Ola Ericson/imagebank.sweden.se

The world is changing

Changing demographics

Increase in chronic diseases

Call for patient involvement

Increasing health costs

1 of 3

Europeans will be over 65 years old in 2050[1]

552 million

people are expected to live with diabetes worldwide in 2030[2]

7 of 10

Internet users search for health information online[3]

9 to 18 %

Health care costs as a % of GDP in the US 1980 resp. 2015[4]

Sources: [1]Eurostars (2015) People in the EU: who are we and how do we live?, [2]IDF Diabetes atlas 5th edition, [3]Pew Research Center Health Online 2013, [4]CDC Health United States 2016

Nordic life science clusters create critical mass

Nordic life science at a glance[1]

€11,3 billion in total turnover

3,381 companies

€852 million invested in Nordic life science companies in 2014[2]

444 pharmaceuticals in the pipeline

24 clusters in 20 geographical locations

10 larger M&As annually on average since 2005

[1]Excluding figures for large traditional pharmaceutical companies such as AstraZeneca and Novo Nordisk [2]Nordic life science companies have brought in 11.5% of the total capital invested in life science in Europe
Source: EY, Nordic Life Sciences database

Sweden – A life science pioneer

- **Prestigious track record** of bringing **breakthrough life science innovations** to world-wide markets – from a small country
- **Creative climate** for life science innovation
  - Flat, non-hierarchical organizations
  - Advanced healthcare and clinical trials
  - An innovation-friendly healthcare system
  - Multi-disciplinary collaboration between different sectors in society
- **13 Swedish Nobel laureates** in medicine (8) and chemistry (5) - (10 million inhabitants)

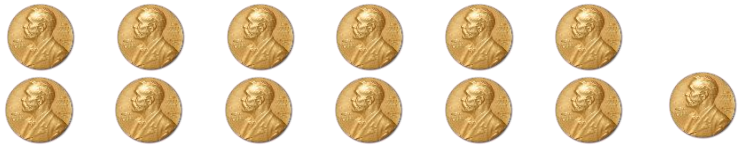

Photo: Sofia Sabel/imagebank.sweden.se, Ola Ericson/imagebank.sweden.se, Henrik Trygg/imagebank.sweden.se

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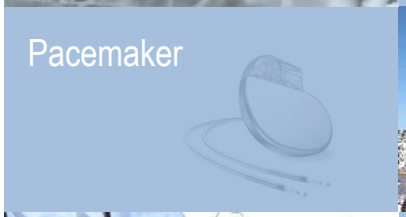
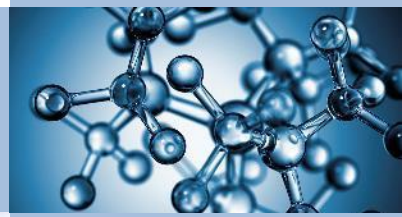
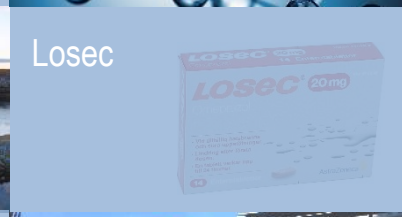


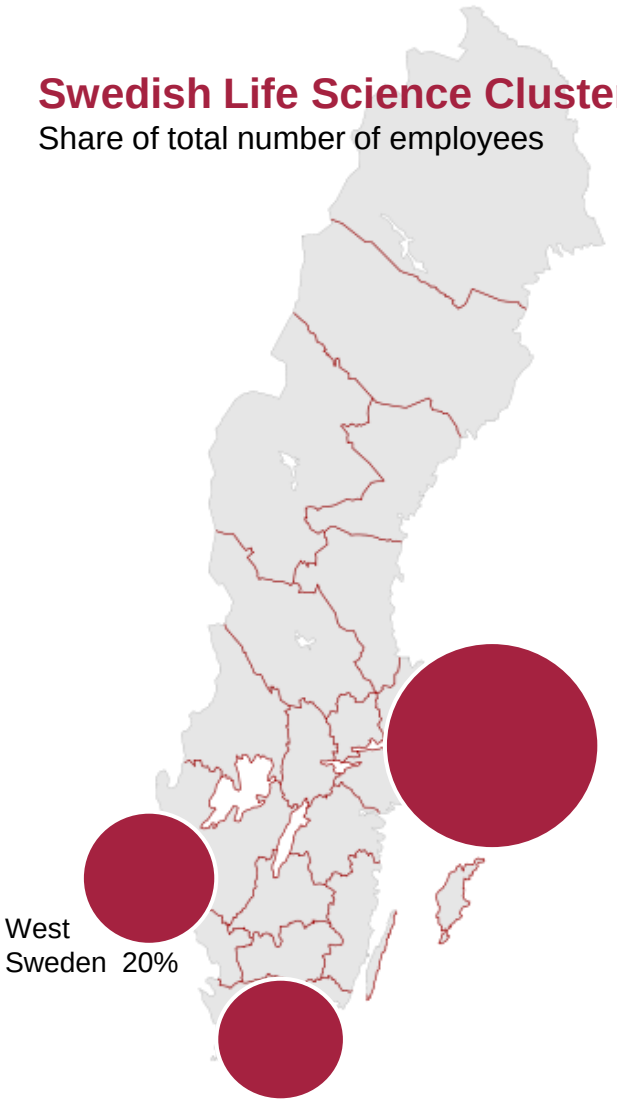




Swedish life science – At a glance

Swedish Life Science Clusters

Share of total number of employees



Source: Tillväxtanalys (PM 2016:04) Tillväxten i svensk life science-industri 2012–14

40,000	employees
1,500	companies
30 %	of public R&D spending at universities
€ 8	million in R&D investments by Swedish pharma industry
1,100 PhDs	employed in Swedish life science[1], 18 % of all Swedish PhDs
35 %	of the employees within the pharma industry are R&D personnel (Automotive industry 12 %)
8 %	(90 bSEK) of total Swedish export (Automotive 10 %)

Source: Vinnova (2014) Global trends with local effects

Content

A dynamic and growing life science region

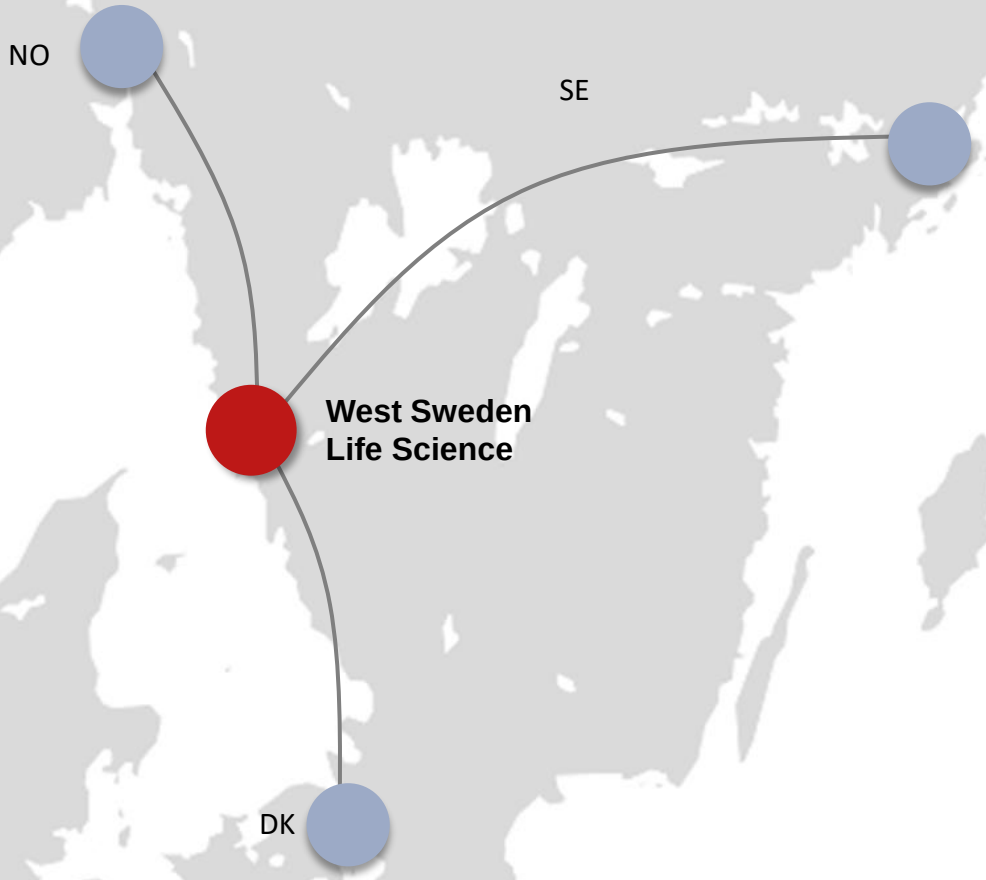
600 life science companies*

9,400 people employed in life science

59% increase in number of employees since 2000

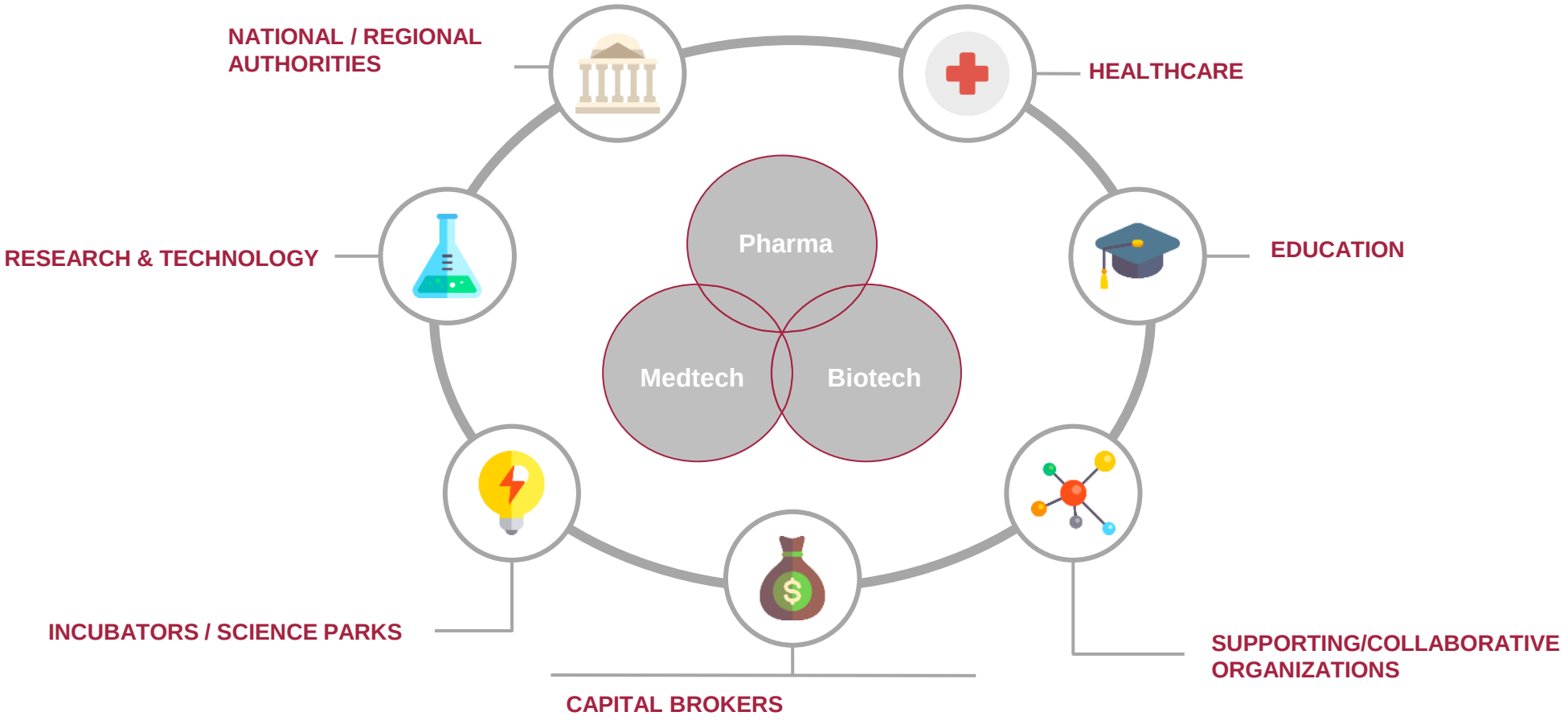
#1 northern Europe's largest university hospital

ICT at the forefront creates strong opportunities for digital health



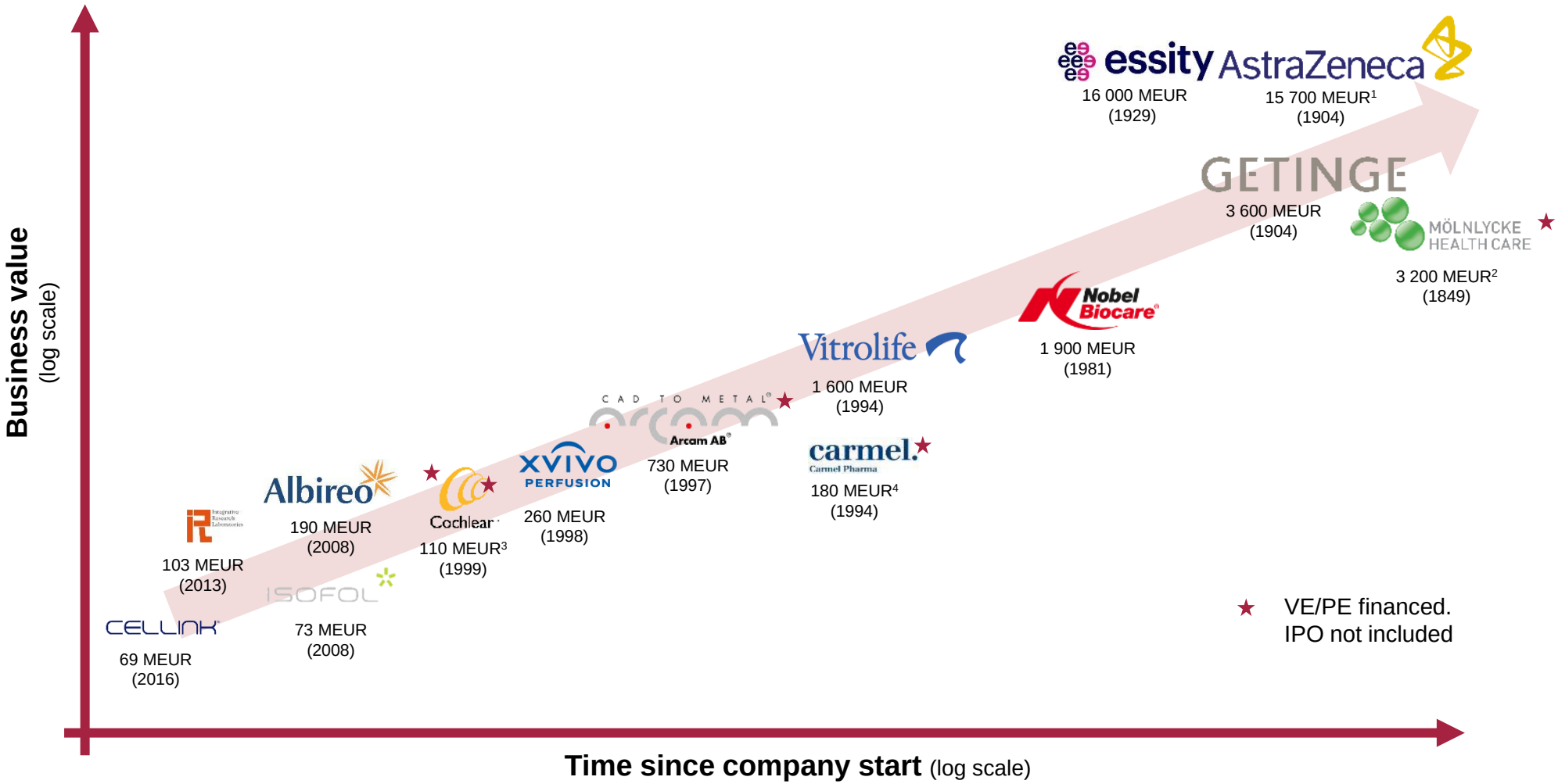
*Source: SCB 2015, Fakta & Statistik 2016 (Business Region Göteborg) * Work places*

A well-integrated life science ecosystem for industry



Substantial value creation over time

A selected few of the many successful companies in West Sweden



Market cap based on last published financial report as of 2017-08-21 if not otherwise specified.
[1]Calculated as 25 % of market cap based on R&D spending for Gothenburg site [2]Enterprise value as of 2010 [3]Amount paid by Cochlear in 2005 [4]Reported amount paid by BD in 2011

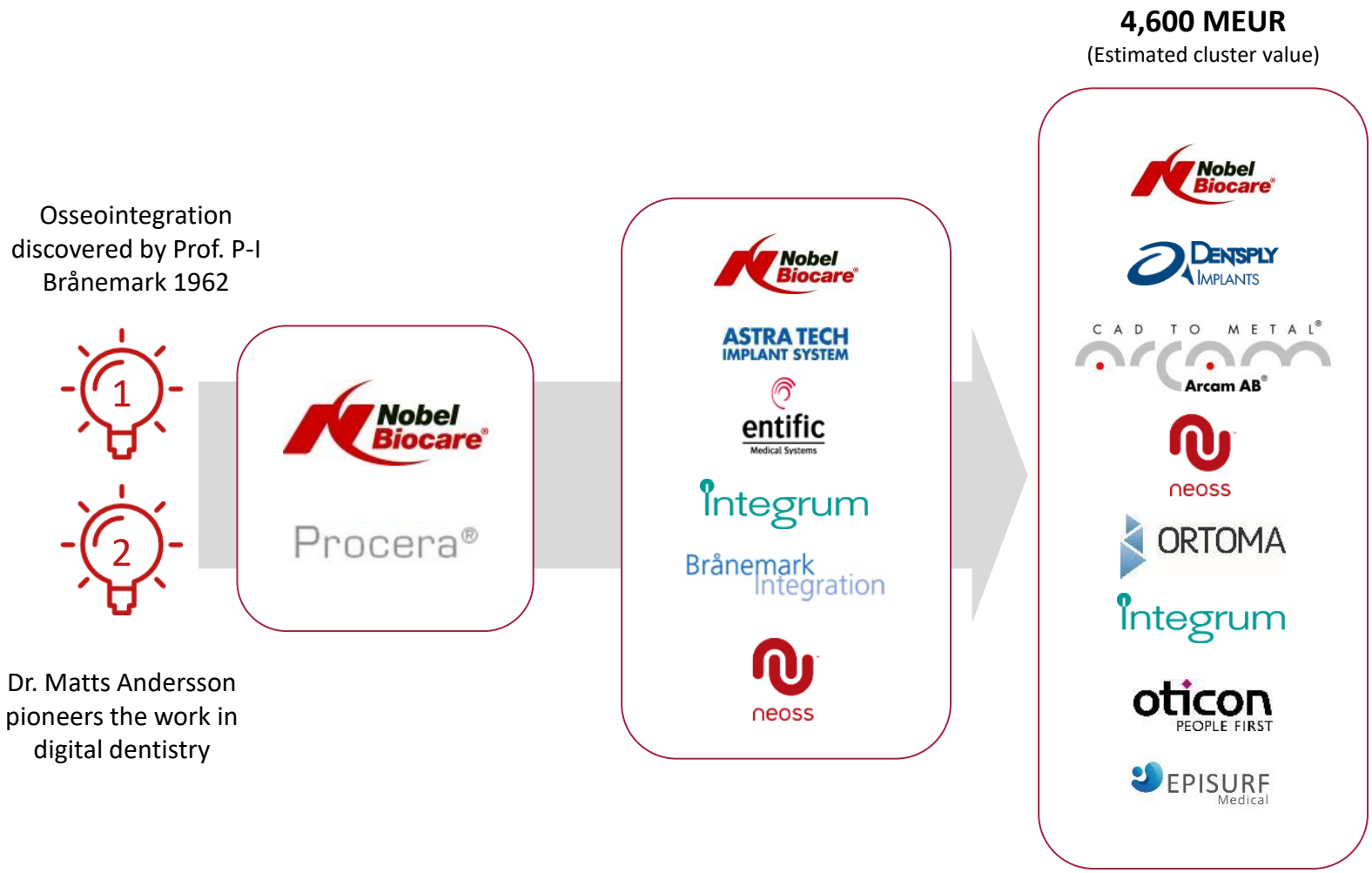
An area of several leading life science businesses

	Examples of companies and brands	Cluster value (MEUR[1])
Pharmaceuticals	AstraZeneca, carlsson research, Integrative Research Laboratories, ISOFOL, IMMUNICUM, Albireo	16,100
Personal- and wound care	MÖLNLYCKE HEALTH CARE, essity, abigo	19,200
Biomaterials and anatomical reconstructions	Nobel Biocare, oticon PEOPLE FIRST, EPISURF Medical, ELOS MEDTECH, DENTSPLY IMPLANTS, Cochlear, Integrum, CAD TO METAL Arcam AB	4,600
Regenerative medicine	Vitrolife, XVIVO PERFUSION, VERIGRAFT, cellartis, TaKaRa, CELLINK, Cline Scientific ab	1,900
Medical technology business groups	GETINGE GETINGE GROUP, AddLife, TRIOLAB, ARJOHUNTLEIGH GETINGE GROUP, LIFCO	6,700

[1]Indicative estimation based on mkt cap / EV for business related to the western Swedish region (Source: Triathlon Group)

An industrial tradition of building successful companies that generate new fast-growing spin-offs

Development of the Biomaterial industry



A development enabled by:

- Entrepreneurship
- Collaboration Triple helix
- Dynamic industry expansion

Growth and investment opportunities

Segment	Employees[4]	Change in employees 2006-2014	Growth opportunities
Biotech[1]	484	46,7%	CELLINK, Cline Scientific ab, VERIGRAFT, XVIVO PERFUSION, Vitrolife, tataabiocenter, Xylophorn
Pharmaceuticals	2,935	6,0%	athera, Albireo, swecure, IMMUNICUM, vicore pharma, EMERITI PHARMA, Cereno Scientific, lavivo, ISOFOL
Medical devices[2]	3,319	42,9%	EPISURF Medical, Integrum, Promimic, Arcam AB, UNIDENT THE POWER OF ONE, care of sweden, observe medical
Digital health and imaging technologies[3]	305	121,0%	mevia, surgicalscience, ascom, diasend, Dara, SIDEKICK, 1928 DIAGNOSTICS, mentice, Tummy Lab, ANTAROS, Medfield DIAGNOSTICS, MICROPOS MEDICAL

Source: SCB

[1]Including "Biotech medical technology", "Biotech production", "Biotech tools and supplies", "In vitro diagnostics" [2]Including "Assistive products for persons with disability", "Anesthetic and respiratory devices", "Electromechanical medical devices", "Healthcare facility products and adaptations as well as single use", "Implantable devices active and nonactive"
[3]Including "Information and communication tools (ICT), "Radiation and imaging devices diagnostic and therapeutic" [4]In 2014

West Sweden up-and-comers

Pioneering new frontiers in imaging

Started in august 2014, now 23 employees, selling for over 50 MSEK

Improving health the fun way*...seriously*

Social health game to engage through entertaining health improvement and team building

Hottest startup in Sweden

The first bioink company in the world among Sweden's hottest startup 2015

Fighting antibiotic resistance

Develops new diagnostic software to enable fast treatment decisions

Next generation adenovirus vector

Enabling off-the-shelf, cell-based cancer immune primers for personalized treatment

Mind controlled prostheses

Next generation robotic arm. The first FDA approved bone anchored prosthesis in 2015

+ many more....

Impact on research and business

- Sahlgrenska University Hospital - Northern Europe's largest hospital
  - 17,000 employees
  - 2,300 beds
- Several large hospitals in western Sweden
- Center for Clinical Studies Sweden
- Close collaboration with healthcare personnel enables commercialization of new discoveries
- Over 20 national quality registries provide a unique opportunity to monitor quality and results
- 460 applications for clinical trials 2016 (to Secretariat of Ethical Vetting regional board)

Clinical Studies Sweden

Clinical strongholds

National specialized medical care in:

- Transplantation (heart, liver, lung)
- Cardiac surgery
- Children glaucoma and cataract
- Craniofacial surgery

Access to qualified people

Industrial expertise

- A strong knowledge base of people with industrial experience from commercializing and building successful companies
- Access to a large pool of life science service providers

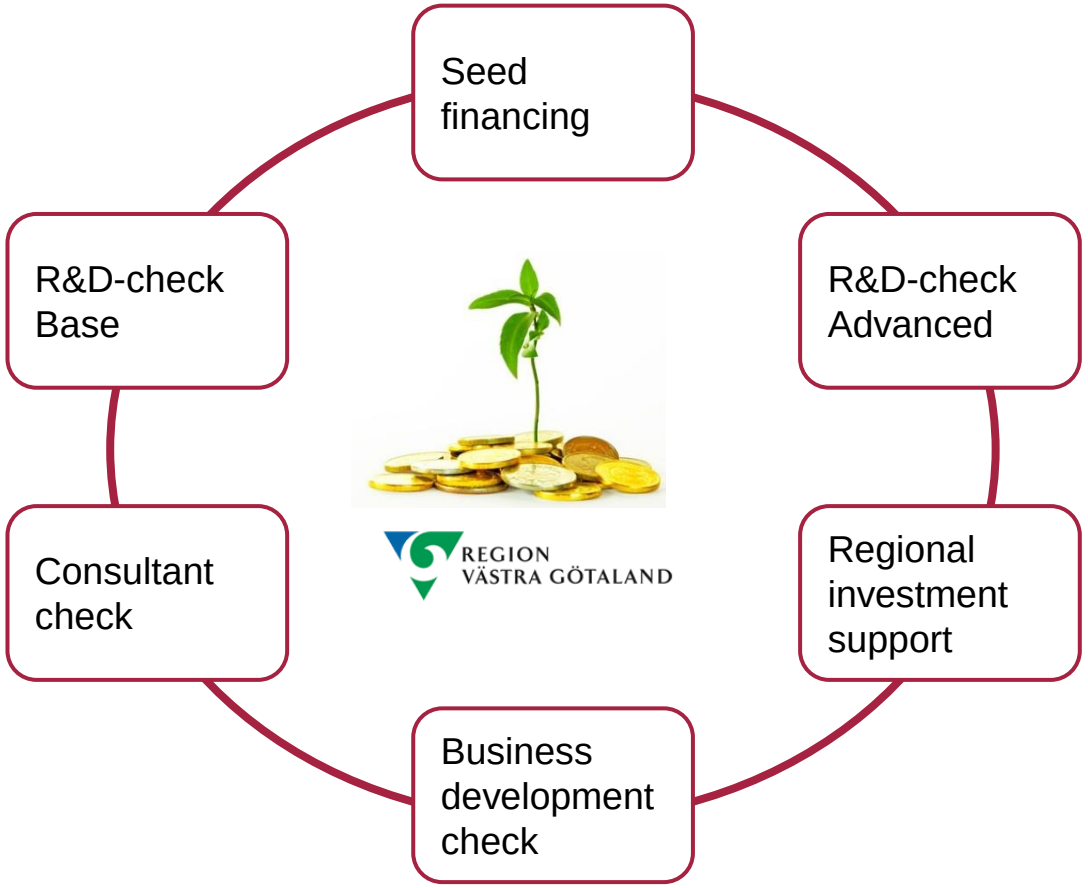
Over 80,000 students

- The region's 5 universities provide the life science industry with a well-educated workforce

A top-ranked life science entrepreneurship program

- Very good schools of entrepreneurship and innovation, e.g:
  - Chalmers School of Entrepreneurship
  - Sahlgrenska School of Innovation and Entrepreneurship
- Growth opportunities in entrepreneurship through support and financing from e.g. GU Ventures and Chalmers Ventures

Unique opportunities for early regional funding



The Region Västra Götaland has created favorable funding opportunities:

- ✓ Access to public capital
- ✓ Risk mitigation in early phases
- ✓ Leverage potential with co-financing

*Source VGR

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Strong political commitment

- Life science is a strategic focus area within the Region Västra Götaland
- Life Science Action Plan:
  Aims to strengthen the development and regional growth within life science with particular focus on actions dedicated to cooperation between academia, healthcare and industry
- Over 500 MEUR invested in life science, during the latest years
- Strategic initiatives include e.g.:
  - Sahlgrenska Science Park
  - AstraZeneca BioVentureHub

How important is innovation in health care?

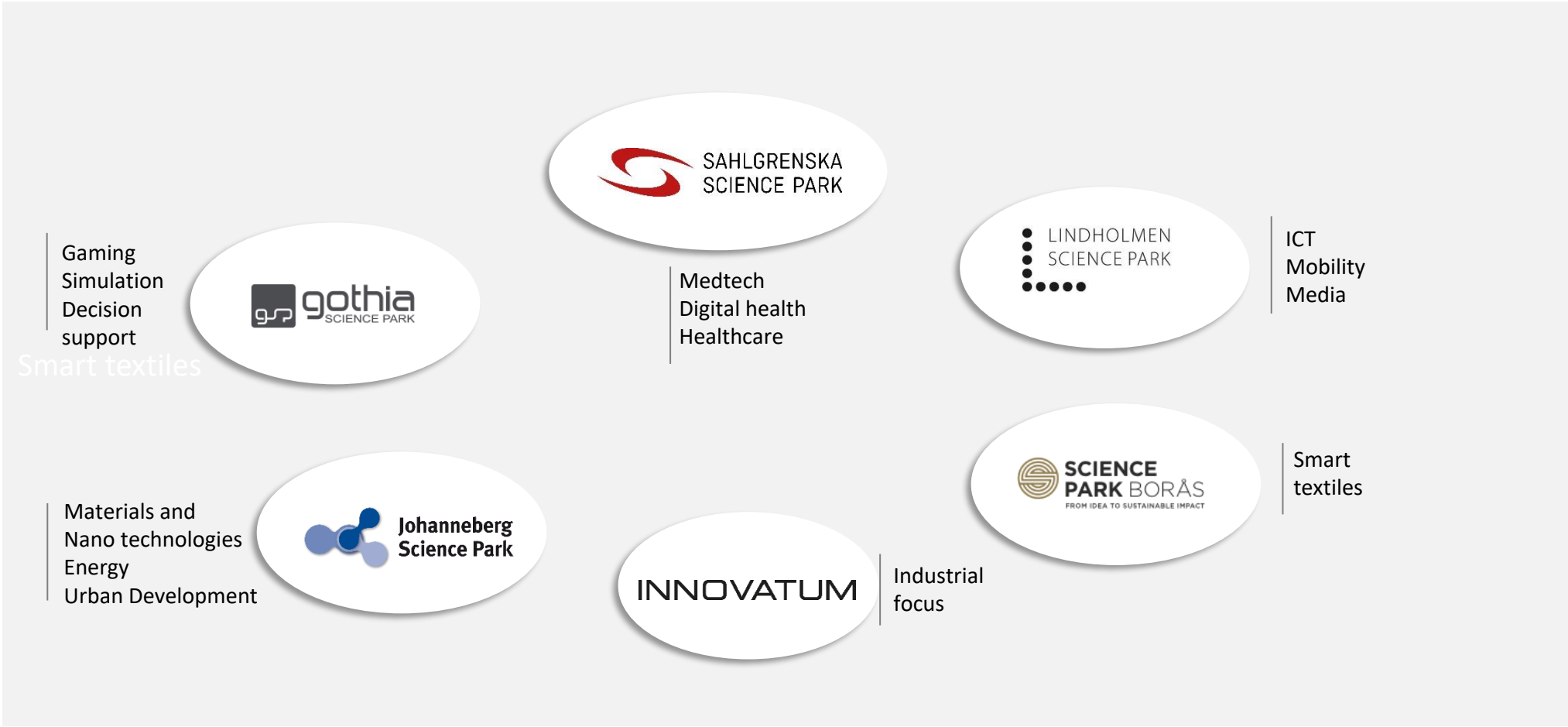
"Really important! We should be in the forefront and we all agree the life science industry is an important part"

- Johnny Magnusson, chairman of the regional council of Västra Götaland

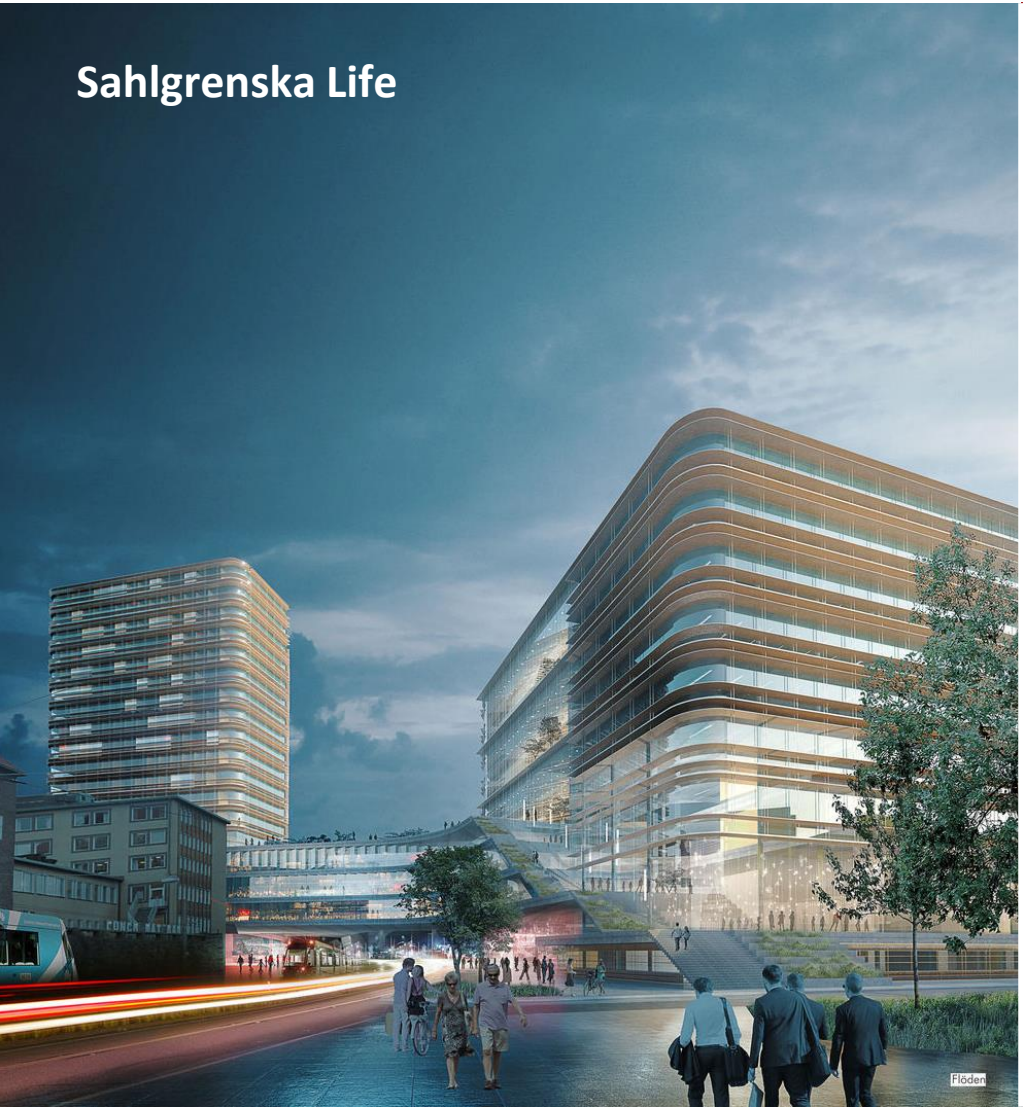
BIO VENTURE HUB

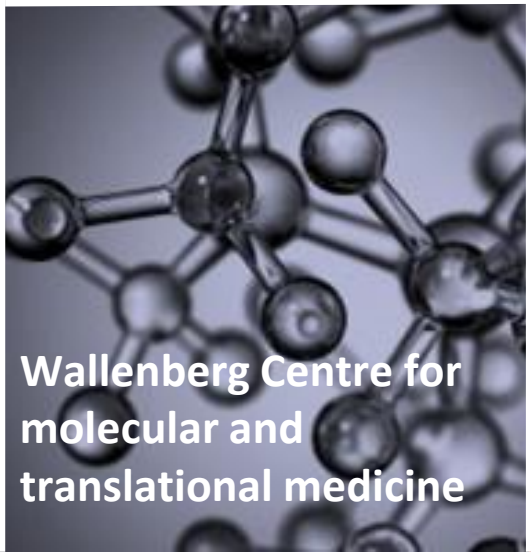
SAHLGRENSKA SCIENCE PARK

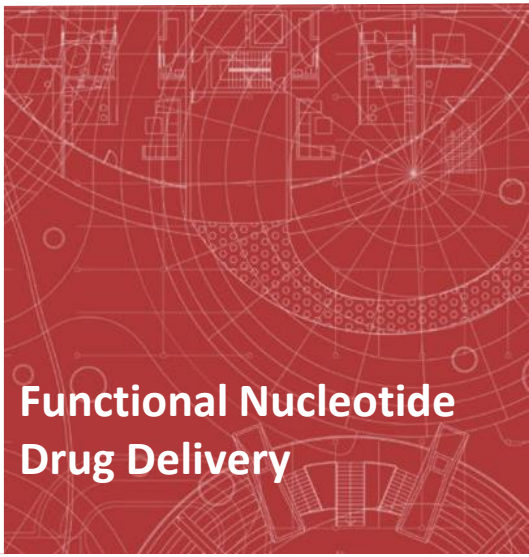
Collaborations with science parks in the region create growth opportunities for life science



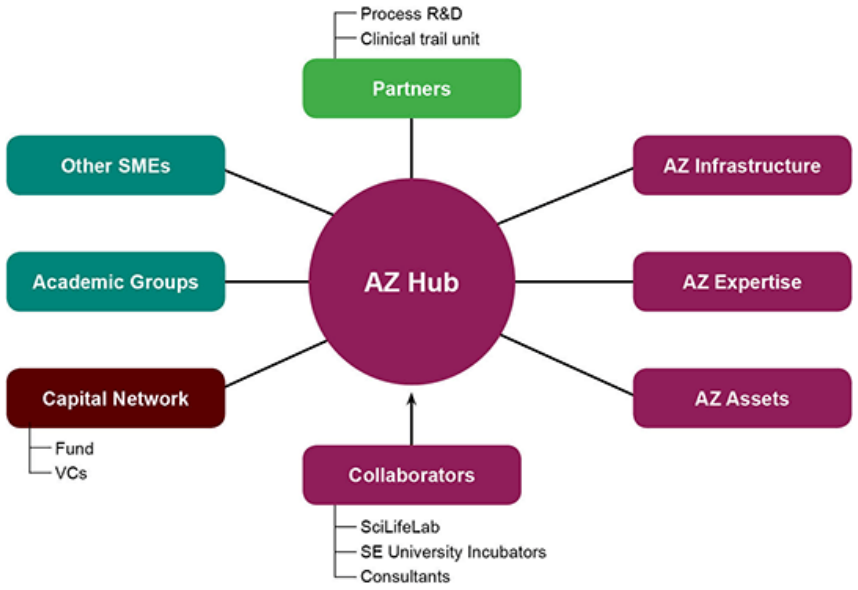
Investments for the future







AstraZeneca BioVentureHub – A catalyst for life science innovation



Sponsors

AstraZeneca · Västra Götalandsregionen · Vinnova · Carl Bennet AB · Business Region Göteborg

A unique initiative

- Innovative ecosystem to develop life science research and enterprise in West Sweden
- Established in April 2014 at AstraZeneca
- Opportunity for companies to collocate and gain access to AZ's resources
- Already 18 companies, 1 academic group, 4 external sponsors, 2 scientific partners
- Internationally recognized

"We also have the example of one of our companies that started in August [2014] and today has 19 employees with a turnover north of 50 million Swedish crowns"

- Magnus Björsne, AstraZeneca Bioventure Hub

Sahlgrenska Science Park - An independent arena dedicated to collaboration and growth

Business report
Life Science West

Arvid Carlsson Award by Sahlgrenska Science Park

eHealth Award 2018

Park Annual

12 years since start

200+ speakers

500 participants each year

Business development

Financing
Internationalisation
Digital health
Competence

Gothia Forum for clinical research

Point of contact

We facilitate collaboration between healthcare, academia and industry. Gothia Forum offers access to a wide network of physicians and clinics in Region Västra Götaland. We also act as a regional node in the nationwide scheme, Clinical Studies Sweden.

Cooperation with clinical trial units

We offer cooperation with our own clinical trial units. The *Clinical Trial Center* carries out studies in all clinical development phases from First-in-Man to Phase IV. The *Primary Care Trial Centre* carries out clinical studies in close cooperation with primary health care. The *Pediatric Clinical Research Centre* is our clinical trial unit for children and young people in close collaboration with Queen Silvia Children's Hospital. All units are part of Sahlgrenska University Hospital.

Support in all phases of clinical studies

We can assist with individual elements as well as taking respon-sibility for the full implementation of the research process. This involves assist-ance with project management, feasibility, legal advice, quality support, analyses of health economics, medical counselling and support in regional develop-ment issues.

Gothia Forum
FOR CLINICAL RESEARCH

REGION VÄSTRA GÖTALAND

Innovation Platform in Region Västra Götaland

We Help You Identify Needs for Innovation

The Innovation Platform enables innovators and businesses to create competitive solutions to meet real healthcare needs. We help you gain user insights throughout the entire product and service lifecycle.

We Connect You with the Right People

As an official part of Region Västra Götaland, we act as a key link between healthcare and innovators or businesses. Based on your needs for clinical involvement, we connect you with suitable healthcare partners.

We Guide You Through the Process

To facilitate in product and service development, we provide guidance on healthcare support processes, e.g. IT and procurement. As part of the region's healthcare sector, we ensure regulatory compliance during collaboration with healthcare partners.

REGION VÄSTRA GÖTALAND

MedTech West – Center for medtech research in Western Sweden

We offer companies

- Access to new and frontline technologies and research competence from Chalmers Technical University, University of Borås and Gothenburg University
- Access to medical expertise from researchers at the Sahlgrenska Academy
- Research environments close to clinics and patients, and at universities
- Access to project funding and help when applying
- Work places on the Sahlgrenska University Hospital Campus for Adjunct Professors, Industrial PhDs and Master students
- Supervision of PhD and Master students' projects

Your gateway to competence, technologies and research partnerships

MedTech West is a collaborative platform, network and unique innovative triple-helix centre for biomedical engineering research, development and education in Western Sweden.

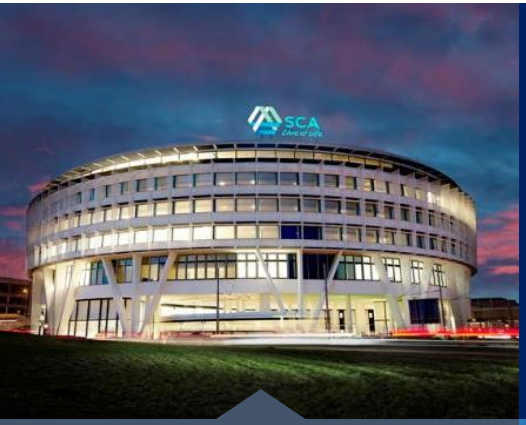
We will help you to initiate and facilitate multidisciplinary research collaborations between your company, relevant health care staff, and academic expertise in both the medical and technological field.

MedTech West

SHIFTING CLINICAL FRONTIERS
WITH BIOMEDICAL ENGINEERING

CHALMERS GÖTEBORGS UNIVERSITET HÖGSKOLAN I BORÅS VÄSTRA GÖTALANDSREGIONEN SAHLGRENSKA UNIVERSITETSSJUKHUSET

Large companies and organizations choose the Gothenburg region



Getinge

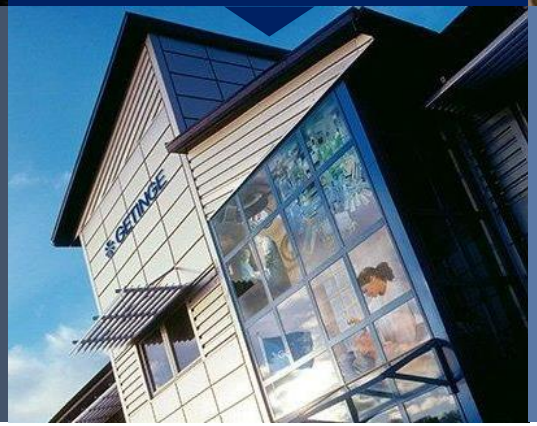
- HQ moved to Gothenburg in 2014
- Sees advantages in proximity to Sahlgrenska and Chalmers

RISE

- Relocation of HQ from Stockholm to Gothenburg in 2016
- Motivation: West Sweden is one of Sweden's most important industry and research clusters

Essity

- 25.000 m2 Innovation Centre opened in 2016
- BSN Medical recently bought



AstraZeneca

- 1 of 3 global R&D centers with over 2.500 employees
- Approx. SEK 1,3 billion invested since 2010

Digital health – A revolutionary era in life science with high growth potential and ability to create value

West Sweden well-equipped for the digital health era

Vitalis

Scandinavia's leading eHealth event in Gothenburg attracting 3,600+ participants

Digital health program

Sahlgrenska Science Park offers a customized program to develop and commercialize innovations in digital health

Gothia Science Park

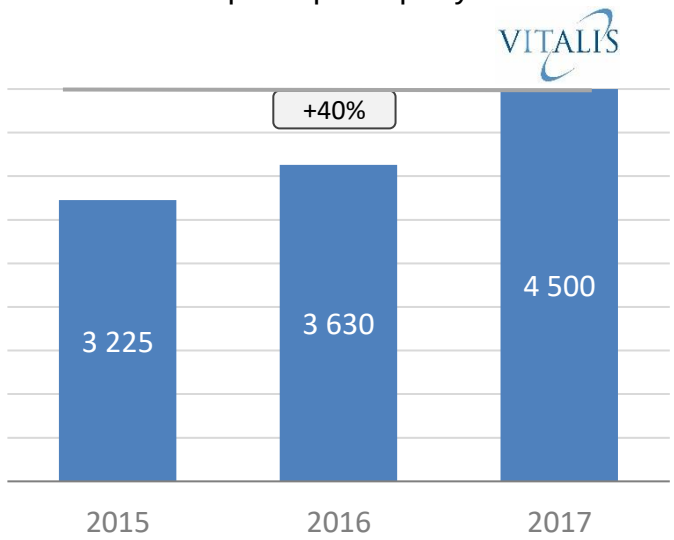
A pioneer within gaming and serious games. Ranked among top-5 Swedish incubators

HealthTech Nordic

Joint Nordic project aiming to accelerate the success and international scaling of startups
Largest Nordic community

Scandinavia's leading eHealth event

Number of Vitalis participants per year



Source: Svenska Mässan

1/10 Sahlgrenska Science Park companies are working in digital health, even more within the incubator (50 %) and on the waiting list it is over 75 %!

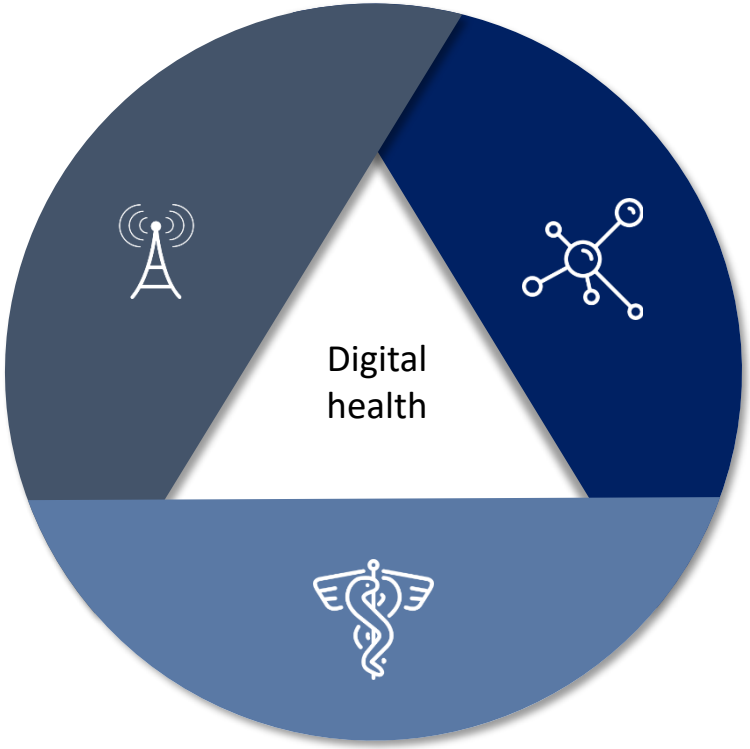
Unique position to enable rapid growth in digital health

Information & communication technology (ICT)

Lindholmen Science Park, Volvo, Swedish ICT Viktoria, Ericsson, Chalmers, Altran, Autoliv, RUAG, Combitech, Saab, Volvo, ascom, Evry, Johanneberg Science Park, University of Skövde, semcon, Cerner

Healthcare

Sahlgrenska Science Park, Göteborgs Universitet, Västra Götalandsregionen Sahlgrenska Universitetssjukhuset, Västra Götalandsregionen Skaraborgs Sjukhus, Region Halland Hallands sjukhus, Innovationsplattformen, Gothia Forum för klinisk forskning, Västra Götalandsregionen NU-sjukvården, Kliniska Studier Sverige, Capio, MedTech West Shifting clinical frontiers with biomedical engineering, Registercentrum Västra Götaland, Regionalt Cancercentrum Väst



Life Science

AstraZeneca, ELOS Medtech, Tummy Lab, Dara Labs, XVIVO Perfusion, mevia, carlsson research, Cochlear, 1928 Diabetes Science, essity, Integrum, EPISURF Medical, Mölnlycke Health Care, Sidekick, Albireo, Antaros Medical, abigo, Vitrolife, Nobel Biocare, appva, Immunicum, Getinge Group, Triolab, Dentsply Implants

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Life Science West

A competitive growth opportunity

1 have a strong pipeline of viable opportunities

2 have a demonstrated commitment to life science

5+ BSEK invested

3 have the industrial capacity & knowledge to get things done

This presentation has been developed by Sahlgrenska Science Park in collaboration with Triathlon Group and ISEA

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About Sahlgrenska Science Park

Sahlgrenska Science Park aims at strengthening life science business in West Sweden. While supporting new companies to emerge, we also create the right conditions for established companies to develop and grow more rapidly. Our mission in weatern Sweden is to actively contribute to: establishment of new and development of existing companies, innovation and competiveness in the life science industry and collaboration between academia, healthcare and business.

Sahlgrenska Science Park is assigned by Business Region Göteborg, the Region Västra Götaland, the University of Gothenburg, Chalmers University of Technology and the city of Mölndal.

About Catalyser

Sahlgrenska Science Park manages the initiative Catalyser together with Business Region Göteborg. Members of the active liaison group include the Region Västra Götlaland with Gothia Forum and Innovationsplattformen as well as MedTech West and AstraZeneca Bioventure Hub. The goal is to be a springboard for new products and services relevant for the healthcare and individuals.

This Life Science West analysis in presentation format is a Catalyser report, financed with support from the EU and the Region Västra Götaland.

About Triathlon Group / ISEA

Triathlon Group is a professional service firm and a leading actor in Performance Improvement. ISEA – Industry Senior Advisors, is a part of Triathlon Group. ISEA is an expert organization represented by about 30 senior business advisors all with long experience from executive positions in a wide range of industries.

SAHLGRENSKA SCIENCE PARK

triathlon

ISEA

September 2017 – 2nd edition

European Innovation Scoreboard 2016 methodology

Evaluated areas	Description of each dimension	Measured
Human resources	1.1.1 New doctorate graduates	New doctorate graduates per 1000 population aged 25-34
	1.1.2 Population completed tertiary education	Percentage population aged 30-34 having completed tertiary education
	1.1.3 Youth with upper secondary level education	Percentage youth aged 20-24 having attained at least upper secondary level education
Open, excellent and attractive research systems	1.2.1 International scientific co-publications	International scientific co-publications per million population
	1.2.2 Scientific publications among top 10% most cited	Scientific publications among the top 10% most cited publications worldwide as % of total scientific publications of the country
	1.2.3 Non-EU doctorate students	Non-EU doctorate students as a % of all doctorate students
Finance and support	1.3.1 Public R&D expenditure	Public R&D expenditures as % of GDP
	1.3.2 Venture capital	Venture capital investments as % of GDP
Firm investments	2.1.1 Business R&D expenditure	Business R&D expenditures as % of GDP
	2.1.2 Non-R&D innovation expenditure	Non-R&D innovation expenditures as % of turnover
Linkages & entrepreneurship	2.2.1 SMEs innovating in-house	SMEs innovating in-house as % of SMEs
	2.2.2 Innovative SMEs collaborating with others	Innovative SMEs collaborating with others as % of SMEs
	2.2.3 Public-private co-publications	Public-private co-publications per million population
Intellectual Assets	2.3.1 PCT patent applications	PCT patents applications per billion GDP (in PPS€)
	2.3.2 PCT patent applications in societal challenges	PCT patent applications in societal challenges per billion GDP (in PPS€)
	2.3.3 Community trademarks	Community trademarks per billion GDP (in PPS€)
	2.3.4 Community designs	Community designs per billion GDP (in PPS€)
Innovators	3.1.1 SMEs introducing product or process innovations	SMEs introducing product or process innovations as % of SMEs
	3.1.2 SMEs introducing marketing/organisational innovations	SMEs introducing marketing or organisational innovations as % of SMEs
	3.1.3 Employment in fast-growing enterprises	Employment in fast-growing enterprises (average innovativeness scores)
Economic effects	3.2.1 Employment in knowledge-intensive activities	Employment in knowledge-intensive activities as % of total employment
	3.2.2 Medium and high tech product exports	Medium and high-tech product exports as % of total product exports
	3.2.3 Knowledge-intensive services exports	Knowledge-intensive services exports as % total service exports
	3.2.4 Sales of new to market and new to firm innovations	Sales of new to market and new to firm innovations as % of turnover
	3.2.5 Licence and patent revenues from abroad	License and patent revenues from abroad as % of GDP

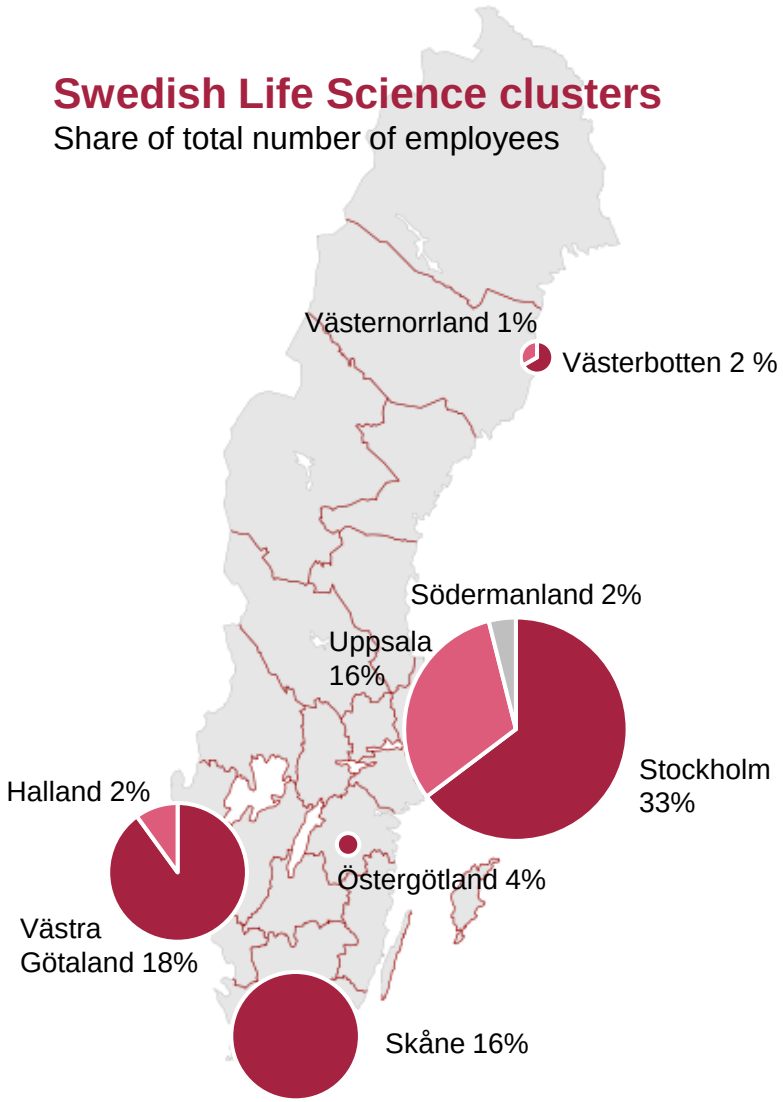
European Innovation Scoreboard 2016 ranking

Dimension\Country	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE	UK
1.1.1 New doctorate graduates	1,8	1,4	1,7	3,2	2,8	1,1	2,1	1,0	1,8	1,7	1,5	1,5	0,4	0,9	1,1	0,8	0,9	0,4	2,2	2,0	0,6	3,1	1,4	3,9	2,5	2,9	2,9	2,9
1.1.2 Population completed tertiary education	43,1	32,0	29,5	46,7	31,8	45,2	52,3	39,4	41,1	44,9	31,7	24,9	54,2	41,0	56,4	50,5	34,9	27,0	46,4	39,1	43,2	31,3	25,5	42,6	27,9	45,3	50,0	47,7
1.1.3 Youth with upper secondary level education	84,3	85,2	90,7	73,4	77,4	82,6	92,8	89,5	67,9	87,3	95,5	80,0	94,2	86,2	91,3	68,6	84,3	77,4	79,8	88,7	90,9	75,9	79,9	90,1	91,2	86,6	87,7	85,4
1.2.1 International scientific co-publications	1351,5	173,4	660,9	2066,7	729,1	907,7	1080,2	549,1	645,2	651,2	409,7	551,6	998,8	221,0	355,3	1598,7	413,8	517,1	1449,6	1225,5	251,2	794,8	172,8	1068,9	383,1	1485,6	1774,1	1059,4
1.2.2 Scientific publications among top 10% most cited	12,9	3,5	7,3	13,3	11,5	7,3	11,7	9,0	9,2	11,3	4,5	10,1	9,5	6,3	4,5	11,7	6,5	7,9	14,5	11,7	5,0	9,0	4,7	7,4	5,5	10,9	11,7	14,2
1.2.3 Non-EU doctorate students	25,0	3,0	5,2	15,2	7,4	4,4	14,3	.	12,0	33,6	3,0	10,1	2,2	2,9	1,4	23,5	3,8	2,1	19,3	9,3	1,3	13,9	2,1	5,7	1,8	12,8	24,5	30,0
1.3.1 Public R&D expenditure	0,70	0,27	0,87	1,08	0,91	0,80	0,40	0,54	0,58	0,76	0,41	0,54	0,32	0,45	0,72	0,59	0,38	0,33	0,87	0,86	0,50	0,66	0,22	0,54	0,56	1,00	1,04	0,57
1.3.2 Venture capital	0,072	0,015	0,013	0,059	0,049	0,136	0,086	0,001	0,043	0,083	0,054	0,022	0,071	0,098	0,081	0,047	0,055	0,000	0,096	0,051	0,029	0,069	0,013	0,007	0,008	0,107	0,081	0,103
2.1.1 Business R&D expenditure	1,76	0,52	1,12	1,95	1,95	0,63	1,11	0,28	0,65	1,46	0,38	0,72	0,08	0,25	0,30	0,66	0,98	0,50	1,11	2,11	0,44	0,59	0,16	1,85	0,33	2,15	2,12	1,09
2.1.2 Non-R&D innovation expenditure	0,60	0,49	0,73	0,37	1,35	1,55	0,39	0,87	0,31	0,37	0,95	0,57	0,58	1,38	1,10	0,14	0,70	1,20	0,18	0,46	1,04	0,60	0,30	0,48	0,79	0,37	0,79	0,30
2.2.1 SMEs innovating in-house	37,4	11,6	27,3	30,4	38,6	27,4	38,8	26,6	15,5	28,8	19,3	36,6	27,9	13,8	13,8	37,2	10,6	29,0	38,9	31,8	10,1	33,8	4,7	25,8	15,0	36,5	34,4	17,6
2.2.2 Innovative SMEs collaborating with others	22,9	2,3	11,6	17,3	11,5	15,8	12,0	12,4	6,0	11,5	7,5	4,8	15,3	4,5	7,5	8,9	5,6	5,1	14,5	15,3	3,9	6,8	1,2	14,6	6,7	14,3	12,7	22,4
2.2.3 Public-private co-publications	68,5	2,1	13,8	143,5	53,0	6,8	34,3	9,9	16,3	39,6	10,6	18,0	7,0	0,5	1,7	40,0	23,2	2,4	85,6	59,0	3,7	7,1	2,6	66,0	8,1	69,9	107,8	50,2
2.3.1 PCT patent applications	3,17	0,48	0,91	6,24	6,26	1,00	2,40	0,55	1,48	3,77	0,54	1,96	0,63	0,82	0,60	1,39	1,19	0,62	5,57	5,06	0,51	0,66	0,17	2,73	0,65	8,17	7,99	3,30
2.3.2 PCT patent applications in societal challenges	0,77	0,08	0,24	2,05	1,47	0,20	0,65	0,13	0,47	0,92	0,20	0,47	0,06	0,28	0,12	0,68	0,29	0,28	1,68	1,07	0,17	0,23	0,04	0,59	0,09	1,61	1,88	0,80
2.3.3 Community trademarks	5,87	7,07	3,83	8,35	6,88	11,56	6,03	3,66	7,81	3,92	1,87	5,96	25,84	4,46	3,99	29,88	2,94	38,63	6,97	9,51	4,71	5,83	2,02	6,82	2,99	7,22	8,26	6,21
2.3.4 Community designs	2,90	9,87	3,10	8,03	6,52	3,08	1,59	0,98	2,97	3,06	0,90	5,93	1,98	2,26	1,29	15,36	0,87	24,94	3,41	7,44	6,02	4,38	0,59	3,37	1,51	5,44	4,92	3,13
3.1.1 SMEs introducing product or process innovations	42,3	13,6	30,9	33,9	42,4	33,0	35,7	29,6	18,4	32,4	21,6	38,8	29,2	15,7	16,1	43,1	12,8	32,0	40,9	35,7	13,1	38,3	5,2	28,7	17,7	40,1	39,9	27,8
3.1.2 SMEs introducing marketing/organisational innovations	36,7	17,6	30,2	40,4	46,2	31,2	49,6	45,0	22,6	41,2	30,4	44,7	35,6	23,1	25,2	52,1	25,3	43,3	35,2	44,7	14,2	42,8	18,1	35,9	26,2	37,0	38,2	39,1
3.1.3 Employment in fast-growing enterprises	16,9	16,5	18,4	20,1	21,0	16,0	23,4	15,2	16,2	21,7	11,6	16,3	23,5	12,3	11,6	17,7	19,2	20,0	16,9	19,4	18,2	14,8	16,9	16,0	20,9	18,4	19,6	18,7
3.2.1 Employment in knowledge-intensive activities	15,4	9,4	12,7	15,4	14,6	11,4	20,2	12,2	12,3	14,0	10,7	13,6	17,2	10,9	8,8	27,5	12,3	17,9	17,3	14,7	9,9	10,3	6,9	14,0	9,9	15,8	17,9	18,0
3.2.2 Medium and high tech product exports	48,50	31,22	63,99	47,75	67,43	42,65	52,06	22,67	47,71	58,54	37,91	52,28	42,97	32,09	34,35	52,08	69,49	56,68	47,96	57,43	49,56	36,65	52,79	55,97	66,55	44,64	54,74	54,75
3.2.3 Knowledge-intensive services exports	64,6	27,1	41,1	75,1	69,6	43,9	88,5	51,8	42,2	58,6	17,8	48,5	69,0	49,8	18,3	88,4	38,3	25,9	65,3	43,2	36,7	43,2	44,7	32,9	35,3	50,6	65,0	77,9
3.2.4 Sales of new to market and new to firm innovations	11,2	4,2	13,4	22,1	13,0	7,8	9,3	11,8	14,3	13,5	10,0	11,0	11,4	5,0	5,5	7,9	9,7	10,2	11,8	9,8	6,3	12,4	3,7	10,5	19,6	11,1	6,1	14,1
3.2.5 Licence and patent revenues from abroad	0,63	0,06	0,24	0,71	0,36	0,04	2,53	0,05	0,10	0,50	0,04	0,16	0,01	0,02	0,05	1,66	1,51	3,10	2,24	0,25	0,06	0,04	0,07	0,14	0,03	1,38	1,59	0,60

The Swedish Life Science sector

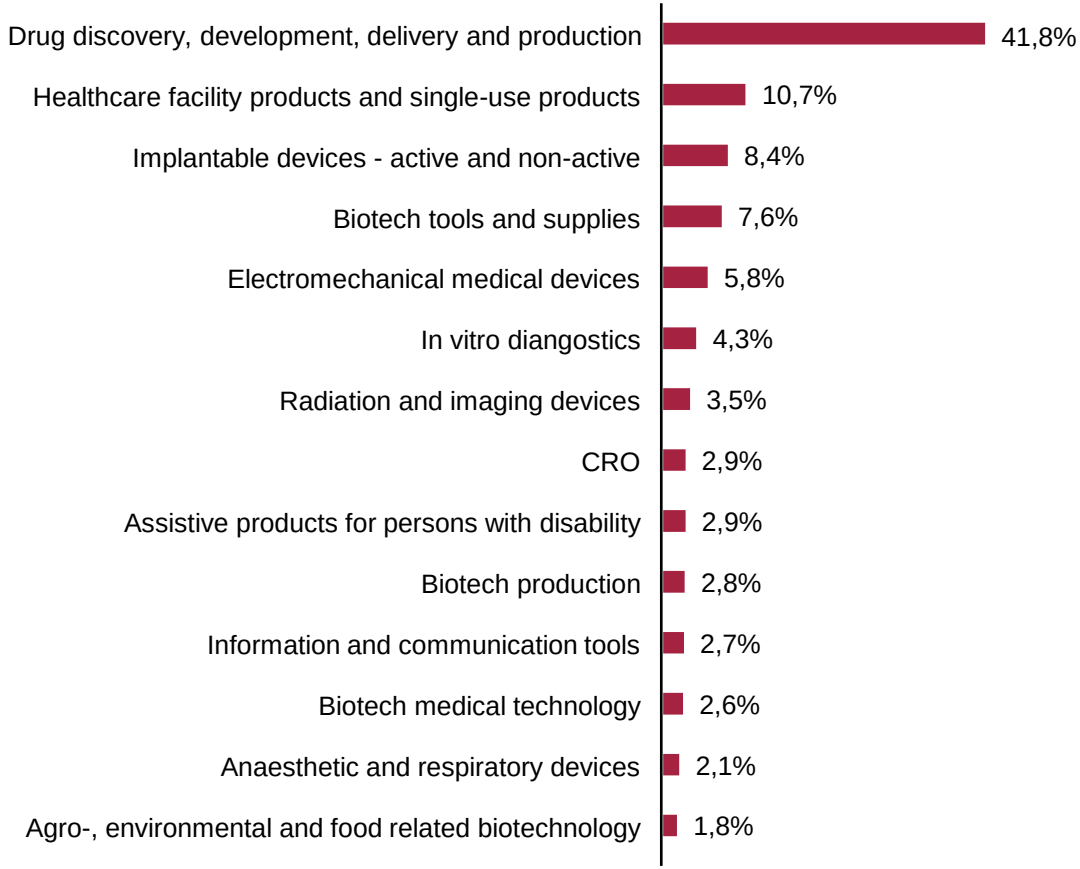
Swedish Life Science clusters

Share of total number of employees



Life Sciences business segments

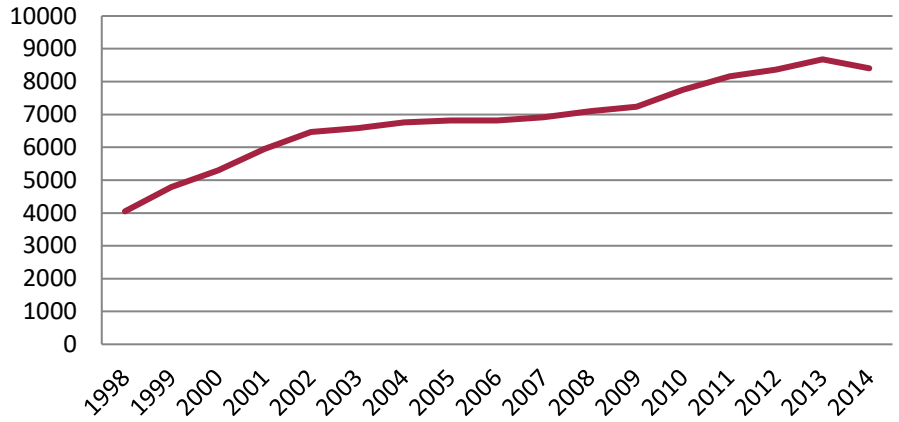
Proportion of number of employess (excluding sales and marketing)



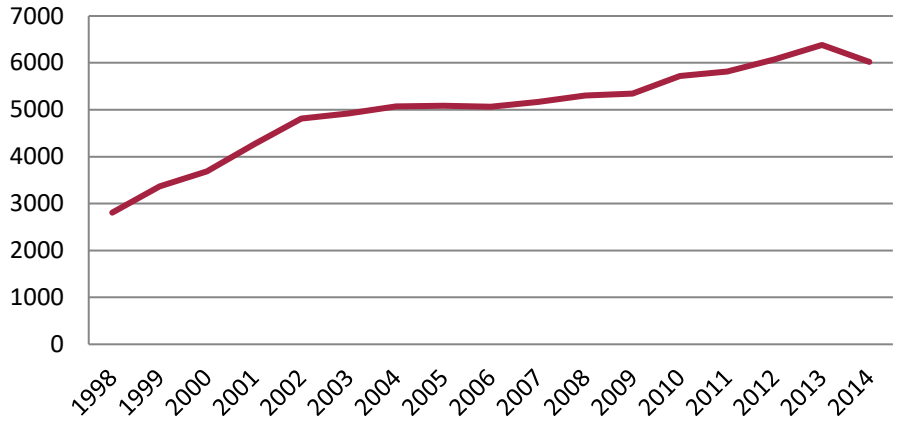
Source: Vinnova (2014) Global trends with local effects. The Swedish Life Science Industry 1998-2012

West Sweden Life Science – Key figures

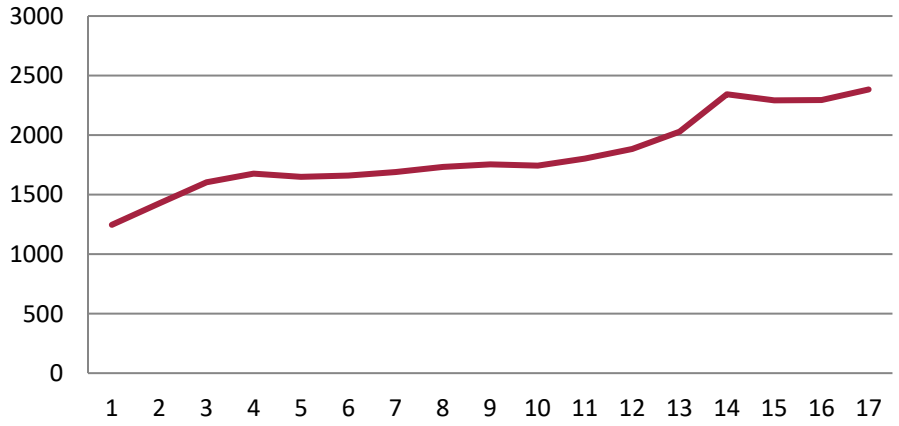
Total number of employees within Life Science



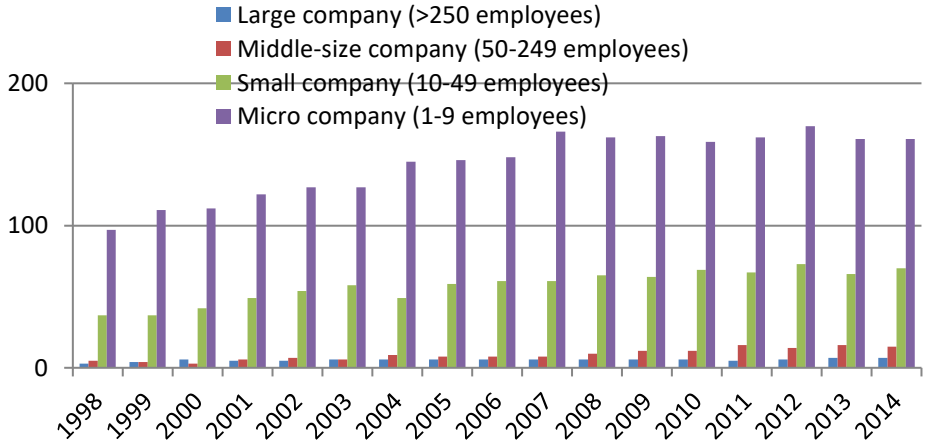
Total number of employees within Life Science R&D, production and consultancy



Total number of employees within marketing and sales companies

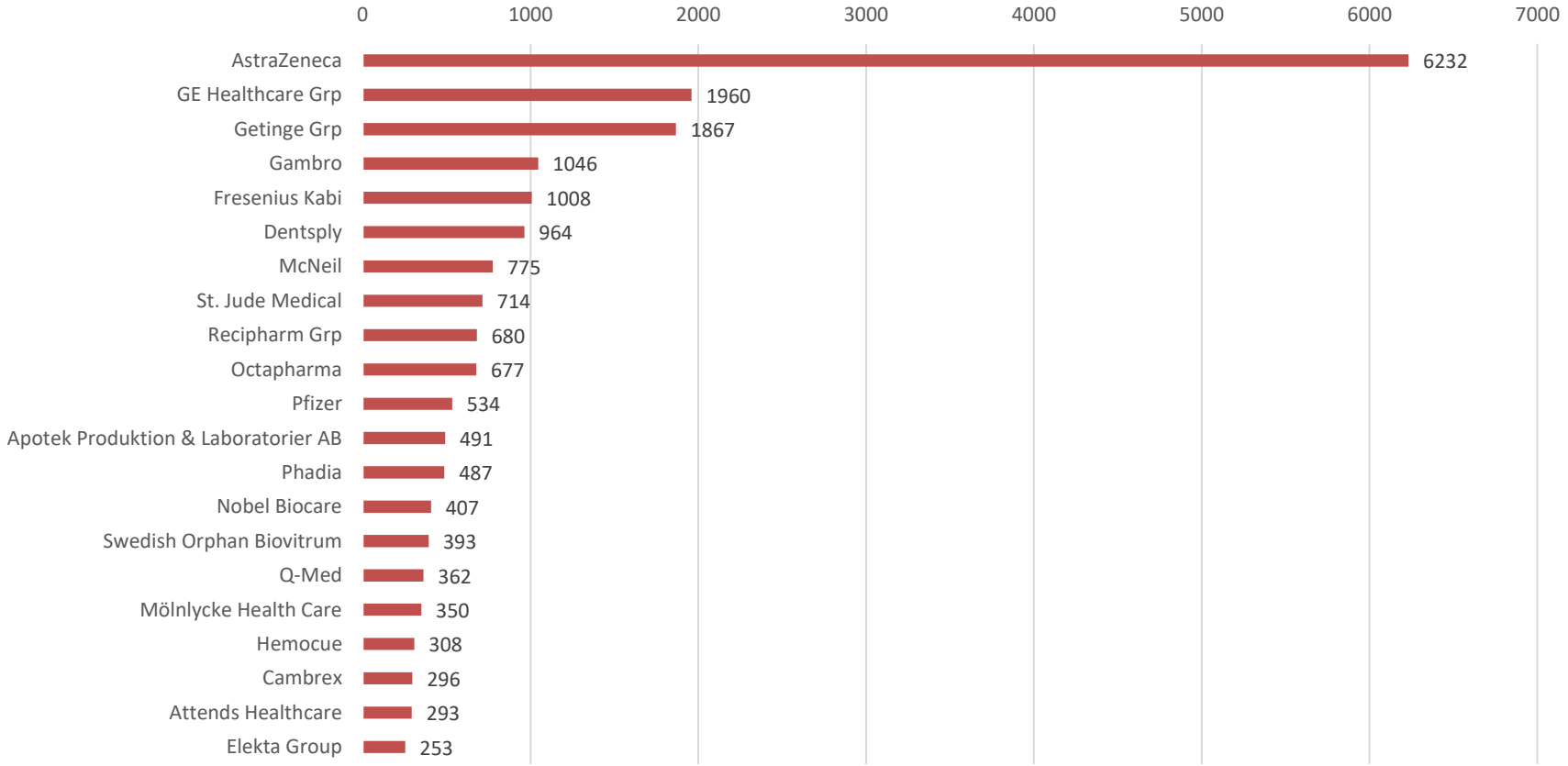


Number of companies



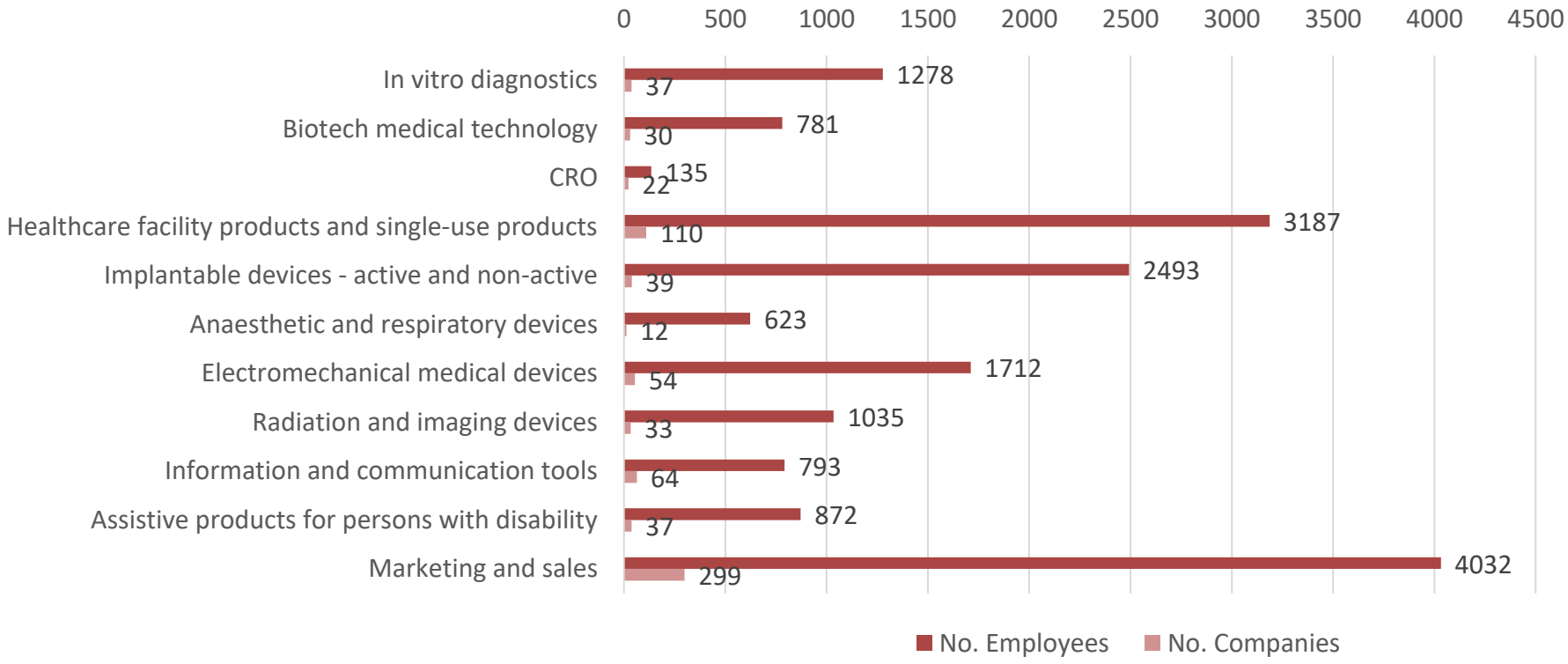
Source: Tillväxtanalys (PM 2016:04) Tillväxten i svensk life science-industri 2012–14

Number of employees for each corporate groups with more than 250 employees in Sweden in 2012



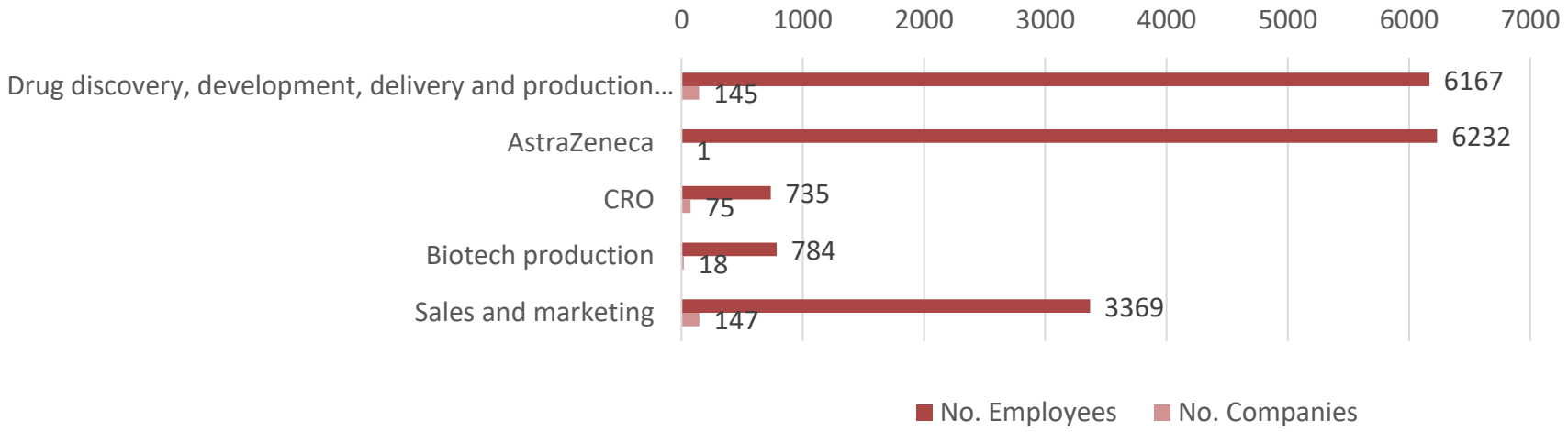
Source: Vinnova (2014) Global trends with local effects. The Swedish Life Science Industry 1998-2012

The size of the medical technology sector in Sweden 2012



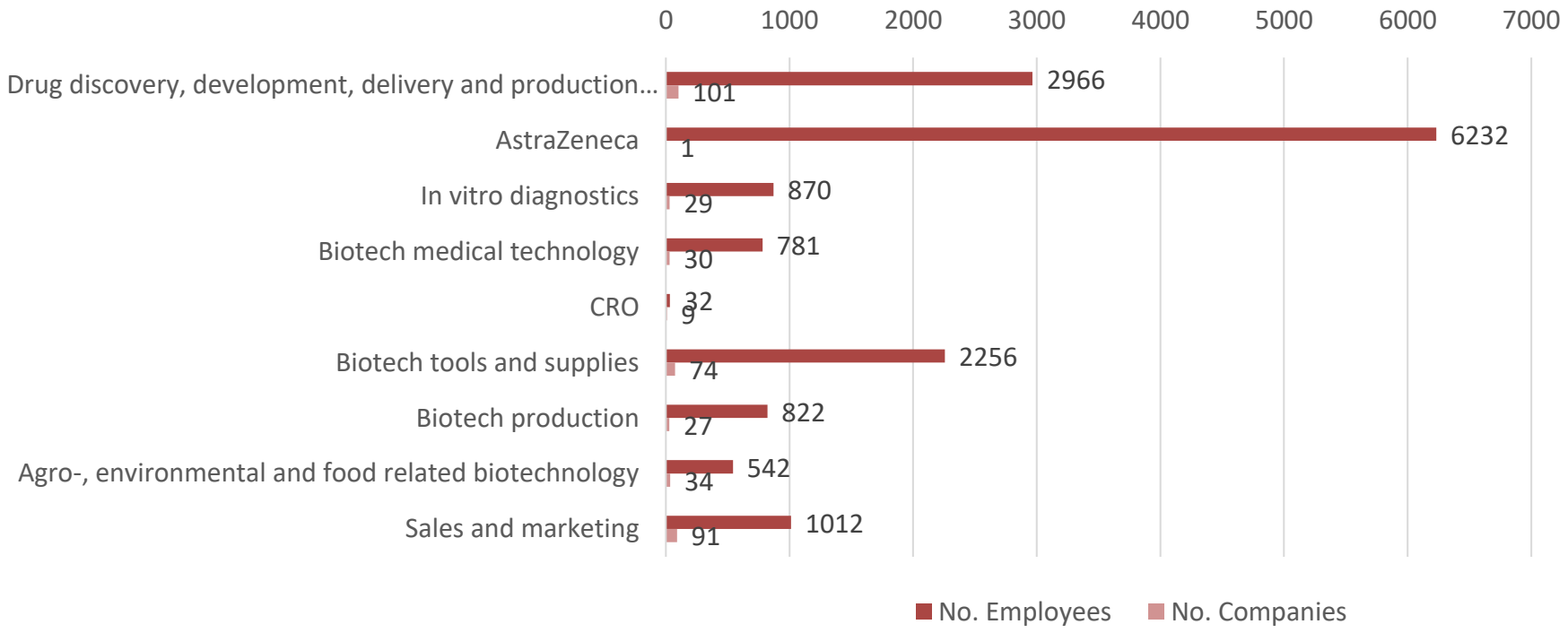
Source: Vinnova (2014) Global trends with local effects. The Swedish Life Science Industry 1998-2012

The size of the pharmaceutical industry in Sweden 2012



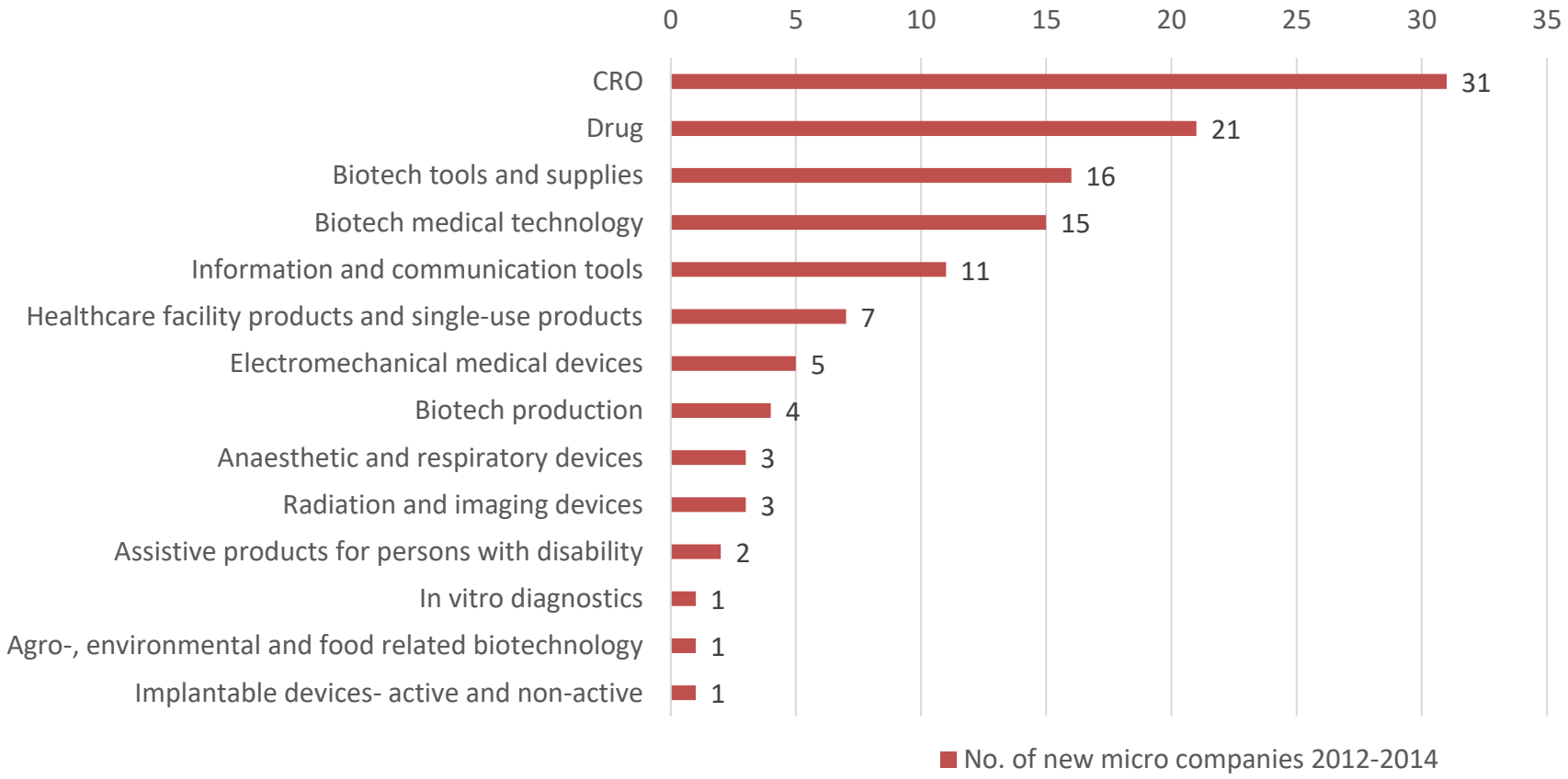
Source: Vinnova (2014) Global trends with local effects. The Swedish Life Science Industry 1998-2012

The size of the biotechnology industry in Sweden 2012



Source: Vinnova (2014) Global trends with local effects. The Swedish Life Science Industry 1998-2012

Number of new micro companies 2012-2014



Source: Tillväxtanalys (PM 2016:04) Tillväxten i svensk life science-industri 2012–14