

# MASTER OF SCIENCE IN SMART OPERATIONS AND MAINTENANCE IN INDUSTRY

PROGRAMME JOINTLY OFFERED BY GHEENT UNIVERSITY, CATHOLIC UNIVERSITY OF LEUVEN, KU LEUVEN

60 ECTS CREDITS - LANGUAGE: ENGLISH

## WHAT

Industry is digitally transforming, and actionable intelligence is key to implement the right technologies in a broader transformation strategy. In this advanced Master's programme, students learn how both operational and maintenance processes can be optimised by making them 'smart', using new (I4.0) technologies, such as robotics, big data analytics, digital twins, cloud computing, etc. The programme covers technologies that facilitate an advanced digitalisation of product and process information (e.g., smart sensors), technologies that are used in production and maintenance (e.g., cobots), and technologies that connect production equipment/ assets and people (e.g., Industrial IoT platforms).

This Master's programme is organised jointly by Ghent University and KU Leuven. Students will be equipped both with a comprehensive understanding of the scientific techn(olog)ical knowledge in the – interdisciplinary – field of Smart O&M and with the ability to apply this knowledge in a real industrial setting, from a system approach.

Our Master's programme delivers Smart Operations and Maintenance specialists, capable of implementing and deploying innovative technologies with a real added value for the industry.

## STRUCTURE

The programme contains 60 ECTS, consisting of a strong truncus communis (30 ECTS), an elective track (12 ECTS) and a Master's dissertation (18 ECTS).

## LABOUR MARKET

Graduates are qualified to take up various roles in different (industrial) sectors, ranging from SMEs to international Captains of Industry. The skills they have developed, and the knowledge they have obtained will be more widely applicable than in the manufacturing industry alone. All operationally intensive sectors, including for example the food and pharmaceutical sectors are eager to recruit engineers with a solid background in Smart O&M who can lay the foundation of, and an advisor in their digital transformation process. There are ample opportunities, but narrowed down, three essential job profiles can be identified, which are reflected in the programme's structure (cf. three elective tracks): job profiles in an industrial R&D team (the machine

track), job profiles in a production engineering department (the factory track), and job profiles in production operations (the operations track).

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## TOELATINGSVOORWAARDEN VOOR HOUDERS VAN EEN VLAAMS DIPLOMA

### 1 Rechtstreeks:

- Joint Master's degree in Sustainable Automotive Engineering
- Master in de industriële wetenschappen: elektromechanica
- Master in de industriële wetenschappen: elektronica-ICT
- Master in de industriële wetenschappen: elektrotechniek
- Master in de industriële wetenschappen: energie
- Master in de industriële wetenschappen: machine- en productieautomatisering
- Master in de ingenieurswetenschappen: bedrijfskundige systeemtechnieken en operationeel onderzoek
- Master in de ingenieurswetenschappen: elektronica en informatietechnologie
- Master in de ingenieurswetenschappen: elektrotechniek
- Master in de ingenieurswetenschappen: energie
- Master in de ingenieurswetenschappen: mobiliteit en supply chain
- Master in de ingenieurswetenschappen: werktuigkunde
- Master in de ingenieurswetenschappen: werktuigkunde-elektrotechniek
- Master in Energy (EIT-KIC)
- Master of Electrical Engineering
- Master of Electromechanical Engineering
- Master of Electronics and ICT Engineering Technology
- Master of Engineering: Energy
- Master of Industrial Engineering and Operations Research
- Master of Mechanical Engineering
- Master of Mobility and Supply Chain Engineering

### 2 Na onderzoek van de bekwaamheid van de student om de opleiding te volgen:

- Een diploma van een masteropleiding aansluitend op een bacheloropleiding
- Een diploma van een masteropleiding die volgt op een andere masteropleiding

**English:** more info on <https://smart-om.eu/requirements/>

## PRACTICAL INFORMATION

### Study programme

[studiekiezer.ugent.be/master-of-science-in-smart-operations-and-maintenance-in-industry-en/programma](https://studiekiezer.ugent.be/master-of-science-in-smart-operations-and-maintenance-in-industry-en/programma)

### Information sessions

#### EVOLV

[evolv.gent/en/students/further-studies](https://evolv.gent/en/students/further-studies)

### Enrolling institution

KU Leuven

Information on enrolment:

[www.kuleuven.be/inschrijven](https://www.kuleuven.be/inschrijven)

[www.ugent.be/gaststudentugent](https://www.ugent.be/gaststudentugent)

### Application Deadline (for International degree students)

For students who **need a visa**: 1st of April

For students who **do not need a visa**: 1st of June

[Read more](#)

### Tuition fee

More information is to be found on: [www.ugent.be/tuitionfee](https://www.ugent.be/tuitionfee)

### Contact

[info@smart-om.eu](mailto:info@smart-om.eu)

<https://smart-om.eu/>

## LANGUAGE REQUIREMENTS

Language requirements Dutch: no language requirements