

HEALTH
CAPITAL
HELSINKI



HCH is an entryway to
a top health tech and life
science ecosystem.

A northern hub of health tech and life science

Finland is a country with lots of tech expertise. The Nokia decades created a vast pool of digital talent, which is now spreading to new fields and markets.

Finland's capital, Helsinki is a well-kept secret, poised to be the next big thing in health tech and life science.

Both Helsinki and Finland regularly top all international lists ranking most livable cities as well as safe and stable countries.

Helsinki is a well-kept secret,
poised to be the next big
thing in health.



Huge health tech
and life science growth
in Finland

95%

of Finland's health tech
is exports. In 2015,
exports
grew by 6.6 %.

Source: FIHTA 2016



5.5 Billion

An aerial photograph of the Helsinki metropolitan area, including the city center, surrounding suburbs, and the sea with numerous islands. The entire image has a blue color cast.

The total annual turnover
of health tech and life
science companies*
in the Helsinki
metropolitan area.

Source: Report on Health tech and Life science Business
in Helsinki Metropolitan and Uusimaa area, 2015

*Including Pharma

1.9 Billion

Total value of Finnish health tech exports, Finland's number one high technology export field.

Source: FIHTA 2016

+16%

Growth of health tech
exports to the US.

Source: FIHTA 2016



+35%

Growth of health tech
exports to China.

Source: FIHTA 2016





12,000

The number of health tech and life science company* employees in the Helsinki metropolitan area.

Source: Report on Health tech and Life science Business in Helsinki Metropolitan and Uusimaa area, 2015

*Including Pharma



750

The number of health tech and life science companies in the Helsinki metropolitan area, a majority of which are focused on health technology.

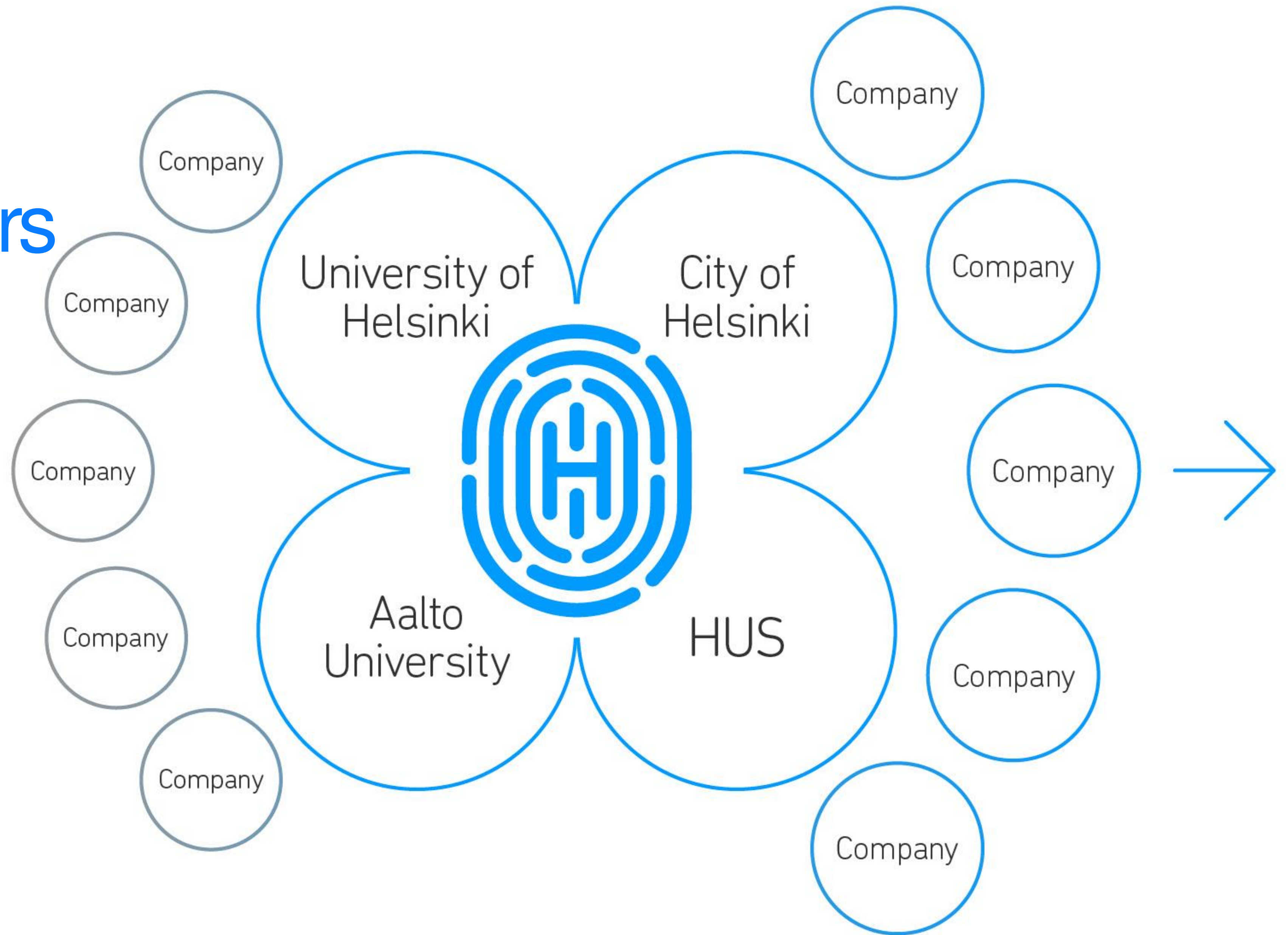
Source: Report on Health tech and Life science Business in Helsinki Metropolitan and Uusimaa area, 2015

*Including Pharma

HCH is an entryway to
a top health tech and life
science ecosystem.

Health Capital Helsinki is an alliance of four power players

HCH works as catalyst between internal and external partners and organizes collaboration between companies and HCH partners. HCH facilitates actions that improve the development pathway of business ideas into international business.



Access to top research and hospitals

The University of Helsinki, HUS and the Institute for Molecular Medicine Finland FIMM form the Academic Medical Center Helsinki, which is ranked fifth in all of Europe.

The health & wellbeing research area is a strategic focus for Aalto University and among the university's top-quality areas. Aalto University has a decades-long collaboration tradition with its HCH partners on the campus.

Further institutions include the National Institute for Health and Welfare (THL), the Finnish Institute for Occupational Health (TTL), and the HCH's joint BioMag Laboratory.



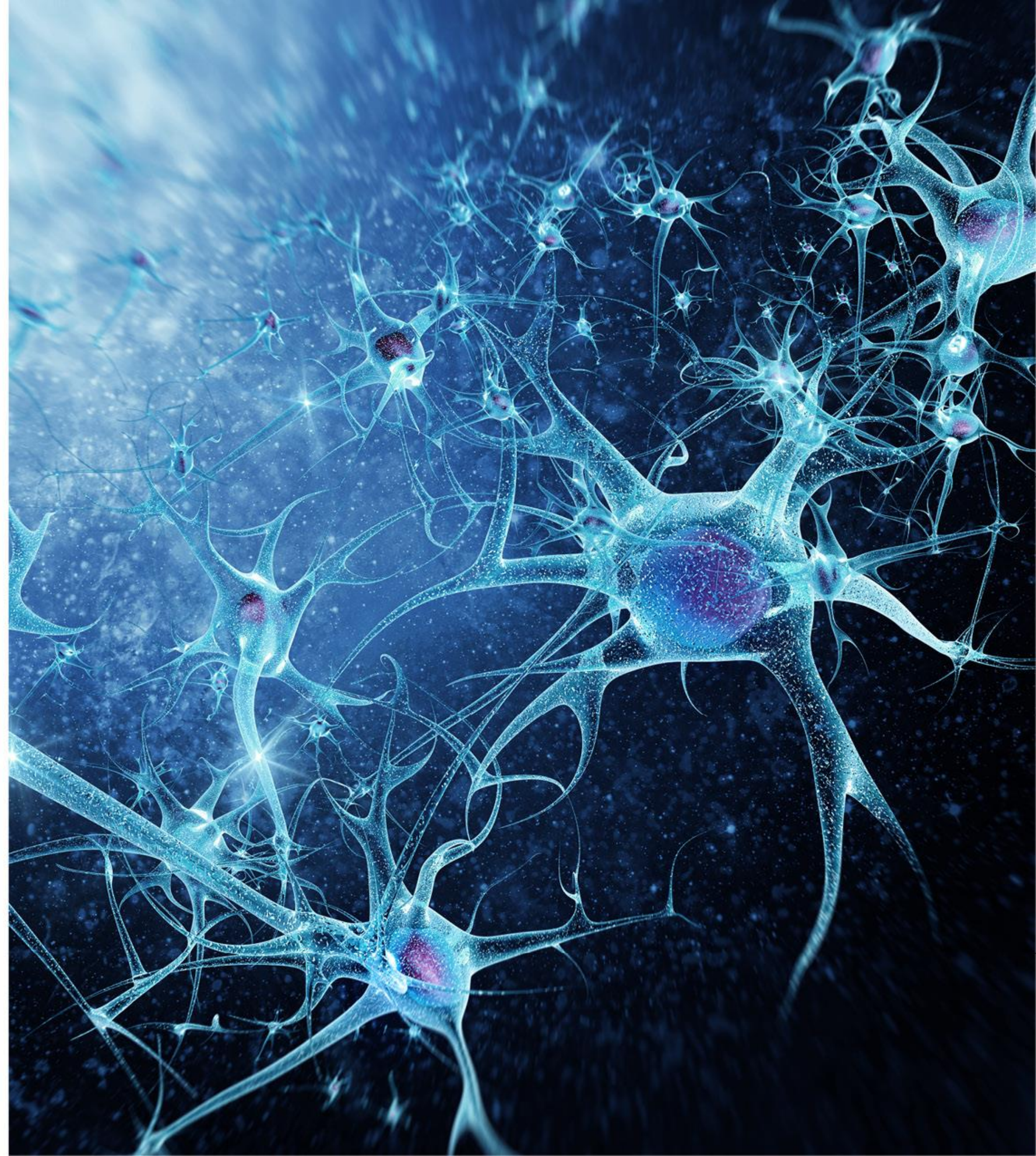
Half of all medical research in Finland is done in Helsinki.

Engineering meets health

The HCH universities' engineering faculties enjoy a rich tradition of collaboration with hospitals.

Aalto University has a track record in company collaboration with health and wellbeing industries.

Finland has a start-up boom where the health technology industry has a leading role. Finland is attractive to multinational companies as an R&D location e.g. for the country's highly-qualified biomedical engineers.

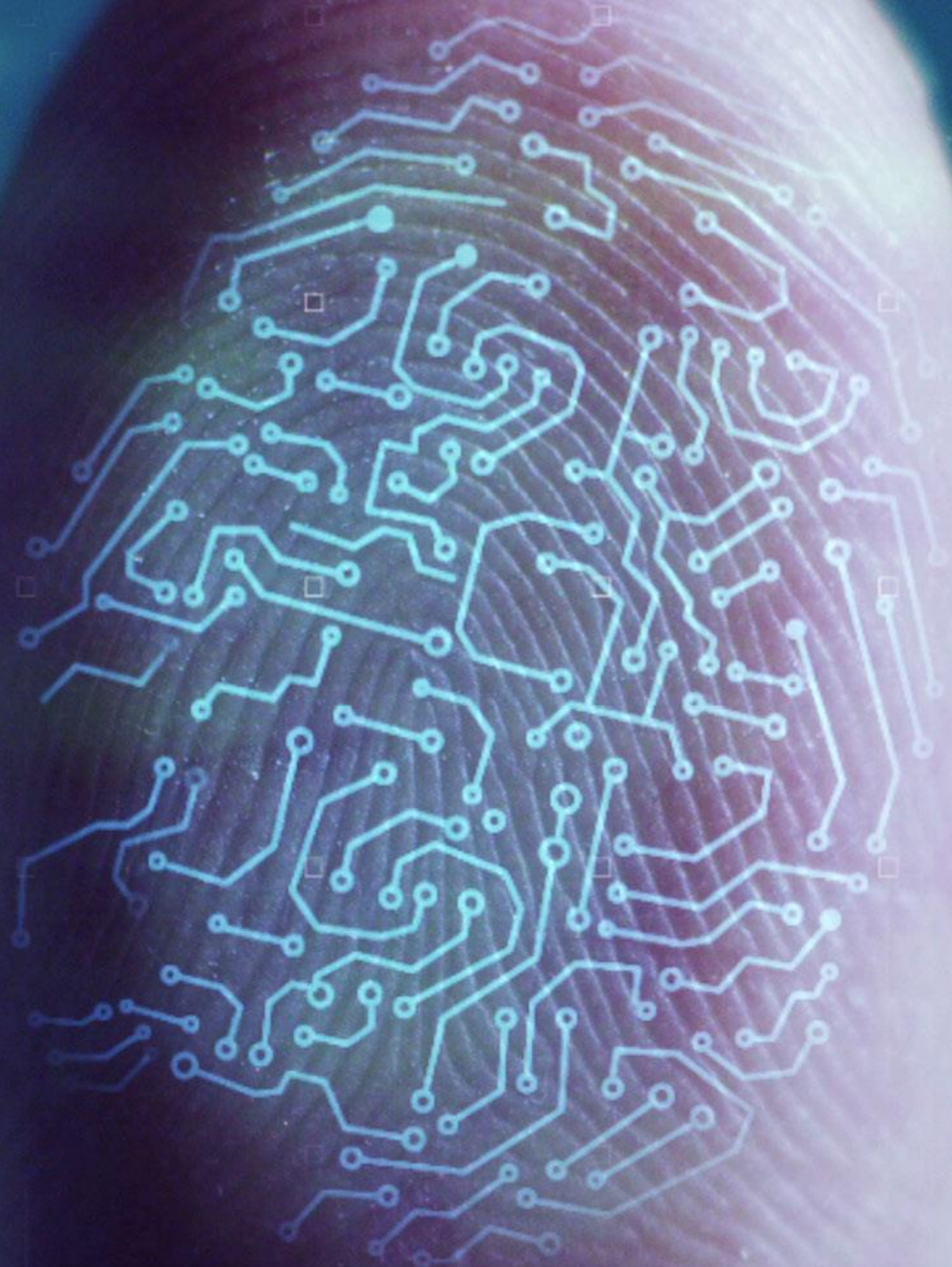


A treasure chest of patient data

The Helsinki University Hospital (HUS) is the second largest hospital in the Western world. Its digital archives hold more than 27 million patient visits worth of digital data, spanning the last 20 years.

This is a treasure chest for research and product development.

The technical quality of patient data is excellent. The HCH alliance partners are pioneers in biobank development, with an advanced national biobank act supporting it.



Success stories:
How our ecosystem
has fostered viable
companies.

#1 Finnzymes: pioneers in molecular biology

Leading cell and molecular biology company Finnzymes was born out of the exceptional environment and expertise in Helsinki. The company's success was built on pioneering work and unparalleled expertise on restriction enzymes and DNA polymerases.

Finnzymes was acquired by Thermo Fisher Scientific in 2010. Finnzymes services and products now strengthen the company's analytical technologies and laboratory products and services segments.

Leading up to the sale, Finnzymes employed nearly a hundred highly skilled employees and had an annual turnover of 20 million euros.



Finnzymes' success was built on pioneering work and unparalleled expertise on restriction enzymes and DNA polymerases.

#2 GE Healthcare: product development at HUS

HUS, the University of Helsinki and GE Healthcare have signed a framework agreement that enables closer and broader cooperation. Research and development, analytics, and education will be areas of emphasis. Likewise, Aalto University has closely collaborated with GE Healthcare for decades.

This means close interaction between product developers, and clinical experts during the concept planning stages, usability estimates for new solutions, and developing algorithms together. Having broader insights and a better understanding of the end-users' needs will result in improved results for healthcare professionals and patients.



In 2015, GE Healthcare began a Mobile Digital Health program that focuses on developing healthcare related technologies. It was placed in Helsinki due to the city's excellent testing environment.

HCH research themes:
A look at some of our
current top initiatives.

Personalized healthcare

Helsinki is a pioneer in personalized healthcare. The potential in biomedical data science and health data analysis is huge. Aalto University, the University of Helsinki and FIMM have for long collaborated in the field of biomedical data science.

Finland has an advanced national biobank act, which opens up data from sample collections in hospitals and other research institutions for all researchers. When you combine this with our other strengths, such as comprehensive registers and electronic patient records, it means vast new business opportunities.

Our citizens are exceptionally positive and supportive of scientific research. More than 98% of patients give permission for their samples to be stored in biobanks. At HUS, this means up to 500 000 new samples every year.



Finland has an advanced national biobank act, which opens up data from sample collections in hospitals and other research institutions for all researchers.

Pioneering surgery

Surgeons at HUS successfully performed the first face transplant operation in the Nordic countries in early 2016. The surgery was a success, and the patient has recovered according to plan.

HUS began its preparatory work on transplant surgeries a number of years ago. More than 30 doctors from various fields of medicine have contributed to the preparatory work after the appointment of the task force on facial tissue transplantation in 2011.

Planmeca, a HCH company of Finnish origin, is one of the world's leading manufacturers of high-tech dental units and cutting edge 3D digital dental imaging devices and software. Together with surgeons at HUS, Planmeca developed an imaging tool that was crucial to the surgery's success.




Changing diets and needs

Our changing environment calls for new, sustainable approaches in food. The University of Helsinki's Viikki campus is creating game-changing commercial food products by innovations arising from research.

Plant proteins, such as pulled oats and the faba bean protein Härkis have become large-scale national consumer favourites, replacing similar meat products.

There are also leading edge research on food, food safety and prevention of plant diseases in seed potatoes.



The next big thing could be processing which enables manufacturing food products without any additives. Vitamin research is also one of our strengths.

Sustainability: understanding our environment

The University of Helsinki develops solutions for bioeconomy and to climate change through understanding plant growth and environmental responses.

The future Sustainability Science Center on the Viikki campus focuses on providing solutions for future challenges by advancing the basic understanding of human-environment systems.

HCH partners also have leading research on atmospheric sciences and the effects microbiomes and our living environment in general have on humans' immune health.



Hospitals of the future

Helsinki University Hospital HUS and the City of Helsinki are developing a pioneering cluster of virtual hospitals on a globally unprecedented scale.

This means a growing emphasis on preventative and remote care. Patients gain remarkable control and opportunities to improve their own health.

These virtual hospitals are always open and accessible anywhere with an internet connection and a computer, tablet or smartphone.

HUS is also building new physical hospitals: our new Childrens' Hospital and the new cancer and trauma center Siltasairaala will open in Meilahti, close to the AMCH campus and its cutting-edge research. The design process is supported by expertise from the University of Helsinki and Aalto University, where healthcare-specific service design and architecture form two of Aalto's six expertise clusters of health & wellbeing.

A hand holding a glowing orb with the word 'HOSPITAL' and a hospital bed icon, surrounded by medical icons and text. The background is a blue-toned collage of hexagonal icons representing various medical fields: STOMATOLOGY, PATHOLOGY, OPHTHALMOLOGY, ORTHOPEDICS, IMMUNOLOGY, TOXICOLOGY, PSYCHIATRIC, a tooth, a star, a drop with a cross, a clock, pills, a syringe, a person, a microscope, a radiation symbol, a kidney, and glasses. The word 'HOSPITAL' is written in white capital letters on the glowing orb.

Virtual hospitals are always open and accessible anywhere with an internet connection and a computer, tablet or smartphone.

Slush

The largest startup event in the Nordics will be held in Helsinki on Nov 30th – Dec 1st. Slush brings together 15,000 attendees from over a hundred countries for the two-day event annually.



Helsinki is a city of growing health tech startups

Health Capital Helsinki (HCH) is your guide to the most promising life science and health tech startups in the Helsinki metropolitan area.

Helsinki-based health tech startups are known for their sound scientific background, which comes from close collaboration with HCH universities.

The City of Helsinki nurtures the startup scene actively. The city recently opened Maria 0-1, the largest startup hub building in Scandinavia, built in a former hospital. A new co-creation space that will serve health entrepreneurs from early stage startups on will open in Meilahti on the University of Helsinki medical campus.



Helsinki is home to the largest annual health tech startup event in the Nordics, the Upgraded Life Festival. The fourth event will take place on April 25–26th, 2017.

Welcome to Helsinki,
the northern capital of
health tech and
life science.

Contact www.healthcapitalhelsinki.fi

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A detailed microscopic image of biological tissue, showing a complex network of fibers and cells in shades of brown and tan. The structure is dense and fibrous, with a central dark circular void.

Health Capital Helsinki (HCH)

The Alliance of

- CITY OF HELSINKI
- HUS – HELSINKI UNIVERSITY HOSPITAL
- AALTO UNIVERSITY
- UNIVERSITY OF HELSINKI

A detailed microscopic image of biological tissue, showing a complex network of fibers and cells. The tissue is stained, highlighting various cellular structures and their arrangement. The overall appearance is that of a dense, interconnected network, possibly representing a cross-section of a blood vessel or a similar biological structure.

Health Capital Helsinki

The Objective

is to make Helsinki Metropolitan the leading research, innovation, business development hub of the life science and health technology field in Northern Europe - as a part of its' strong clusters

City of Helsinki, Finland

THE COOLEST TECH HUB IN EUROPE

1st

attractive EU
country for
investment

3rd

city globally in
supporting
innovation

1st

European city
offering open data
for businesses

3rd

in entrepreneurial
culture in Europe

1st to be

in life science and
health tech
In Northern Europe

3rd

in quality of life

HUS – Helsinki University Hospital

ONE OF THE BIGGEST HOSPITALS IN WESTERN COUNTRIES

23 hospitals
with
22 500
professionals

2,4 million
patient visits
annually

Helsinki Biobank
covers
1,9 million
inhabitants.

1st
the OECl accredited
cancer center in
Nordics is HUCH

One of the biggest
transplantation
centers
In Europe

1st
stroke treatment,
lowest mortality rate

Aalto University

WHERE SCIENCE AND ART MEET TECHNOLOGY AND BUSINESS

50%

of Finnish start ups
originating from
universities come from
the Aalto community

AMONG 5 TOP
RAISING STARS

global ranking by
MIT

14th

university
in collaboration
with industry
In the world

1st

Machine Learning &
Pattern Recognition

(HIIT Aalto & Univ Helsinki)
European ranking by
Microsoft Academic Search

Key expertise

Sensor informatics
and
Biomedical
engineering

Key expertise

Neuroscience and
neurotechnology

University of Helsinki

FINLAND'S BIGGEST UNIVERSITY WITH 11 FACULTIES

TOP 1 %

Among the top 1% of
the world's best
scientific universities

40000 +

All students and
employees
at Univ. of Helsinki

10000+

All publications per
year

700+

improvements for
clinical work
in 10 years

Research,
education and care
meet daily on the
Academic Medical
Center Helsinki

1st

the largest scientific
and educational unit
for life sciences in
Finland

Status of Health Capital Helsinki (HCH)

Ideas
30 + 200 + 200

New
companies
8

Companies
Involved
50

VC investment
2 meur
(1 case)

Framework
agreements
7

Company
collaborations
projects

Spark Finland
1 meur
funding