

# Master's Programme in Security and Cloud Computing

Technical University  
of Denmark

NTNU

Norwegian University of  
Science and Technology

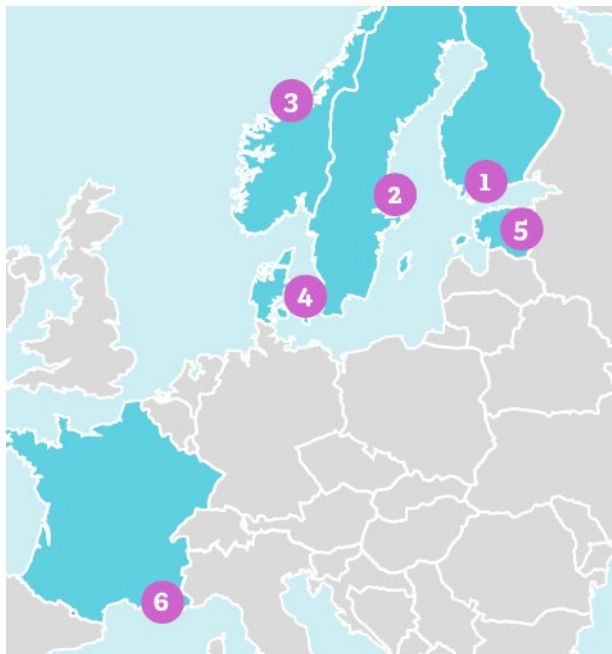
Co-funded by the  
Erasmus+ Programme  
of the European Union



# About us

- Erasmus Mundus Joint Master's Degree programme in Security and Cloud Computing (120 ECTS credits)
- 2 years, 2 countries, 2 universities, 2 MSc degrees
  - *Studies at two of the six European partner universities*
  - *A double degree programme leading up to two MSc degrees*

# SECCLO consortium



1. Aalto University, Finland (coordinator)
2. KTH Royal Institute of Technology, Sweden
3. The Norwegian University of Science and Technology (NTNU), Norway
4. The Technical University of Denmark (DTU), Denmark
5. University of Tartu (UT), Estonia
6. EURECOM, France

# Associate members (10/2020)

- *F-Secure Corporation, Finland*
- *Ericsson, Finland*
- *KONE Corporation, Finland*
- *VTT Technical Research Centre of Finland*
- *Intel Labs Europe, Germany*
- *Nokia Bell Labs, France/Finland*
- *Cybernetica AS, Estonia*
- *GuardTime, Estonia*
- *RISE – Research Institutes of Sweden, Security Lab*
- *Intopalo Digital, Finland*
- *SAP Labs, Finland*
- *IKERLAN, Spain*
- *Eficode, Finland*
- *SINTEF, Norway*
- *BMW Group, Germany*



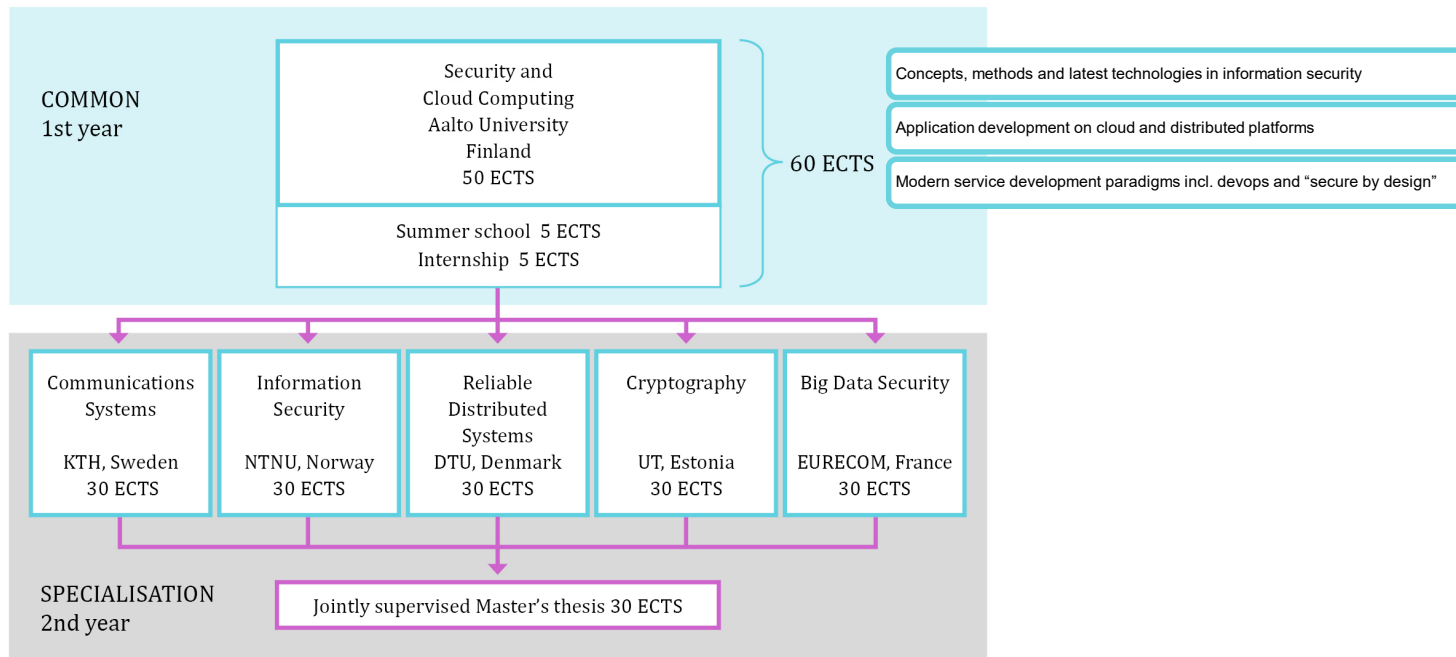
We collaborate also with *HAIC Helsinki-Aalto Institute for Cybersecurity*.



# What you will learn in SECCLLO

- We aim to educate professional engineers who are able to take on the most demanding R&D tasks and drive the development of future products and services.
- Our graduates
  - *have the theoretical understanding of information security and practical skills for designing and critically analysing secure computing systems.*
  - *understand the architectural principles of distributed services and applications.*
  - *have strong software development skills that enable them to take expert roles in an industrial R&D environment and qualify them to doctoral studies.*

# Programme structure



# Careers and employability

- Excellent career prospects as the demand for information security experts is very high in all sectors of the society.
- Graduates are well prepared for industrial R&D jobs, security engineering and consulting, various expert roles, as well as doctoral studies at the consortium universities or abroad.
  - *typical job titles of graduates include Software Engineer, Security Analyst, Development Engineer, Software & Systems Reliability Engineer, IT Security Specialist, R&D Engineer, Wireless Engineer, Enterprise Data Architect, Security Architect, Data Scientist, Web Developer, Security Engineer, Mobile Developer,...*
- The alumni of our predecessor, NordSecMob, are employed in all the biggest ICT companies including *Ericsson, Microsoft, Nokia, Google, Facebook, Skype* and *IBM*, as well as in several prestigious universities in Europe, US and Australia.
  - *95% of over 200 graduates had a job within 6 months after graduation.*

# Admission criteria 1/2

- A high-quality Bachelor's degree in Computer Science or Information Technology (to be completed by 31 July) from an officially recognised university.
  - The applicants should have sufficient studies in: *mathematics (linear algebra, calculus, probability theory, statistics, and discrete mathematics), programming, algorithms and data structures, databases, theory of computation, computer networks, and software engineering.*
  - Additional knowledge in the following areas is considered an advantage: *additional knowledge of mathematical methods, mobile applications, web software and online services, operating systems, distributed computing, embedded systems, advanced computer networking, information security and cryptography.*



## Admission criteria 2/2

- An excellent command of English language is required to be proven by
  - a language test (*TOEFL, IELTS, CAE/CPE or Pearson Test of English*),
  - a degree completed in English in Australia, Canada, New Zealand, South Africa, the United Kingdom, the United States, an EU/EEA country or Switzerland,
  - a degree or exchange studies at SECCLLO consortium universities.
- Admission to the programme is granted on a competitive basis and applicants are assessed on the basis of their previous academic record.

# Participation costs

	Students from programme countries	Students from partner countries
Participation cost	€3 000/year	€9 000/year

**Programme countries** are: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, former Yugoslav Republic of Macedonia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Turkey, United Kingdom.

**Partner countries** are all countries not listed in the programme countries.

## Participation cost covers:

- **tuition fees:** educational expenses such as courses, academic supervision, exams, counselling and university support services such as student services, use of library services and use of IT services in accordance with university regulations and policy concerning degree studies.
- **insurance:** including accident and health insurance satisfying the minimum requirements as published by the EACEA in its guidelines for Erasmus Mundus Joint Master Degrees.
- **compulsory summer school participation:** travel and accommodation costs.

# Erasmus Mundus scholarships

	Students from programme countries	Students from partner countries
Contribution to participation costs	€3 000/year	€9 000/year
Contribution to travel and installation costs*	€1000/year if resident in a programme country  €2000/year + €1000 if resident in a partner country less than 4000 km from Espoo, Finland  €3000/year + €1000 if resident in a partner country 4000 km or more from Espoo, Finland	
Contribution to subsistence costs (max 24 months)	€1 000/month	€1 000/month
	<b>€32 000 - €36 000</b>	<b>€44 000 - €49 000</b>

**Programme countries** are: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, former Yugoslav Republic of Macedonia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Turkey, United Kingdom.

**Partner countries** are all countries not listed in the programme countries.

\*) Travel and installation costs depend on the place of residence at the time of applying.

# Erasmus Mundus scholarships

For the 2021-24 student intakes, we have altogether **45** Erasmus Mundus scholarships for any partner country students and **15** scholarships for any programme country students. In addition, we have **24** Erasmus Mundus scholarships targeted for outstanding applicants from specific regions, e.g.:

- **4 Asia-LDC:** Afghanistan, Bangladesh, Bhutan, Cambodia, Laos, Myanmar, Nepal.
- **4 ACP Countries:** African countries.
- **3 ENI South:** Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria, Tunisia.
- **2 IPA-Western Balkans:** Albania, Bosnia and Herzegovina, Kosovo, Montenegro
- **2 Central Asia-L-LMI Countries:** Kyrgyzstan, Tajikistan, Uzbekistan.
- **2 Latin America:** Brazil, Mexico.
- **2 Latin America-Remaining Countries:** Argentina, Colombia, Costa Rica, Cuba, Ecuador, Panama, Peru, Venezuela.

# Other scholarships

- The number of Erasmus Mundus scholarships is limited and they will be allocated only to the best applicants.
  - *The allocation of all scholarships is based on academic merit and granted on a competitive basis.*
- Other scholarship opportunities are subject to available resources and include:
  - *HAIC participation cost scholarship for programme country students*
  - *SECCLO consortium scholarships (number and availability subject to available resources)*
- SECCLO admits also self-funded students
  - *National scholarships from the student's home country, Erasmus + Master Degree Loans, other funding pools (industry, foundations etc.)*



# Application period

- **23 November 2020 – 8 January 2021**
  - *Selection results are published in Mid-March 2021*
- Possible second application round for self-funded students in March-April 2020
- Studies at Aalto University begin with Orientation Week in September 2020

# Why SECCLO?

Industry demand for IT security professionals

Innovation and R&D focus in studies

International experience: 2 countries, 2 universities

Industry contacts already during studies

Competitive Erasmus Mundus scholarships

Proven success of our predecessor, NordSecMob



The world is becoming more digital.  
*Can you keep up with its security and  
privacy needs?*

[secclo.eu](https://secclo.eu)  
[secclo@aalto.fi](mailto:secclo@aalto.fi)

