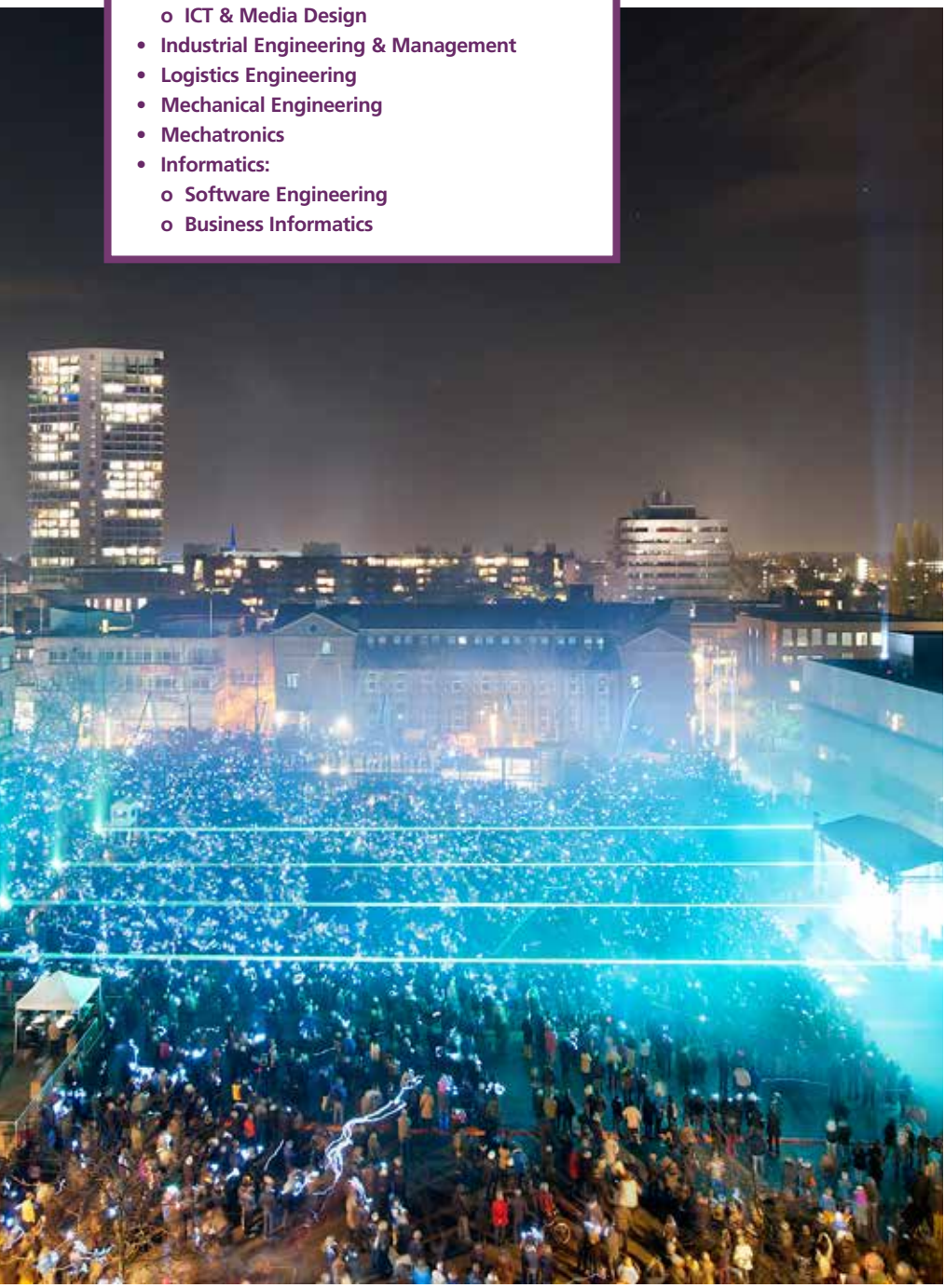
ICT & ENGINEERING

Fontys
UNIVERSITY OF APPLIED SCIENCES

FONTYS
ICT & ENGINEERING

- Electrical & Electronic Engineering
- Information and Communication Technology:
  - ICT & Software Engineering
  - ICT & Technology
  - ICT & Business
  - ICT & Media Design
- Industrial Engineering & Management
- Logistics Engineering
- Mechanical Engineering
- Mechatronics
- Informatics:
  - Software Engineering
  - Business Informatics



BRAINPORT REGION

Fontys Eindhoven and Venlo are located in the South-East of the Netherlands, the so-called 'Brainport region', which is a world-class top technology region. High tech and design are combined with an advanced high-end manufacturing industry and entrepreneurship. Close collaboration and sharing knowledge are part of it's DNA and characterise the open innovation culture which makes Brainport smart and strong. By quickly anticipating to rapid world-wide changes and continuously connecting to new people, Brainport creates new opportunities. This attracts talent and enterprises from all over the world. Entrepreneurs, knowledge institutions and governments form a unique business climate in which Brainport competes by collaboration, expands by adaptation, multiplies by sharing, achieves by trying and predicts the future by inventing it.

In that way, partners in Brainport work together in finding solutions for societal challenges for health, mobility, energy, food and safety. As the high tech growth accelerator of the Dutch economy and part of the technological backbone of Europe, Brainport is a global frontrunner in innovation.

Fontys has been collaborating with almost 100 companies in the ICT and engineering work filed (our partners in education) and in the Brainport region for many years now. To get an idea, please have a look at: **piefontysict.nl**

With the knowledge and skills learned graduates will be able to find a job as high-level engineers in the wide ICT and engineering sector. Jobs are very different and depend on the chosen specialisations.

For detailed information about these bachelor programmes, please visit our website:

FONTYS.EDU

Partner

BRAINPORT EINDHOVEN

ELECTRICAL & ELECTRONIC ENGINEERING

Electronics engineers design and develop the consumer goods and also systems used by machines and equipment in industry, from mobile communications and computing to aerospace.

The curriculum of the EEE bachelor programme is offered in the context of 4 themes: Sound Engineering, Care & Cure, Smart & Sustainable and Connected World. With the knowledge and skills gained in this programme you can work as a high-level Electronic engineer especially in the field of Electronic design and development.

Your future career opportunities are excellent. You may think of careers in the (car) industry in companies like Philips and ASML, but also engineering jobs in hospitals, the air force and army, lighting and audio companies and even the theatre world.

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INFORMATION & COMMUNICATION TECHNOLOGY

ICT refers to technologies that are related with the internet, wireless networks and cell phones but also with the latest software developments. The Fontys ICT bachelor study in Eindhoven offers you 4 study programmes: ICT & Software Engineering, ICT & Technology, ICT & Business and ICT & Media Design.

The first semester is identical for all four bachelor programmes, giving you the opportunity to find out what programme suits you best. From the second semester you can choose to continue either in ICT & Software Engineering, ICT & Technology, ICT & Business or ICT & Media Design. Moreover, you can add specialisations, such as Applied Data Science, Cyber Security, Game Design and Technology, Management and Security, Open Innovation or Smart Mobile.

ICT & SOFTWARE ENGINEERING

In this study field you will learn about designing, developing and maintaining software for all kinds of applications. You will learn to translate the requirements from clients into a software design and implement the software design with several programming languages (C#, Java).

ICT & TECHNOLOGY

Nowadays you will find software in almost every device, from a television to a heart-defibrillator and from a watch to an elevator. Within this programme we focus on writing software for all these devices. We will train you to become an expert in software development, especially in the so-called embedded software and industrial automation.

ICT & BUSINESS

Business IT-specialists know how to apply ICT in organisations to achieve their objectives. A business IT-specialist not only knows how to analyse organisations and business processes but also is able to give advice on solutions and transfer these solutions into design. You understand the technology involved so you can discuss solving difficult IT-problems but you also speak the language of the manager.

ICT & MEDIA DESIGN

At ICT & Media Design you are inventing and creating valuable ICT-based applications for new media. You learn to look critically at the role of media in society and find your talents. During this study you receive concepts enabling you to become a creative thinker and designer based on a thorough ICT expertise. You come up with ICT-based media concepts to reach your target group. You learn to build useful applications and you get the chance to experiment and develop your technical and artistic talents.

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INDUSTRIAL ENGINEERING & MANAGEMENT

Industrial Engineering & Management is a programme teaching you a broad variety of topics ranging from technology to economics, strategy and human resources. Goal is to prepare you for a management position in a 'technology' company. This may be a company that develops and manufactures high-tech products. But also companies with a mere focus on manufacturing or logistics belong to the target.

The Brainport Eindhoven region offers a splendid environment for studying Industrial Engineering & Management because hundreds of companies within 50 kilometres of the university are part of this category. This is important because your study, for a large part, will be with and within some of these companies.

You start building a relevant CV from the beginning of your study and by the time you are getting your degree you will have the needed knowledge, skills and experience to immediately take up significant responsibility within the company of your choice. In concrete, the education focusses on problem solving in the areas of development, manufacturing and logistics such as lowering costs, improving quality, delivering goods faster and increasing reliability.

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LOGISTICS ENGINEERING

Buying an iPhone or car is simple but all products are preceded by major logistical processes. Think of the various components that have to be collected from all over the world. The production and delivery of goods must always be of good quality, at the right time, in the right quantity and at the right place. When studying logistics you learn how to manage and improve the logistical flow of goods. This study field offers you related jobs in many different companies: from automotive, pharmaceutical to wholesale and retail companies.

In the first 1,5 years of studies you learn about Warehousing, Distribution and Production Logistics on an operational, tactical and strategic level. After that you specialise in either Logistics Management or Logistics Engineering. LE deals with managing operations and the engineering side of logistics. Setting up new smart warehouse lay-outs, advising customers in introducing new IT systems for stock management or analysing and re-engineering the goods and information flow from supplier to customer are topics logistics engineers deal with.

In Logistics Engineering you become an engineer. You work as a logistics consultant, distribution network designer or process manager at Amazon, Lufthansa or Samsung - understanding the requirements of people, processes and systems.

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logistics-engineering

MECHANICAL ENGINEERING

This study programme has a strong focus on the design and construction of machines and devices. From oil rigs to the plastics industry, from pythons in amusement parks to devices and machines, everywhere you will meet mechanical engineers. A designer who also knows how processes work. Mechanical engineers focus on designing, making and placing of equipment, installations and machinery. They make things 'better'.

Do you want to make for example a machine more energy efficient? Or ensure that a production process produces less waste? With mechanical engineering you are going to make it!

Mechanical Engineering graduates can work in many sectors. Often you will work in the field of design and engineering or research and development. Also, production and automation of energy and environmental technology are interesting fields for you.

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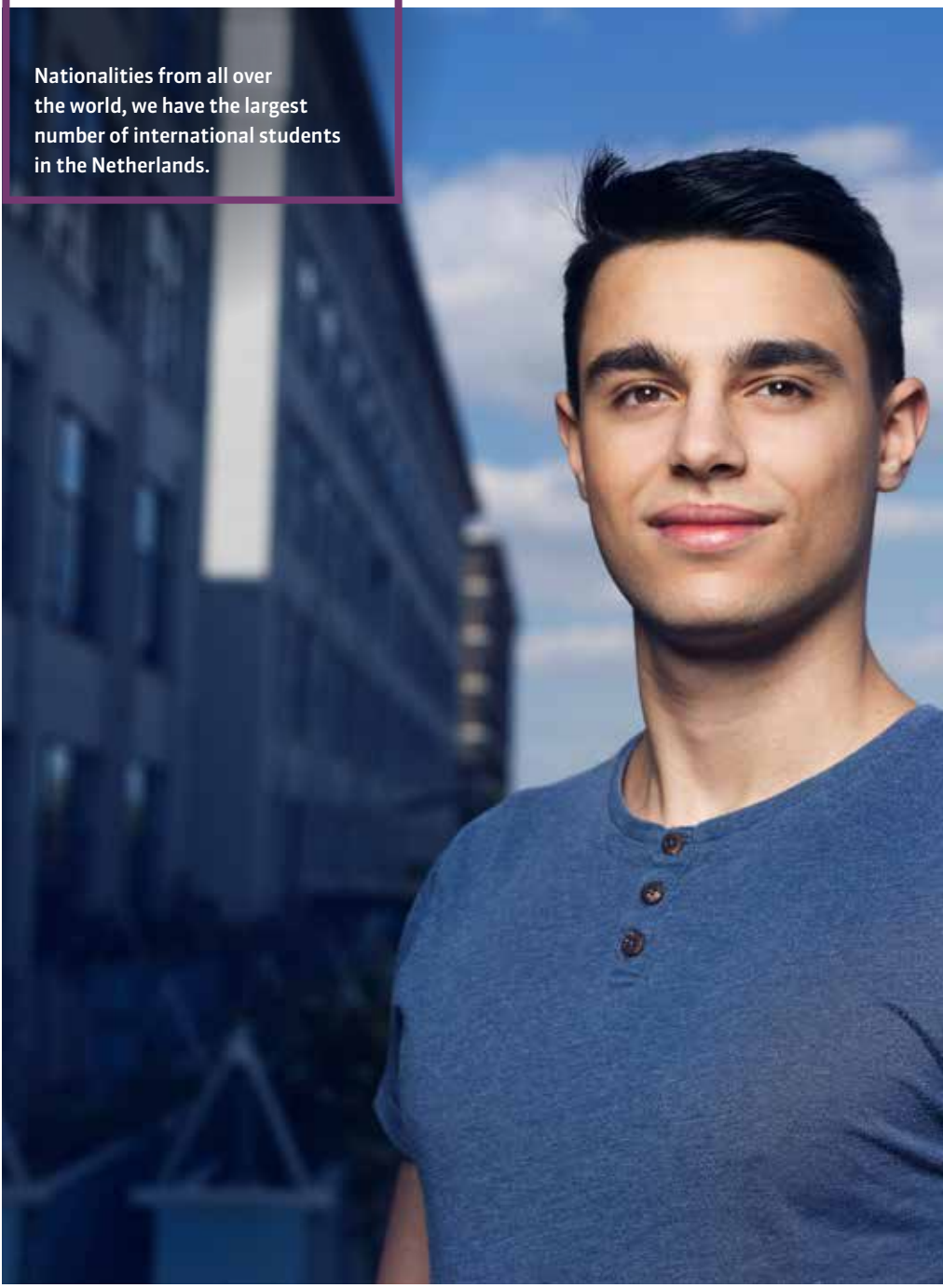
Nationalities from all over the world, we have the largest number of international students in the Netherlands.



MECHATRONICS

This programme is a combination of electrical and electronic engineering, mechanical engineering, control systems and software. You will be a designer and a creator. Mechatronics is about making simpler, more economical and reliable systems that can do something independently. From design to making a robot: the bachelor programme Mechatronics has a focus on robotics and control technology.

Mechatronic engineers design or select sensors and actuators, develop control algorithms and use or develop advanced functional materials for the design of mechanical systems such as welding robots in a production line, surgical robots but also cruise control systems in cars and many more.

Future jobs for Mechatronics graduates are diverse and it is anticipated that mechatronics engineers will have excellent career opportunities. Nowadays the demand from the industry for Mechatronics engineers exceeds the supply. Think of a job in research and development, industrial automation or service and maintenance.

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INFORMATICS:
▪ SOFTWARE ENGINEERING
▪ BUSINESS INFORMATICS

We're living in a 'connected world'. People are connected by social media and devices are connected to each other. Our lives become more dependent on computers. Think about apps on mobile devices, web applications and cars; all examples of products based on software. Smart people with technical skills are needed to develop those systems. These technical skills are learned in the study programmes Software Engineering and Business Informatics.

The first three semesters are the same for both Software Engineering and Business Informatics and contain subjects such as computer basics and security, databases or programming concepts.

Afterwards, you specialise in Software Engineering or Business Informatics and may choose subjects such as machine learning, virtual/augmented reality or enterprise software development. Small and multinational classrooms (max. 30 students) ensure personal attention to every student and cultural exchange among all international students.

SOFTWARE ENGINEERING

Software Engineering is about the complete process around the development and improvement of computer applications; from the first idea via implementation to going live and maintenance. This is a challenge from a technical perspective, but also from a user perspective. Applications have to fit user needs, in order to be usable and acceptable. The development and implementation of state of the art and usable computer applications is what you learn.

BUSINESS INFORMATICS

Business Informatics professionals bridge the gap between users and developers of computer systems. You are the person between the business and IT. A thorough technical base knowledge is absolutely necessary. Furthermore, you'll learn about important business processes, and how those can be supported through the use of information technology. You'll learn how to work in an analytical way, enabling you to embed IT in many different environments.

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software-engineering

ACCORDING TO
DUTCH ACCREDITATION
FONTYS ICT
PROGRAMMES
HAVE BEEN RANKED
'EXCELLENT' IN 2018.

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