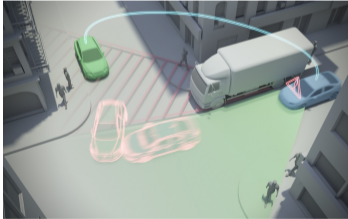# Master's Programme in
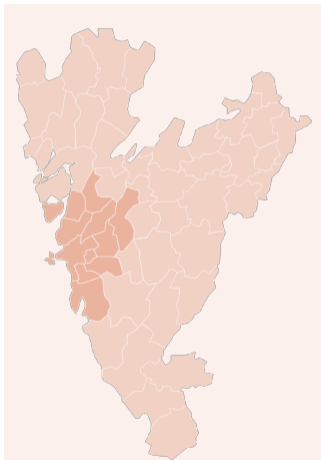# Information and Communication Technology

# Enabling the interconnected world



Information at the heart of the modern society

- We prepare you for an advanced engineering career in the field of information science

- You will acquire both solid analytical skills and applied knowledge

# The ICT sector in the Gothenburg region at a glance[1]



- 🏃 Dynamic and rapidly evolving
- 📈 Fastest growing sector
- 🏭 Leading large companies and fast-growing startups
- 🏆 World-class ecosystem
- 👥 Fierce competition for engineers, with demand vastly exceeding supply

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[1]Source: Gothenburg Business Region

# ICT sector in Chalmers Master Programs

digitalization
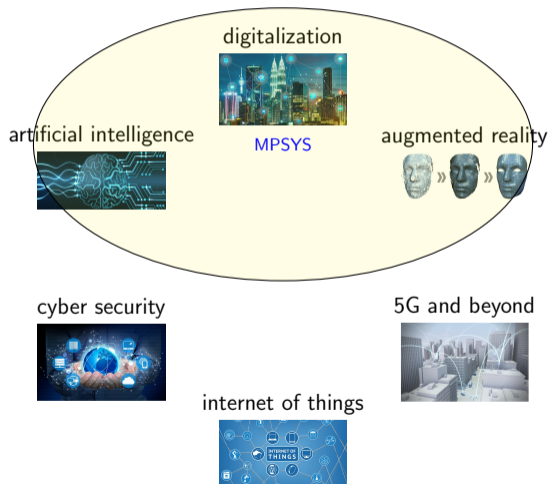
artificial intelligence
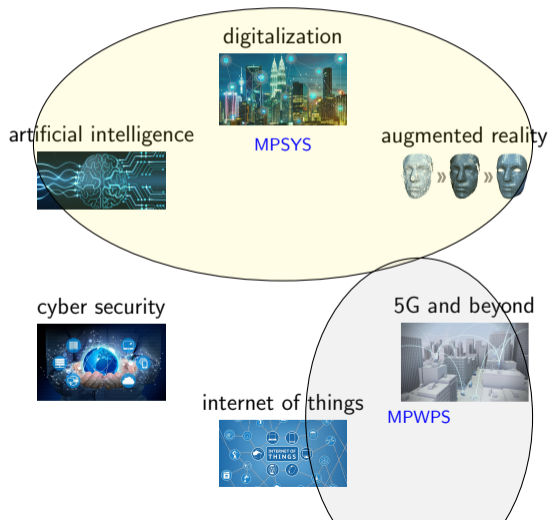
augmented reality

cyber security
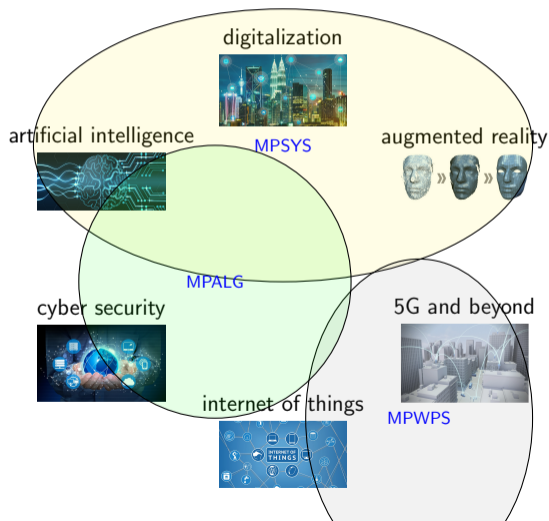
5G and beyond

internet of things

# ICT sector in Chalmers Master Programs

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digitalization

artificial intelligence

augmented reality

MPICT

cyber security

5G and beyond
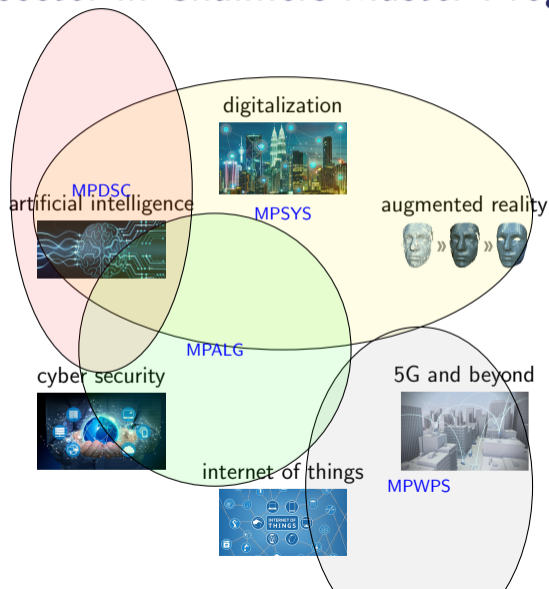
internet of things
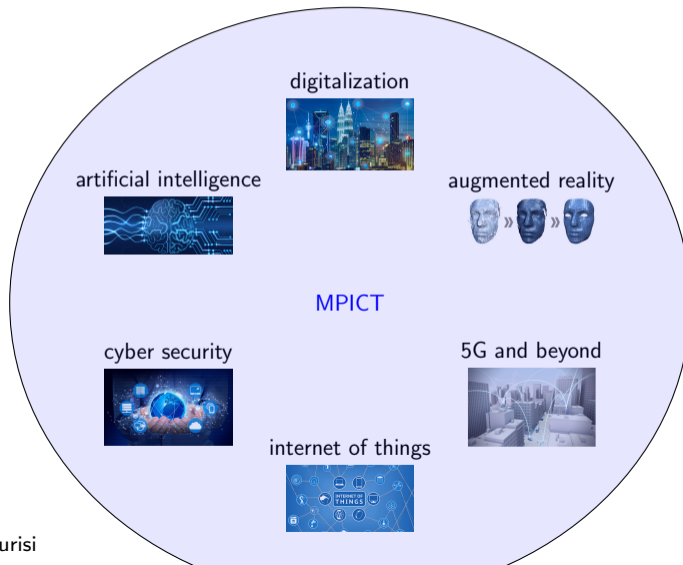
# Master Program in Information and Communication Technology
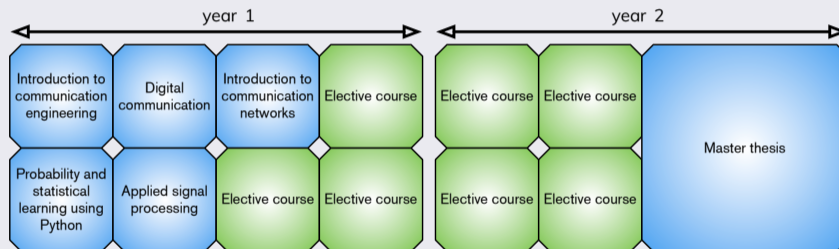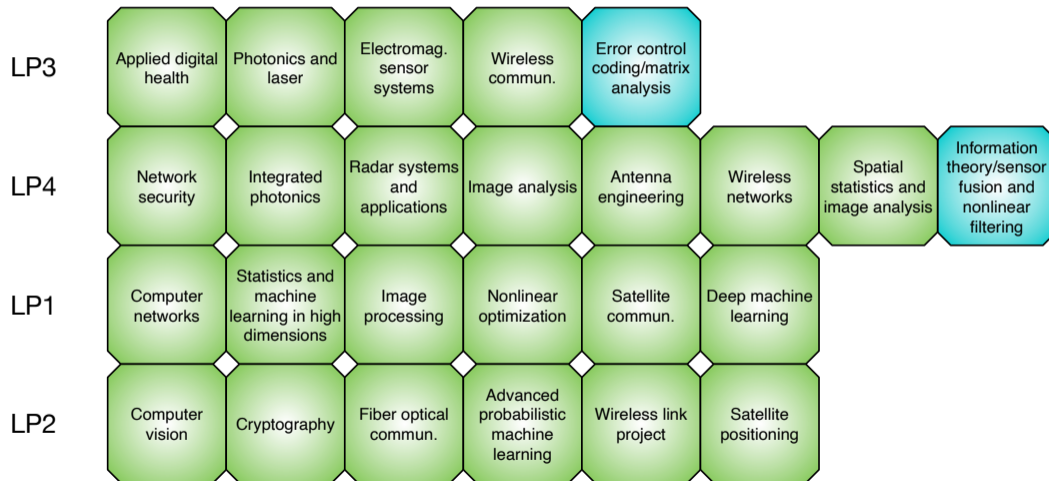
Five core courses to learn about ICT current challenges



A broad selection of elective courses to learn more about your favorite area

# 27 compulsory elective courses (and many more elective courses)



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **LP3** | Applied digital health | Photonics and laser | Electromag. sensor systems | Wireless commun. | Error control coding/matrix analysis | | |
| **LP4** | Network security | Integrated photonics | Radar systems and applications | Image analysis | Antenna engineering | Wireless networks | Spatial statistics and image analysis | Information theory/sensor fusion and nonlinear filtering |
| **LP1** | Computer networks | Statistics and machine learning in high dimensions | Image processing | Nonlinear optimization | Satellite commun. | Deep machine learning | | |
| **LP2** | Computer vision | Cryptography | Fiber optical commun. | Advanced probabilistic machine learning | Wireless link project | Satellite positioning | | |

# Three main tracks to simplify your selection

📶 Digital communication systems

⚙️ Intelligent information processing

🖧 Cognitive and autonomous networks

# Digital communication systems
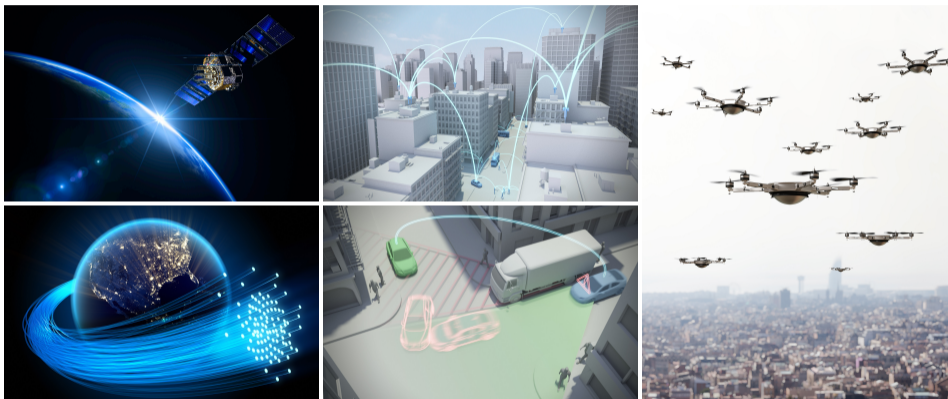


Theoretic, algorithmic, and practical aspects of digital communication systems

# Track: digital communication systems



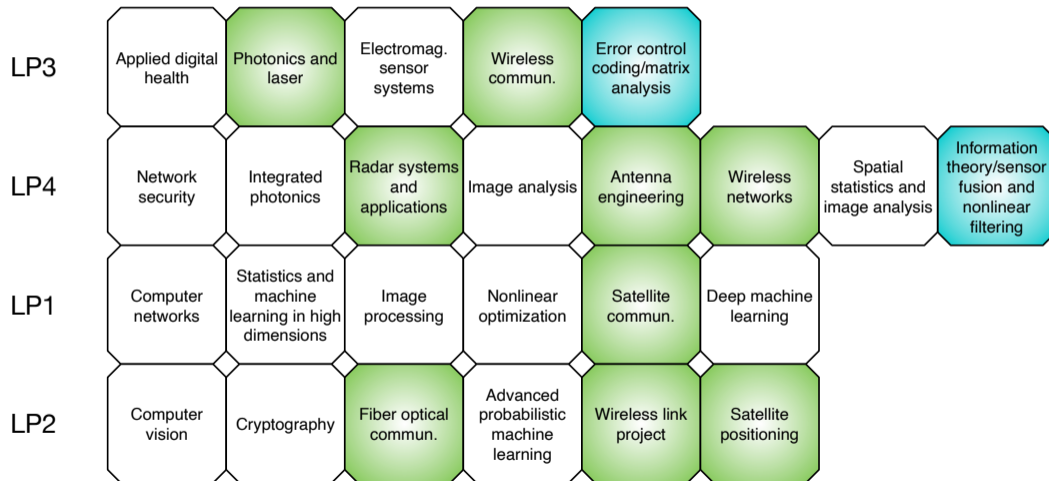| | | | | | | | |
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# Intelligent information processing







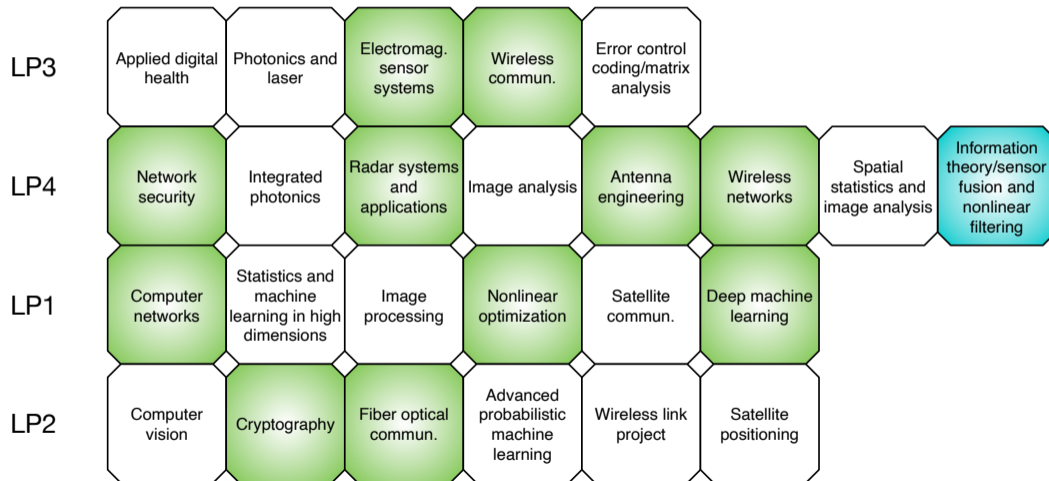At the intersection of signal processing, sensing, image processing, machine intelligence, and computer vision

# Track: intelligent information processing
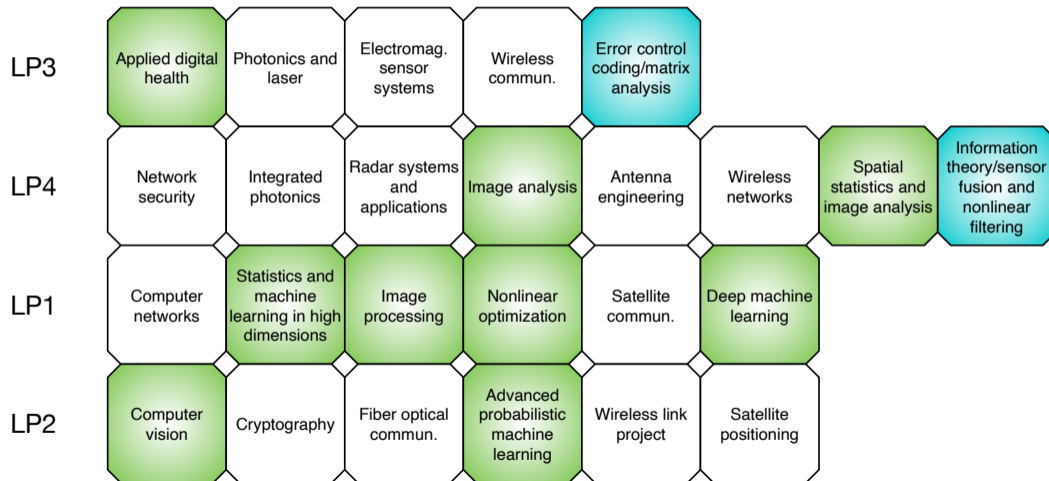
# Cognitive autonomous networks



Network design and automation, security aspects

# Track: cognitive autonomous networks



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **LP3** | Applied digital health | Photonics and laser | Electromag. sensor systems | Wireless commun. | Error control coding/matrix analysis | | |
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# Studying MPICT

## Methods

💡 Building and refining problem-solving skills, critical thinking

🤼 Team work, presentation skills

🏭 Interaction with industry (guest lectures, visits, exciting master theses)

✔ Different examination formats (homework assignments, projects, quizzes, written exams, oral exams)

👥 Close contact with world-class academic and industrial research environments

🏛 One of the largest research group in Europe in the field of information and communication theory (many PhD student positions available every year!)

# New initiatives within the MPICT program

### Master thesis scholars at Ericsson

- Few top-performing MPICT students selected over the spring (first year), to conduct an exciting 30 credit master thesis at Ericsson Research in Gothenburg

- Topic of the theses defined on the basis of both Ericsson researchers' and the students' interest

### The Startech Challenge (SAP, Eurecom, EDHEC business school)

- European-wide ICT startup launcher simulator

- Learn fundamental of entrepreneurship and management

# Career opportunities

### We prepare you to work at the frontier of technology in the ICT area

Distributed data processing, machine intelligence, intelligent transportation, positioning sensing, and navigation, wireless and optical networks, internet of things, digital health, . . .

### Our former students in the Gothenburg area work at

Volvo, Zenseact, Ericsson, Saab group, Beyond Gravity, ABB, Magna, AstraZeneca, Södra, AI Sweden, Qamcom, Nordic Semiconductor, . . .

### Prospective jobs

Research & development, management, consultancy, entrepreneurship, . . .

# A look into your future...

As a graduate of the MPICT program, you will...

...imagine, design, and build exciting and disruptive digital technologies that will shape the future of our society



More info and video presentation



https://tinyurl.com/2t3fj4x4

Chalmers is a world-leading university in the ICT area