

Cybersecurity Software meet our community

*We invite you to meet our
community and discover
our success story!*

Brabant recognizes the importance of Cybersecurity. Companies in the high-tech manufacturing industry have joined forces to protect their systems and IP. Work is also being done on the security of IT systems in other areas.

Cybercrime and cybersecurity are developing fields, but they require a company's full attention and should be equal to, if not take precedence over, IT developments. Several initiatives are in place in Brabant for improving cybersecurity.

The Challenge in Cyber Security starts in Brabant

TODAY

On a daily basis society is threatened by cyberattacks in varying degrees of severity and from various actors. As societies become ever more digital, managing security risks is now more urgent than ever.

The challenge is clear: **making governments, institutions, and companies digitally resilient and protecting their networks.** In practice, this is not that simple, as people and human behavior are often the weak links.

Brabant is the first region in the Netherlands with a Cyber Resilience Center. This center has been helping companies in the knowledge industry to develop resilience against digital espionage and cyberattacks.

In addition to that, the University of Eindhoven is one of the top universities in the Netherlands for Cyber Security. For years, the dedicated security group of the university focusses on the whole technical spectrum of information security.

The region is a breeding ground for innovation. 55% of the Dutch Cyber Security Patents come from Brabant. Most of these patents are filled by the leading cyber security companies in the region.

This all makes the Eindhoven high-tech region a leader in the Netherlands for Cyber Security, where cyber resilience is taken very seriously, over and above the industries designated as vital by the authorities (such as healthcare, energy, ports, etc.).

SIEMENS
PHILIPS

IBM
sogeti
Part of Capgemini

SAP

CGI

CTAC
ENABLING YOUR AMBITION

centric
connect.engage.succeed.

AtoS

FORESCOUT

NXP

Secura
A BUREAU VERITAS COMPANY

THALES

INTRINSIC ID

signify

Why Brabant excels in Cyber Security?

TALENT IT & CYBERSECURITY



The Brabant region is the chief supplier in the Netherlands of highly educated IT talent. The region also has the steadiest rise in the graduates at all IT related education levels in the Netherlands. Cybersecurity talent is present with knowledge of the whole technical spectrum of information security.

HIGHLY SPECIALIZED CAMPUS



In Brabant there are several highly innovative campuses like the **High Tech Campus Eindhoven**, TU/e campus and BIC that contribute to a unique ecosystem. These campuses are home to innovators, researchers, engineers that create the technologies and business of tomorrow.

ADAPTIVE COLLABORATIVE CULTURE



The people in Brabant have an adaptive and collaborative culture. People are used to change and are working in an international environment.

LEADING COMPANIES IN CYBER SECURITY SOFTWARE TECHNOLOGIES



Within the Brabant region you will find a lot of organizations developing and implementing CyberSecurity solutions. Examples of these organizations are: **Atos, Ctac, Intrinsic ID** and **Fourscout**.

Cluster size IT

KEY FACTS

10,492
companies

7.2
billion euros
production value of
IT & Data Science

10.5%

growth of the
sector from 2015-2019

14.6%

fastest growth of
software and IT
services in Brabant.

BRAINPORT EINDHOVEN NUMBER ONE REGION IN EUROPE



4th Industrial
revolution
Technologies



Specialization:
3D-systems
and Smart



Healthcare
Solutions

JOBS

42,630

people in Brabant are employed
in the IT sector, of which...

68%

in software and
IT services

28.5%

in hardware

79,000

IT Professionals
in Brabant

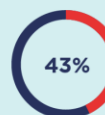
12.1%

of the Netherlands'
workforce in the IT
sector is employed
in Brabant

9.8%

total IT job
growth in
Brabant from
2015-2019

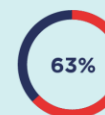
BRABANT PATENT SHARE IN THE NETHERLANDS



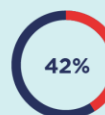
Artificial Intelligence



IOT



Data Analytics



Extended Reality
(umbrella term: VR/AR/MR)



Cyber Security



Communication Technology
(4G/5G)

■ North Brabant

■ Other 11 Regions Netherlands

**BRABANT BOASTS THE MOST HIGHLY EDUCATED
IT & DATA GRADUATES IN THE NETHERLANDS**



IT STUDENTS 2020

3410
graduates

5121
new students



THE PLACE IN THE NETHERLANDS TO FIND IT & DATA TALENT

BRABANT SHOWS THE HIGHEST AND MOST STEADY GROWTH OF IT TALENT

Relative growth of both new students and graduates in all education levels is above the national average.

NEW STUDENTS

Average growth
from 2007

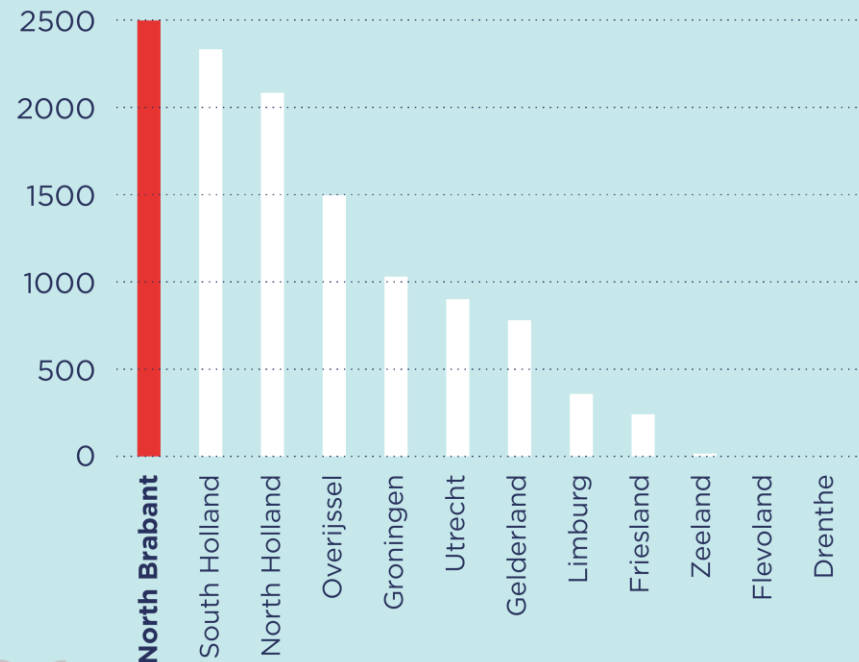
Noord-Brabant	7,1%
Utrecht	6,2%
Noord-Holland	6,0%
Overijssel	5,8%
Groningen	5,7%
Zuid-Holland	5,0%
Gelderland	3,6%
Flevoland	3,0%
Limburg	3,0%
Zeeland	2,9%
Friesland	2,5%
Drenthe	-1,2%

GRADUATES

Average growth
from 2007

Noord-Brabant	5,3%
Noord-Holland	4,4%
Utrecht	4,4%
Groningen	4,2%
Gelderland	3,7%
Zuid-Holland	2,9%
Friesland	1,4%
Overijssel	1,3%
Drenthe	1,1%
Flevoland	0,3%
Limburg	0,1%
Zeeland	-0,1%

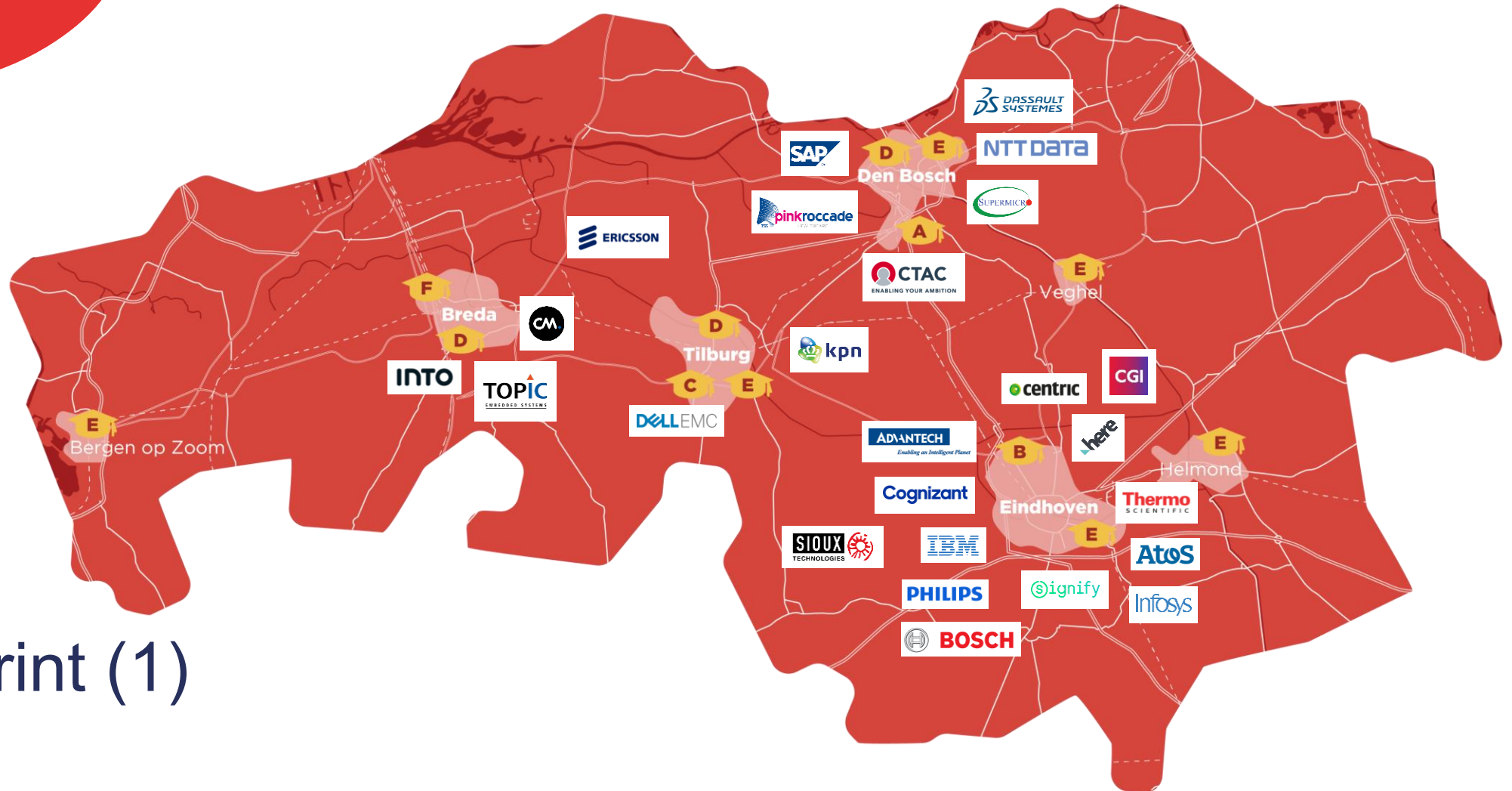
BRABANT BOASTS THE MOST HIGHLY EDUCATED IT TALENT in the Netherlands



TOP SKILLS ARE

- Embedded software / systems
- Robotics / Robot programming
- Automation software
- Simulation software
- Low level Programming
- Assembly Language programming
- Real time operating systems software
- Ada Programming
- SAP Software

IT footprint (1)

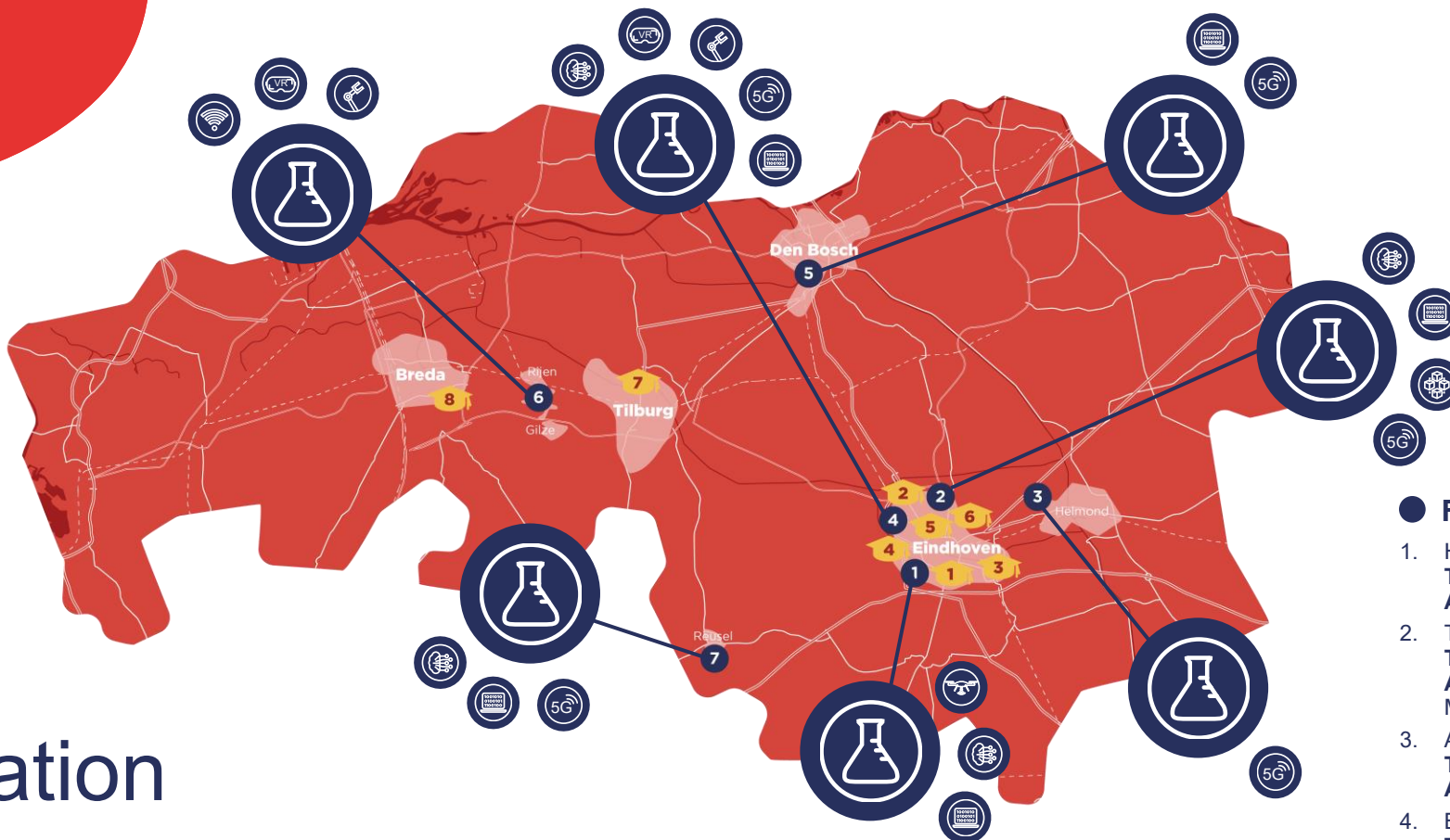


Education

- A. Jheronimus Academy of Data Science (JADS), **Den Bosch**
- B. Eindhoven University of Technology (TU/e), **Eindhoven**
- C. Tilburg University, **Tilburg**
- D. Avans University of Applied Sciences, **Den Bosch / Breda / Tilburg**
- E. Fontys University of Applied Sciences, **Den Bosch / Veghel / Eindhoven / Bergen op Zoom / Helmond**
- F. Breda University of Applied Science (BUAS), **Breda**

IT innovation clusters & fieldlabs

What sets Brabant apart from the rest of Netherlands, are the various innovation clusters and field labs around specific themes. These public-private testing grounds are hotspots for co-creation and speed up innovation.



Innovation clusters

1. EAISI (AI), **Eindhoven**
2. Embedded Systems innovation By TNO, **Eindhoven**
3. Eindhoven Institute for the Protection of Systems and Information, **Eindhoven**
4. Holst Centre, **Eindhoven**
5. AI Innovation Center, **Eindhoven**
6. 5G Hub, **Eindhoven**
7. MindLabs, **Tilburg**
8. Breda Game City, **Breda**

Fieldlabs

1. High Tech Campus, **Eindhoven**
Technology: Drone, AI and Data
Application: HTSM and LSH
2. Tu/e, **Eindhoven**
Technology: AI, Data, Blockchain and 5G
Application: Automotive, LSH, Maintenance and LSH
3. Automotive Campus, **Helmond**
Technology: 5G
Application: Automotive
4. BIC, **Eindhoven**
Technology: AI, VR, Robotics, 5G and Data
Application: HTSM, Maintenance and Logistics
5. JADS, **Den Bosch**
Technology: Data and 5G
Application: HTSM
6. Gate 2, **Gilze Rijen**
Technology: IoT, VR and Robotics
Application: HTSM and Maintenance
7. **Reusel**
Technology: AI, Data and 5G
Application: Agrofood

Our Ecosystem

World Class Research

Within a radius of 150 km around Brabant, there are 27 universities in three countries: a total of 605,340 students, 255,680 of which in the field of nature, health or technology. These are the leading research institutes for IT & Data Science technologies.



WORLD CLASS RESEARCH

1. **University of Technology (Eindhoven)** is a research university specializing in engineering science & technology. The university has a master for Information Security Technology, a Security research Group, an research/test lab and a dedicated research institute for cyber security.
2. **Ei/Ψ Eindhoven Institute for the Protection of Systems and Information (EIPSI)** is a TU/e research institute covering the whole technical spectrum of information security
3. **JADS (Den Bosch)** offers data science bachelor and master programs, PDEng education, professional education and help organizations shape their data driven future. Crime and Safety is one of the focus areas of the JADS.
4. **INTERSCT**: INTERSECT is a public private partnership and more than 20 organisations in the context of their commitment to the Dutch National Science Agende. It focuses on R&D and (technological) innovation for a novel approach to the cyber security of Internet-of-things.
5. **Fontys University of applied sciences** is active in the field of ICT. The University is specialized in ICT & Cyber Security.

Our Ecosystem

Leading companies

Brabant accounts for almost 10,500 IT & Data Science companies and 12.1% of all jobs of the total sector in the Netherlands. These are the leading companies in the field of Smart Health and Artificial Intelligence.



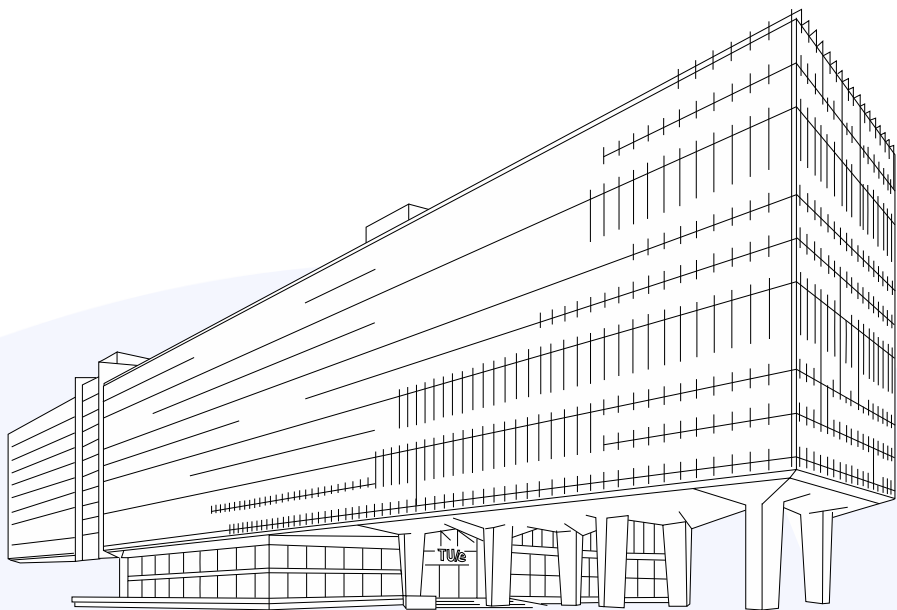
LEADING COMPANIES

1. **Atos** (Managed Security provider): develops, manufactures and maintains cutting-edge cybersecurity products that combine data protection, access management and digital identities.
2. **Ctac** (Managed Security provider) provides FedRAMP, agency, and industry-based security services to protect companies services, IT systems, and data.
3. **Intrinsic ID** (Authentication Software) is the world's leading provider of Physical Unclonable Functions or PUF-based security for the Internet of Things.
4. **Forescout** (Cloud & Data Security) helps the world's largest and most trusted organizations manage their cyber risk through automation and data-powered insights.
5. **NXP** (Mobile Security) is the world leader in secure connectivity solutions for embedded applications. NXP offers security solutions for automotive, IoT, industrial, mobile and communications infrastructure applications.
6. **CGI** (Security Consultancy) has a 45-year heritage of helping clients reinvent and secure their businesses for the future through the delivery of innovative and advanced cybersecurity services in complex, environments across the globe, including the defense and intelligence sectors.

Education – universities closeby

Within a radius of 150 km around Brabant, there are 22 universities in three countries: a total of 605,340 students, 255,680 of which in the field of nature, health or technology.





Eindhoven University of Technology in numbers

SCIENTIFIC PUBLICATIONS

3,000

PHD-AWARDS

140

PATENTS EVERY YEAR

40

IT GRADUATES 2020

499

NEW IT STUDENTS 2020

840

BACHELOR COLLEGE WITH
15 DIFFERENT MAJORS

Key University

Technical University of Eindhoven

For years, the Technical University of Eindhoven is active in the field of Cyber security.

The is home to a dedicated cyber security research institute, a research group, three research labs and a special master track for the subject.



THREE DEDICATED RESEARCH LABS

- **The BlackHat's Lab (B-LAB)**
The B-LAB provides a powerful infrastructure to enable students and researchers alike to experiment with malware, vulnerabilities, and exploits freely.
- **Security Operation Center (SOC)**
SOC is a centralized unit that monitors the security state of a computer network. In the lab, the initial scope of the SOC includes two areas to monitor: the IT network of the department (Office); the cyber-physical sensors network of the university (Building/Security).
- **IoT Lab**
The IoT lab focusses on the cybersecurity of IoT component. The lab allows testing new attacks and malware (e.g. for IoT botnet-based bitcoin mining) on these IoT devices.



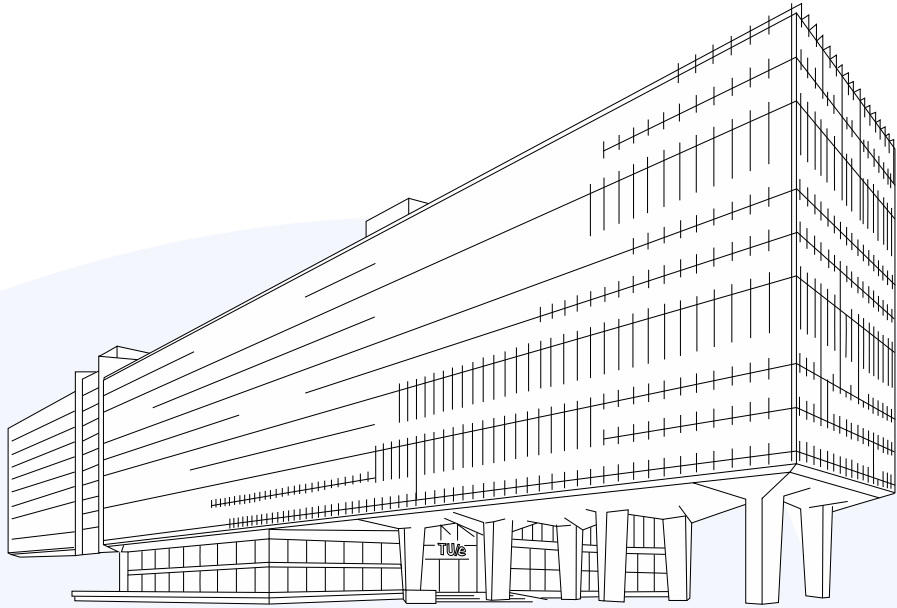
THE SECURITY GROUP

Research at the Security Group at TU/e covers both empirical and theoretical areas of computer security, including network detection and system authentication, physical security and malware engineering and trading, as well as management of health and sensible data and risk evaluation.



SPECIAL MASTER'S TRACK INFORMATION SECURITY TECHNOLOGY

The goal of the program is to transform Bachelors in Computer Science and Mathematics into academic experts in the area of information security in general and computer & network security in particular.



Key Research Institutes

Eindhoven Institute for the Protection of Systems and Information (EIPSI)

EIPSI is the TU/e research institute covering the whole technical spectrum of information security.

EIPSI Collaborates with the TU/e Security group to realize a more secure and privacy-preserving digital infrastructure by investigating the overall picture of the cybersecurity problem, tackling the engineering, deployment, management, and maintenance perspectives of systems and ICT infrastructures.



MAIN RESEARCH TOPICS ARE

- Network monitoring
- Security for machine learning
- Secure data management
- Data analytics for security & Trustworthy AI
- Attacker and risk models
- Identification and Authentication
- Information-theoretic security
- IoT Security and Privacy



FOCUS AREA

- Network monitoring
- Security for machine learning
- Secure data management
- Data analytics for security & Trustworthy AI
- Attacker and risk models
- Identification and Authentication
- Information-theoretic security
- IoT Security and Privacy



Jheronimus Academy of Data Science (JADS)

At JADS, researchers and students work closely with the business community. In addition to education and research, JADS also offers space for innovative, data-driven entrepreneurship and public-private partnerships.

FUNDAMENTAL LABS

6

NATIONALITIES

30

IN PDENG PROGRAM DATA SCIENCE

77 trainees

PROFESSIONAL EDUCATION CERTIFICATES

JOINT DEGREES DATA SCIENCE AND ENTREPRENEURSHIP

CURRENT STUDENT BODY NUMBERS 1,500 – 2,000

Key University

Jheronimus Academy of Data Science (JADS)

JADS offers data science bachelor and master programs, PDEng education, professional education and help organizations shape their data driven future.



CRIME & SAFETY DEPARTEMENT

The mission of JADS is to understand and use the value of data for solving complex societal and business challenges.

JADS's department Data Science in Crime & Safety believes that data science can contribute to safer society. Therefore, Cybersecurity is one of the main courses within the Data Science program.



COLLABORATION WITH THE INDUSTRY

The department Data Science in Crime & Safety of JADS cooperates with Police and the Public Prosecution Service to combat organized crime. The department also cooperates with the banking sector, in which Data Science can help to identify suspicious transactions in an early stage. And we cooperate with the FIOD, where Smart Imaging helps to extract images of contrabands from huge amounts of data.



APPLICATION AREAS

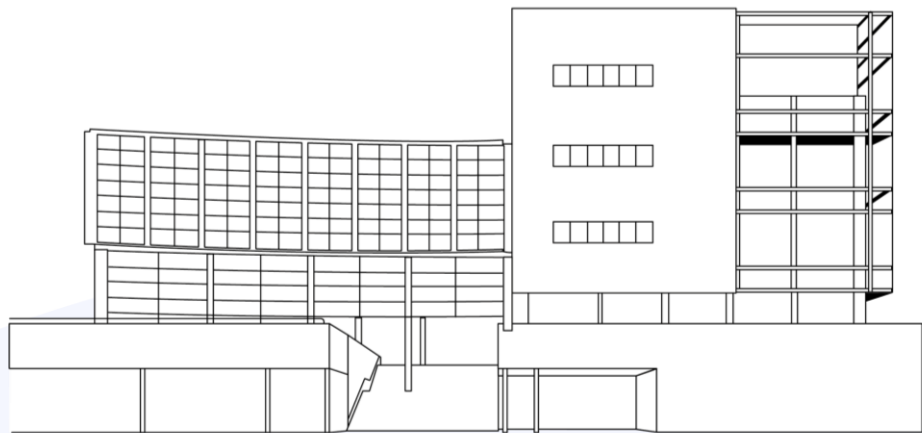
- Social & Digital Entrepreneurship
- AgriFood and Nature
- Crime & Safety



THE JADS DISCIPLINES

- Data Analytics
- Data Governance
- Data Entrepreneurship

JADS Jheronimus
Academy
of Data Science



Fontys facts and figures

STUDENTS

44,230

INTERNATIONAL STUDENTS

5,200

GRADUATES A YEAR

7,697

BACHELOR'S, MASTER'S,
AND OTHER COURSES

477

IT RELATED RESEARCH GROUPS

8

IT RELATED RESEARCH CENTERS

4

IT GRADUATES 2020

578

NEW IT STUDENTS 2020

1,135

Key University

Fontys University of Applied Sciences

Fontys is the largest university of applied sciences in the southern Netherlands.

Education and research at Fontys are directly in line with the current and future demands and needs of students, the professional arena, and (regional) society. Main focus areas of the University is AI, Data and Blockchain for the industry and health sector



FONTYS IT INNOVATION LAB

The Fontys ICT InnovationLab is an open innovation environment located in the Strijp-T Innovation District in Eindhoven. Various research groups in the fields of Big Data, AI, blockchain and interaction design are housed in the 4000 m2 TQ building.

A range of **innovation partners** work with **600 junior IT researchers** (students) and **50 senior researchers** on a wide range of issues to accelerate the digital transformation of the region.

The IT InnovationLab offers room for experimentation and for exploring all possible ideas for practice oriented research questions within the IT domain.



THE FONTYS DISCIPLINES

Fontys has a specialisation program for ict & Cyber security. Within the program, students work on practice oriented research questions with real companies. the main focus of the program is on:

- Protect Data
- Authentication
- Cryptography



HYPERLINK

[Youtube video](#)



Key Resilience Center at HTC

Cyber Resilience Center

Brabant is the first economic area in the Netherlands to have a Cyber Resilience Center. Since September 2019, the foundation has been helping companies within the knowledge-intensive industry with **resilience against digital e-spying and cyber attacks**.

Key Activities:



ENRICHERS

By sharing news, knowledge and practical examples. Mutually and by third parties, during knowledge sessions, webinars, training courses and workshops.



CONNECTS

By connecting companies, a community is growing with a common goal: improving cybersecurity together.



STRENGTHENS

By first identifying the digital threats your company faces and constantly informing them of threat information.



Key Research Institute

INTERSCT.

INTERSCT. is a virtual research institute, hosted at the Technical University of Eindhoven, that brings together research on Cyber-Security for the Internet-of-Things (IoT). INTERSCT was launched by the INTERSECT project, the largest cybersecurity project ever granted by the Dutch national research council NWO. It focuses on R&D and (technological) innovation for a novel approach to the cyber security of Internet-of-things.



WORK PACKAGES

1. Government & Management
2. Design
3. Defence
4. Attacks
5. Governemce of Privacy & Security
6. Federated Laboratory
7. Knowledge Utilisation & Entrepreneurship



SPECIALISM

Cyber security, system and software engineering, smart industry, smart health, smart energy, smart mobility, smart cities & Internet of Things.



INTERSCT. PUBLIC PRIVATE PARTNERSHIP

The R&D and (technological) innovation program on Cyber Security of Internet-of-Things is supported by more than 40 partners from academia, industry, government and civil society.

INTERSCT.



Key R&D Cluster at BIC

High Tech Software Cluster

The High Tech Software Cluster is an alliance of over 30 innovative software companies, research organizations and educational institutions that support you in making the digitization of your business affordable and practical.

Main focus: software for the 4th industrial revolution



CYBER SECURITY IS ONE OF THE FOCUS AREAS OF THE CLUSTER

Cyber security members are:

- Data Streams
- Pulse DC
- Compumatica
- Luminis
- Verum
- Delphino Consultancy
- TU/e University of Technology



SOFTWARE COMPETENCE CENTER

At the HTSc Software Competence Center companies can find out about the competences, products, services and knowledge that HTSc members can provide and you can experience at first hand the software technologies that you can use to innovate in and with software.

**HIGH TECH
SOFTWARE
CLUSTER**