

**POLITECNICO**  
**MILANO 1863**

**LM Management Engineering**  
**Track Industrial Management**  
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# What is Industrial Management about?

- Purchasing
- Production
- Delivery / distribution
- Customer Service
- Planning
- Quality management
- New Product/Service Development
- Engineering
- Safety
- ....
- ....

*Products & Services*

# Industrial Management

## *Market needs*

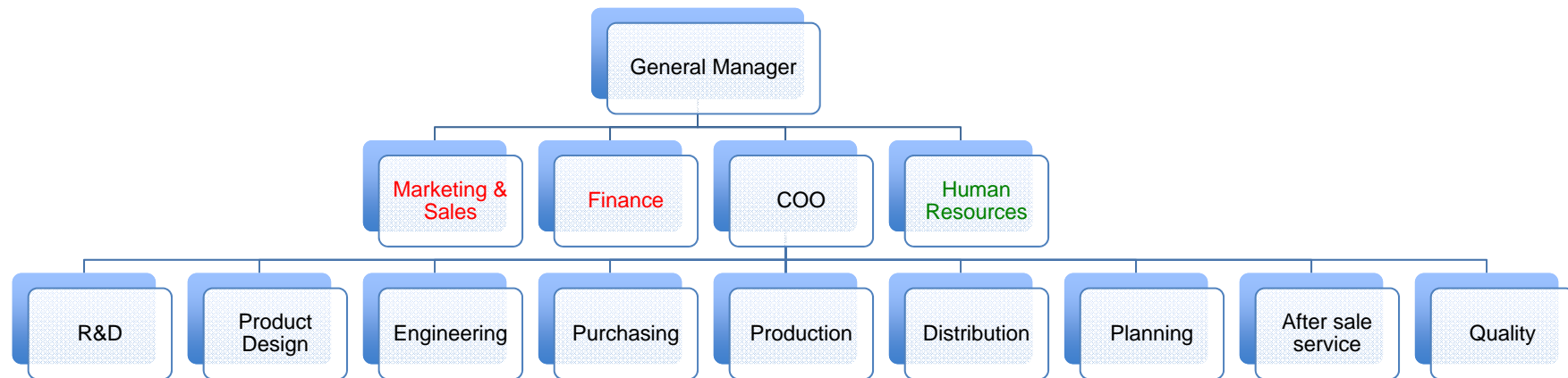
Five phenomena are reshaping the contemporary competitive arena:

- Globalisation of markets and production facilities
- Customisation of products and services
- Faster Technology development and Digitalisation
- Competition for securing access to critical resources
- Higher competence level for all workers, as a significant opportunity to exploit

The development and interaction of these factors make the design and running of manufacturing and service businesses, **much more complex** than in the past, thus creating the need of **a new type of managers** who bring to Companies and Organisations new approaches, present new methodologies, and give clear guidelines for improvement plans, often making **complex decisions under highly dynamic and uncertain conditions**

**INTEGRATION RATHER THAN SPECIALISATION**

# Industrial Management in the Organisational Cart: Chief Operations Officer



Tim Cook was COO of Apple before being appointed CEO

**INTEGRATION RATHER THAN SPECIALISATION**

# Industrial Management

*The educational project – key goals and competences developed (1/2)*

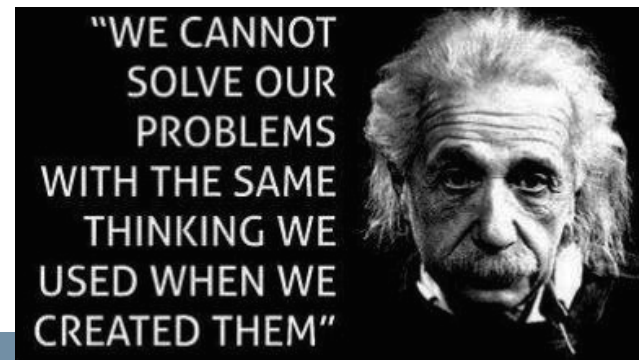
Building on the wide competences developed during the first year, the Industrial Management educational project aims at developing managers who build **sustainable competitive advantage** through **innovative production and service operating models**

The IM stream provides students with competences, methodologies, tools, and real world experience to make them able to

- Run a Company site, or group of sites, in an effective and efficient way
- Set up new sites and new initiatives - from the idea to the realisation - as strategic investments for the Company's competitive advantage in the long run
- Define operating processes, direct investment in new technologies, develop competences and assets

With an **innovative systemic approach**

**Managing the interactions** among different parts of the system



**POLITECNICO MILANO 1863**

# Industrial Management

*The educational project – key goals and competences developed 2/2*

Typical decisions graduate in the IM track will take in their positions are:

- **Deciding on the investment in new facilities/sites** in different part of the world
- **Adopting of Best Available Technologies** and set technology radical changes as leading an **INDUSTRY 4.0** transformation
- **Deciding, planning and executing operations improvement** projects
- **Establishing and managing** the realization and delivery of products and services for satisfying customer needs.
- **Planning, executing and recovering large strategic projects** (manuf & serv)
- **Managing the lifecycle of all physical assets** of the company
  
- **Developing human capital** by the enhancement of employees' competences and providing safe working conditions and efficient working environment.
- **Making decisions under uncertainty** and selecting mitigation strategies (risk management)

# Industrial Management

## Study Plan of the stream EXAMPLE

Pos	ECTS	ECTS	Courses	Sem
7	15	10	Industrial Management Lab	Either 1 and 2 at your choice
		5	Industrial Management toolbox (models and tools)	
8	10	10	Asset Life Cycle Management	1
		10	Industrial Project Management	1
9	5	5	Operations Risk Management and Resilience	1
		5	Quality Management	1
10	5	5	Additive Manufacturing	1
		5	De-manufacturing	1
		5	Digital Business Innovation	2
		5	International Distribution	2
		5	Product Life Cycle Management	2
		5	Safety Engineering and Management	1
		5	Supply Chain and Purchasing Management	1
	10	5	FREELM	2
		5	FREELM	1
	15	15	Master Thesis	

# Industrial Management

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		5	Quality Management	1
10	5	<b>THE STREAM YOU CAN CUSTOMISE</b>		1
				1
		5	Digital Business Innovation	2
		5	International Distribution	2
		5	Product Life Cycle Management	2
		5	Safety Engineering and Management	1
		5	Supply Chain and Purchasing Management	1
	10	5	FREELM	2
		5	FREELM	1
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The LAB is jointly delivered by POLIMI and Manufacturing or Service Companies, in order to build on the strengths and capabilities of these two Actors to **shape the managers of the future**



*How is the lab designed?*

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Students work in groups (2-3 people) on a problem given by the Company and approved by POLIMI

Each group works on an **intense project with a company** (250 hours per person):  
**a tutor from the company and a tutor from POLIMI**  
weekly meeting

During the semester, groups attend at the University sessions on:

## - Methodology

- Analytical tools
- Modelling tools
- Problem Solving tools

## -Soft skills

- Change management
- Negotiation
- Conflict resolution

## Presentations



## Teamwork



## Entrepreneurship



## A Few Feedback from the past years

*“Real application of concepts and models studied during past courses...my best course!”*

*“An opportunity to demonstrate my value”*

*“Opportunity to work like a real consultant!”*

*“I felt myself important and part of the company”*

*“Real involvement in companies working life, and so a lot of responsibilities and trust from managers!”*

*“An opportunity to get known and be hired!”*

# A Few Feedback from the past years

You can ask Alumni who did the LAB in the past.

## **Alumni you can refer to:**

Simone Solazzo

[simone.solazzo@mail.polimi.it](mailto:simone.solazzo@mail.polimi.it)

Roberto Nespoli

[roberto1.nespoli@mail.polimi.it](mailto:roberto1.nespoli@mail.polimi.it)

Nataliya Aronovych

[nataliya.aronovych@mail.polimi.it](mailto:nataliya.aronovych@mail.polimi.it)

## Joint activities with companies (sample)

BCG	Consulting
Borg Warner	Automotive
Coca Cola	Beverage
Decathlon	Manufacturing
ESSELUNGA	Food production
FICEP	Manufacturing systems
Generali	Insurance
Hertz	Car Rental
HILTI	Manufacturing/logistics
Humanitas	Healthcare
Kone	Manufacturing
IKEA	Retail
Magneti Marelli	Automotive
St Microelectronics	Semiconductors
Unicredit	Banking

## Examples of projects

Implementing INDUSTRY 4.0 in a manufacturing company

Implementing LEAN in low volume-high variety production company

Increasing quality and efficiency in a food production plant

Opening a new plant in USA

Re-defining the products portfolio, and allocation to plants

Fraud data: understanding and preventing frauds in a Bank

Digital opportunities: improving the customer journey

All tablet: digitalising the logistic activities

**projects abroad also! Up to now: 2 in Germany 1 in Lituania**

# Key characteristics of the Track

- Integrates different areas
- Strongly customised
- Broader working opportunities (builds competences for more than one function)
- Both in 1<sup>st</sup> and 2<sup>nd</sup> sem
- Joint with companies
- Soft skills clearly addressed
- Different learning approach

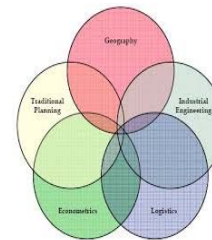
## Coaching



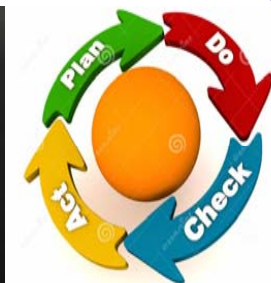
## Faculty + Managers



## Multidisciplinarity



## Problem solving



**MAKE ENJOY LEARN**



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