

WASP | WALLENBERG AI, AUTONOMOUS SYSTEMS AND SOFTWARE PROGRAM

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Ordf. WASP



KNUT AND ALICE WALLENBERG FOUNDATION, KAW

- ▶ Founded by Knut Wallenberg 1917
- ▶ Funds excellent research and education at Swedish universities
- ▶ For the betterment of Sweden, Landsgagneligt
- ▶ 2.5 BSEK yearly
 - ▶ Individual research grants
 - ▶ Strategic research programs

*Knut and Alice
Wallenberg
Foundation*

100 YEARS IN SUPPORT OF EXCELLENT
SWEDISH RESEARCH AND EDUCATION

KAW, STRATEGISKA FORSKNINGSPROGRAM

Målsättningar:

- Driva långsiktig kunskapsuppbyggnad och kraftsamling i områden viktiga för utvecklingen av Sverige
- Föra ihop olika lärosäten för att tillsammans bygga internationellt konkurrenskraftiga forskningsmiljöer
- Attrahera världsklasskompetenser till Sverige genom nyckelrekryteringar
- Samverka med industrin genom forskarskola, forskningsarenor och testbäddar - tillsammans är vi starkare!

INDUSTRIAL REVOLUTION



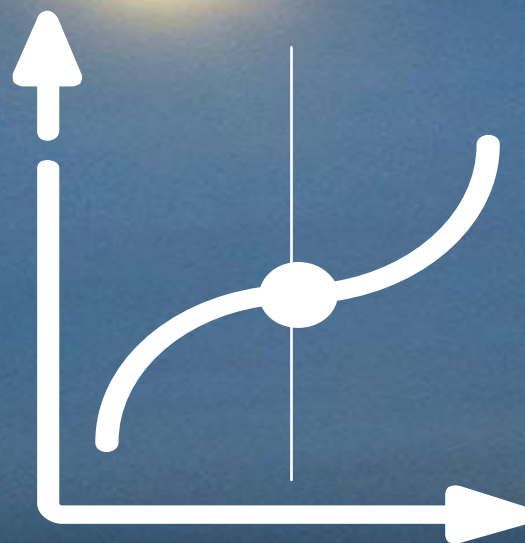
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Cloud,
AI and SW



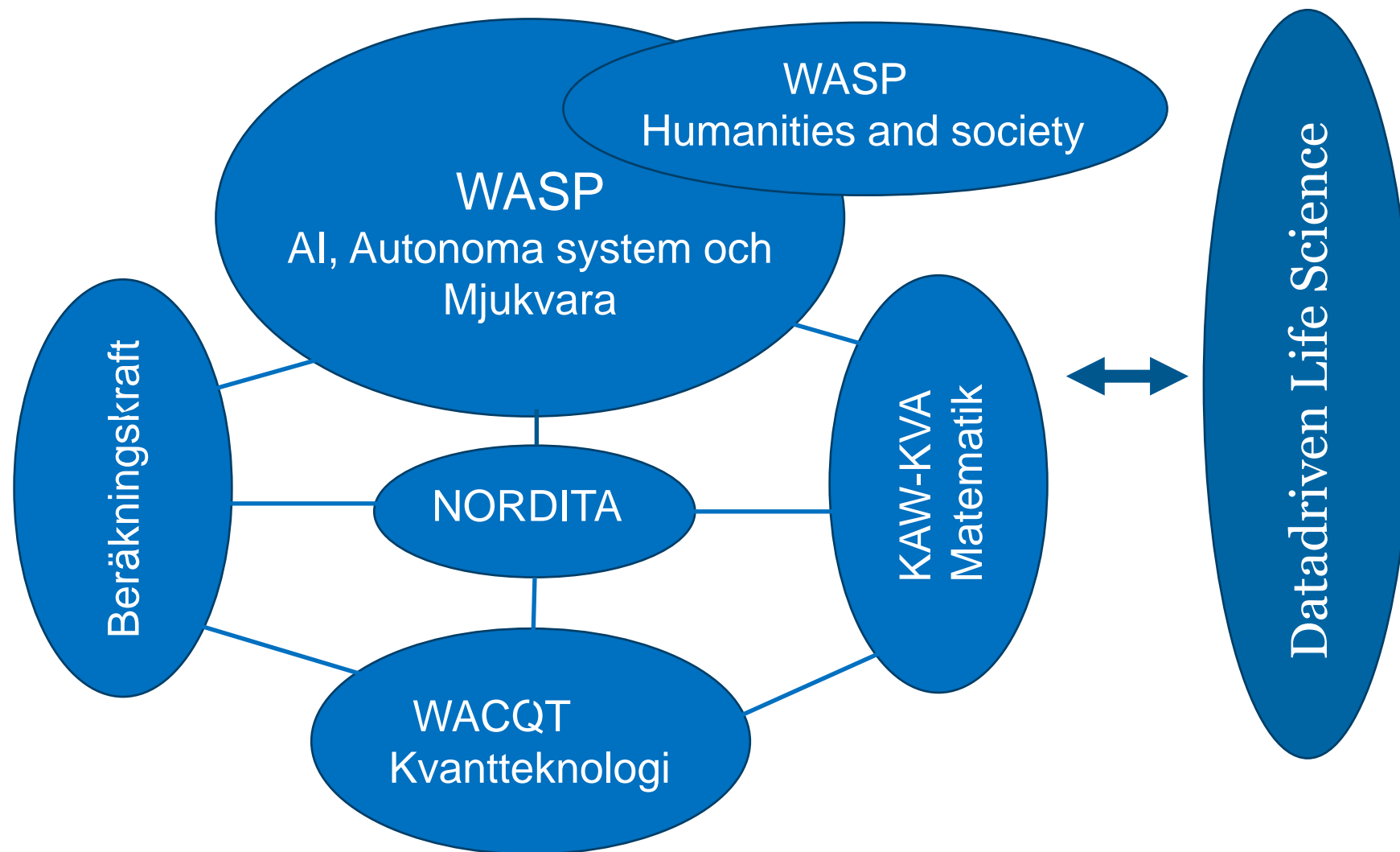
INSTALLATION TRANSFORMATION



TRANSFORMATION of
industries

BE INNOVATIVE OR BE HISTORY

Ett nätverk av kompetens:



FORSKNINGS-
SATSNINGAR
TOM 2029:

WASP	4.2
DDLS	3.1
WACQT	1.0
WASP HS	0.7
Matte	0.5
Nordita	0.2
Beräkning	0.3
.....	
Totalt	10.0
miljarder	

- **Largest individual private research program in Sweden ever**
- **5,5 billion SEK for 15 years till 2030**
 - Knut and Alice Wallenbergs stiftelse 4,2 billion SEK
 - Universities, Industry 1,3 billion SEK
 - *Vision* - Excellent research and competence in artificial intelligence, autonomous systems and software for the benefit of Swedish industry.
 - *Mission* - Build a world leading platform for academic research that interacts with leading companies in Sweden to develop knowledge and competence for the future.



WASP MAIN INSTRUMENTS

- A research program with the best researchers in the field.
- Recruitment of both leading and young researchers.
 - 42 in place; aim for 80-100 in total
 - Top-level recruitment of **Wallenberg Chairs in AI**, now nine in total.
- A graduate school in close interaction with Swedish industry.
 - At least 600 PhD with at least 100 industrial PhDs
 - now with 337 PhD students, 101 industrial PhD students from 40 companies
- Arenas for research and demonstration in collaboration with industry and other parties.
- Internationalization; Stanford, Berkeley, NTU

WASP INDUSTRIAL PARTNERS

AB Volvo

ABB AB

Acconeer AB

Advenica

ARM

AstraZeneca

Axis Communications

Boliden

Codemill AB

Combain Mobile AB

Combient

Combitech AB

Elekta

Epiroc Sweden AB

Ericsson AB

Göteborg Energi

Gavagai

Husqvarna AB

Kairos Logic AB

Midasplayer

Nvidia

Recorded Future

Saab AB

Scania CV

SEB

Sectra

Semcon Sweden AB

Sony

Stena Line

System Verification

Systemite AB

Tieto Sweden Sup. Serv.

Tobii

Univrse

Veoneer

Volvo Car Corporation

Volvo Technology

Zenseact

CAREER PROGRAMS

- 600 top PhDs will graduate from WASP
- Many of them will find career opportunities in industry
- Some will look for an academic career and may form the basis for the next generation
- Three **new initiatives** aimed at PhD students approaching their exams:
 - postdoc program,
 - industrial network program
 - program for supporting the initial stages of innovation and research validation
- New career program for academic career beyond postdoc planned



WASP-HS (HUMANITIES AND SOCIETY)

Research in Humanities and Social Sciences on challenges and consequences from the introduction of AI and Autonomous Systems

Key Areas:

- Ethics
- Economic consequences
- Legal aspects
- Social consequences, including impact on the labour market
- Improved information systems

Budget:
660 MSEK

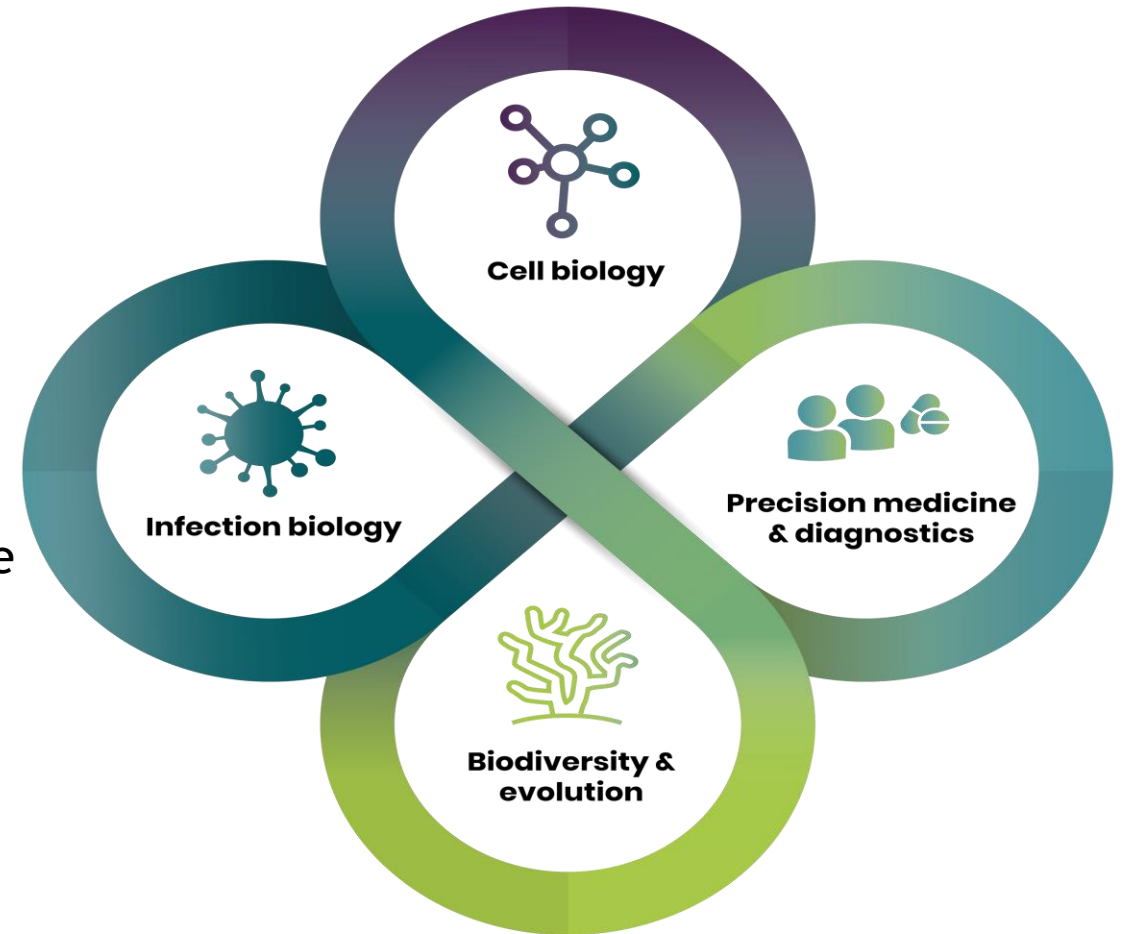
1 Graduate School
70 Ph.D. Students
10 Research Groups
12 Guest Professors



Datadriven Life Science

En satsning på fyra strategiskt viktiga områden

- Nationellt program
- Drivs av SciLifeLab
- 3,1 miljarder
- 2021 - 2030
- Extrahera kunskap från data
- Utveckla nya teknologier
- Rekrytering av 40 unga internationella toppforskare
- 200 Doktorandtjänster
- 50 Industridoktorand
- 200 Postdoctjänster
- 50 Industripostdocs



INVESTMENT IN AI INFRASTRUCTURE

KAW SNIC investment of 70 MSEK in two stages

Available to all research domains in Sweden

Phase 1: 44 NVIDIA V100 GPUs, 16 NVIDIA T4

Phase 2: Available Q4 2021

KAW 300 MSEK investment in NVIDIA SuperPOD

Exclusive to KAW funded research

Phase 1: 60 DGX A100 servers, 2 DDN AI400X

Phase 2: 40 DGX A100 servers, 1 DDN AI400C

NVIDIA Technology Center will be setup in conjunction with resource

The Knut and Alice Wallenberg Foundation has donated SEK 300 million to Linköping University and the National Supercomputer Centre (NSC) to build Sweden's fastest supercomputer for machine learning and artificial intelligence.

The construction and installation of The BerzeLiUs supercomputer, named after scientist Jacob Berzelius from Östergötland, will begin in the start of 2021. The supercomputer, a NVIDIA DGX SuperPOD, will offer a processing speed of 300 petaflops for AI.

SUMMARY

- KAW invests 10 BSEK in strategic research programs in areas AI and digitalisation technologies
- Long-term programs
 - Until 2030
 - Started 2015 with the WASP program
- Supports excellent research at Swedish universities
- International recruitments of up to 200 senior and young top-level researchers
- Extensive graduate schools, total of almost 1.000 Ph.D students
- Program for support of innovation, research validation
- Invests in computational infrastructure for AI 70+300 MSEK

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