



**UNIVERSITY
OF OULU**

Faculty of Information Technology and Electrical Engineering ITEE

Dean Jukka Riekk
Education Dean Jari Linatti
September 2019



ITEE FACULTY

STRONG ACTOR IN ICT FIELD

CRITICAL MASS IN OUR RESEARCH FOCUS AREAS

Ability to execute on very demanding problems
Multi-disciplinary expertise resulting new innovations

STRONG PORTFOLIO OF RESEARCH PROJECTS

Well-balanced between fundamental and applied research
Long R&D tradition with local and international companies

COMPETENCE CUMULATION

Experienced senior researchers
Each professor has a seasoned team

HIGH-QUALITY EDUCATION

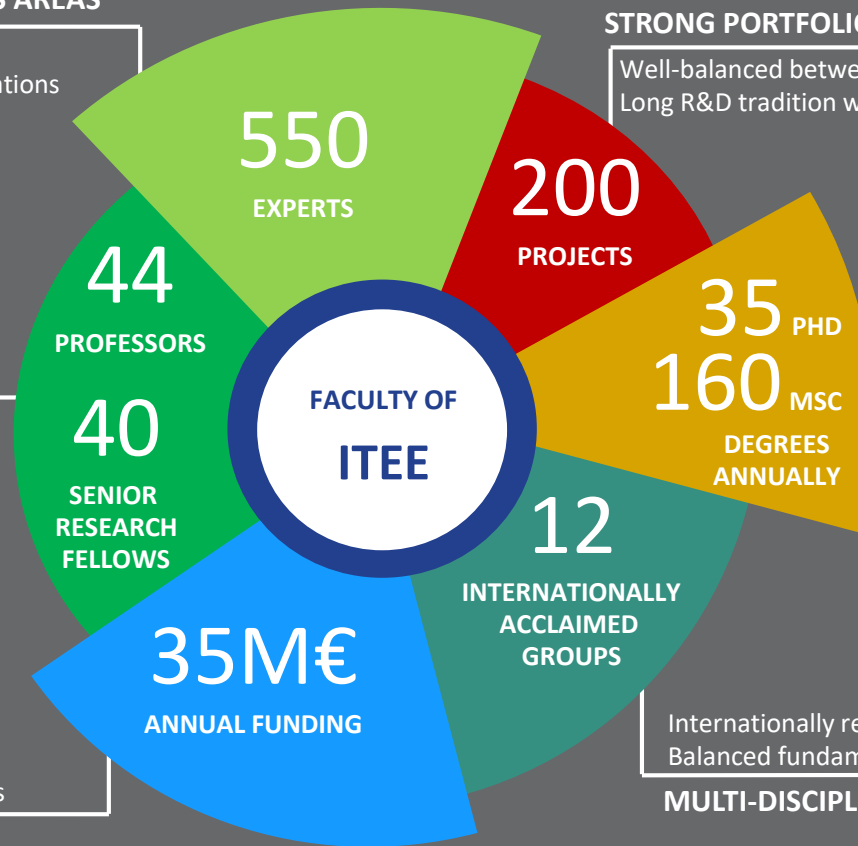
Competent workforce for companies,
research institutions and public sector

Seasoned in winning funding
Excellent local and international networks

OFFERING STABLE ENVIRONMENT

Internationally reviewed and credited research units
Balanced fundamental and applied research

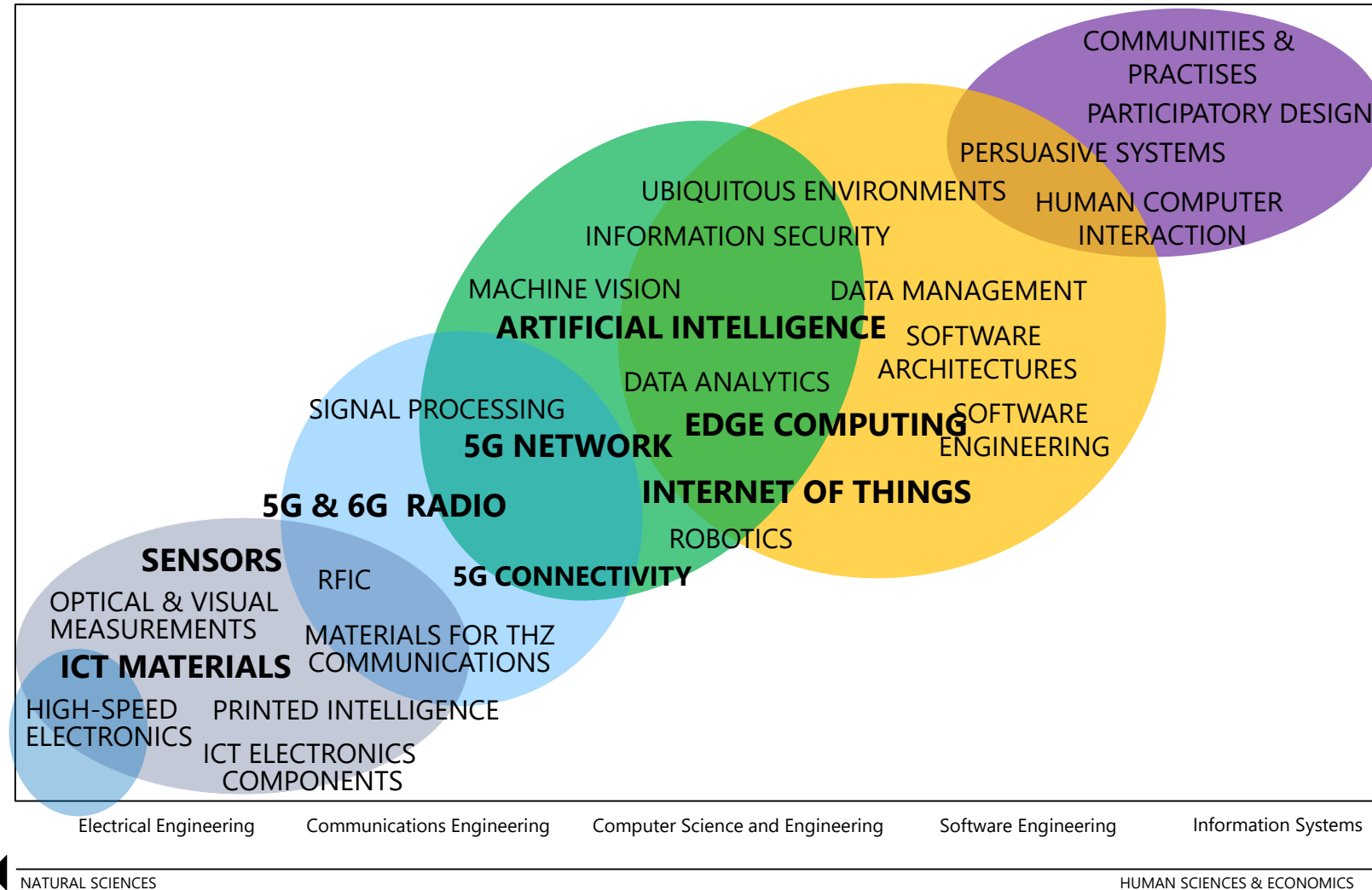
MULTI-DISCIPLINARY ICT RESEARCH





ITEE RESEARCH FORMS A SOLUTION CREATION VALUE CHAIN

THIS RESEARCH IS AT THE CORE OF THE FOCUS AREA “DIGITAL SOLUTIONS IN SENSING AND INTERACTIONS” – UNIVERSITY OF OULU STRATEGY 2016-2020



Research and education spectrum



ITEE RESEARCH UNITS

CAS

CIRCUITS AND SYSTEMS
PROF. TIMO RAHKONEN

MIC

MICROELECTRONICS
PROF. HELI JANTUNEN

OPEM

**OPTO-ELECTRONICS AND
MEASUREMENT TECHNIQUES**
PROF. TAPIO FABRITIUS

CWC-RT

CWC- RADIO TECHNOLOGIES
PROF. MARKKU JUNTTI

CWC-NS

CWC - NETWORKS AND SYSTEMS
PROF. JARI IINATTI

CMVS

**CENTER FOR MACHINE VISION
AND SIGNAL ANALYSIS**
PROF. OLLI SILVEN

BISG

BIOMIMETICS AND INTELLIGENT SYSTEMS
PROF. JUHA RÖNING

UBICOMP

UBIQUITOUS COMPUTING
PROF. TIMO OJALA

M3S

**EMPIRICAL SOFTWARE ENGINEERING IN
SOFTWARE, SYSTEMS AND SERVICES**
PROF. MARKKU OIVO

OASIS

**OULU ADVANCED RESEARCH ON SERVICE
AND INFORMATION SYSTEMS**
PROF. HARRI OINAS-KUKKONEN

INTERACT

**HUMAN COMPUTER INTERACTION AND
HUMAN-CENTERED DEVELOPMENT**
PROF. NETTA IIVARI

ACM

**APPLIED AND COMPUTATIONAL
MATHEMATICS**
PROF. KEIJO RUOTSALAINEN



ITEE EDUCATION

CAS CIRCUITS AND SYSTEMS:
PROF. RAHKONEN

MIC MICROELECTRONICS:
PROF. JANTUNEN

OPEM OPTO-ELECTRONICS AND MEASURE-
MENT TECHNIQUES: PROF. FABRITIUS

CWC-NS CWC - NETWORKS AND SYSTEMS:
PROF. IINATTI

CWC-RT CWC- RADIO TECHNOLOGIES:
PROF. JUNTTI

ACM APPLIED AND COMPUTATIONAL MAT-
HEMATICS: PROF. RUOTSALAINEN

BISG BIOMIMETICS AND INTELLIGENT
SYSTEMS: PROF. RÖNING

CMVS CENTER FOR MACHINE VISION AND
SIGNAL ANALYSIS: PROF. SILVEN

UBICOMP UBIQUITOUS COMPUTING:
PROF. OJALA

INTERACT HUMAN COMPUTER INTERACTION AND HUMAN-
CENTERED DEVELOPMENT: PROF. IIVARI

M3S EMPIRICAL SOFTWARE ENGINEERING IN SOFT-
WARE, SYSTEMS AND SERVICES: PROF. OIVO

OASIS OULU ADVANCED RESEARCH ON SERVICE AND
INFORMATION SYSTEMS: PROF. OINAS-KUKKONEN

FIVE-YEAR PROGRAMS IN FINNISH BACHELOR + MASTER DEGREE

Electronics and Communications Engineering (60)

- Electronics Design
- Electronics, Materials and Components
- Photonics and Measuring Technology
- Communications Engineering
- RF Engineering

Computer Science and Engineering (60)

- Artificial Intelligence
- Applied Computing
- Computer Engineering

Information Processing Science (95)

- Information Systems
- Software Engineering



TERALEON – GIANT ROBOT BUILT BY SUDENTS

These degree programmes will take care of you now on!



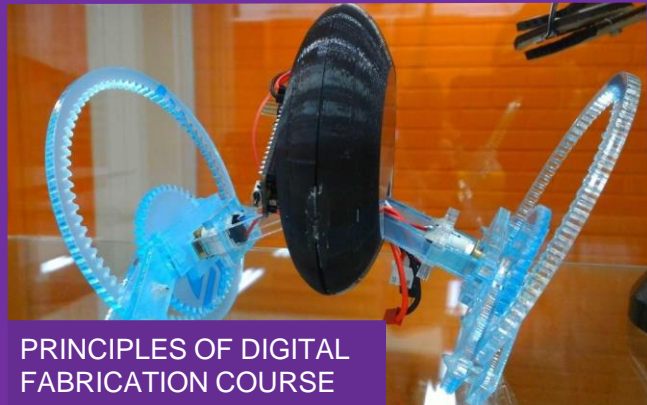
ITEE EDUCATION



FAB LAB OULU



15-17 YEAR OLD PUPILS
IN THE SUMMER



PRINCIPLES OF DIGITAL
FABRICATION COURSE



SANTA CLAUS WORKSHOP

**FAB LAB HAS PROVEN TO BE AN EXCELLENT ENVIRONMENT
FOR EVERYONE - CHILDREN, FAMILIES, TEACHERS,
UNIVERSITY STUDENTS, RESEARCHERS,...**

INTERNATIONAL MASTER'S PROGRAMS

CSE – Computer Science and Engineering (45)

BME – Biomedical Engineering: Signal and Image Processing (10, total 20)

WCE – Wireless Communications Engineering, includes 2 DD-programmes (30+15)

GS3D – Software, Systems and Services in the Global Environment (40)

EMSE – European Master in Software Engineering, Double Degree (15)

MORE INFORMATION: <http://www.oulu.fi/itee/msc>;
<http://www.oulu.fi/fablab/>

EDUCATION EXPORT

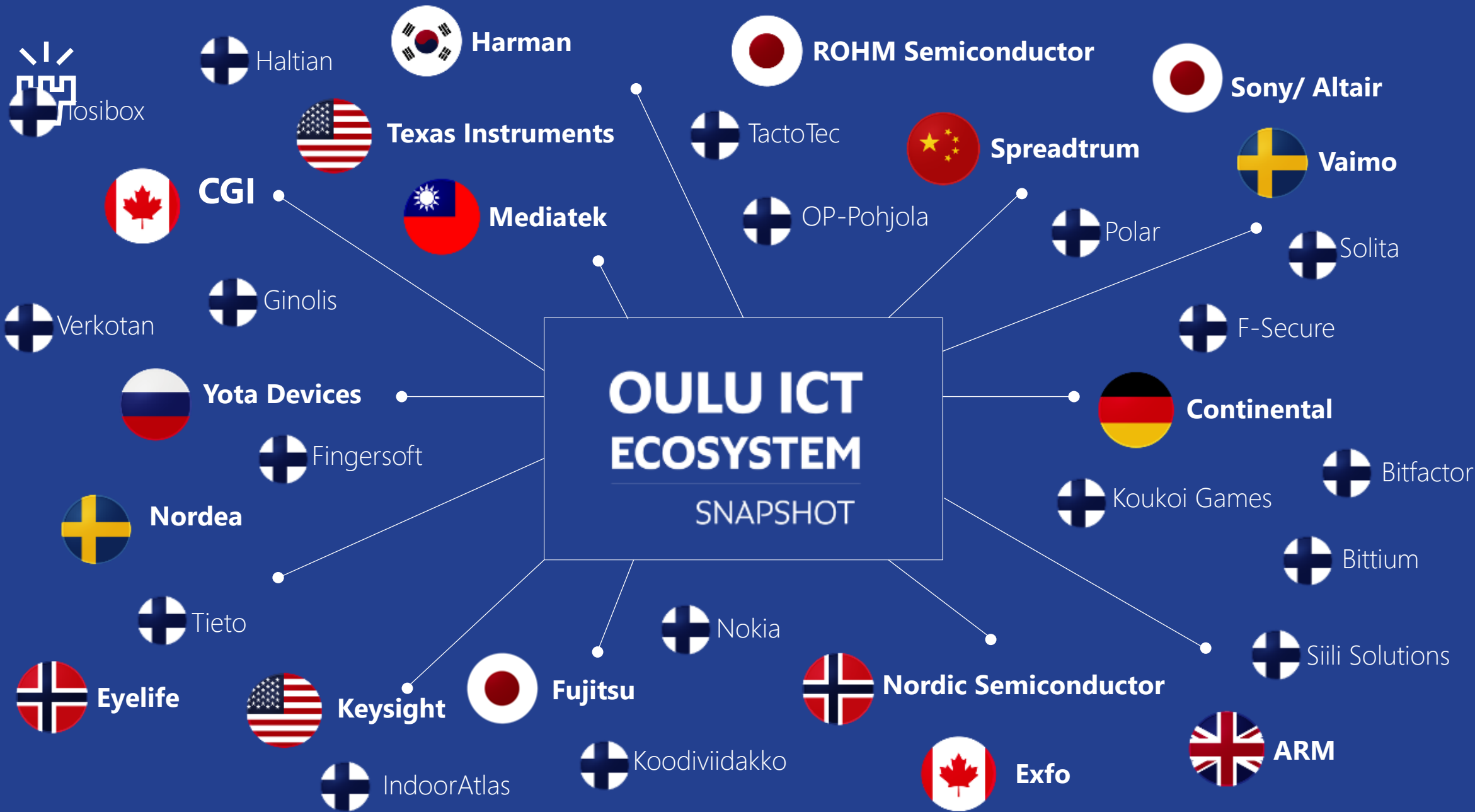
Collaboration Program in **Software Engineering** with Nanjing Institute of Technology (NJIT), 100 students start at NJIT annually

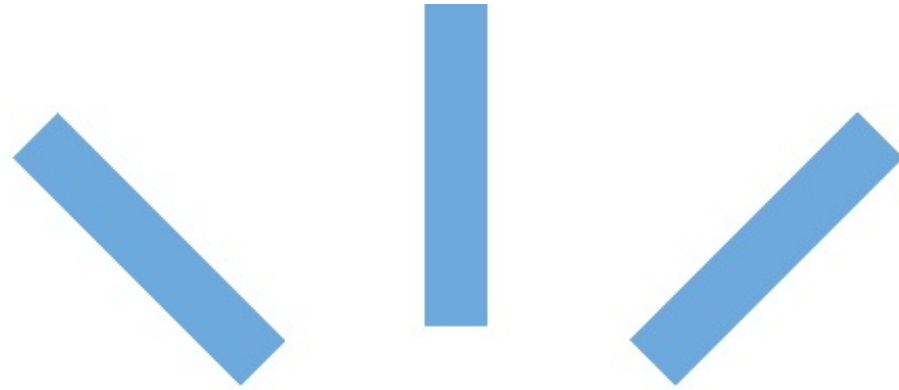
Option to extend: Information Systems, Computer Science and Engineering, Electronics and Communications Engineering

6G Flagship



**6G FLAGSHIP PROGRAM 2018-2026,
TOTAL BUDGET 251 MILLION €,
OVER 300 RESEARCHERS**





**FACULTY OF
INFORMATION TECHNOLOGY
AND ELECTRICAL ENGINEERING**

**UNIVERSITY
OF OULU**