SECCLO

Master's Programme in Security and Cloud Computing

(Erasmus Mundus)

Topics covered (in shared slides)

- Introduction to SECCLO
- Admission process
- Tips for applicants
- Erasmus Mundus scholarships
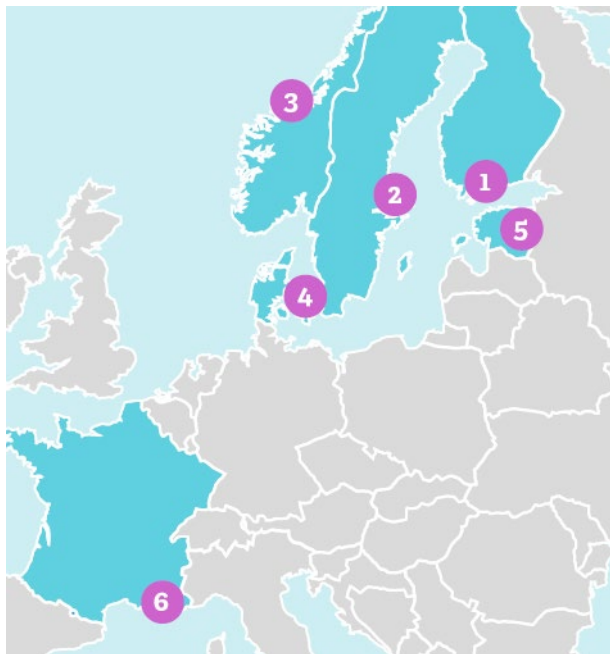
Introduction to SECCLO

Background

SECCLO

- **SECCLO - Master's Programme in Security and Cloud Computing**

- Continuation of former **NordSecMob-Master's Programme in Security and Mobile Computing** (running 2006-2017) with Erasmus Mundus label and funding

- **SECCLO** has been selected in 2018 under the Erasmus Mundus programme and is entitled to receive **European Union funding** for scholarships to selected students from **any other country of the world until 2026**
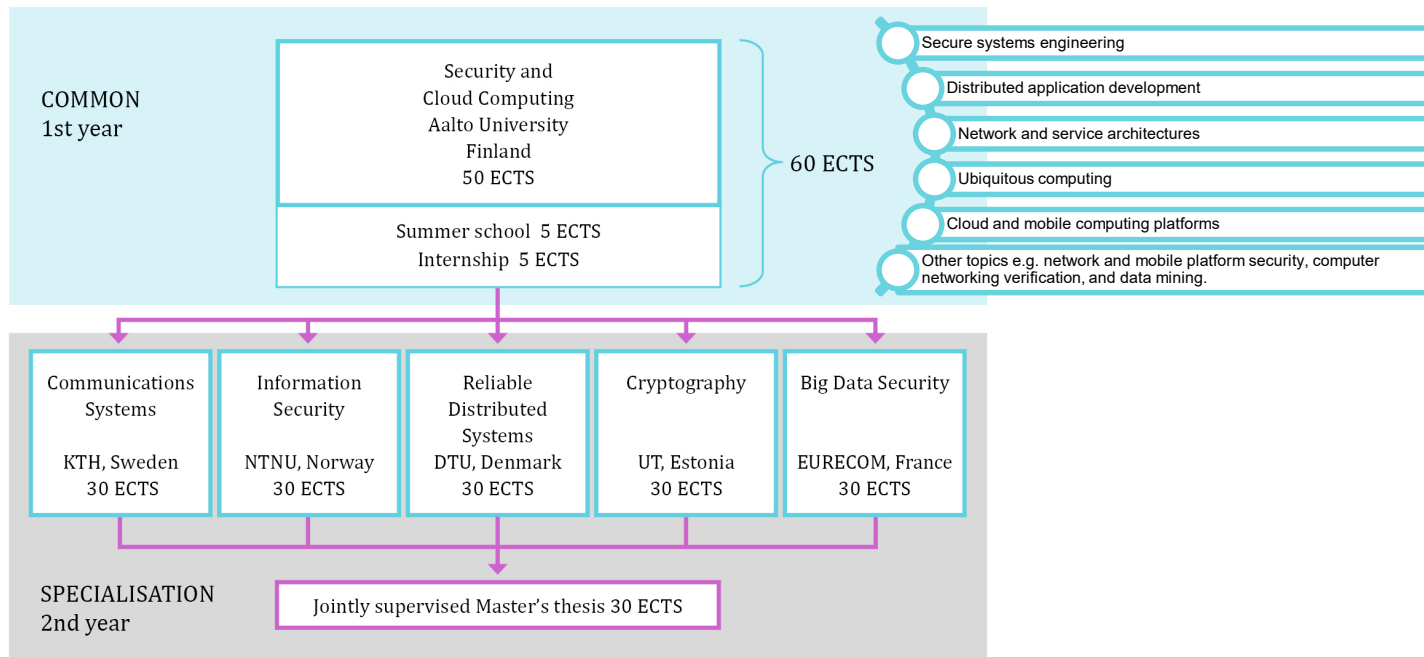
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Key features of SECCLO

- **Two-year** Master's Programme in Security and Cloud Computing
- Studies in **two European countries**
- **Two** officially recognized **M.Sc. degrees**
- Jointly designed R&D focused curriculum
- Industry and research collaboration (Associate Members)
- Competitive Erasmus Mundus scholarships for students and visiting scholars

SECCLO

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

Programme structure

COMMON
1st year

Security and
Cloud Computing
Aalto University
Finland
50 ECTS

Summer school 5 ECTS
Internship 5 ECTS

60 ECTS

- Secure systems engineering
- Distributed application development
- Network and service architectures
- Ubiquitous computing
- Cloud and mobile computing platforms
- Other topics e.g. network and mobile platform security, computer networking verification, and data mining.

Communications Systems	Information Security	Reliable Distributed Systems	Cryptography	Big Data Security
KTH, Sweden 30 ECTS	NTNU, Norway 30 ECTS	DTU, Denmark 30 ECTS	UT, Estonia 30 ECTS	EURECOM, France 30 ECTS

SPECIALISATION
2nd year

Jointly supervised Master's thesis 30 ECTS

Current Associate Members

ikerlan
MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE

intel

eficode

F-Secure

CYBERNETICA

BMW GROUP

KONE

guardtime

INSTA

ERICSSON

VTT

SAP

RISE

SINTEF

mnemonic

LIQUIDITY · NETWORK

NOKIA Bell Labs

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Learning outcomes

- We aim to educate professional engineers who are able to take on the **most demanding industrial R&D tasks, security engineering and consulting tasks and various expert roles**.

- Many of our graduates continue for **doctoral studies**

Learning outcomes

- Students have the **theoretical understanding of information security** and **practical skills for designing and critically analysing secure computing systems**.

- Students understand the architectural principles of distributed services and applications. They are able to **design, analyse, and implement cloud-based and distributed computing systems.**

- Students have **in-depth knowledge of their chosen specialization area** and can apply it to solving technical and scientific problems.

- Students have **strong software development skills** and other technical and professional skills that enable them to take responsible roles in an industrial research and development environment

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Admission process

Basic information

- **Application period 23 November 2020 – 8 January 2021**
  - *Selection results published in Mid-March 2021*
  - *Possible 2nd application period <u>without EM scholarships</u> in March-April 2021*
  - *Studies begin in September 2021*
- **Fully online & fully document-based application process**
  - *If selected, selection conditional until hard copies submitted (DL 9 August 2021)*
- **English language test result is required from most applicants to be eligible**
  - *Separate lg test deadline of 31 January 2021*
  - *Two at-home tests accepted*

SECCLO

Joint admission process

Only one application needed to apply to SECCLO

- Joint evaluation criteria and selection process
- Applicants are first selected only to Aalto University (entry university)
- NB! If you are interested in other Master's programmes offered by the consortium universities, you will need to apply to them separately

Selection of second-year specialization (exit university)

- After the first semester of studies at Aalto
- Selections based on motivation, suitability for specialization area & study success
- All SECCLO students are guaranteed a placement

Applying in 6 steps

☑ Study our admission requirements

🎓 Take a language test (if required) **now** & start collecting application documents

🔗 Fill in and submit your online application form (link => How to apply page)

🎓 Submit your language test scores for verification (how? => How to apply page).

📧 Monitor your email for the results of our general eligibility check

➕ Complement your application and once eligible, wait for the selection results

Application documents

	How
1. Bachelor's degree certificate (+ translation)	Scanned colour copy of the original document uploaded to the application portal
2. Bachelor transcript (+ translation)	Scanned colour copy of the original document uploaded to the application portal
3. Motivation letter	Part of the online application form, max 500 words
4. CV	Uploaded to the application portal
5. Passport/ID	Uploaded to the application portal
6. English proficiency	Uploaded to the application portal AND test result submitted for verification (e.g. TOEFL via ETS)
7. Two (academic) recommendation letters	Uploaded to the application portal and/or using referee request function in the application portal
8. Course descriptions	Part of the online application form
9. Other supporting documents (extra transcripts, work certificates, publications, GMAT/GRE etc.)	Uploaded to the application portal
10. Proof of place of residence	Uploaded to the application portal

English language requirements

Only two exceptions:

1. Higher education degree in English at a university in **Australia, Canada, New Zealand, South Africa, the United Kingdom, the United States, an EU/EEA country** or **Switzerland**.

    - *At least one half of the degree if double/joint degree*

2. Degree and exchange students from **SECCLO consortium universities**

All other applicants => a valid English language test result is required by our language test deadline (31 January 2021). No exceptions for any reason!

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Accepted language tests and their minimum scores

	Minimum total score	Minimum writing score
IELTS (Academic)*	6.5	5.5
TOEFL IBT*	92	22
TOEFL PDT	Reading 22, Listening 22	24
Pearson Test of English (PTE Academic)	62	54
C1 Advanced	A, B or C	-
C2 Proficiency	A, B, C or C1	-

*) Also *IELTS Indicator (Academic)* and *TOEFL iBT® Special Home Edition/Home Edition* are accepted in the 2021 admission.

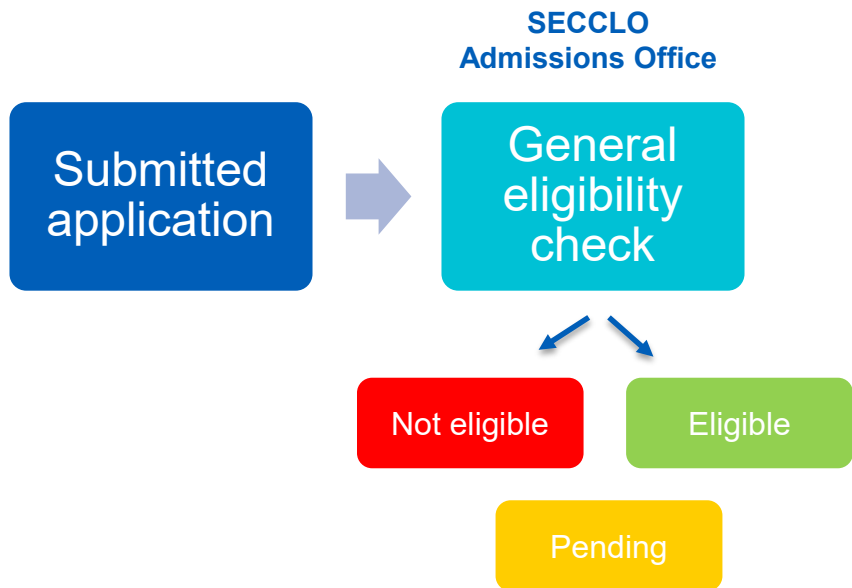# Important deadlines!

8 January 2021 at 3 pm (GMT +2)	Online application portal closes. Deadline for all document uploads (except when given individual complementation deadline*).
15 January 2021 (= one week after DL)	Final deadline for the referees to submit their recommendation letters.
31 January 2021	Deadline for the English language test result to be verifiable by the SECCLO Admissions Office.

*) Given if submitted application checked less than two weeks before our application deadline. Individual complementation deadline is always two weeks from the date the application was checked.

What happens during the admission process?

SECCLO admission process

SECCLO
Admissions Office

Submitted application → General eligibility check
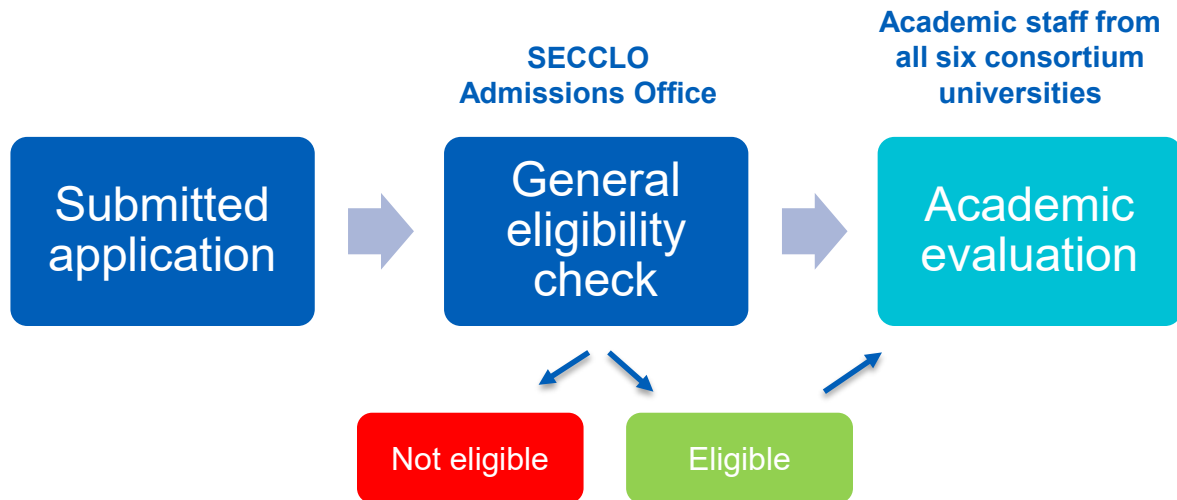
Not eligible

Eligible

Pending

General eligibility check

1. Higher education **institution is officially recognized**
2. **Bachelor's degree** or equivalent studies (= must entitle the graduate to apply for a Master's degree at a university in the awarding country)
   - Applicants with an incomplete degree can apply if they graduate by the end of July 2021
3. All **compulsory application documents** submitted as instructed
4. Fulfils **English language requirements**

Problem in one of these? Not eligible and application not processed further.

SECCLO admission process

SECCLO Admissions Office

Academic staff from all six consortium universities

Submitted application → General eligibility check → Academic evaluation
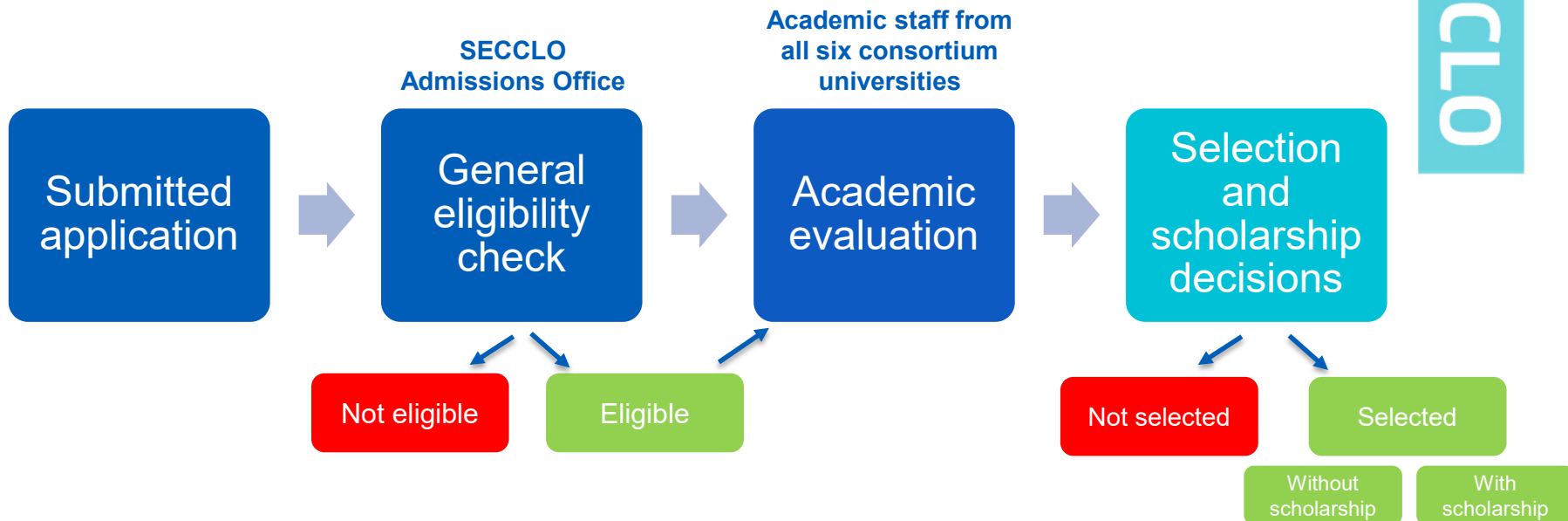
Not eligible

Eligible

Student selection criteria 1/2

- Contents of the previous degree
- Study success
- Recognition and quality of applicant's home university
- Motivation and commitment to studies in the programme
- Other relevant achievements (work experience, publications, etc.)
- Recommendation letters
- English language proficiency

During the evaluation process, contents of the previous degree(s) and study success are assessed first. Only the applications that meet the requirements for these criteria will be evaluated further.

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Student selection criteria 2/2

- Contents of the previous degree
  - ***Required background***: *mathematics, programming, algorithms and data structures, databases, theory of computation, computer networks, software engineering*
  - ***Knowledge of the following areas is considered an advantage***: *additional knowledge of mathematical methods, mobile applications, web software and online services, etc.*
  - ➢ Evaluated from the transcript(s) submitted & course descriptions (online application form)
  - ➢ Professional certificates/online courses do not, in general, compensate for university studies
  - ➢ Students w/ a Master's degree in CS will be evaluated case-by-case
- Study success
  - *Graces achieved and pace of studies*
  - ***Very good previous study success is expected***
  - ➢ *Evaluated from the grade point average (GPA) achieved and results in key courses*

Evaluation outcome

SECCLO

Submitted application → **SECCLO Admissions Office** General eligibility check → **Academic staff from all six consortium universities** Academic evaluation → Selection and scholarship decisions

General eligibility check → Not eligible / Eligible → Academic evaluation

Selection and scholarship decisions → Not selected / Selected

Selected → Without scholarship / With scholarship

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Tips for applicants

Tips for applicants

- Start preparing documents as soon as possible
  - *Sometimes preparing documents takes much more time than expected.*

- Show your best sides in CV
  - *Explain what you accomplished during your studying or/and work experience.*
  - *Any extracurricular activities, awards, certifications?*

- Be honest in you motivation letter
  - *Why are you a good fit for the program?*
  - *Why SECCLO, and not any other program?*
  - *Why are you interested to study in consortium universities? What is of particular interest to you?*
  - *How does your experience align with the program?*
  - *How do your professional goals can be reached with the help of the SECCLO program?*

- Mindfully choose people for recommendation letters
  - *Pick a person who knows about your experience, who won't use general sentences, but who will explain your strength in working in the group, doing research, etc.*

Erasmus Mundus scholarships

Erasmus Mundus scholarships

- **45** Erasmus Mundus scholarships for any partner country students
- **15** scholarships for any programme country students
- **24** Erasmus Mundus scholarships targeted for 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.

International cooperation

Programme Countries

EU Member States

+

Other Programme Countries:

Iceland, Liechtenstein, Norway, Republic of North Macedonia, Serbia, Turkey

SECCLO: 15 scholarships

Partner Countries

All other countries throughout the world

SECCLO: 45 scholarships + 24 specific regions scholarships

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Erasmus Mundus scholarships

	Students with Partner Country nationality	Students with Programme Country nationality*
Contribution to participation costs	€9000/year	€3000/year
Living allowance (max 24 months)	€1000/month	€1000/month
Travel and installation	**Students with residence in Partner Countries**	**Students with residence in Programme Countries**
Contribution to travel costs	**€2000/year if residence is less than 4000 km from coordinator** **€3000/year if residence is 4000 km or more from coordinator**	€1000/year
Contribution to installation costs	€1000	-
	Max €49 000	**Max €37 000**

Other scholarships

Other scholarships	To whom	Number of scholarships
Helsinki-Aalto Institute of Cybersecurity (HAIC) **Participation Cost Scholarship (6000 Eur)**	All EU citizens and citizens of Iceland, Liechtenstein, Macedonia, Norway, Serbia, Switzerland, and Turkey.	To be confirmed
SECCLO Consortium Participation Cost Scholarship (6000 Eur)	All EU citizens and citizens of Iceland, Liechtenstein, Macedonia, Norway, Serbia, Switzerland, and Turkey.	2
NTNU Participation Cost Scholarship (6000 Eur)	All EU citizens and citizens of Iceland, Liechtenstein, Macedonia, Norway, Serbia, Switzerland, and Turkey. Female applicants are encouraged to apply.	2

Further questions about SECCLO or applying?

Visit our website at https://secclo.eu/ and if questions on applying, especially pages under Admission. Read also our FAQ.

Contact us at
secclo@aalto.fi