

# Life Science

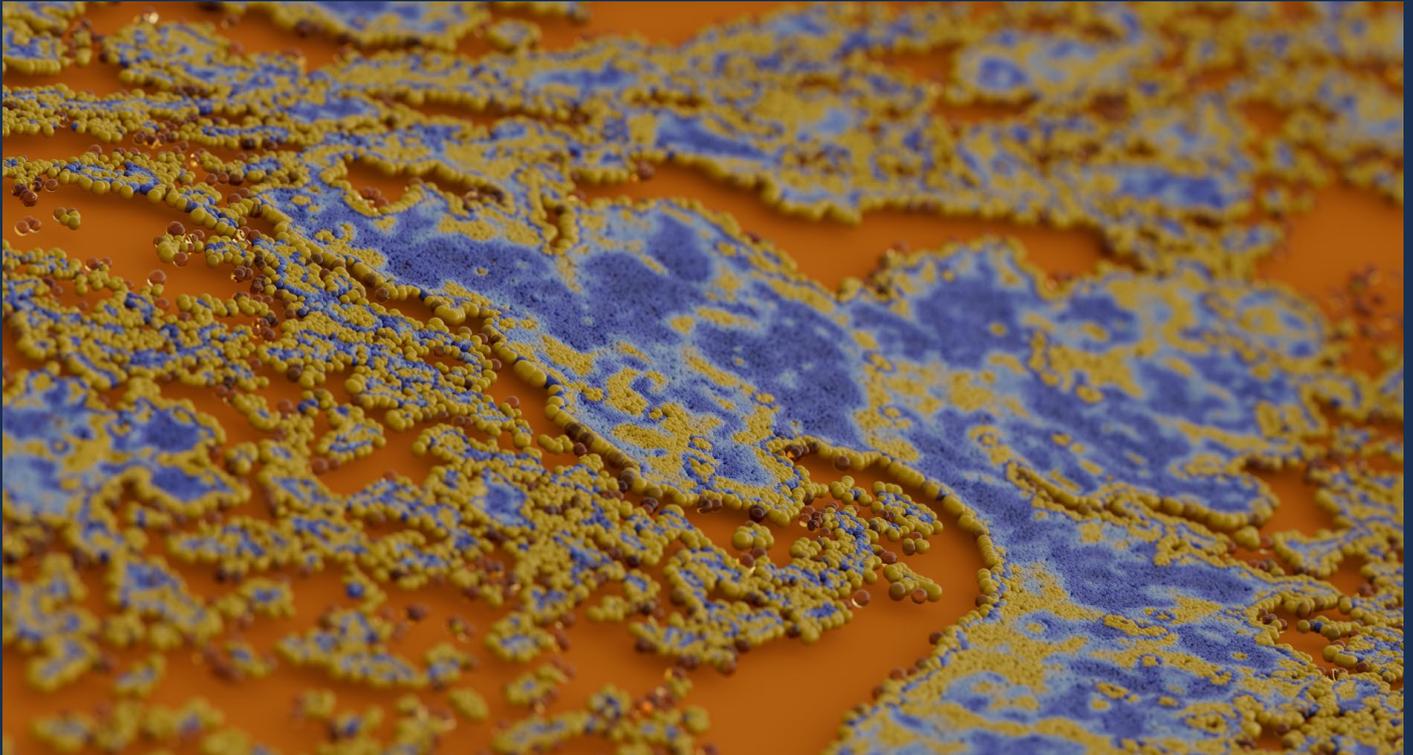


Image: Swedish Insitute

## Transforming global health with innovation

The life science sector is combining new technological approaches and modelling with traditional research and development to advance solutions, medications, and infrastructure to improve the wellbeing of people globally.

With changing social behaviours and population demographics, local and global healthcare systems need to adapt to new and evolving challenges as outlined in Sustainable Development Goal 3. Companies, governments, and research institutions must work together to develop systems that meet both basic and complex healthcare needs for everyone, at every stage of life.

Sweden is at the forefront of digital health, precision medicine, and pharmaceutical manufacturing, underpinned by a robust academic and research sector and advanced technology. With 70+ incubators, testbeds, and science parks, Sweden is the ideal partner to advance life science innovation.



Photo: Melker Dahlstrand / imagebank.sweden.se



## Sweden's Life Science sector

Sweden's thriving and innovative life science industry unifies international partnerships and collaborations to stimulate applied research and development in digital solutions, new medications and treatments, and healthcare infrastructure to improve the lives of many.

Robust and reliable healthcare systems and treatments that help people live safe and healthy lives are at the core of our society.

- Sweden has five major life science clusters located in Umeå, Gothenburg, Lund, Linköping, and Stockholm/Uppsala
- Sweden's life science sector is made up of nearly 4,000 organisations, many using deep-tech tools to advance research and innovation
- Sweden's life science sector is the 2nd most competitive health biotech ecosystem in the world
- Large scale research facilities in Sweden include the MAX IV laboratory and the European Spallation Source (ESS) at Lund University, InfraLife, Biobank Sweden, TestaCenter, Vecura Karolinska, CCRM Nordic, and SciLifeLab
- As a leading digitalised healthcare nation, Sweden has robust health data resources, which include vast biobanks and long-term population studies which allows researchers to study health trends over time and plan epidemiological and precision medicine research
- Sweden is a frontrunner in Advanced Therapy Medicinal Product (ATMP) research and development with a world leading biotechnology sector



# Life Science sector actors

Sweden is home to forward-thinking life science companies, leading research institutes and universities, and advanced technology which combine to apply data-driven research to bring new medtech, biotech, and pharmaceutical solutions to market.

A unique quadruple helix approach means collaborations between corporations, academia, government, and civil society lay the foundation for global success. Sweden is one of a few countries that gives academic researchers IP ownership, accelerating commercialisation opportunities stemming from research advancements.

Below are a few key players in Sweden's life science sector, read more about them and other companies in the comprehensive Company Directory found on [Sharing Sweden](#).



Photo: Naina HeLén Jáma / imagebank.sweden.se



Photo: Unsplash



Photo: Unsplash

## AstraZeneca

Global pharmaceutical company focused on treatments for chronic and rare diseases, vaccines and immune therapies, and BioPharmaceuticals.

## BioArctic

Research-based biopharma company focusing on innovative treatments that can delay or stop the progression of neurodegenerative diseases.

## BioBank Sweden

A sustainable national biobank infrastructure enabling healthcare, academia, industry, and patient organisations to use for healthcare research.



Photo: Unsplash

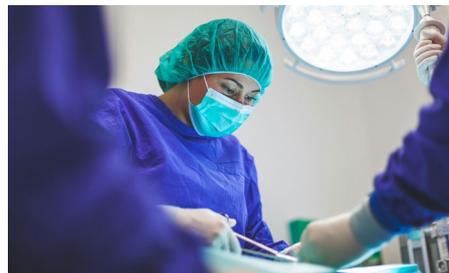


Photo: Unsplash



Photo: Unsplash

## Elekta

A leading innovator of precision radiation therapy solutions and value-creating innovations in solutions and AI-supported services.

## Getinge

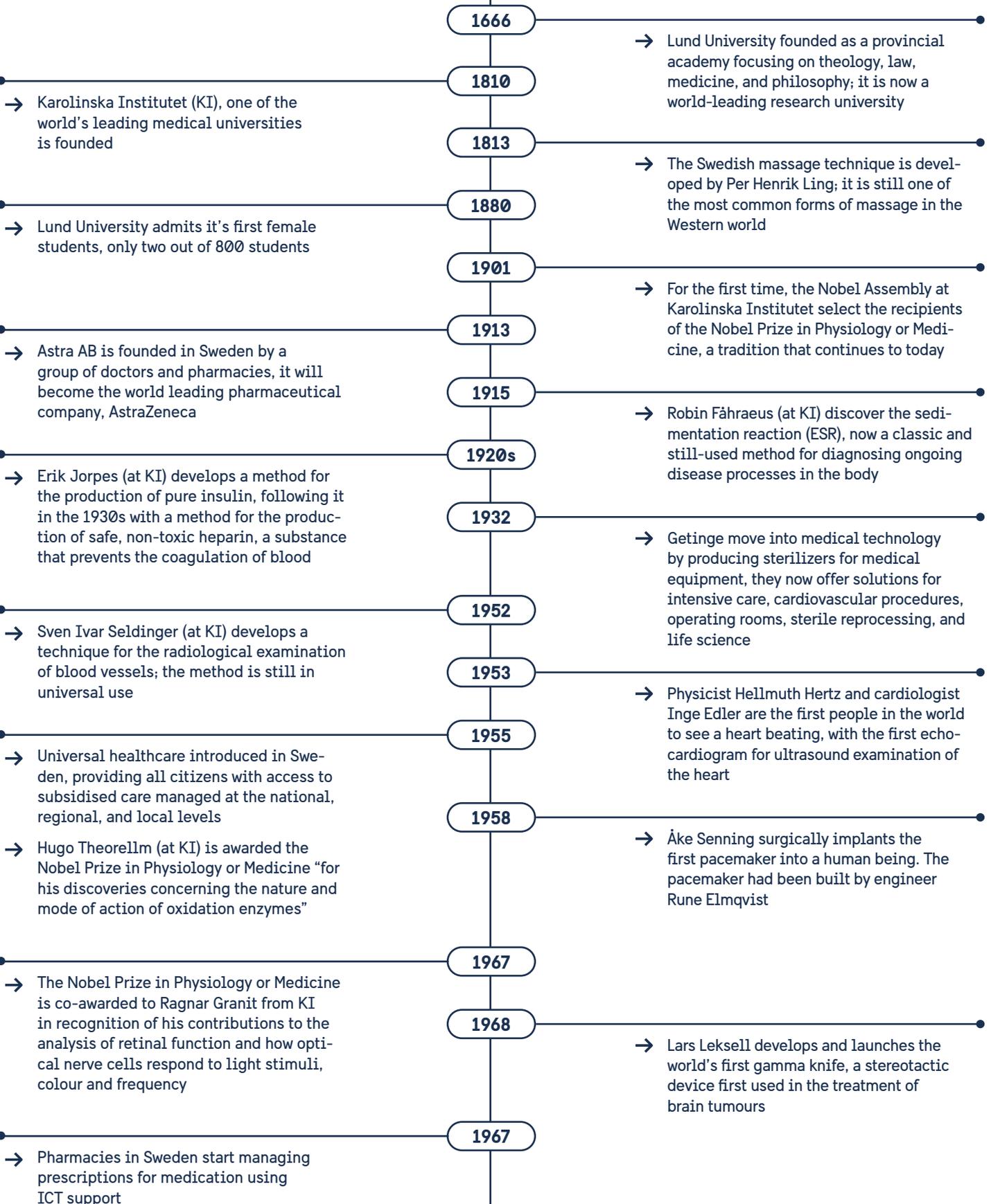
A global leader in medical equipment specialising in life support equipment, infection control, and surgical technologies.

## TestaCenter

A national test bed for biomanufacturing and bioprocessing technologies enabling startups and researchers to pilot and scale new technologies.



## Milestones in Sweden's life science history





1971

→ The modern respirator, the Servo Ventilator, a breakthrough for the establishment of intensive care throughout the world is invented by medical researcher Björn Jonson and his colleague Sven Ingelstedt at Lund University

1972

→ Elekta, a global company developing radiation therapy and radiosurgery-related equipment and clinical management for the treatment of cancer and brain disorders, is founded

1975

→ The Unit for Cell Therapy and Allogeneic Stem Cell Transplantation (CAST) is established, a collaboration on cell and gene therapies and a precursor in the ATMP field

1978

→ SweCare founded by the Swedish government and the healthcare industry, coming together as a semi-governmental non-profit organisation. Today, the network has over 100 Swedish companies and organisations across the spectrum from biotech to medical technology, pharmaceuticals, and health care services

1982

→ Sune Bergström and Bengt Samuelsson are made co-recipients of the Nobel Prize in Physiology or Medicine for their contributions to the discovery of prostaglandins, which, alongside other functions, play a key part in the control of blood pressure and blood vessel activity

1983

→ The world's first e-prescription is dispensed in Jönköping

1984

→ Sweden starts its first online prescribing with physicians connecting to their local pharmacy system in a pilot test

1987

→ Chemists at Lund University develop the Tubohaler, revolutionising the dosage and inhalation of asthma medicine

1990

→ Oatly, an oat-based alternative to dairy milk is developed by Professor Rickard Öste; it is now available in more than 20 countries in Europe and Asia

1991

→ Researchers at Lund University's Faculty of Engineering develop the health-promoting bacteria culture Lactobacillus. The research findings are developed into a complete consumer product and the fruit drink Proviva is launched

1992

→ NorthX Biologics, a biopharmaceutical CDMO at the forefront of biologics manufacturing and process development, is founded

1994

→ Swedish nurse Barbro Hjalmarsen invents the blood cradle, transforming how blood samples are taken by continually rocking the blood and preventing it from coagulating

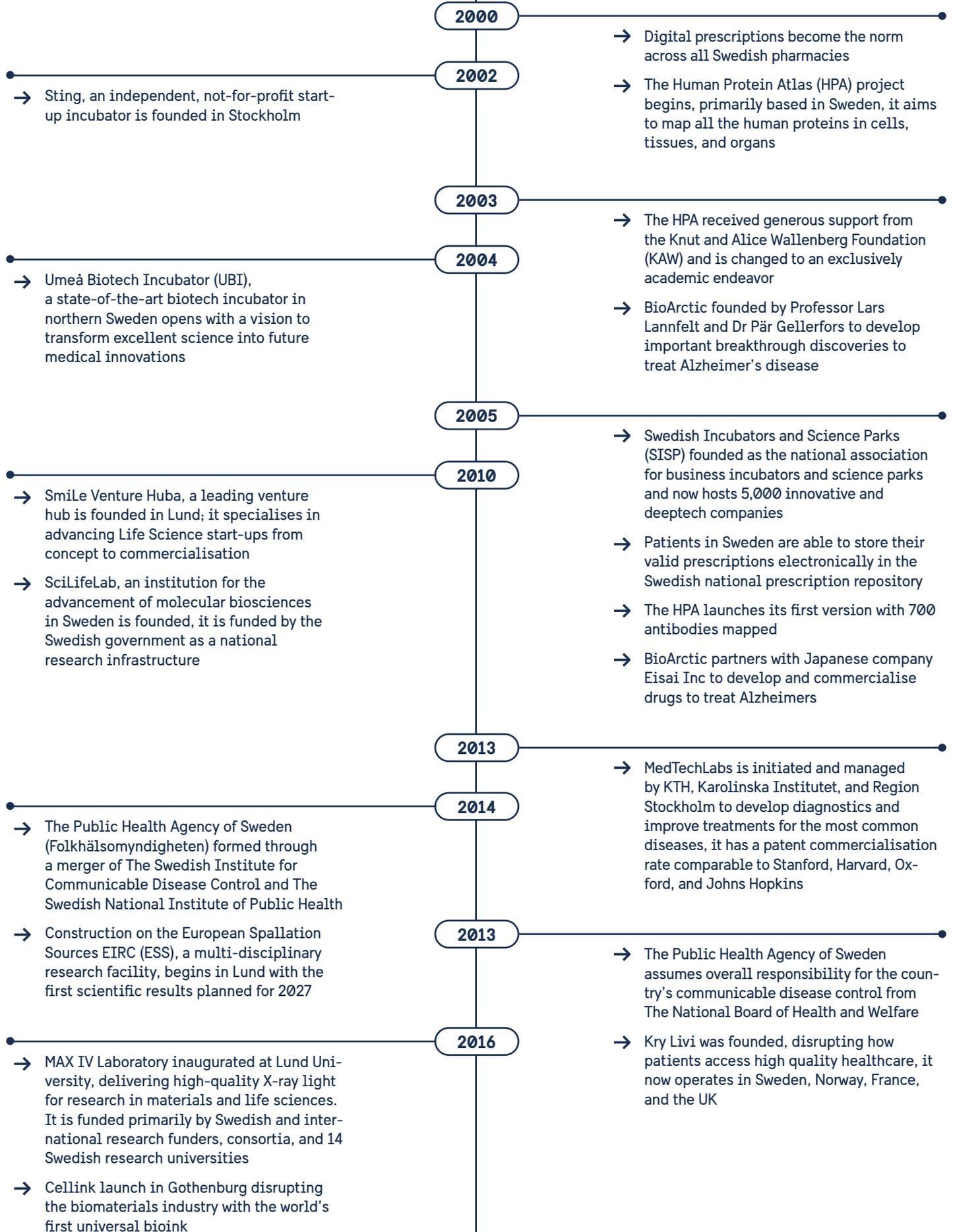
1997

→ Sahlgrenska Science Park, Gothenburg is founded; specialising in health-tech and connected to HealthTechNordic, it is now one of the world's largest networks of digital health start-ups

1999

→ Uppsala Innovation Centre is founded working with projects and companies across industries including life science, ICT, and technology. It is now ranked among the five best business incubators in the world by UBI Global

→ AstraZeneca is formed through the merger of Astra AB of Sweden and Zeneca PLC of the UK





2018

→ Asgard Therapeutics begin developing a unique cancer therapy that forces cancer cells to reveal themselves to the immune system

2019

- The HPA introduces three new atlases: blood, brain, and a metabolic atlas
- Pfizer, a major player in biotechnology, invests EUR 35 million to double the capacity of its Strängnäs plant
- Johnson & Johnson invest EUR 20 million to enhance production of Nicorette at their southern Sweden plant, one of three WEF-certified Lighthouse factories in Sweden

→ Testa Center, an initiative between the Swedish government and Cytiva to secure the growth of the life science industry and its manufacturing capabilities opens in Uppsala

2021

→ The Public Health Agency of Sweden designated the official statistics agency for the development of public health and communicable disease control

2022

→ E-prescriptions become default in Sweden, bringing use to almost 100%

→ Stockholm-based Sting is named the world's best incubator and accelerator by the Global Startup Awards

→ NorthX Biologics is recognised as a national innovation hub for advanced therapeutics and vaccines

2023

→ Pfizer invest an additional EUR 25 million to further expand their Strängnäs facility

2024

→ SMiLE Venture Hub and Umeå Biotech Incubator are named among Europe's leading startup hubs by the Financial Times

→ The Karolinska ATMP Center is founded with the goal of advancing cell, gene, and tissue therapies

→ ATMP Sweden is founded as a national coordination and communication network aimed at accelerating patient access to safe and effective medicines based on recombinant genes, live cells and/or tissue engineering

→ ATMP Sweden launch ATMP30, a project with the long-term goal of transforming the systems required for successful development and implementation of advanced therapy gene and cell therapeutic products

→ CCRM Nordic is founded, with a SEK 80 million investment from the Swedish government to drive commercialisation, competence development, and production within life sciences



# FAQ

---

## Where are the main life science clusters in Sweden?

There are five main clusters across Sweden: Lund, Gothenburg, Linköping, Umeå, and Stockholm and Uppsala. Within these clusters there are seven university hospitals, research institutes, science parks, incubators, and over 30 testbeds.

Sweden is also home to 30 science parks and 31 incubators offering dynamic and stimulating environments for entrepreneurs, companies, and investors to exchange knowledge, ideas, and creativity. These science parks work with the life science sector to advance applied research.

---

## What percentage of GDP does Sweden's life science sector account for?

In 2022, Sweden's life science sector business contributed approximately 2 per cent of Sweden's GDP.

Sweden's R&D expenditure of GDP was the fifth highest amongst OECD nations at 3.57 per cent in 2023.

---

## How many life science unicorns has Sweden produced?

Kry/Livi is Sweden's first life science unicorn, founded in 2014, it now operates in Sweden, Norway, France, and the UK.

Overall, Sweden has successfully produced 41 unicorn startups, each of which is worth over USD 1 billion. In 2023, Swedish startups drew in an additional EUR 4.7 billion in venture capital investments. Sweden ranks third in Europe for investments in deep tech investments and in second place for impact investments in 2023.

---

## How many people work in Sweden's life science sector?

In 2024, the Swedish life science sector consisted of around 4,000 companies employing around 56,000.

---

## What is the Professor's Privilege and why is it important?

Sweden's system is based on what is called the professors' privilege, the right of academics to fully own the IP of their research, inventions or patents. Sweden has been one of only a few countries to retain this and it allows flexibility in the IP exploitation of research.

---

## How complicated is Sweden's regulatory framework?

Sweden's regulatory framework has been designed to support clinical trials, particularly those focused on digital health and AI. There is a fast-track approvals process for innovative treatments and technologies. Collaborations are at the heart of the ecosystem, facilitating ethical and transparent data usage and sharing.



---

**What is the value of Sweden's life science sector?**

In 2022, the industry's GDP contribution/value added was SEK 346 billion.

---

**What academic institutions are focused on life science?**

Across Sweden's five life science clusters there are seven university hospitals: Karolinska University Hospital, Lund University, Örebro University Hospital, Sahlgrenska University Hospital, Skåne University Hospital, University Hospital of Umeå, and Uppsala University Hospital. These main institutions work with research institutes and test beds across the ecosystem.

---

**Where are Sweden's innovation test beds and what are they focused on?**

Vinnova, Sweden's innovation agency provides a complete list of current test beds and their area of testing. The information can be found [here](#).

---

**What areas of life science R&D are being prioritised in Sweden?**

The Swedish government has an overarching goal to make Sweden a world-leading life science nation. The current Swedish pipeline from discovery to Phase 3 consists of 506 R&D projects, with 25 per cent addressing treatment of rare diseases. There are over 285 projects in delivery and preclinical phase (2024) and these are in the areas of immune and inflammatory disease, cardiometabolic and endocrine disorders, infectious and oncological diseases, neurological and psychiatric disorders, and women's health and specialised conditions.

---

**What support is available for life science research and development?**

There are several public funding programmes and research and development initiatives. The Swedish government has implemented various funding programmes to encourage startups and research and through Vinnova, the Swedish Innovation Agency, financial support is available. Life science collaborations are also eligible for government funding and there are various private investment avenues available.



# About Sweden

In global rankings, Sweden consistently ranks as a sustainability, innovation, and equality leader.

# 1st

**Global sustainability competitiveness index**

[View ranking](#)

# 2nd

**Most innovative economy**

[View ranking](#)

# 2nd

**Annual glass ceiling index**

[View ranking](#)

## Innovation and sustainability credentials

- Sweden aims to run 100% fossil fuel-free energy by 2045
- Sweden is supporting industrial decarbonisation and is home to one of the first major projects for hydrogen-based steel production
- The Swedish government has a target to reduce transport emissions by 70% from 2010 to 2030 and is supporting transport decarbonisation through electrification and biofuels
- Two Swedish companies have developed carbon-free steel. Stegra (formerly H2Steel) and Hybrit, a collaboration between mining company LKAB, energy company Vattenfall, and steel company SSAB
- Epiroc have transformed the mining sector with innovative, sustainable, and safe solutions including drill rigs, rock excavation, and construction equipment for surface and underground applications
- Ultra-low carbon, 100% circular cement has been developed and piloted by Swedish company Cemvision
- Stockholm's public transport network is primarily powered by low-carbon energy: 85% of the commuter and underground rail networks are electric while buses are largely powered by biofuels
- Automotive disruptor Einride have created world-leading digital, electric, and autonomous shipping technology
- Candela, a Swedish startup, is responsible for developing and launching the world's first electric passenger hydrofoil ferry, cutting route times and emissions
- Sweden has exceptional grid competency with continue investment to meet ongoing demand. Between 2024-2033 approximately 1,500 km of new transmission power lines and 30 new substations will be installed and renewal of over 2,500 km of power lines and about half of the existing 200 substations will be carried out by Svenska kraftnät

## A long history of sustainability leadership and action

- Sweden was the first country to pass an environmental protection act in 1967
- Sweden hosted the first UN conference on the global environment in 1972
- In 1991, Sweden was one of the first countries to introduce a carbon tax, and in parallel continued to grow GDP at a strong rate
- Sweden has an ambitious goal of becoming the first fossil fuel-free OECD nation by 2045
- In 2024, Sweden announced its position as The Climate Matchmaker, matching climate challenges with solutions across local and regional value chains



Photo: Niclas Vestefjell / imagebank.sweden.se



# Sweden's support ecosystem

Sweden's support systems provide Swedish and international companies with information and connections to financial support, research and development opportunities, and strategic and practical trade and investment advice.

Here are some of the actors within Sweden's support system.

## Financial

**Swedish Energy Agency**

[Visit website](#)

**Vinnova**

[Visit website](#)

**Almi Invest**

[Visit website](#)

**Tillväxtverket**

[Visit website](#)

**Industrifonden**

[Visit website](#)

## Research and incubation

**RISE**

[Visit website](#)

**Base Batteries Sweden**

[Visit website](#)

**SISP**

[Visit website](#)

**Ignite**

[Visit website](#)

**KTH Royal Institute of Technology**

[Visit website](#)

**Lund University**

[Visit website](#)

**KAW**

[Visit website](#)

## Invest and export

**Business Sweden**

[Visit website](#)

**Almi Invest**

[Visit website](#)

**Swedish Energy Agency**

[Visit website](#)



Photo: Henrik Trygg / imagebank.sweden.se



# Team Sweden

Team Sweden is a network of government agencies and other actors primarily focussed on promoting Swedish exports and investments in Sweden. The aim of Team Sweden is to strengthen collaboration and efficiencies based on each organisation's expertise and resources, through working groups that cross sectors, regions, and countries.

## Swedish Institute

The Swedish Institute is a public agency that builds interest and trust in Sweden around the world. They work with Sweden promotion, cooperation in the Baltic Sea region, and global development.

## Media Assets

Find all assets related to the Swedish Institute at [sharingsweden.se](https://sharingsweden.se)

## Sweden on social media





## Almi

Almi Invest makes investments in the early stages of a startup. When the entrepreneurs want to raise capital to develop their business, Almi quickly assesses whether venture capital is the best option or if they should be funded directly.

[Visit website](#)

## Business Sweden

Business Sweden is jointly owned by the Swedish state and the Swedish business sector with a mandate and mission to help international companies gain access to the Swedish market and help domestic ones utilise it as a platform for expansion.

[Visit website](#)

## Embassies

Sweden has diplomatic relations with almost all States in the world. It has embassies and consulates in around half of these. Sweden's foreign representation consists of approximately 100 missions abroad and 350 honorary consulates. Embassies provide information about travelling or moving to Sweden, as well as information about doing business with or in Sweden.

## Enterprise Europe Network

The Enterprise Europe Network (EEN) helps businesses innovate and grow on an international scale. It is the world's largest support network for small and medium-sized enterprises (SMEs) with international ambitions. The Network is active worldwide, bringing together experts from member organisations that are renowned for their excellence in business support.

[Visit website](#)

## Export Credit Agency (EKN)

EKN (Export Credit Agency) is both a business partner and government authority tasked with promoting Swedish exports and the internationalisation of Swedish companies, by insuring companies and banks against the risk of not getting paid.

[Visit website](#)

## Regional investment promotion partners

Sweden's regional investment promotion partners help international companies invest, establish, and expand in Sweden. They offer services on a local, regional, and national level to identify business opportunities. There are 18 regional partners across Sweden.

## Swedish Agency for Economic and Regional Growth (Tillväxtverket)

The Swedish Agency for Economic and Regional Growth (Tillväxtverket) is a government agency under the Ministry of Climate and Enterprise. The agency works across three policy areas: enterprise policy, regional development policy, and rural policy. One of their primary tasks is helping to ensure that EU funds are invested in projects that promote regional growth and employment.

[Visit website](#)



## Swedish Chambers of Commerce

The Swedish Chamber of Commerce has offices in many countries worldwide. They offer guidance for doing business in Sweden, which rules and agreements are in place as well as general information about Swedish business.

[Visit website](#)

## Swedish Energy Agency (Energimyndigheten)

The Swedish Energy Agency (Energimyndigheten) works with the promotion of energy efficiency measures and investments in renewable energy technologies. They are responsible for leading society's transition to a sustainable energy system.

[Visit website](#)

## Swedish Export Credit Corporation (SEK)

The Swedish Export Credit Corporation (SEK) is a state-owned organisation that finances Swedish exporters, their subcontractors, and international customers. They strengthen the competitiveness of Swedish exports, with a vision to make the world more sustainable through increased Swedish exports.

[Visit website](#)

## Swedfund

Swedfund is the development finance institution of the Swedish state, with a mission to combat poverty by investing in and developing sustainable business in the world's most challenging markets. They work in combination with business, organisations, and authorities across the entire investment cycle.

[Visit website](#)

## Vinnova

Vinnova is Sweden's innovation agency, with a goal to open the way for innovation that provides sustainable solutions and strengthens Swedish competitiveness. They support collaborations and provide funding for projects that bring together cross-sector and cross-boundary partners.

[Visit website](#)