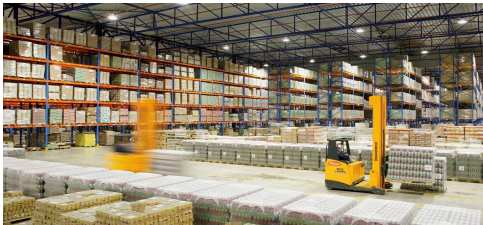


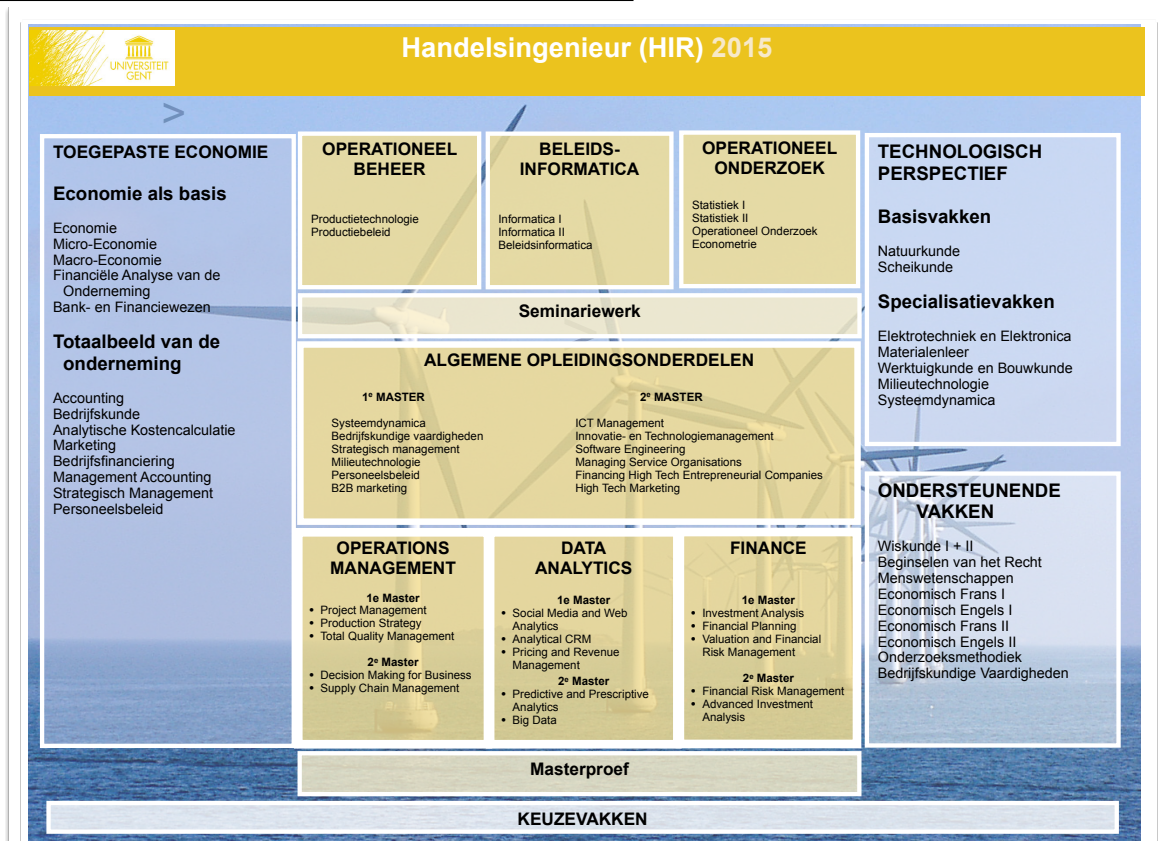
# Business Engineering

## Operations Management

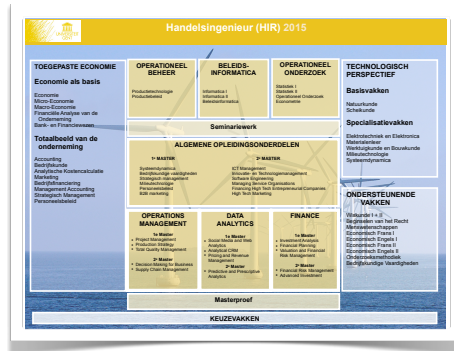
*“from data-rich to decision-smart”*



## What is ... Business Engineering?



# What is ... Business Engineering?

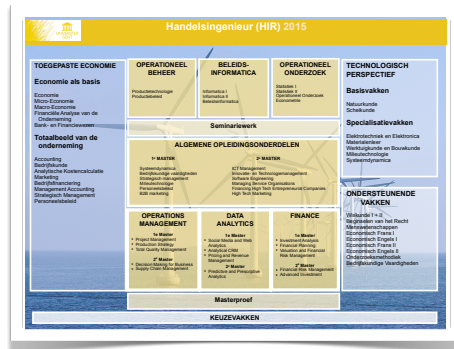


## Bachelor programma HIR

- Geen afstudeerrichtingen
- Ondersteunende vakken (wiskunde, fysica, chemie, ...)
- Introductie tot de **studie van de waardenketen**

**Supply chain management** is the process of **planning, implementing** and **controlling** the operations of the supply chain with the purpose to satisfy **customer** requirements as **efficiently** as possible.

# What is ... Business Engineering?



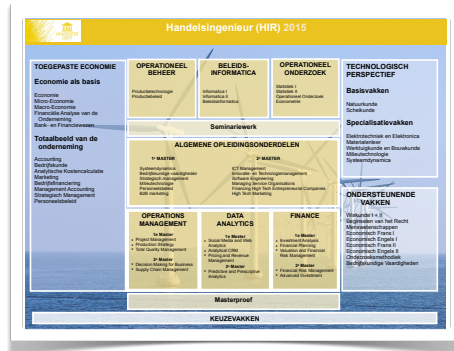
## Bachelor programma HIR

- Geen afstudeerrichtingen
- Ondersteunende vakken (wiskunde, fysica, chemie, ...)
- Introductie tot de **studie van de waardenketen**

Productiebeheer	Productieproces van goederen én diensten
Operationeel onderzoek	Modelmatige aanpak van beslissingsproblemen
Beleidsinformatica	Informatieproces (als ondersteuning van het productieproces)



# What is ... Business Engineering?

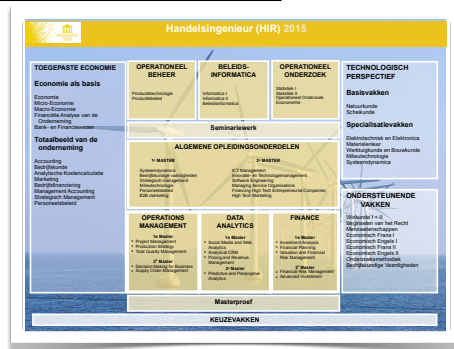


## Master programma HIR

- Drie afstudeerrichtingen:
  - Operations Management
  - Data Analytics
  - Finance
  - **! 5 vakken en twee keuzevakken !**
- Twee keuzevakken of stage (als vervanging van één keuzevak)
- Masterproef (2 jaar hard werken én pure fun, met 2 evaluaties)



# What is ... Business Engineering?



## Master programma HIR

- Drie afstudeerrichtingen:
  - **Operations Management** (also known as **supply chain management, logistics, decision making** for business, ...)
  - Data Analytics
  - Finance
  - **! 5 vakken en twee keuzevakken !**
- Twee keuzevakken of stage (als vervanging van één keuzevak)
- Masterproef (2 jaar hard werken én pure fun, met 2 evaluaties)





**What is Operations Management?**

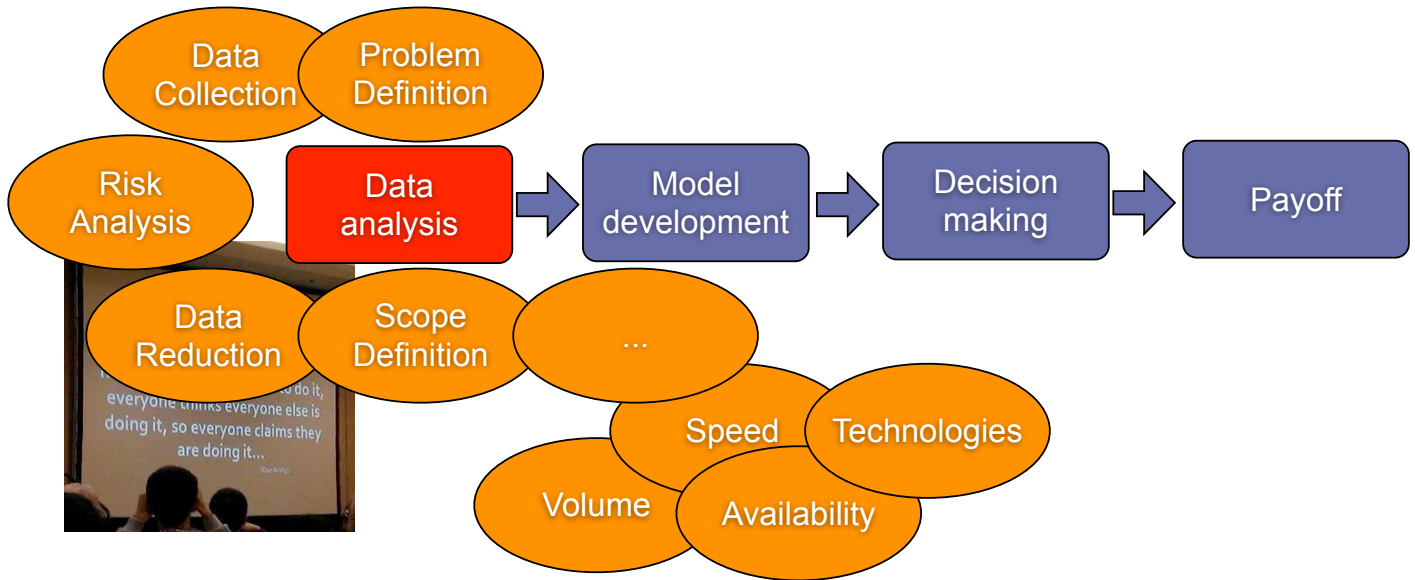
What is ... Operations Management?

It isn't big data but big algorithms that is going to change the world.

## What is ... Operations Management?

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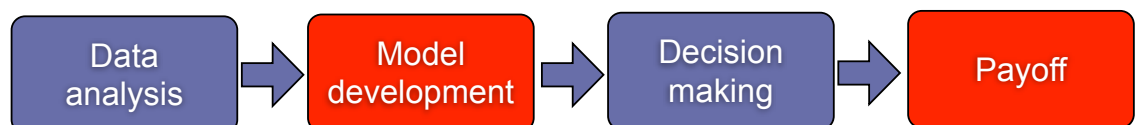
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## What is ... Operations Management?

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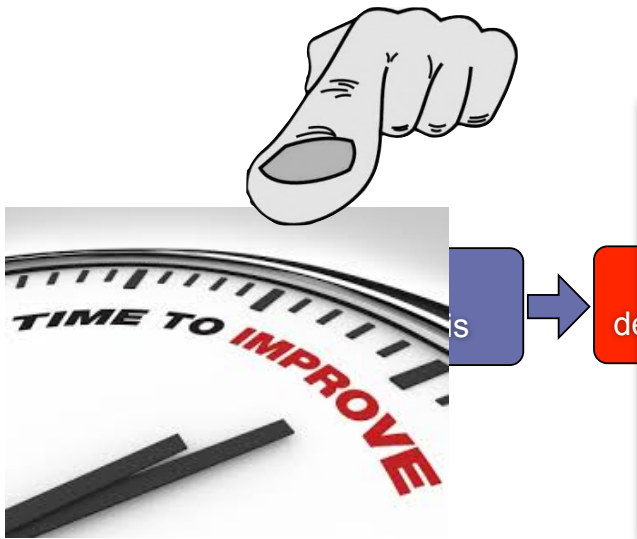
It isn't big data but **big algorithms** that is going to change the world.





## What is ... Operations Management?

It isn't big data but **big algorithms** that is going to change the world.



**“What is my ROI?”**

### **Projectmanagement**

Projectmatig werken in een onzekere omgeving

### **Integrale kwaliteitszorg**

Kwaliteit gaat verder dan het productieproces (integraal!)

### **Productiestrategie**

Uitbreiding van productiebeheer naar de supply chain

In lijn met de strategie (cf. Seminariewerk)

### **Supply Chain Management**

Finale afwerking: transport, planning, risico analyse, etc.

### **Decision Making for Business**

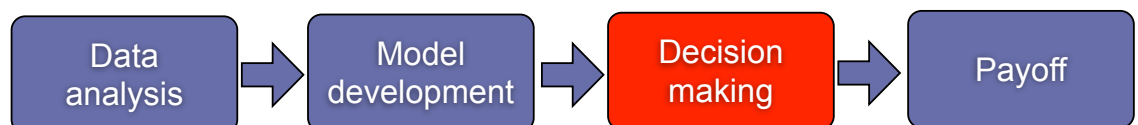
Wat zijn de concrete toepassingen van OR voor SCM?

Tip: **Queueing Methods** by Prof. Dr. H. Bruneel

Tip: **Queueing Methods** by Prof. Dr. H. Bruneel

## What is ... Operations Management?

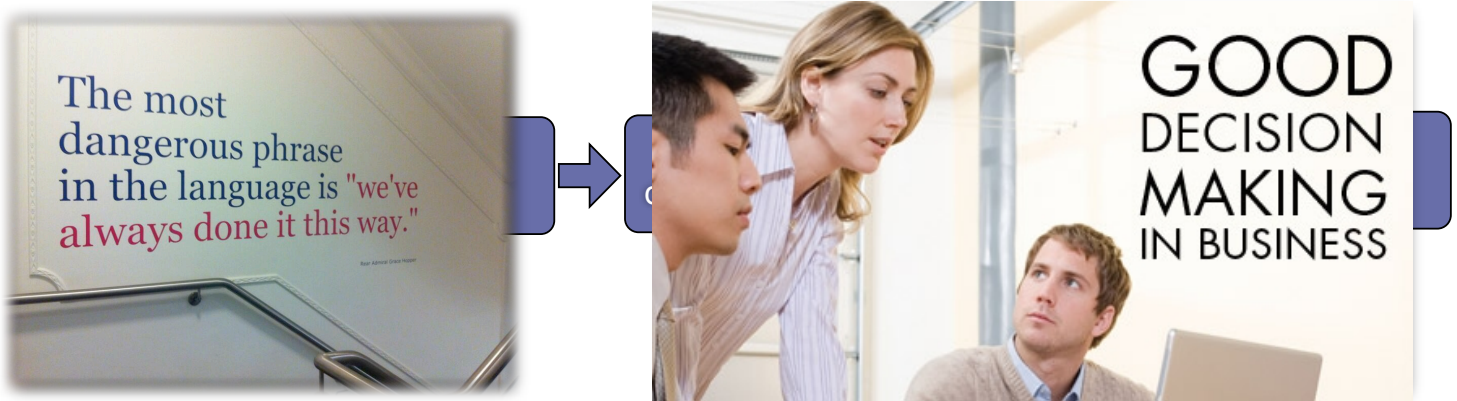
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## What is ... Operations Management?

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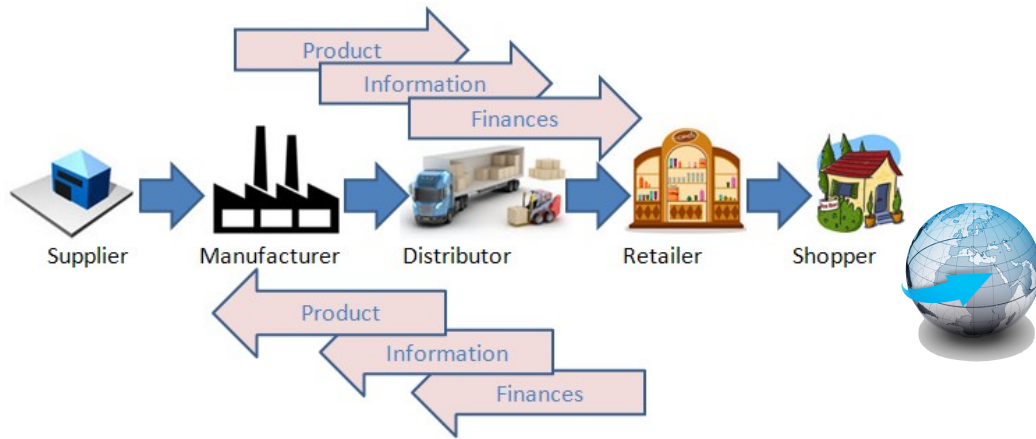
It isn't big data but big algorithms that is going to **change the world**.



**Why Operations Management?**

# Why ... Operations Management?

The **global** economy is bringing **change** to the way we work



Analyze	Big data
Improve	Big algorithms
Make decisions	Change the world (what is my ROI?)

# Your future Operations Management!

A grid of 56 logos for various logistics and supply chain companies. The logos are arranged in 8 rows and 7 columns. An orange banner with the word "Logistics" is placed over the top right corner of the grid.



# Your future Operations Management!

Consultancy



# Your future Operations Management!

Project Management



# Your future Operations Management!

ICT



# Your future Operations Management!

Construction



# Your future Operations Management!

## Banking & Finance



# Your future Operations Management!

## Energy





# Your future Operations Management!

Public Sector



# Your future Operations Management!

Fast moving consumer goods



# Your future Operations Management!

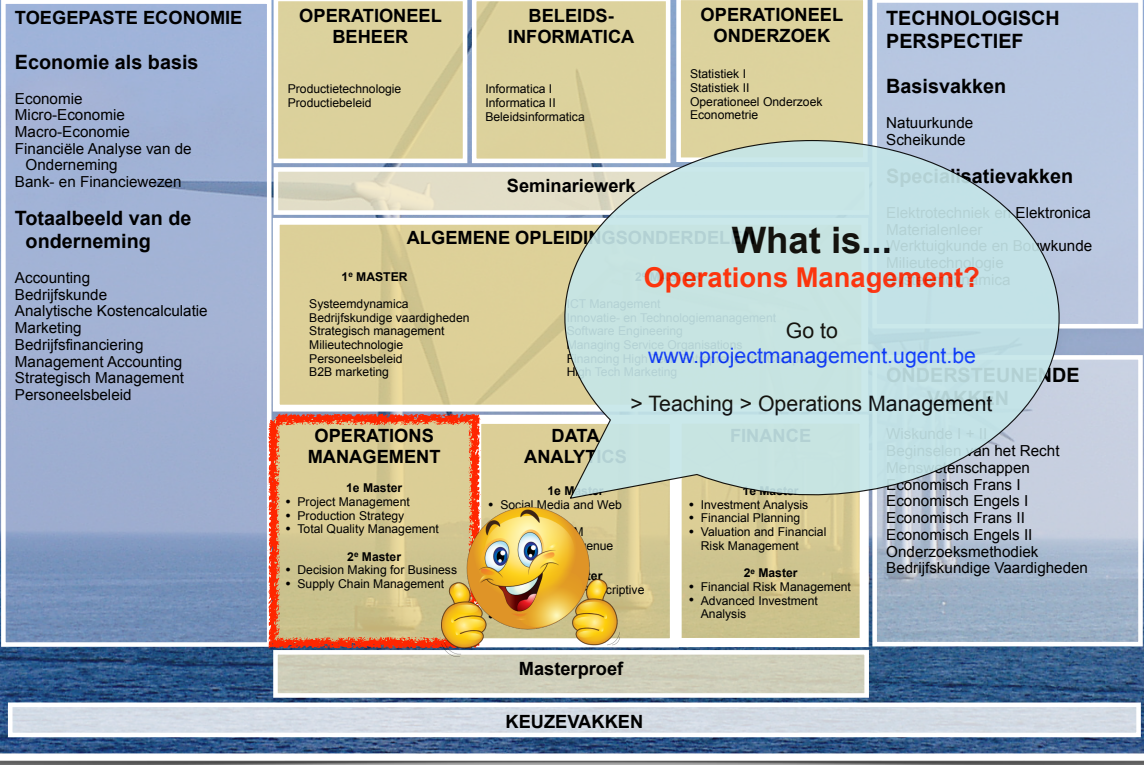
And so many others



# Your future Operations Management!

And so many others





**What is... Operations Management?**

Go to [www.projectmanagement.ugent.be](http://www.projectmanagement.ugent.be)

> Teaching > Operations Management



## Extremely important ...



**Logistics**

**Construction**

**Project Management**

**ICT**

**Banking & Finance**

**Energy**

**Public Sector**

**Fast moving consumer goods**

**Auto**

**Pharmaceuticals**

**Food & Beverage**

**Chemicals**

**Textiles**

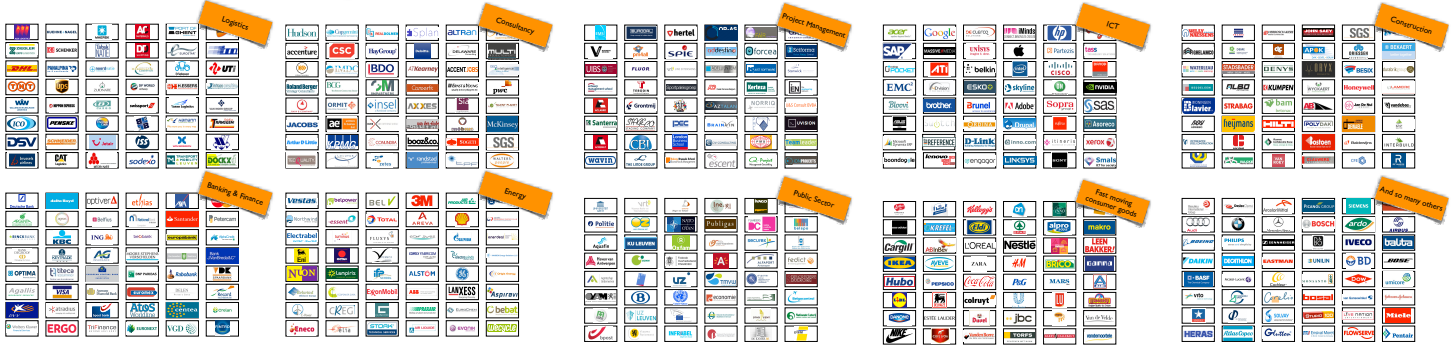
**Metals**

**Other**



But ... equally important is ...

to practice what we preach!  
to participate in our projects!  
to have a feeling of what's next!  
to love what you do!



But ... equally important is ...

to practice what we preach!



But ... equally important is ...

to participate in our projects!



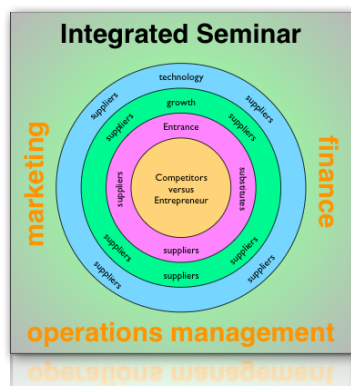
But ... equally important is ...

to have a feeling of what's next!

cf. 3<sup>rd</sup> Bachelor



cf. 2<sup>nd</sup> Master



...small data...

...simple algorithms...

...change your financial situation.

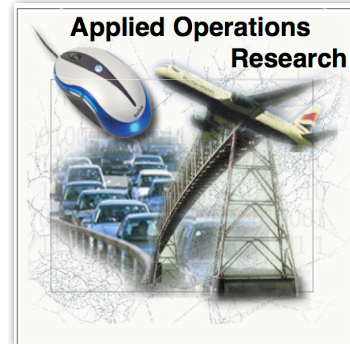
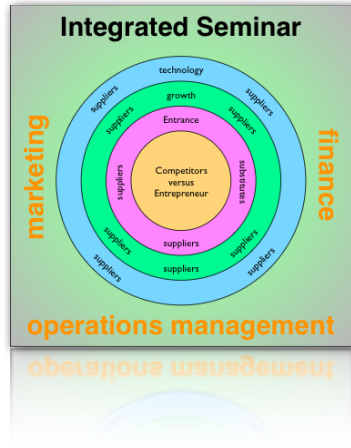
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cf. 3<sup>rd</sup> Bachelor



cf. 2<sup>nd</sup> Master



It isn't **big data** but **big algorithms** that is going to **change the world**.

But ... equally important is ...

to love what you do!

**“To succeed you have to believe in something with such a passion that it becomes a reality.”**

Dame Anita Roddick

cf. 1<sup>st</sup> Master



## Master in Operations Management

It isn't big data but big algorithms that is going to change the world.

"Change is the end result of all true learning." (Leo Buscaglia)

### Operations Management

**Operations Management** is an area of management concerned with overseeing, designing, and controlling the process of production and redesigning business operations in the production of goods or services. It involves the responsibility of ensuring that business operations are **efficient** in terms of using as few resources as needed, and **effective** in terms of meeting customer requirements. It is concerned with managing the process that converts inputs (raw materials, labor, and energy) into outputs (goods and/or services).

The **Master in Operations Management** of the Business Engineering programme will focus on the most relevant topics of Operations Management, which is often referred to in the literature as **Management Science** or **Business Analytics** or in business as **Supply Chain Management** or **Logistics**. The two-year Master will highlight various business aspects of Operations Management in a learning-by-doing environment and will put forward a well-balanced combination of theoretical lectures, practical business games and case studies, as well as guest lectures and company projects.

The important business concepts within Operations Management will be highlighted from various angles and perspectives. A stream centered around **supply chain concepts** such as lean management, agile management, risk management and cost/benefit management will illustrate how various concepts from the Bachelor years are applied in a real-world business decision making setting.

A stream centered around **business ICT** with attention to ICT and business alignment of **project management**, including project management best practices such as **Earned Value Management** and **Schedule Risk Analysis** will showcase best practices in ICT and project management based on experience in world leading companies. Within this stream, a lot of attention will be spent to recent evolutions within the business software decision making tools, with a focus on the recent evolutions on business analytics and big data.

Concepts such as e-business, six-sigma quality management, supply chain mapping, third party logistics as well as supply chain innovations such as fully automated warehousing, advanced inventory management, database management in decision making, and much more will be discussed, not only from a theoretical point of view but almost always illustrated from practical experience and business cases.

Teaching is not a static process but rather requires a continuous dynamic update to new relevant business topics. Therefore, many of the topics are given in **collaboration with companies** involved in the program. The member companies of PMI Belgium and EVM Europe, but also others such as Arcelor Mittal, Fabricom GDF Suez and CERN from Switzerland often play an active role: they define relevant topics, they follow the work done by students and sometimes even award the most relevant outcomes with a recognition (cash prize, award, ...).

### Courses

#### Master 1

**Project Management** provides an understanding of key issues and applied methodologies relating to Integrated Project Management and Control. It provides the essentials a project manager should have when faced with preparing the work necessary for managing and controlling projects in progress, with a clear focus on integrating scheduling, risk and control to set up a project management and control system using the available tools and techniques and best practices.

**Production Strategy**, in order to achieve the flexible, cost-effective production systems required to survive in today's volatile, global markets, a thorough understanding of the basic dynamics of factories/services and their link with the competitive strategy of a firm is essential.

**Total Quality Management** deals with questions on how to produce high quality goods or services, discusses ways to discover the reliability of suppliers, presents techniques on how to decide whether or not to accept the raw materials received, assesses software tools to monitor production systems with high quality standards, and much more.

#### Master 2

**Applied Operations Research** is a decision making for business case study in which students are responsible for a real business problem. They should act as a consultant and must analyze and define the company problem, suggest a novel solution, think about an implementation strategy as well as validate the return of investment for their suggested approach.

Business Engineering and Operations Management  
Department of Business Informatics and Operations Management  
Contact: [marco.vanhoucke@ugent.be](mailto:marco.vanhoucke@ugent.be)  
Website: [www.projectmanagement.ugent.be](http://www.projectmanagement.ugent.be)



## Master in Operations Management

Do cool things that matter

**Operations Management** is an area of management concerned with overseeing, designing, and controlling the process and redesigning business operations in the production of goods or services. It involves the responsibility of ensuring that business operations are **efficient** in terms of using as few resources as needed, and **effective** in terms of meeting customer requirements. It is concerned with managing the process that converts **rich data** into **better decisions**.

"It isn't big data but big algorithms that is going to change the world"

### Project Management

"If everything seems under control, you're not going fast enough."

Did you know that every year the Project Management Institute (PMI) awards our students for their excellent work?

### Quality Management

"Give customers quality. That's the best kind of advertising"

Did you know that all Boeing 787's were grounded worldwide for 4 months, due to poor quality management in the design phase?

### Production Strategy

"The customer isn't always right. But if you don't listen to them, your product won't be either"

Did you know that good, attractive and diversified products and services are the heart of every strong brand?

### Supply Chain Management

"Operational excellence remains the greatest imperative for European companies"

Did you know that Garmin ranks Apple's Supply Chain as the best supply chain in the world every year from 2010 to 2013?

### Decision Making for Business

"Whenever you see a successful business, someone once made a courageous decision"

Did you know that Arcelor Mittal has awarded many of our students for the excellent master thesis on Decision Making in Operations Management?

### Approach

**Blended Learning** is a formal education style consisting of class lectures, case studies, software experiments, business games and integrated group exercises to bring the business relevance to the classroom.



### Methodology

Transforming rich data into better business

**decision** requires a data analytics approach using the Operations Research methodology and includes Big Data Analysis, Artificial Intelligence, and Statistical Process Control techniques.



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> Teaching > Operations Management

