



EECS Staff meeting

12 February 2025



Agenda

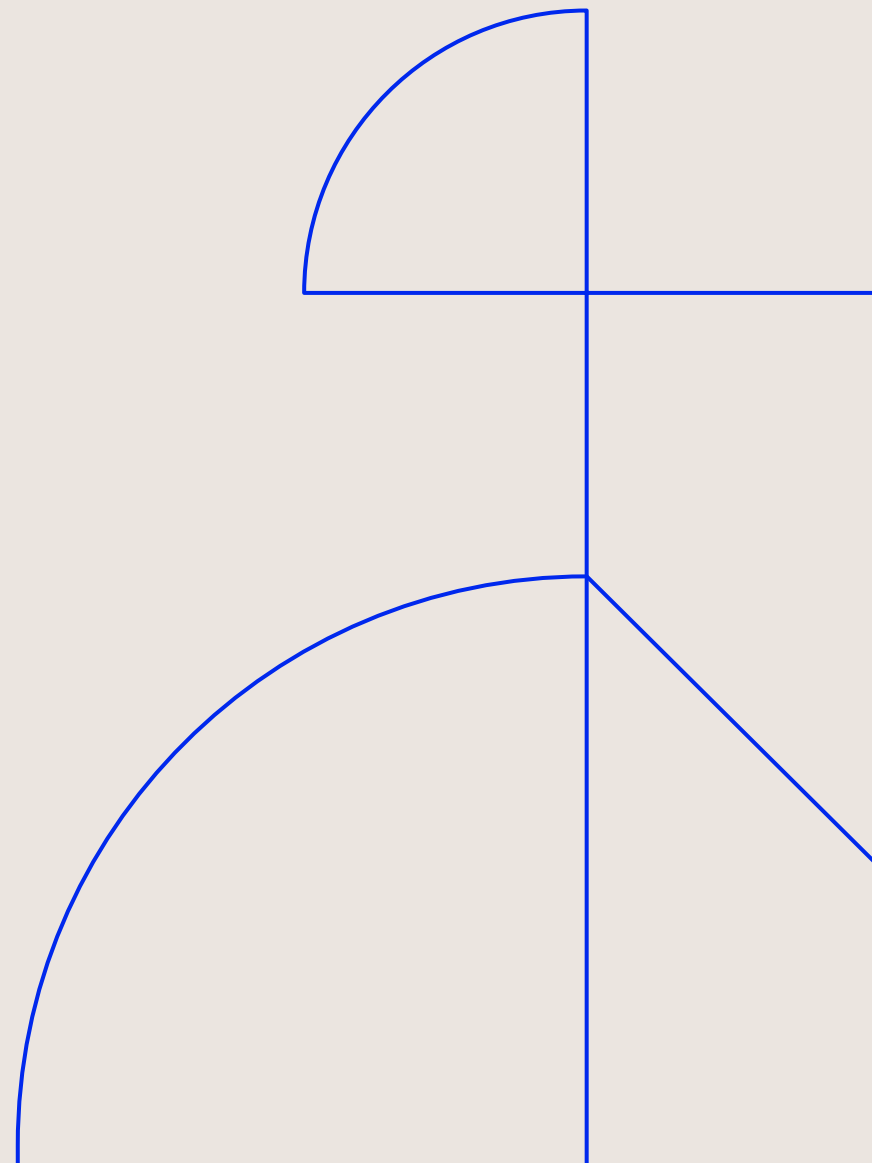
- Head of School Ann Lantz on general news about ongoing activities.
- Joakim Lilliesköld – New organization 2026
- Markus Hidell – First and second cycle education 2024, financial result and education volumes
- Lina Bertling Tjernberg – Brief update on Division visits and Research & Impact Day 19 August
- Gunnar Malm- Kista campus move update
- Cicek Cavdar- Research 6G
- Jura Miniota- PhD council news
- Q & A

Host: Emelie Smedslund, KTH Communication



General news about ongoing activities

Head of School Ann Lantz





Intelligent Network Systems Research Group

Cicek Cavdar

Intelligent Network Systems Research Group- COS

Research Topics

- Green Mobile Networks
- Integrated Satellite, HAPs, terrestrial networks
- Network Architectures for 5G and Beyond: Softwarization, Cloudification, Densification
- ML assisted Network Resource Management

Scientific Leader for EU Eureka Celtic Projects:

- 6G-SKY -6G for Connected Sky- (2022-2025)
KTH, Ericsson, Airbus, DT, Fraunhofer, Twins,..
- RAI-6Green (Robust and AI Native Green 6G Networks) 2024-27)
Tele2, Turkcell, Siemens, Mic Nordic, Maven Wireless, Infovista..

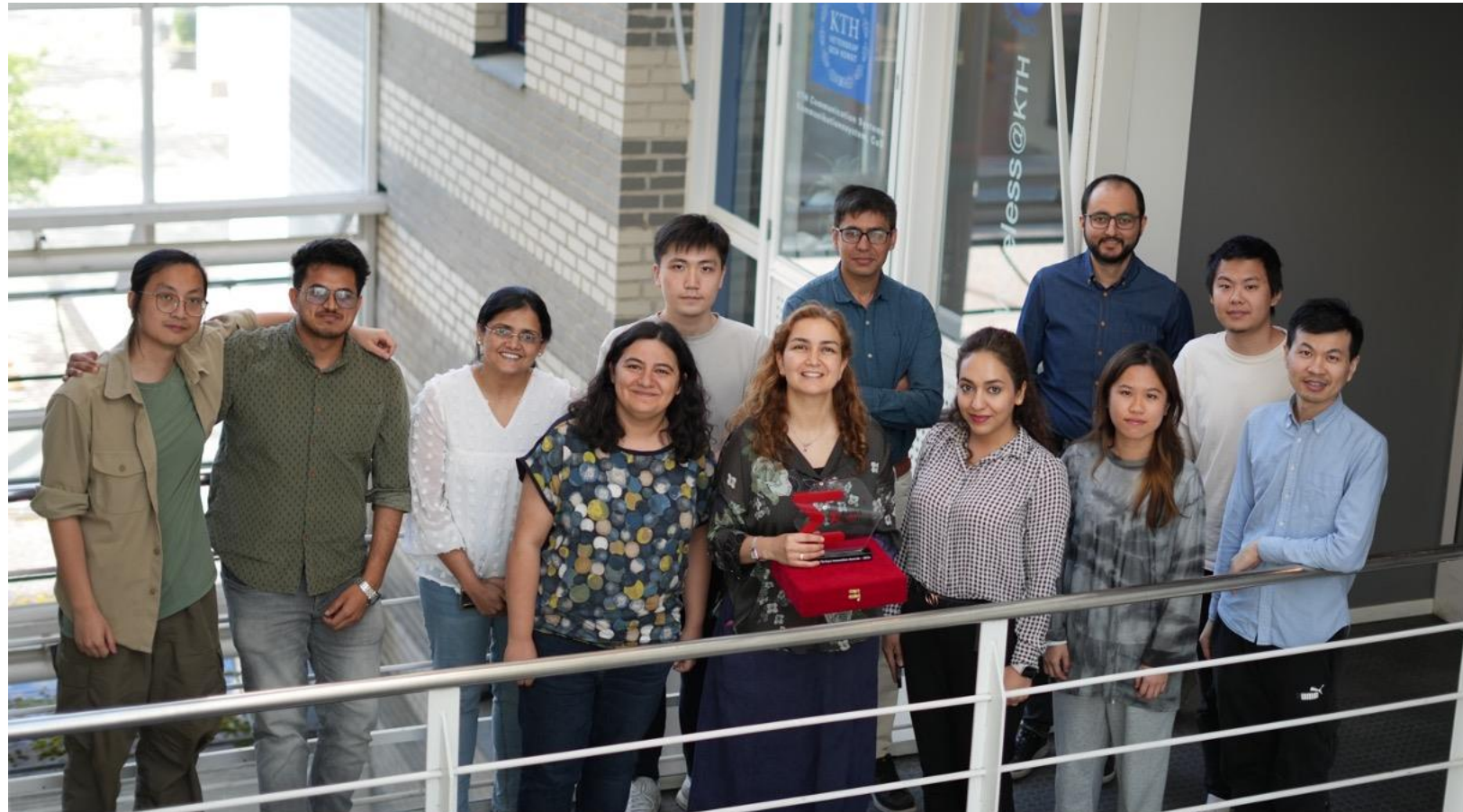
2024 Eureka Innovations Award and Celtic Excellence Award as Research Leader in AI and Green Communications



Assoc.Prof. Cicek Cavdar

- *Director, SMART-6GSAT Research Center*
- *Vice-Head, Communication Systems Division*
- *Technical Coordinator of EU projects 5Green, AI4Green, ICARO*
- *Teaching Wireless Networks, IoT...*

Intelligent Network Systems Research Group - COS (2016-)



PhD students:

Zhenyu Li, Satya Siriram,
Qichen Wang, Zinat Behdat,
Ozan A. Topal, Irshad A.
Meer, Neetu R. Rani
(visiting), Anders Enqvist

Researchers, Postdocs:

Mustafa Ozger, Aunas
Manzoor, Shuai Zhang



Research Focus:

1. Sustainability and Green Communications

2. 3D Networks: Integrated Airspace ,Terrestrial and Non-Terrestrial Networks



Green Communications

- 5Green- 5G Green Mobile Networks (2012-14) (EU)
 - KTH, Ericsson, Telecom Italia, ..
- EXAM- Energy Efficient Xhaul and M2M (2014-15) (EU)
 - KTH, Ericsson, Telecom Italia, ..
- SooGreen- Service Oriented Optimization of Green Networks (2016-18)
 - KTH, Mic-Nordic, Tele2, Flexenclosure, Celfinet, Orange, Nokia, ..
- AI4Green- AI for Green Mobile Networks (2018-22)
 - KTH, Tele2, Orange, IMT, Infovista, BI-Nordic, Celfinet, ISEL, Turkcell, PI-Works, Turkgen
- RAI-6Green – Robust and AI Native Green 6G Networks (2024-27)
 - KTH, Tele2, Infovista, Maven Wireless, Celfinet, AITIA, Hun-Ren, Turkcell, PI-Works, Siemens, Institute Mines Telecom, Centrale Supelec, CityPassenger, Firecell, Gandi, Akkodis



3D Networks: Integrated Airspace ,Terrestrial and Non-Terrestrial Networks

- ICARO-EU Direct Air to Ground Connectivity in Europe (2016-19)
 - KTH, Ericsson, Airbus, BT, Transatel, Skysense, FBK
- 6G-SKY: 6G for Connected Sky (2022-25)
 - KTH, Ericsson, SAS, Airbus, DT, Fraunhofer, Meshmerise, Lakeside-Labs, Twins, Skysense
- SMART-6GSAT: Sustainable, Mobile, Autonomous and Resilient 6G Satellite Communications (2025-30) Research Center (SSF)



SMART 6GSAT MD Research Center

for Sustainable, Mobile, Autonomous and Resilient 6G Satellite Communications

Cicek Cavdar, Assoc Prof.

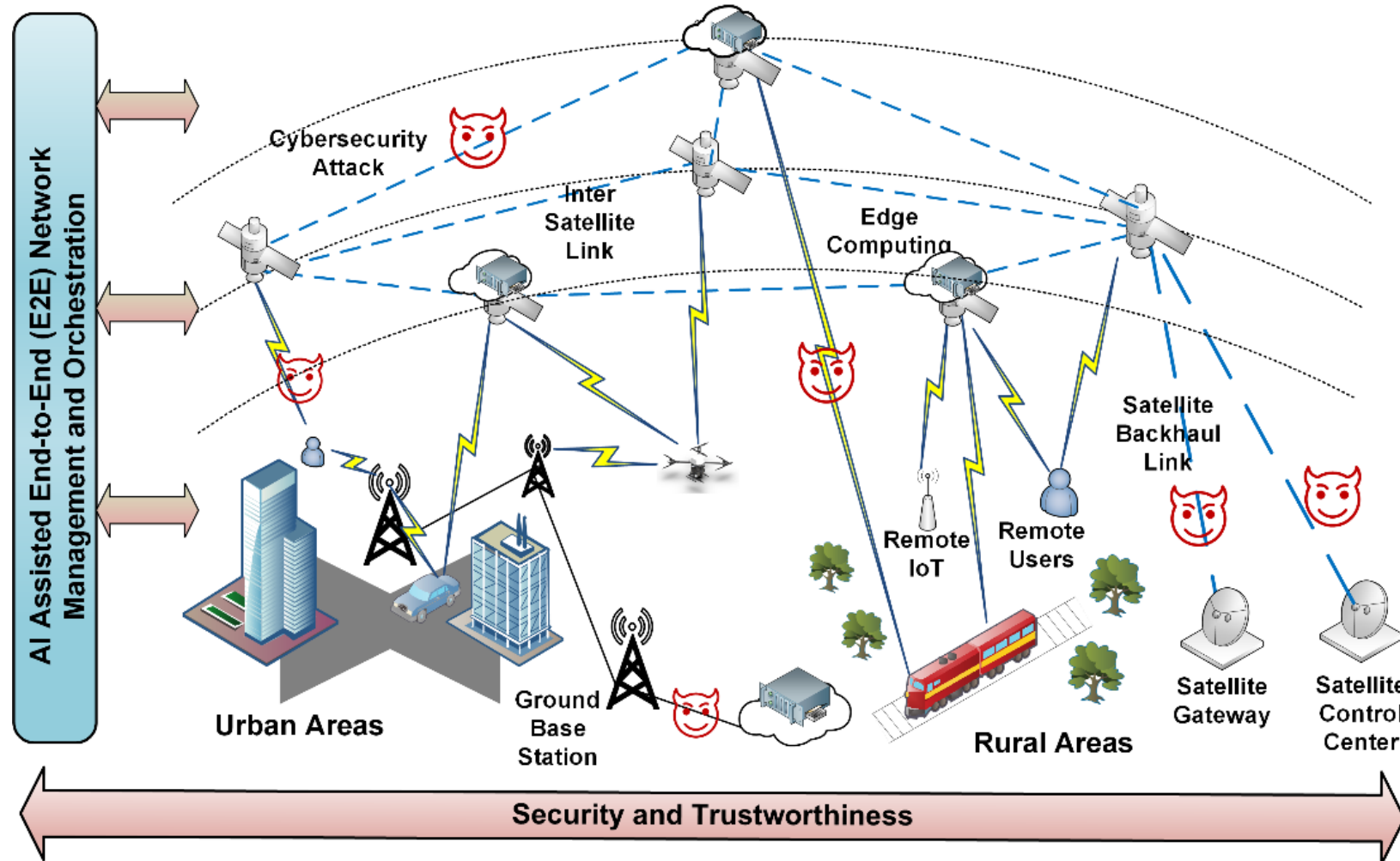
Center Director

Director of Intelligent Network Systems Research Group

KTH Royal Institute of Technology



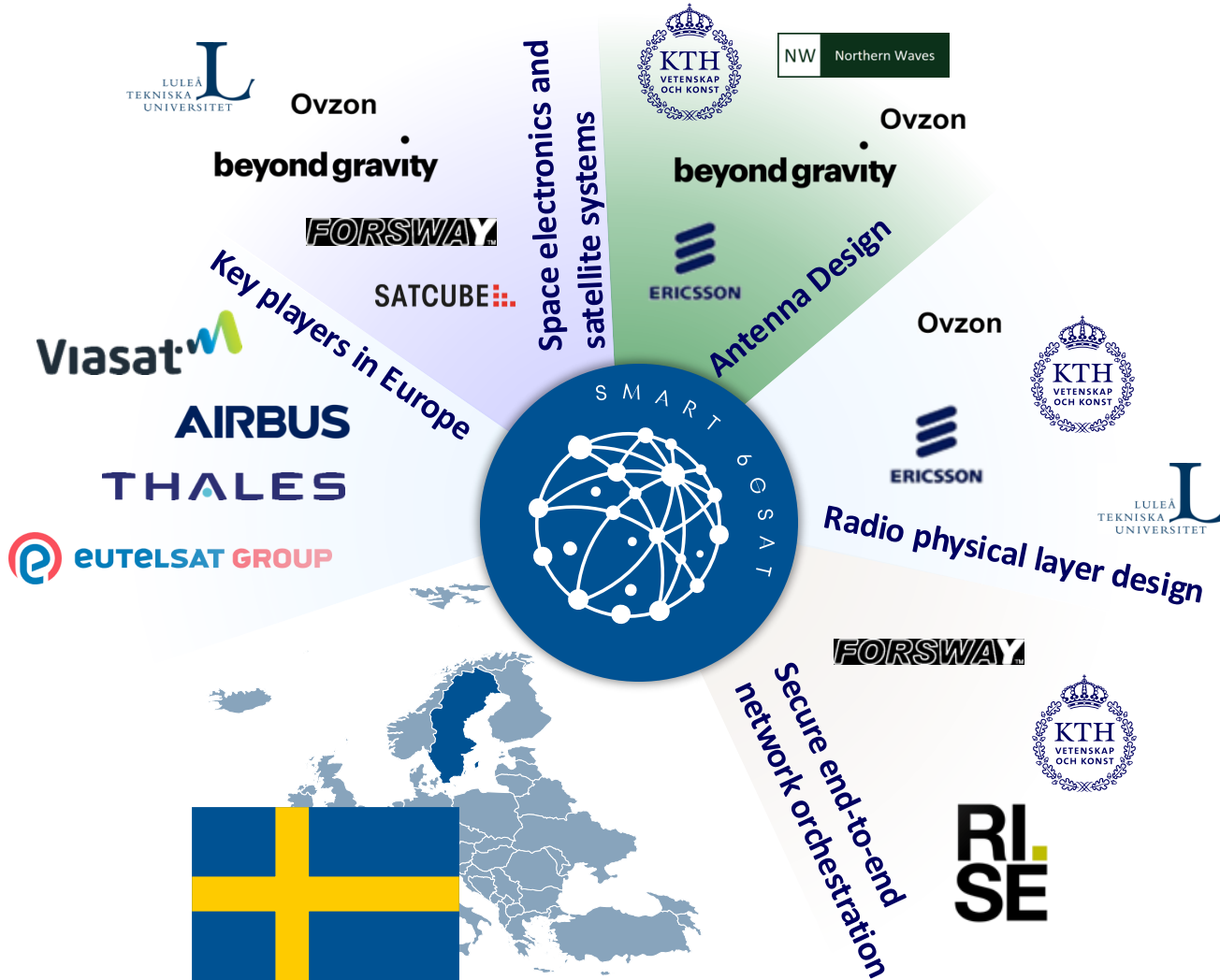
Goal: Robust and Sustainable Seamless Connectivity via Integrated TN and NTN with Sensing, Localization and Computing



Partners



S M A R T
6 G S A T

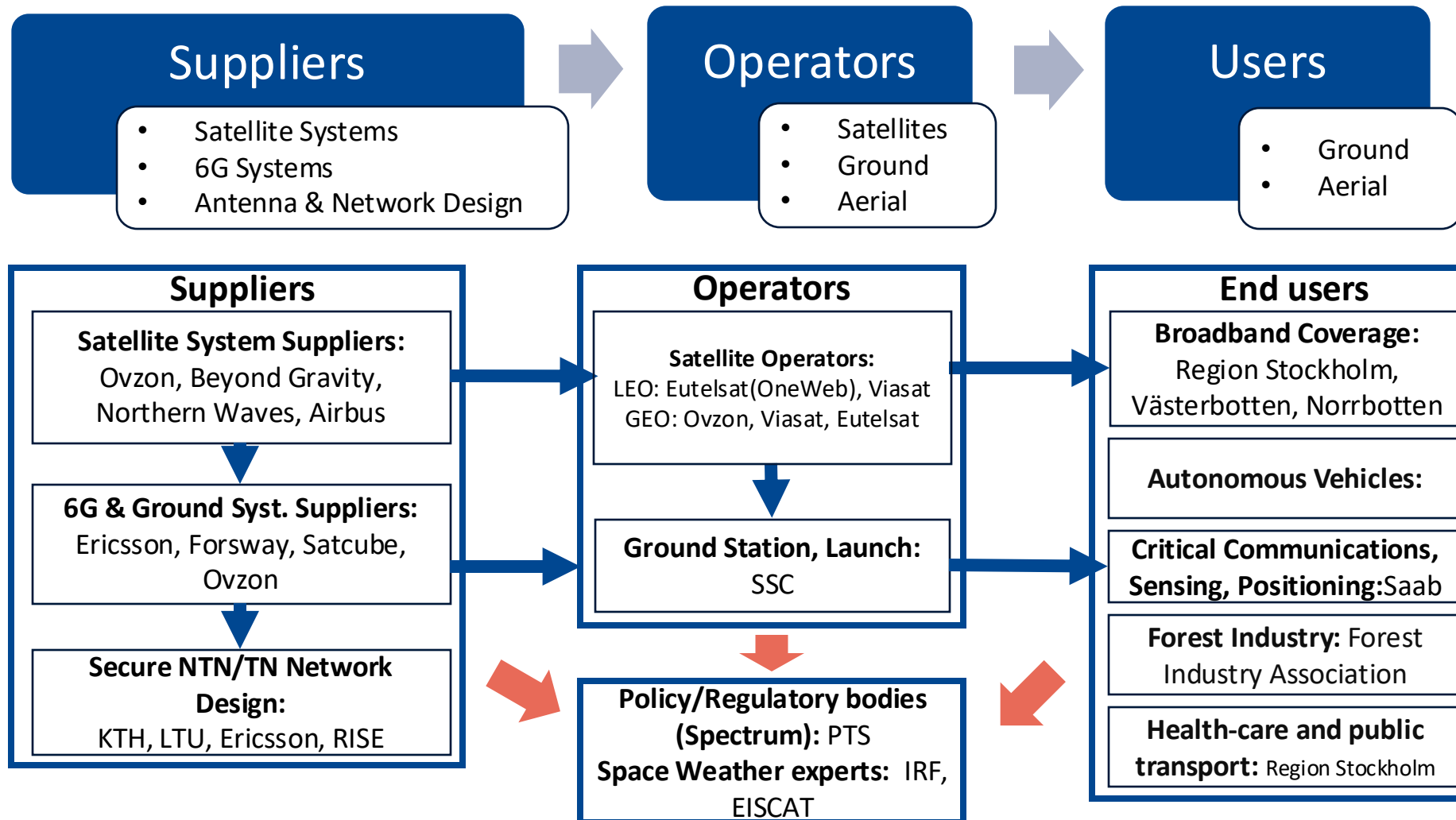


SMART 6GSAT MDRC will foster and consolidate a multi-disciplinary research force from Sweden supported by key players in Europe

SMART 6GSAT Partners



S M A R T
6 G S A T



6G Satellite Communications Value Chain

Applicants and Innovation Areas



S M A R T
6 G S A T



Cicek Cavdar

Satellite
Integrated 6G
network
architecture and
network
orchestration



Emil Björnson

Energy-efficient
and reliable
physical layer
design:
D-MIMO and
beamforming



**Oscar
Quevedo-Teruel**

Robust and
Energy-efficient
Antenna Design



**Jaap
van de Beek**

Reliable and
Energy-efficient
Positioning and
Sensing



Rene Laufer

Space Systems,
validation and
testing



Shahid Raza

Cyber security
and AI for
Satellite
integrated 6G
networks





Ongoing activities at KTH, EECS

EECS retreat together with School management, heads of departments and departments, FA, directors of studies, vice-chair of the school faculty board, doctoral student representative

Date: 28–29 January 2025

Goals of the internship

To evaluate the idea of making the current division level into a departmental level, i.e. removing a layer in the hierarchy of the current organization. The focus is on identifying problems, resolving knots and defining important principles for a new organizational structure.

-> Joakim Lilliesköld



Ongoing activities cont.

KTH retreat February 6 –7 with management group at KTH and invited guests

- Final version of KTH's budget documents 2026-2028 ahead of the board's decision on February 19
- Resource allocation model for Fofu
- Campus plan and the work and decision-making process for the local council
- HR and financial support at schools
- Quality system for research
- Discussion on GRU dimensioning → Markus Hidell



Ongoing activities cont.

School faculty board retreat together with school management (deans and FFA, GA) and faculty board members will have a workshop on the EECS recruitment strategy on March 13-14

The aim is to formulate a recruitment strategy at our school, since from 2025 all new positions have to pass the faculty board. Without such a strategy, it will be very hard for the faculty board and the school to make good and consistent long-term decisions on the future faculty development.

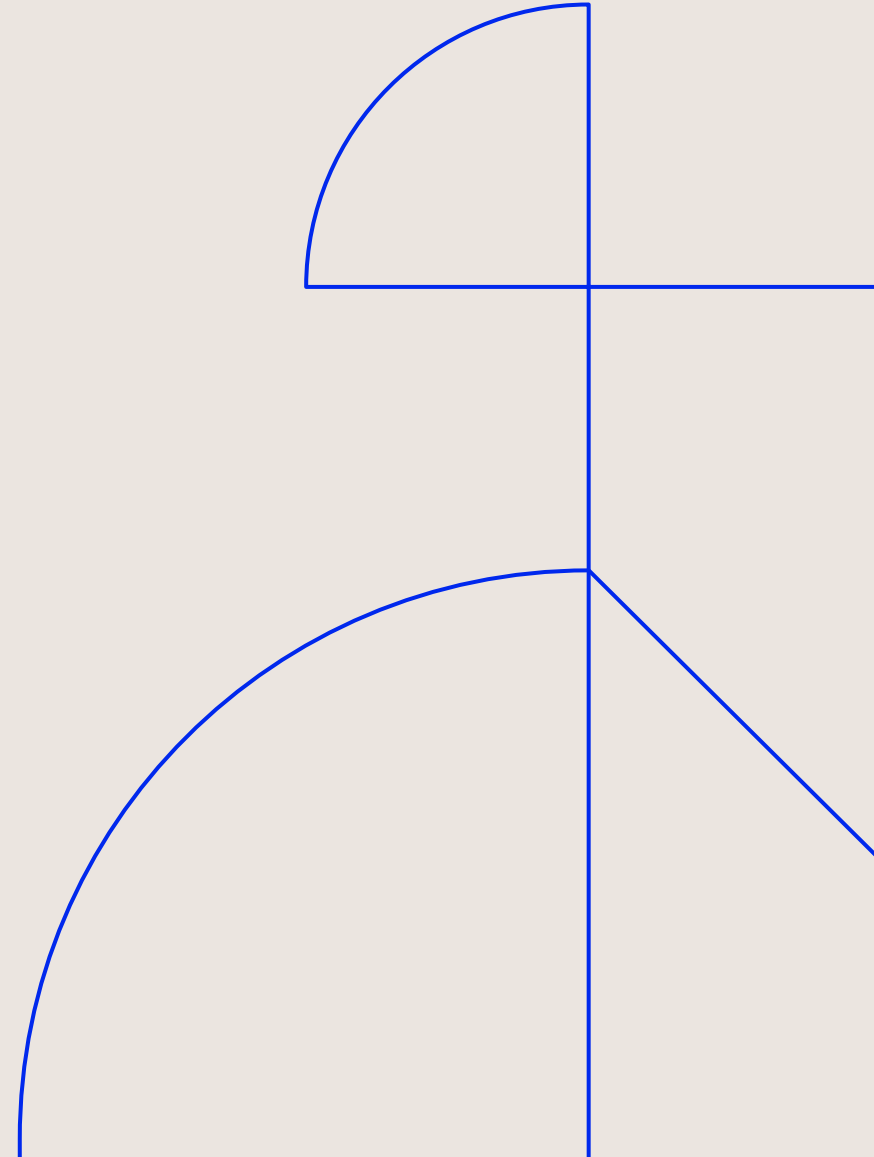
Ingo Sander, organizing the workshop, says that we will concentrate on the formulation of a recruitment strategy for future faculty. Here, the existing school strategy, also expressed in form of a 'fakultetsförnyelseplan', will be used as a base for the discussion at the meeting.

From KTH:s operational plan

- On **1 January 2026**, the school will introduce a new departmental structure where the departments will have full responsibility for education, research and doctoral education.
- Audit of the internal organisation and the prerequisites for managing the assignments given to lead and develop our operations. The work environment is critical, and the impending relocation of operations from Campus Kista to KTH Campus as well as financial challenges, especially in undergraduate education, place new demands on our organization, our leadership and our distribution models. As part of this, the school initiates the following activities:
 - Review the **role of head of department** in order to be assigned a holistic perspective and responsibility, time for the assignment and reasonable conditions to take responsibility for the department's assignment.
 - Review the necessary **support roles for the head of department**.
 - **Departmental support will be developed for the school's new departments.** The support will be coordinated by appointed management coordinators who will be hired in 2025. The plan is for a management coordinator to assist approximately two departments and will have their geographical residence adjacent to the departments to which it provides support.
 - **Review of our education allocation models** (GRU) and research (FoRD) to ensure that the compensation models are transparent and easy to understand across the organisation so that the staffing of each teacher can be part of priorities to bring finances into balance.
 - **Reduce the gap between the school's management and other staff**, especially the faculty. It refers to both how information reaches all employees and how an inclusive discussion about the school's development can be ensured.

New organization

Deputy Head of School with a focus on change management Joakim Lilliesköld





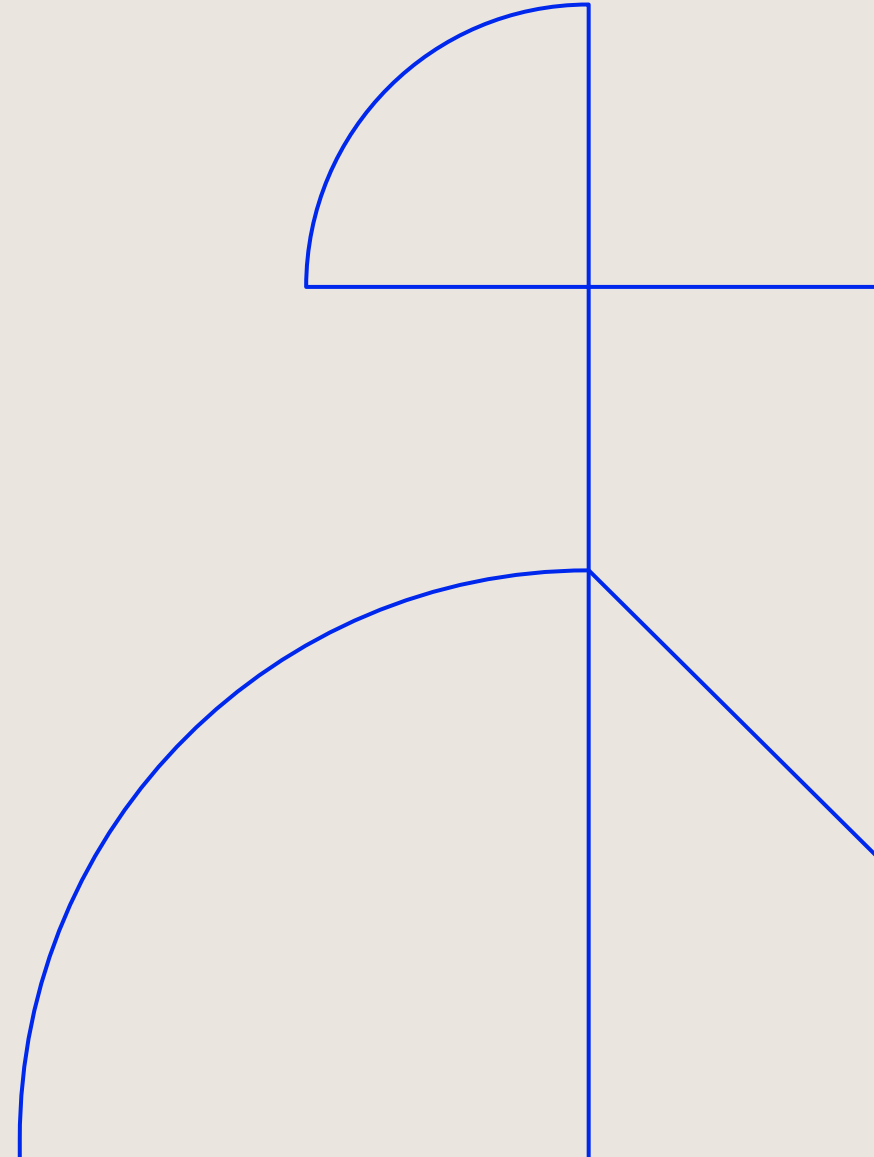
New organization

- Suggest improved organization by September 30, new organization should be in place by the new year
- Main focus in the work group right now: What happens if we take away one level, and make our current division level our department level
- Main concerns in current and future organization from retreat
 - Administrative support
 - Master thesis administration
 - Transparent and sustainable economic models
 - Balance of GRU and FOFU
- Start with deeper analysis of consequences of making division level our department level, with analysis of
 - Thesis administration
 - GRU allocation and course distribution
 - Our economic distribution models



First and second cycle education 2024

GA and Deputy Head of School Markus Hidell



GRU financial result 2024

- EECS GRU budget for 2024 indicated a deficit of around **60 MSEK**
- EECS GRU financial statements for 2024 show a negative result of around **30 MSEK**
 - Significant improvement compared to budget, thanks to hard work with increasing the number of students
 - EECS **received 16.7 MSEK in compensation** for overproduction during 2024
 - Delivered well above our commitments for 2024

UTFALL 2024 - Resultaträkning						
Enhet	Lokal-kostnader inkl. kontor	Personal-kostnader (kkkr)	TB KTH +Skola +Avd (kkkr)	Övriga GRU-kostnader (kkkr)	Total GRU-kostnad (kkkr)	Totala GRU-intäkter (kkkr)
EECS - Datavetenskap	25 981	77 647	63 824	6 123	173 575	154 085
EECS - Elektroteknik	12 329	21 664	18 954	6 770	59 717	52 026
EECS - Intelligenta sys	8 730	27 999	23 286	662	60 677	57 294
EECS - Människocentr	4 378	20 201	16 806	2 063	43 448	40 050
Summa institutioner	51 418	147 511	122 870	15 618	337 417	303 455
EECS - Skola	1 707	7 006	5350	2 538	16 601	21 467
EECS Totalt	53 125	154 517	128 220	18 156	354 018	324 922

- Some conclusions
 - EECS still has an accumulated surplus of GRU at slightly below 20 MSEK (not shown in table above)
 - All departments showed negative result 2024
 - Partly because of planned consumption of accumulated surplus

EECS GRU—changes in course offering 2024

- EECS has around 440 courses in total
 - 1st and 2nd cycle
- Overall changes in number of courses 2024
 - 21 courses established
 - 23 courses discontinued

Department	# Established	# Discontinued
CS	5	6
EE	9	9
HCT	3	4
IS	4	4

Utfall helår 2024					
Institution	HST	HPR	Andel HST	Andel HPR	Prestationsgrad
CS	1713,64	1 506,4	49,8%	48,5%	87,9%
EE	567,51	505,9	16,5%	16,3%	89,1%
HCT	445,8	422,0	12,9%	13,6%	94,7%
IS	717,1	668,5	20,8%	21,5%	93,2%
Totalt EECS	3 444,1	3 102,7	100,0%	100,0%	91,2%

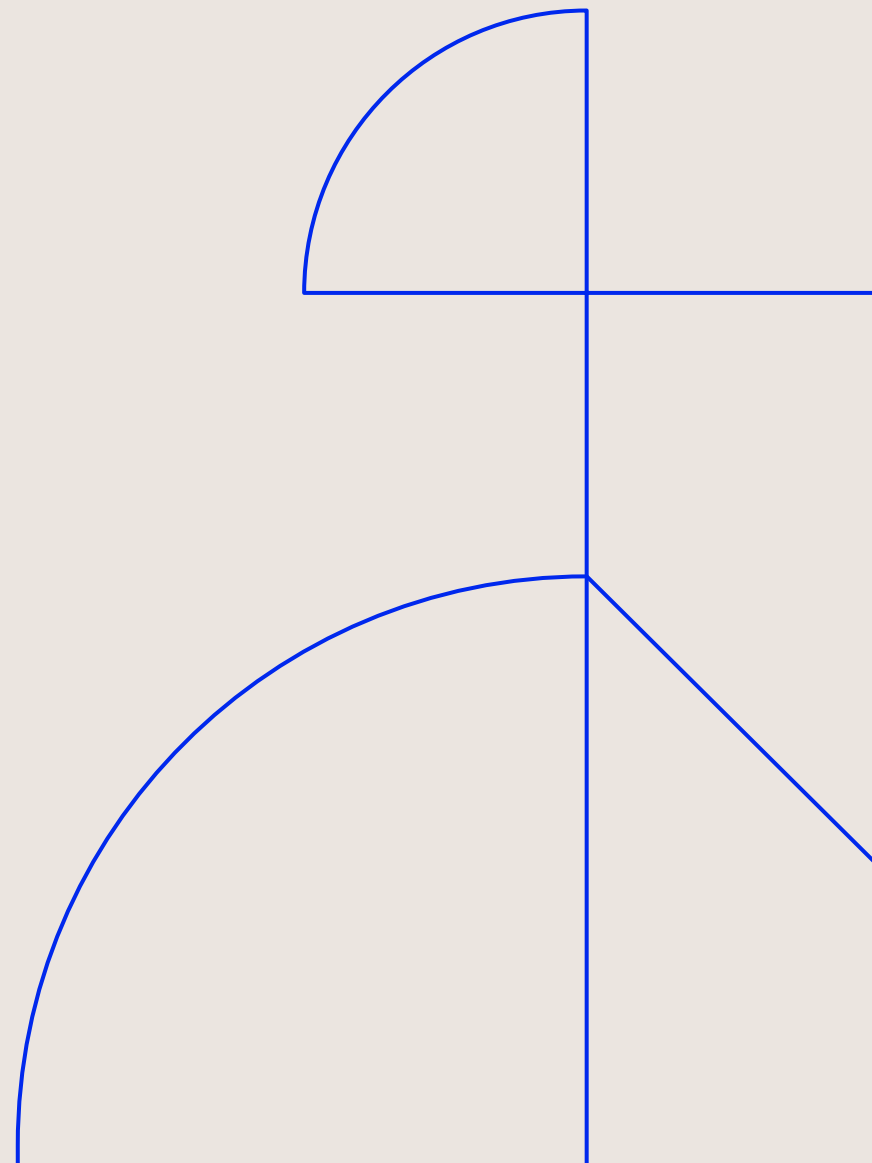
Utfall 2023					
Institution	HST	HPR	Andel HST	Andel HPR	Prestationsgrad
CS	1 620,1	1 419,8	49,9%	49,2%	87,6%
EE	552,8	488,0	17,0%	16,9%	88,3%
HCT	428,2	384,7	13,2%	13,3%	89,8%
IS	644,0	590,9	19,8%	20,5%	91,7%
Totalt EECS	3 245,2	2 883,3	100,0%	100,0%	89,4%

- LLL course offering increased from 57 HST 2023 to 80 HST 2024
 - 27 HPR in total, performance rate of 34,8%
 - Total number of LLL courses 2024 was 36



Brief update on Research & Impact

Deputy Head of School Lina Bertling Tjernberg





Division visits from EECS management 2024/2025

Scheduled two hours visits to the 15 Divisions at the EECS school:

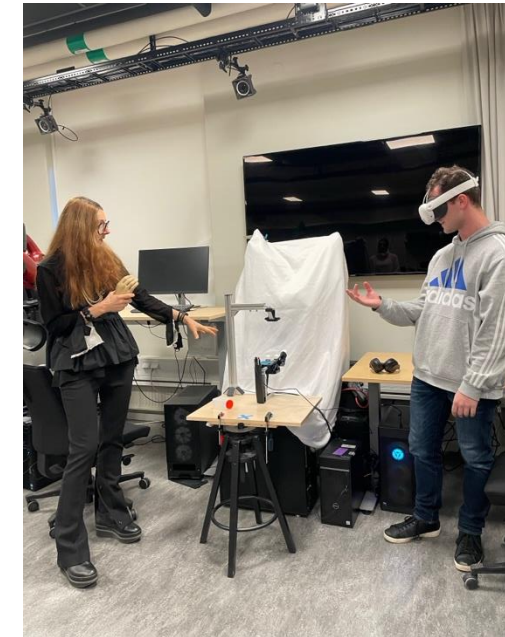
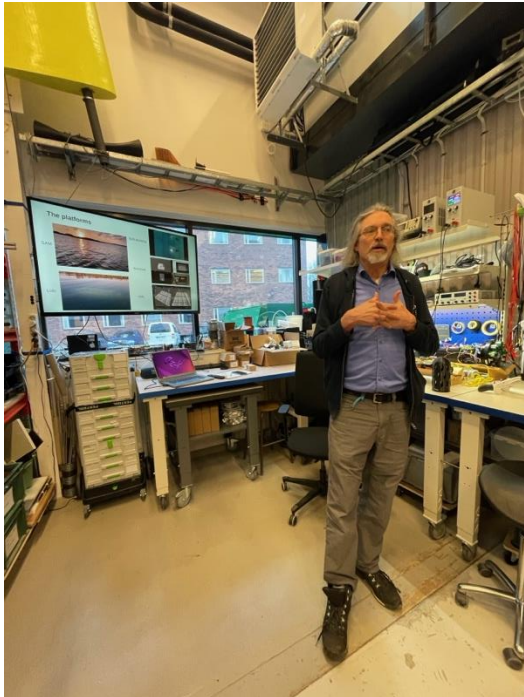
- 12 Oct. **Information Science and Engineering (ISE)**
- 28 Jan. **Robotics, Perception and Learning (RPL)**
- 5 Feb. **Software and Computer Systems (SCS)**
- 18 Feb. **Media Technology and Interaction Design (MID)**
- 4 March **Electromagnetic Engineering and Fusion Science (EMF)**
- 12 March **Communication Systems (COS)**
- 18 March **Decision and Control Systems (DCS)**
- 26 March **Electronics and Embedded Systems (EES)**
- 1 April **Micro and Nanosystems (MST)**
- 29 April **Computational Science and Technology (CST)**
- 28 May **Space and Plasma Physics (SPP)**
- 9 June **Speech, Music and Hearing (TMH)**
- 10 June **Network and Systems Engineering (NSE)**
- 20 Aug. **Theoretical Computer Science (TCS)**
- 20 Aug. **Electric Power & Energy Systems (EPE)**

□ *The overall goals are to gain an insight into the ongoing research work at the Division, if applicable, visits to research infrastructure and labs, and to understand the critical strategic questions for the research related to faculty and funding.*

Division visits to Robotics, Perception and Learning (RPL)

Overall agenda for the visit to RPL on 28 January 2025:

- SpaceLab (ITRL) and SMaRC (TR8)
- PerCorSo and TECOSA (IA Lab), AI & Autonomous Robots (Mobile robotics lab), Manipulation (Robot lab) (TR24)
- Overview presentation of the Division and concluding discussion with head and vice head of Division



Division visits to Software and Computer Systems (SCS)

Overall agenda for the visit to SCS on 5 February 2025:

- Overview presentation of the Division and short talks from Faculty
- Visits to two lab facilities



Research and Impact Day 2025 – 19th August!

EECS Research & Impact Day 2025 in brief:

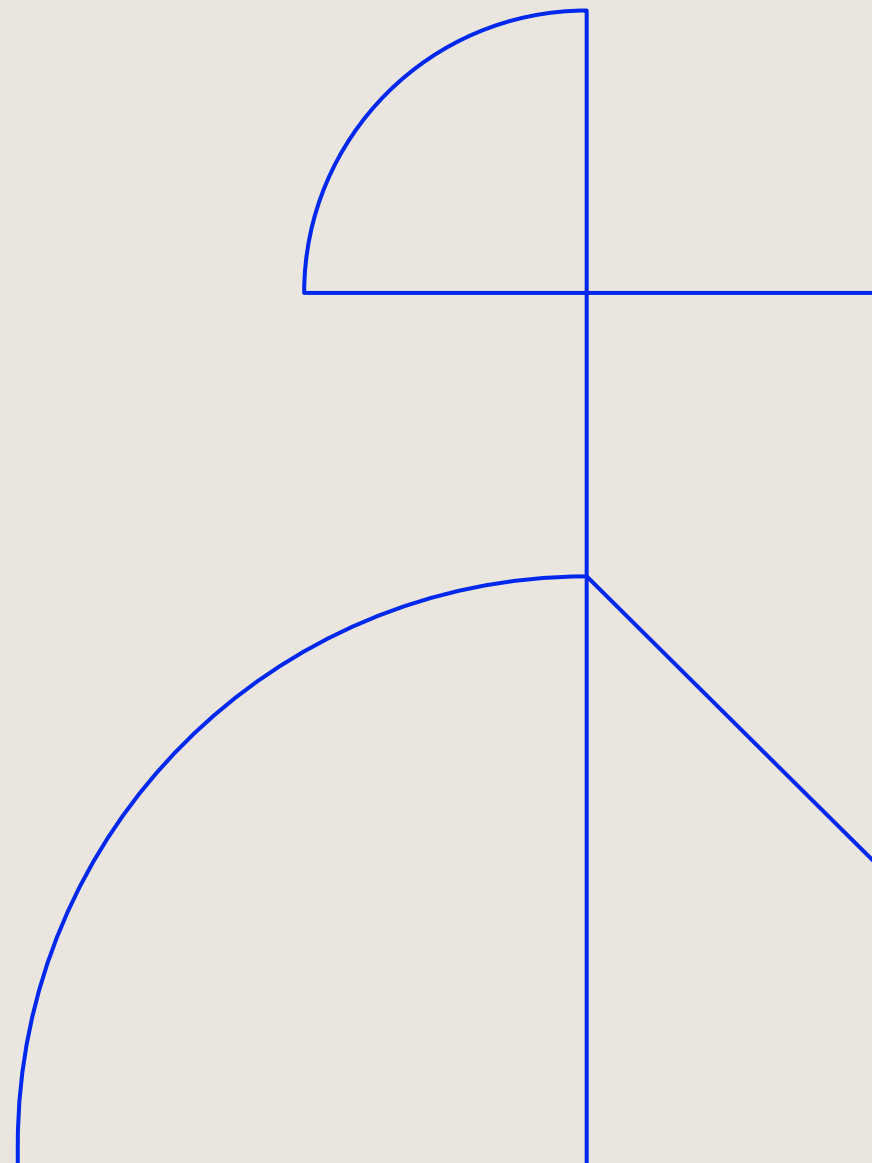
- Tuesday 19th August from 13.00-16.00 (lunch networking from 11.30 and poster session)
- Location: Plan A Alfvénsalen (F1) with tent and Plan B Nymble
- Program overview: plenary sessions and closure with poster competition
- Web page: [EECS Research and Impact Day | KTH](#)
- Welcome to get involved : contact linab@kth.se





Kista campus move update

Project leader: Gunnar Malm



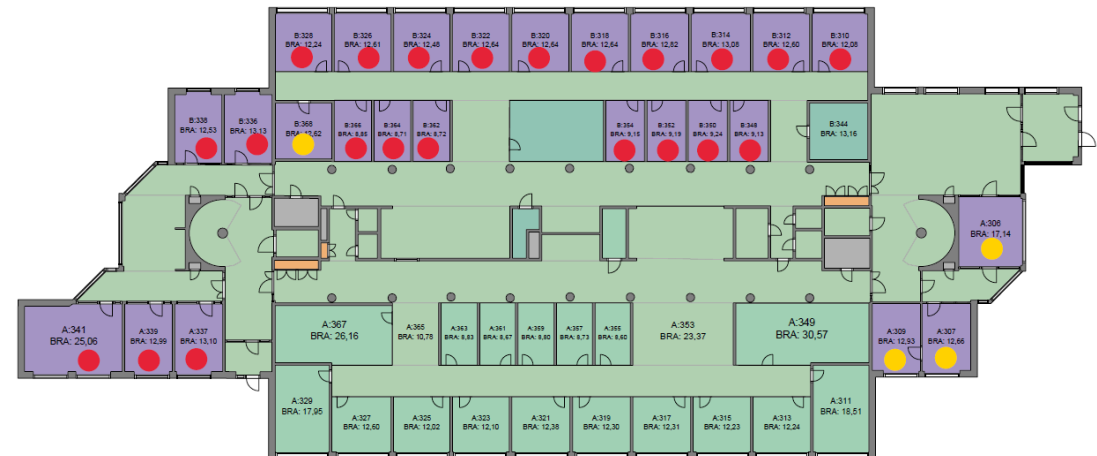


Campus move update (GRU)

- All course rounds for HT25 at KTH campus and also all admission on bachelor and master level
- Schedule review based on inputs Jan 31 will point out any issues, lack of lecture halls or similar
- Exams will be continued in Kista until "omtenta" in August. All exams will be handled centrally, i.e. not by EECS staff after that period
- Areas for project based teaching under planning in Q level 2 (50:15) further discussions involves course responsables
- Room for network lab also reserved in Q, further discussions with course responsables
- Mentor space is now closed, activities continue in Täby

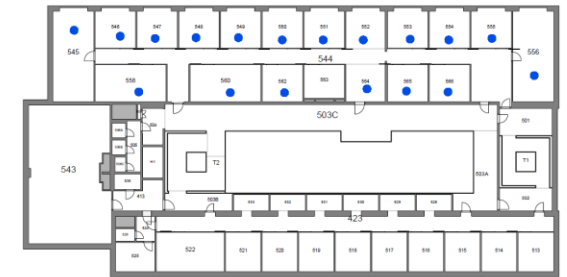
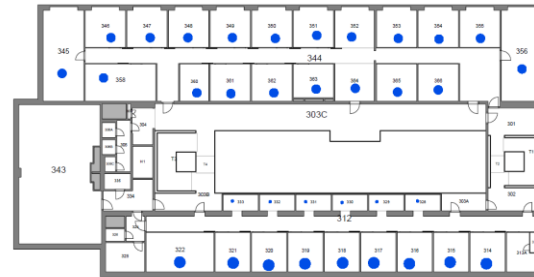
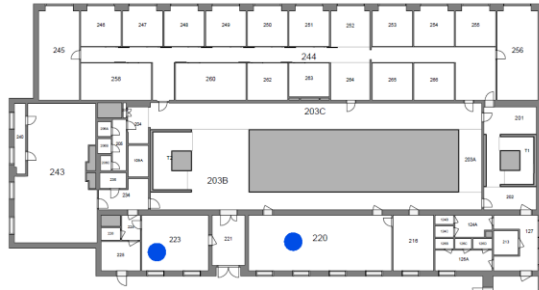
Campus move update (staff/office space)

- COS will move to 50:15- Malvinas väg 10 (Q-huset)
 - Minor renovations will start in April
 - Inventory of IT-infrastructure and lab needs ongoing
 - Inventory of needs for desks and other office furniture handled together with infrastructure
 - All staff needs to pack personal items before summer vacation, instructions and dates will follow
 - Move planned for early August



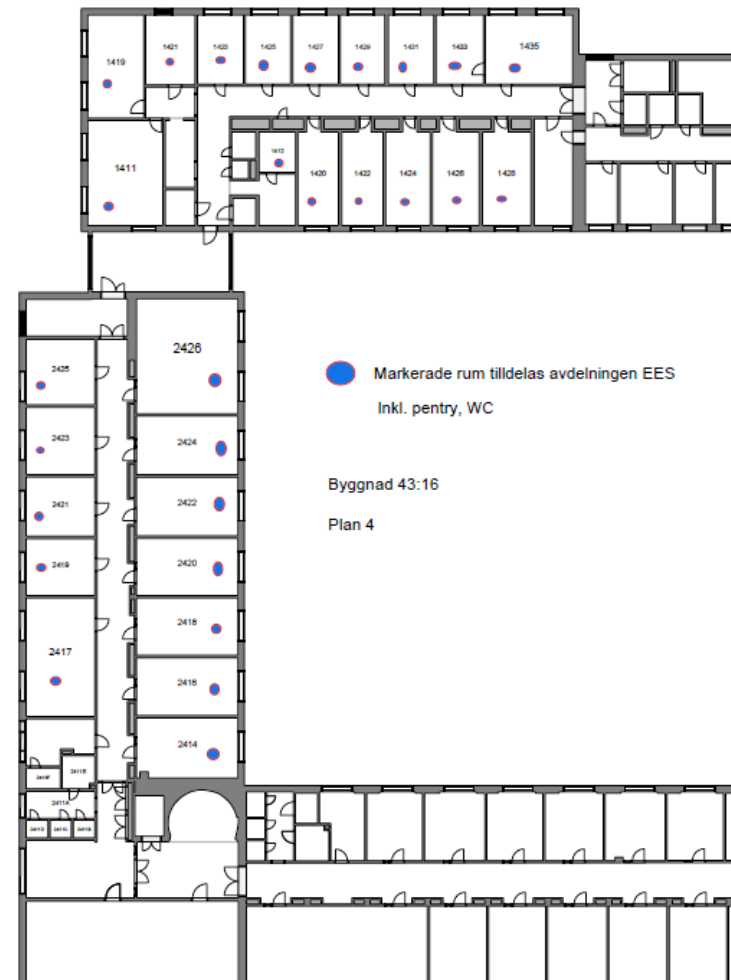
Campus move update (staff/office space)

- SCS will move to 43:8-Sing-Sing
 - Planned renovations include a common area (kitchen) and changes of doors/module walls for improved acoustics
 - Inventory of IT-infrastructure and lab needs ongoing
 - Inventory of needs for desks and other office furniture handled together with infrastructure
 - All staff needs to pack personal items before summer vacation, instructions and dates will follow
 - Move planned for early August



Campus move update (staff/office space)

- EES will move to 43:16-Teknikringen 31-33, level 4
 - An internal move within EE will free up space
 - All rooms are recently renovated and in good shape
 - All staff needs to pack personal items before summer vacation, instructions and dates will follow
 - Flexible use of some rooms from April, move completed before August
- Semiconductor activities and need for office space around Electrum will be planned in detail after report on April 15

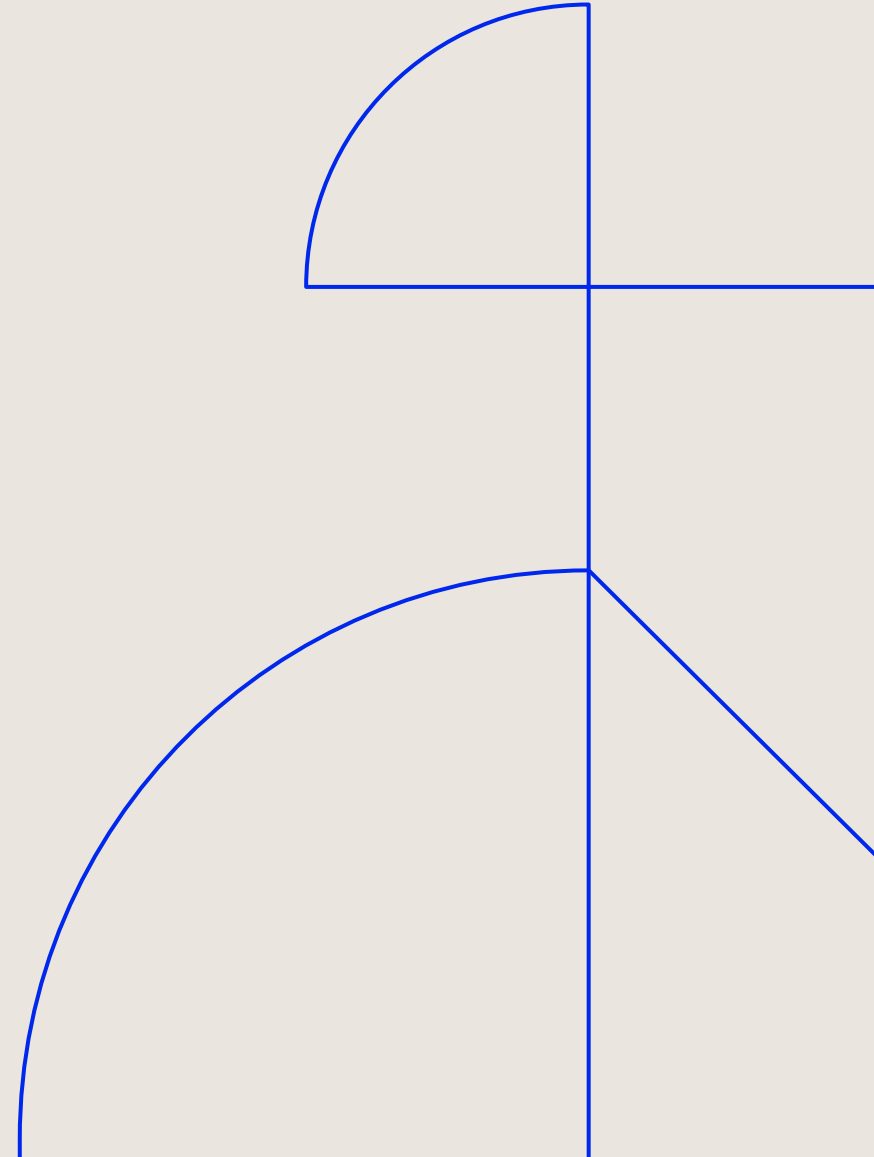




6G Research

Cicek Cavdar, COS

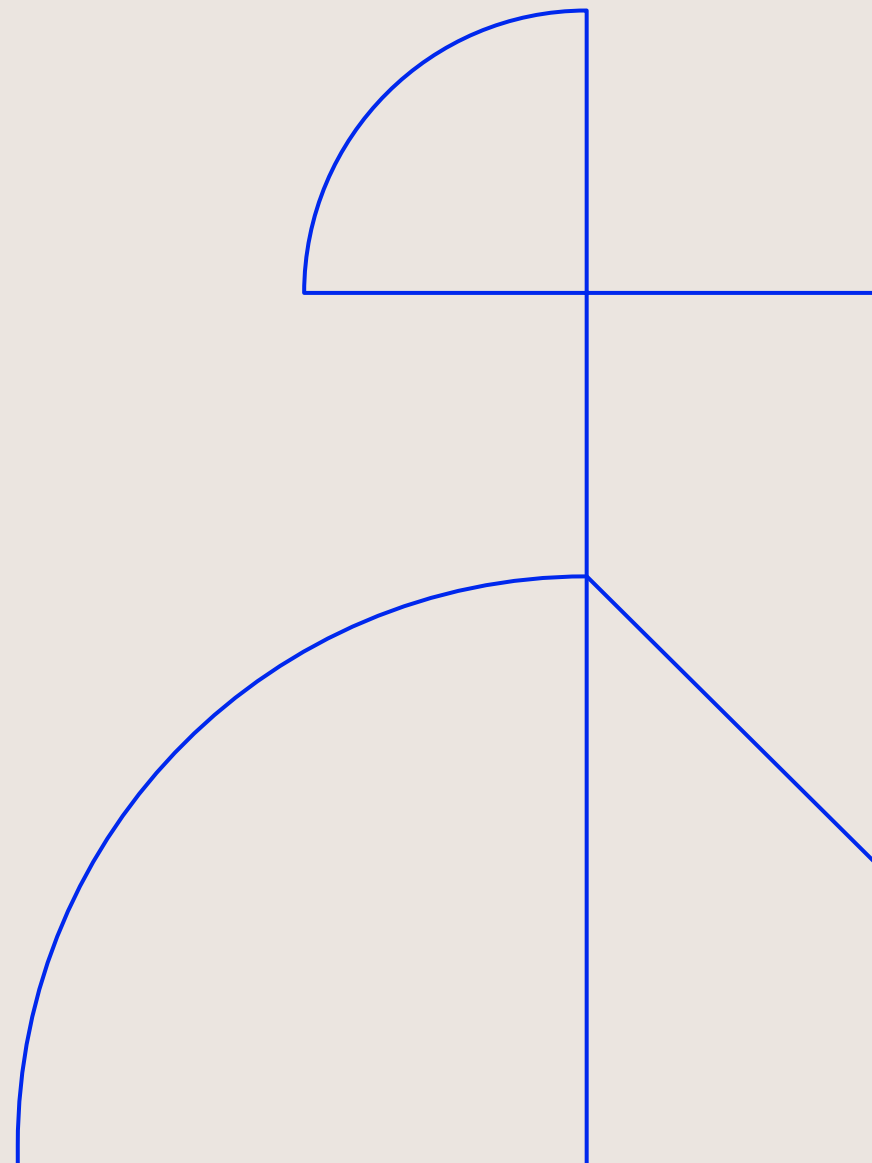
Intelligent Network Systems Research Group





PhD Council news

Chairman Jura Miniota



Focus for 2025

- Salary ladder
- Reorganization of doctoral programs
- Kista move
- Swedish courses



Contact

EECS Council Board

Name	Position
Jura Miniota (CS)	Chairperson
Shiting Long (CS)	Vice Chairperson
Simon Gökstorp (CS)	Board Member
Mert Mermerci (CS)	Member
Henrik Johansson (EE)	Member
Hannah Kühn (CS)	Member
Wenyin Zhou (CS)	Member
Frank Tsz Kiu Wong Chan (EE)	Member
Jordi Altayó Gonzalez (ICT)	Member
Xavier Weiss (EE)	Member
Alejandro Penacho Riveiros (EE)	Member

PADs

Name	Course
Xiaolin Liu	Computer Science
Enno Breukelman	Electrical Engineering
Pedro de Melo Antunes	Information and Communication Tech.
Vacant	Mediated Communication

- Info: [EECS PhD Student Council | Dr/THS](https://www.dr.kth.se/eecs-phd-student-council/) (<https://www.dr.kth.se/eecs-phd-student-council/>)
- Email: eecs-chair@dr.kth.se