# Strategic Collaboration

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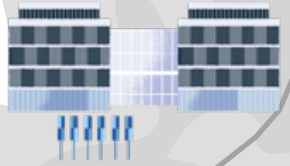
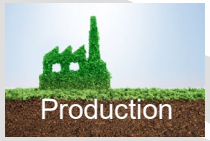
KTH Kista

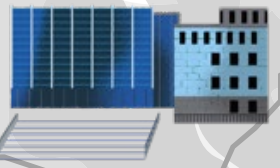

KTH Solna


KTH Campus



KTH Flemingsberg

KTH Södertälje

2 km

# Strategic partnerships

Global companies











Public sector



Leading research institutes



# A breeding ground for long-term competitiveness, largest number of global companies (per capita)

# Strategic partnerships


- Life Long Learning – reskilling
  - ✓ 20% of all education activities 2023
- Engagement in education programmes
- Widening participation
- Research infrastructures
- Attractive career paths for PhD's
- European funding schemes

Management dialogue

Steering committe

Working groups

ABB · ivl Svenska Miljöinstitutet · SEI · Ericsson · Vattenfall · Stockholms stad · Region Stockholm · Scania · Skanska · Saab · Sandvik · Alstom · Statoil · RISE · Hitachi Energy

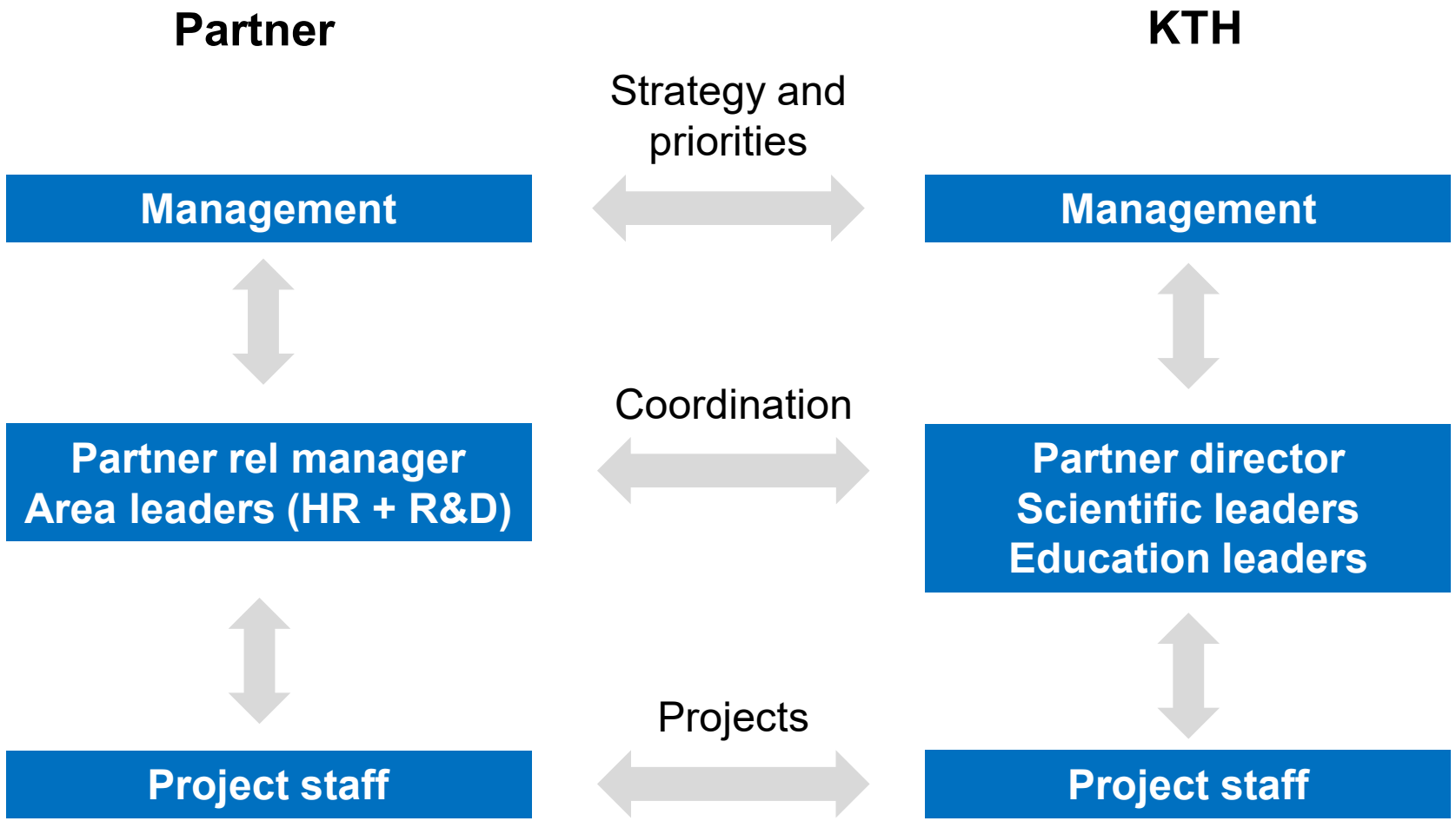
| 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|---|---|---|

Process assessment

National assessment

Assessment of the program

# Structure and roles



# KPI's (example)

| KPI | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|
| Active Master Thesis Projects | 5 | 8 | 8 | 5 | 10 | 19 |
| Lic and PHD students | 5 | 5 | 6 | 8 | 11 | 7 |
| KTH Lic and PHD students | 11 | 11 | 14 | 19 | 23 | 19 |
| KTH courses with contribution | 10 | 17 | 16 | 19 | 8 | 7 |
| Joint research applications | 7 | 16 | 13 | 13 | 10 | 12 |
| Joint projects during the year | 12 | 17 | 24 | 23 | 31 | 30 |
| Joint published papers / dissertations | 3 | 11 | 25 | 17 | 23 | 24 |
| Adjunct professors at KTH | 2 | 2 | 3 | 3 | 3 | 5 |
| Affiliated people at KTH | 1 | 0 | 2 | 1 | 2 | 2 |
| Affiliated KTH people at company | 0 | 2 | 3 | 0 | 2 | 1 |

# Interaction on several levels

**Future Education External Advisory Forum**

KTH

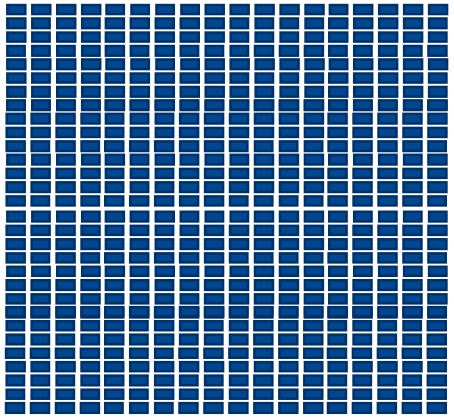
Comprehensive analysis career survey
Forecasts and statistics
Portfolio programs
Social sectors


Schools

Analysis career survey
Forecasts and statistics
Sectorial grouping of programs


Programs

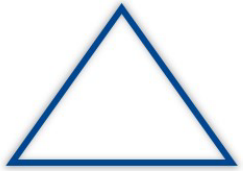
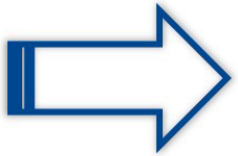
Analysis career survey per program
Forecasts and statistics
Progression
Program Advisory Boards



Courses

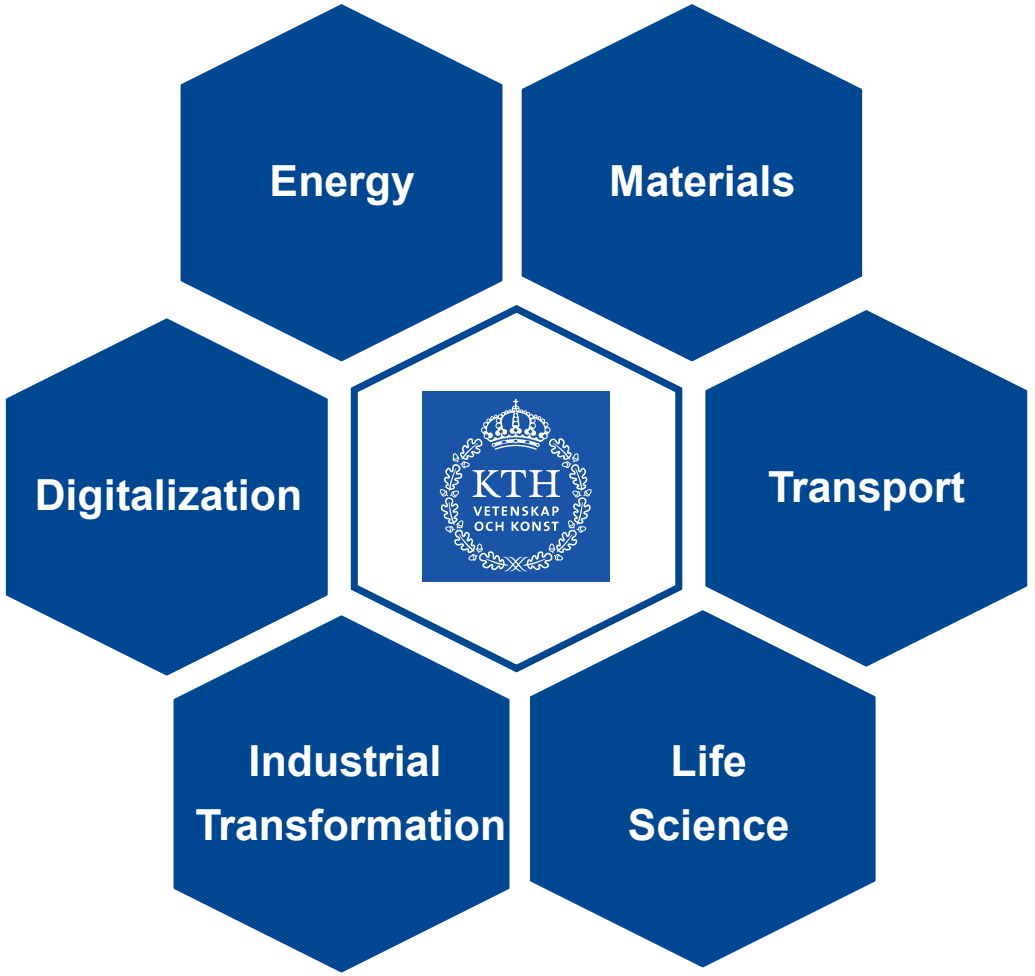
Connections to professional practise
(Guest lectures, cases, project work, study visits, thesis works)

# Connections to professional practice and engagement with external actors in education

|  |  |  |
|---|---|---|
| Systematic interaction with external actors when establishing educational programs or revising existing programs | Collaboration activities integrated into the education (in learning objectives, learning activities and examination) | Collaborative elements that facilitate the transition between study and working life. |
| For example:<br>Program Advisory Boards, focus groups, study visits for teachers, external stays | For example:<br>Guest lectures, cases, project work, study visits, thesis works | For example:<br>Guest lectures, study visits, mentoring companies |

# KTH Research platforms

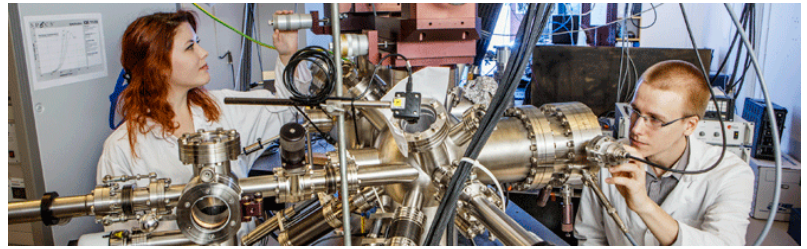
- KTH is a globally recognized leader of multidisciplinary research and a preferred partner by industry, government agencies and relevant academia
- The Research Platforms is a catalyst for multidisciplinary research initiatives to be jointly carried out by research groups at KTH together with relevant external partners
- 2009 -






https://www.kth.se/en/forskning/forskningsplattformar/fokusomraden-1.860688

# KTH Research infrastructures



**Synergies and collaborations**

- Meeting place for academia, industry and other societal organisations
- Open to external parties
- Laboratories and testbeds

**Criteria for KTH research infrastructures:**

- are strategic
- have long-term planning
- have continuous quality development

**ICT**

Center for High Performance Computing

Sustainable Power Lab

Visualization studio VIC

The Language Bank for Speech

**Life Science Technology**

Advance Light Microscope Laboratory

National Genomics Infrastructure

Jonasson Centre of Medical Imaging

**Nanofabrication**

Electrum Laboratory

NanoLab Albanova

**Materials**

Hultgren Laboratory

Odqvist Laboratory

2MiLab

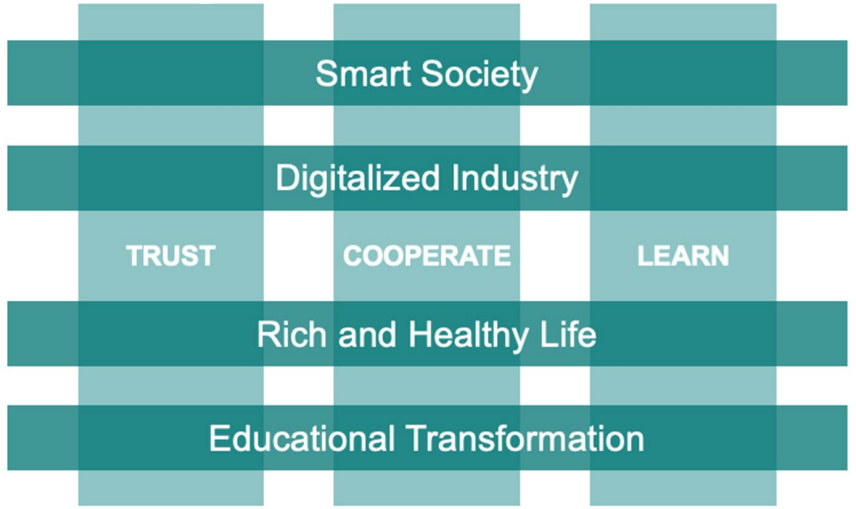
https://www.kth.se/en/forskning/forskningsinfrastrukturer/etablerade-infrastrukturer-1.858996

# Competence center, examples

KTH Live-In Lab

- Interdisciplinary collaborations
- Collaborates with leading companies, other universities, the public sector and institutes
- >50 competence centres at KTH
- Can include both basic and applied research

digital futures




Innovative Centre for Embedded Systems

Foster a prospering eco-system for industry and academia, catalyzing world class education, research and innovation in the areas of **software-intensive embedded and cyber-physical systems.**

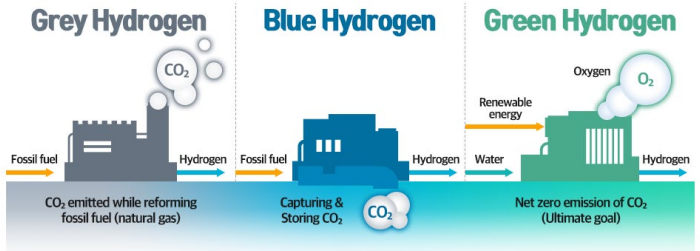
https://www.ices.kth.se/

ERICSSON, Atlas Copco, Prevas, AFRY, Stoneridge, SAAB

30+ industry members

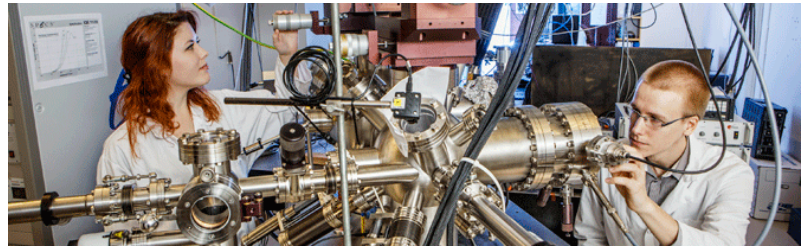
- 1 Annual Conference
- 8 Industrial Competence Groups
- 25+ Annual Workshops and Seminars

Viable Cities




Production, use and storage of hydrogen (PUSH)

# KTH Research infrastructures



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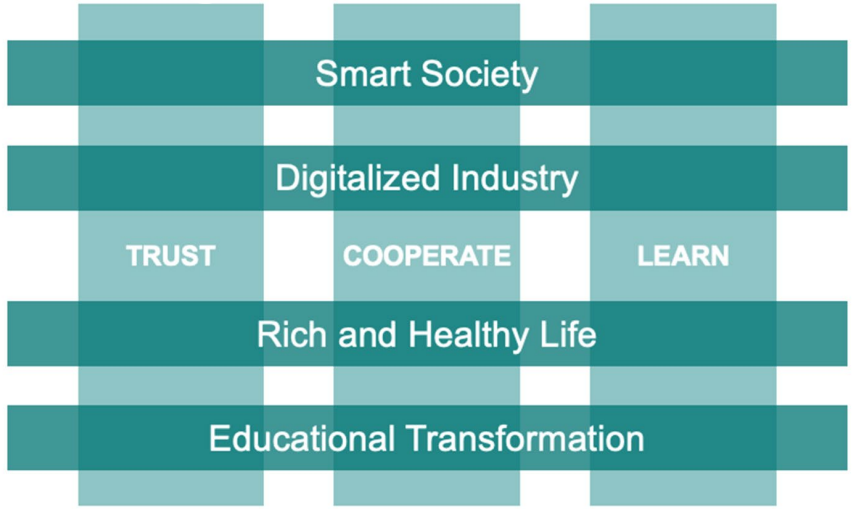
# Competence center examples

- Interdisciplinary collaborations
- Collaborates with leading companies, other universities, the public sector and institutes
- Around fifty different competence centres
- Can include both basic and applied research

KTH Live-In Lab

digital futures

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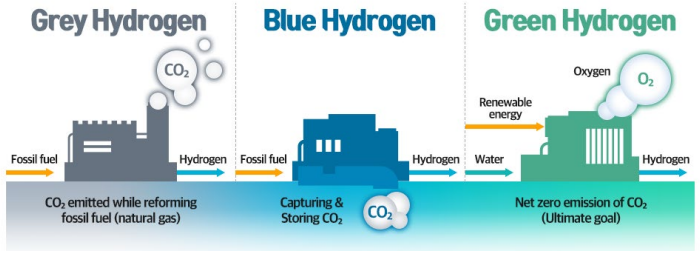



Production, use and storage of hydrogen (PUSH)

# Strategic Innovation Programs

impact innovation 2024 -

- Production , consumption and value chains within the boundaries of the planet
- Good and equal health
- Attractive and well -functioning communities

From 17 to 5?

Viable Cities
RE:SOURCE
Infra Sweden
Medtech4Health
PiA Process Industrial IT and Automation
SMART BUILT ENVIRONMENT
Smartare Elektroniksystem ELECTRONIC COMPONENTS & SYSTEMS
SWElife
DRIVE SWEDEN
INTERNET OF THINGS SVERIGE
METALLISKA MATERIAL
LIGHTer
SIO GRAFEN
SWEDISH MINING INNOVATION
BIO INNOVATION
innovair
PRODUKTION2030

# An innovation champion on a global scale.

## 2nd

Stockholm is second only to Silicon Valley in producing the most unicorns per capita.

## #1

Swedish startups' value per capita is the highest in Europe (USD 20.9K).

## 31+

Incubators

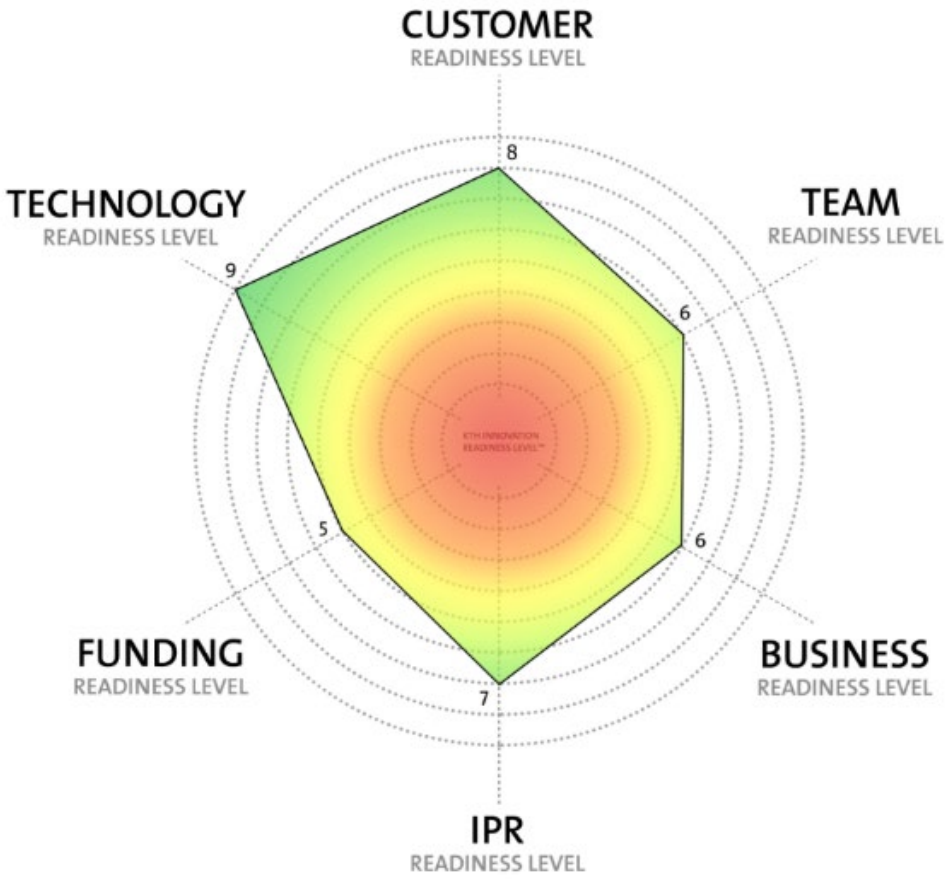
## 30+

Science parks

## #2

Sweden ranks second globally for patents per capita and 11th in absolute numbers.

# Innovation at KTH

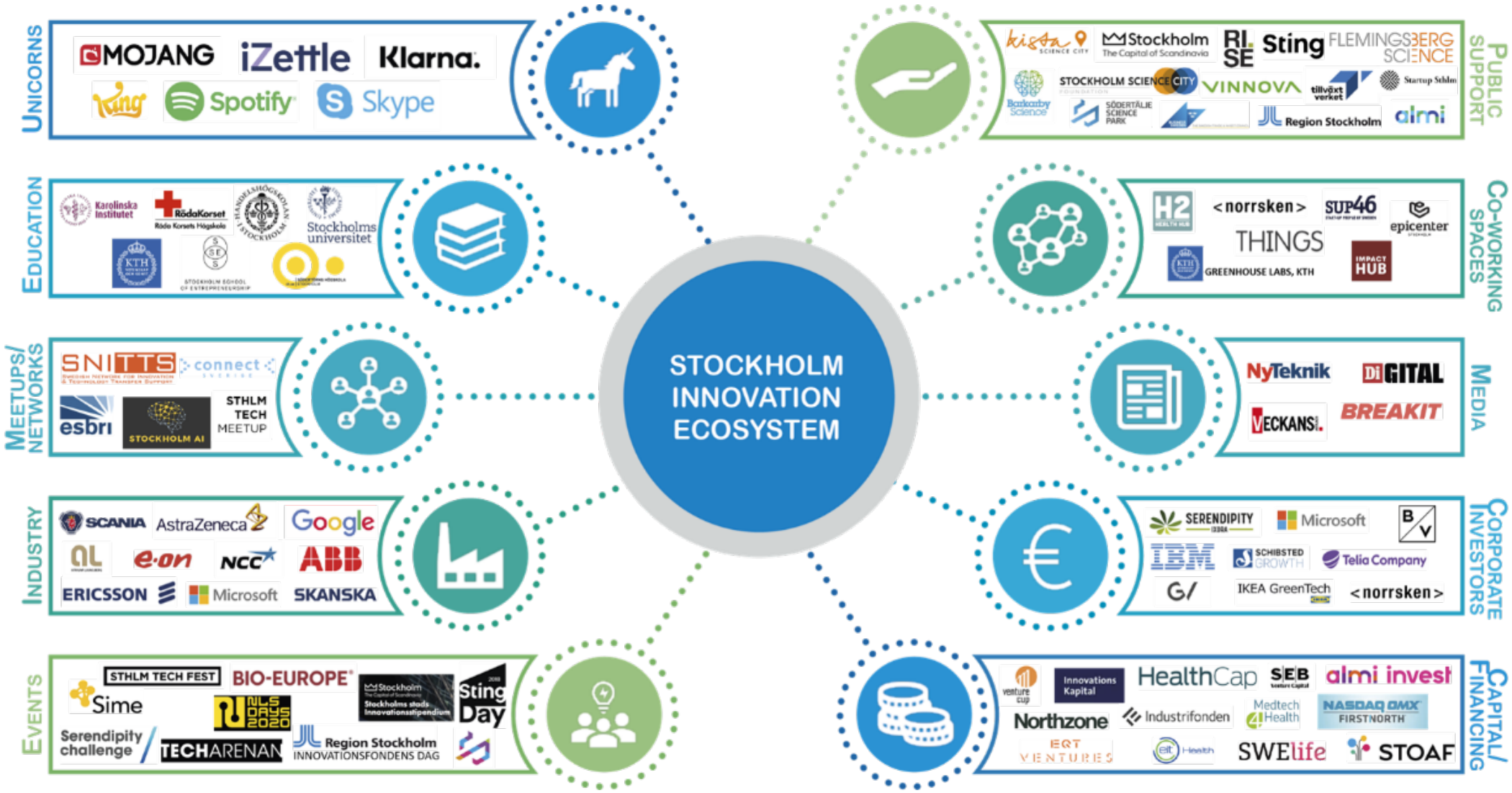



- KTH:s innovation support is internationally renowned
- Students, researchers and employees are given support to create impact from their ideas and research
- KTH Innovation Readiness Level-model is used by over hundred organisations around the world
- Many ideas starts the journey from idea to innovation being supported by KTH Innovation

| Innovation support at KTH | KTH Innovation's offer | Programs | Contribute |
|---|---|---|---|
| About KTH Innovation | About our support | KTH Innovation's programs | Contribute to innovation projects from KTH |
| Contact KTH Innovation | Start developing your idea | The pre-incubator program | Join a startup |
| Visit us | Coaching | The Discovery Program | Become a mentor |
| Innovations from KTH | Funding | The Mentor Program | KTH Innovation EarlyBird Network |
| News | Patents & Immaterial Rights | The Brighter Program | The KTH Innovation Panel |
| Calendar | Building a team | The Bicky Chakraborty Entrepreneur Program | Consultancy assignments on KTH projects |
| Subscribe to our newsletter | | | |

https://www.kth.se/en/om/innovation/kth-innovation-1.956839

# Stockholm innovation eco system



# KTH:s global Key Partner Universities

1. University of Manchester since 2021
2. Hong Kong University of Science and Technology (HKUST) since 2015
3. Indian Institute of Technology Madras (IIT Madras) since 2019
4. Nanyang Technological University (NTU) since 2013
5. Shanghai Jiao Tong University (SJTU) since 2013
6. University of Tokyo (UTokyo) since 2017

# Thanks for  listening !

# University drivers for collaboration with industry

1. Access to real-world problems and case studies for teaching, research (and demonstrating societal impact)
2. Access to industry resources (financial, data, expertise and so on)

# Business to University drivers

- To build their talent pipeline in a particular region or with a university that has a strong reputation in one or more relevant subject areas as well as to retain talent through workforce development , such as offering bespoke short courses or PhD opportunities for technical staff
- To mitigate operational risk in developing technology services and solutions by gaining expert, independent insights on the latest research directions, the underpinning science, and important ethical considerations
- To explore datasets and find new insights from multidisciplinary experts using a diversity of novel techniques
- To participate with groups of universities in pre-competitive, open-source consortia interested in shaping the direction of regulation or standards and addressing challenges facing across industry sectors
- To gain political influence through leveraging state funding opportunities
- To explore new domain areas through student projects and demonstrators that could become new markets as well as engagement with the university start-up ecosystem

# To tackle societal complex challenges and make it able for the society to transform, we need to

- Develop arenas for dialogue and collaboration
- Intensify multi stakeholders dialogues to understand and together rephrase and prioritize challenges
- Facilitate and utilize interdiscplinary approaches
- Do more collaboration, co-creation and dissemination of knowledge
- Build sustainable alliances and partnerships for long term commitments