



FEUP Universidade do Porto
Faculdade de Engenharia

Industrial Informatics

[Informática Industrial]

Presentation of the course

2022/23 edition

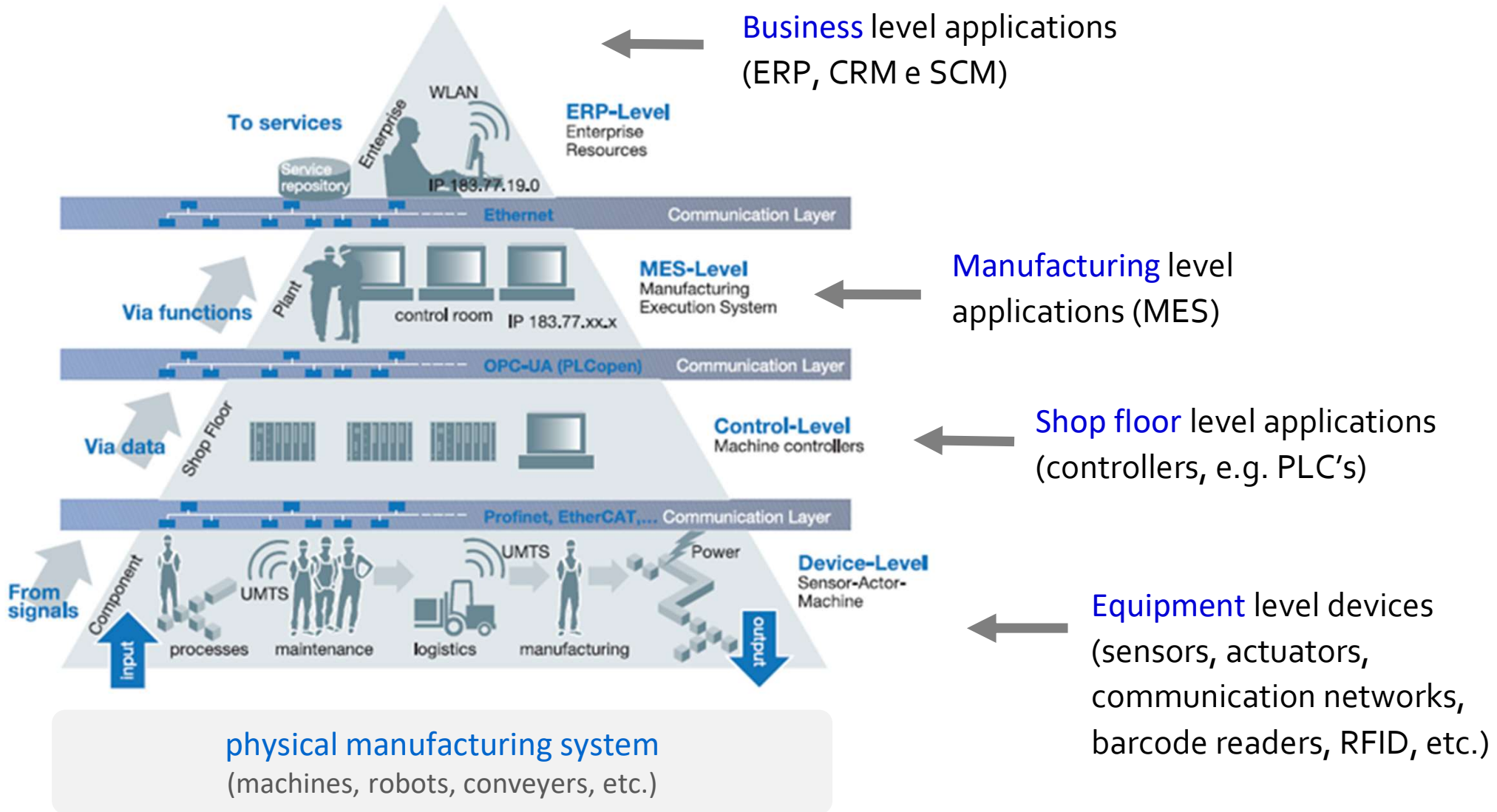
José Faria and Andry Pinto



Main objective

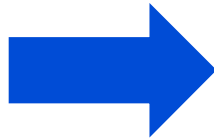
- The course aims to provide students a **comprehensive and practical** understanding of **systems, applications and technologies** in the field of industrial informatics,
- The topics go **from production and supply chain** management applications **down to manufacturing equipment** control systems.

industrial informatics systems, applications and technologies



the project at a glance

the main focus

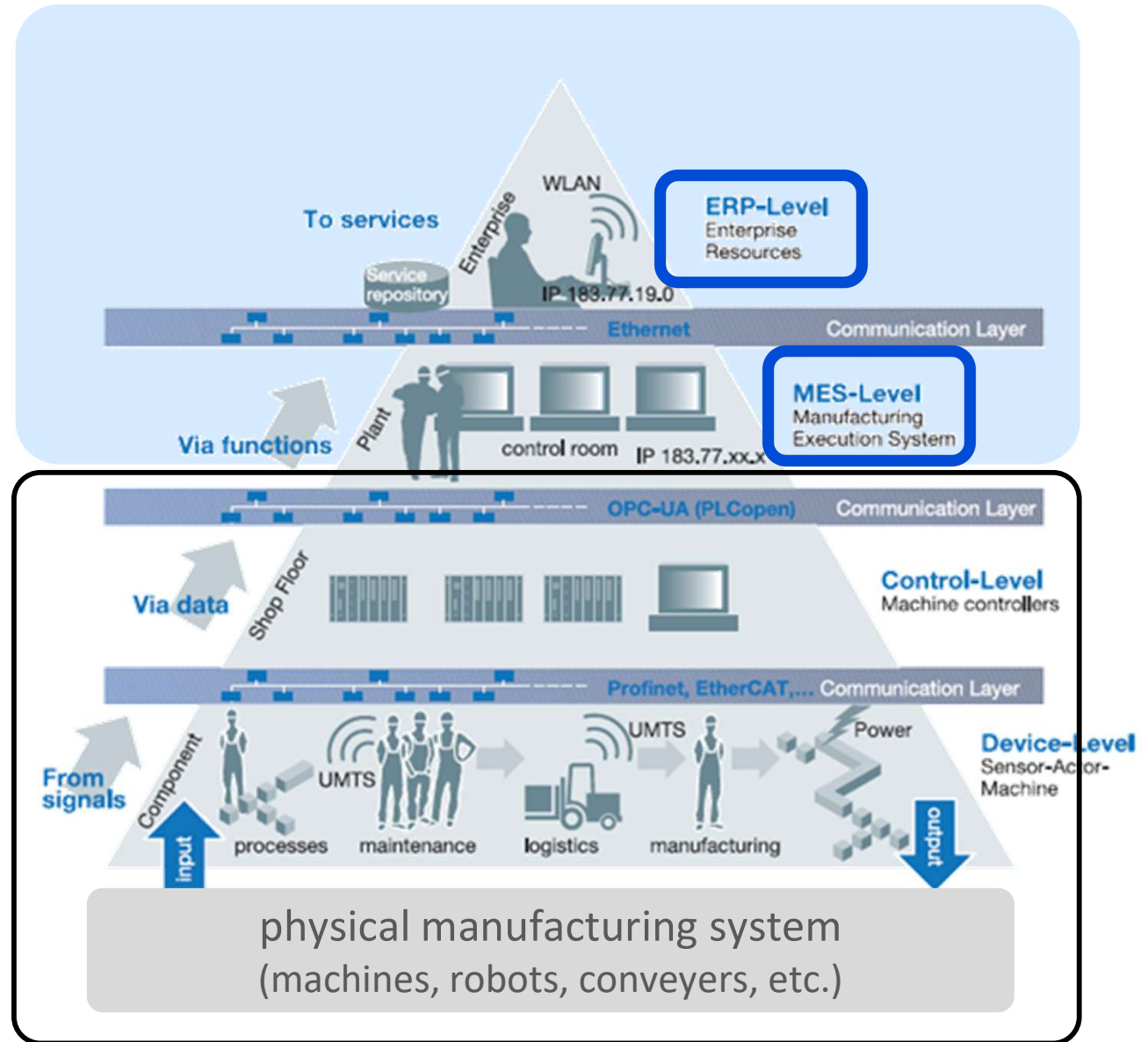


of your project

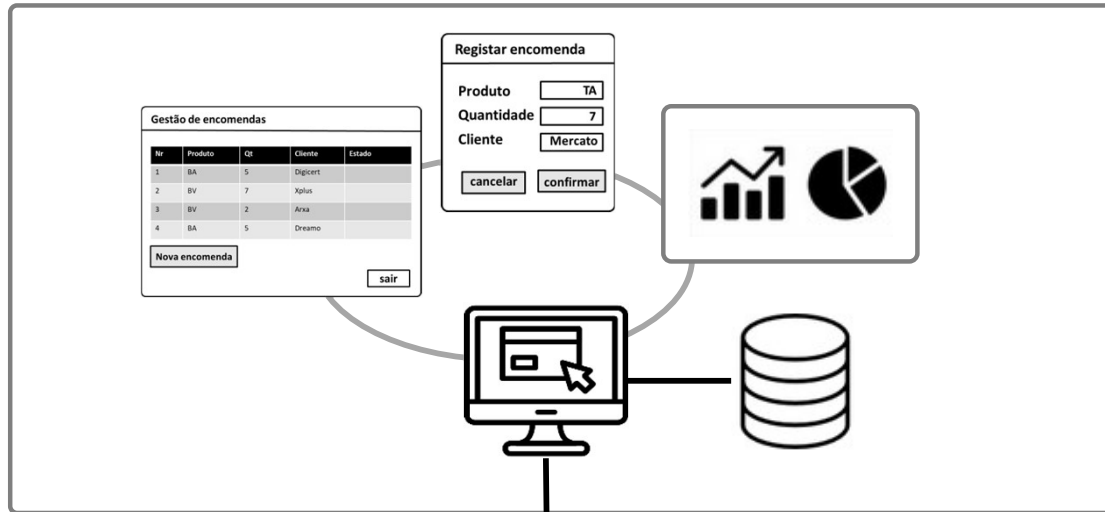
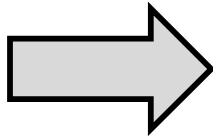
software simulation



highly realistic

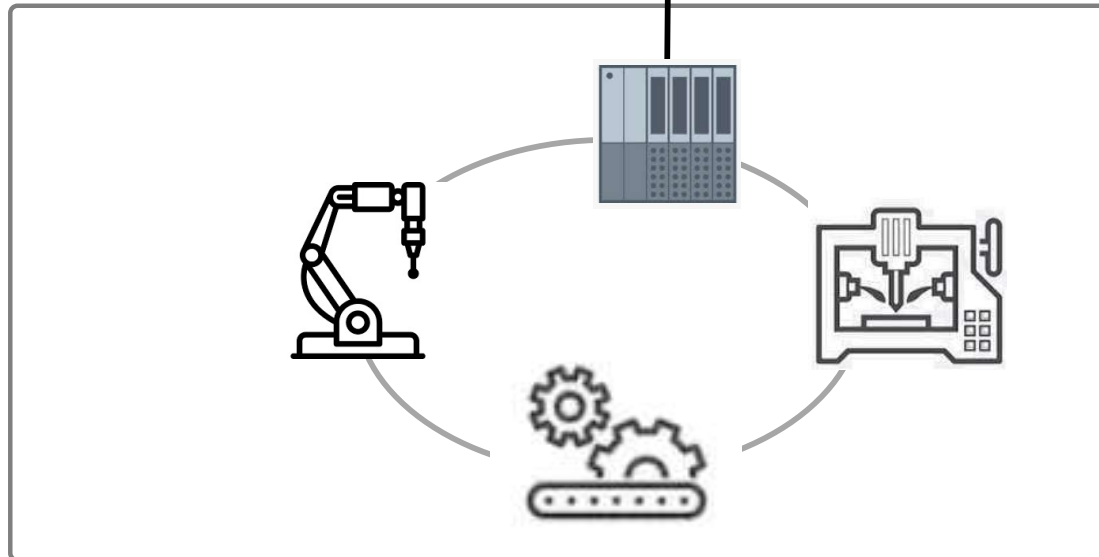
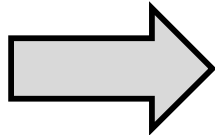


your project



Industrial management system

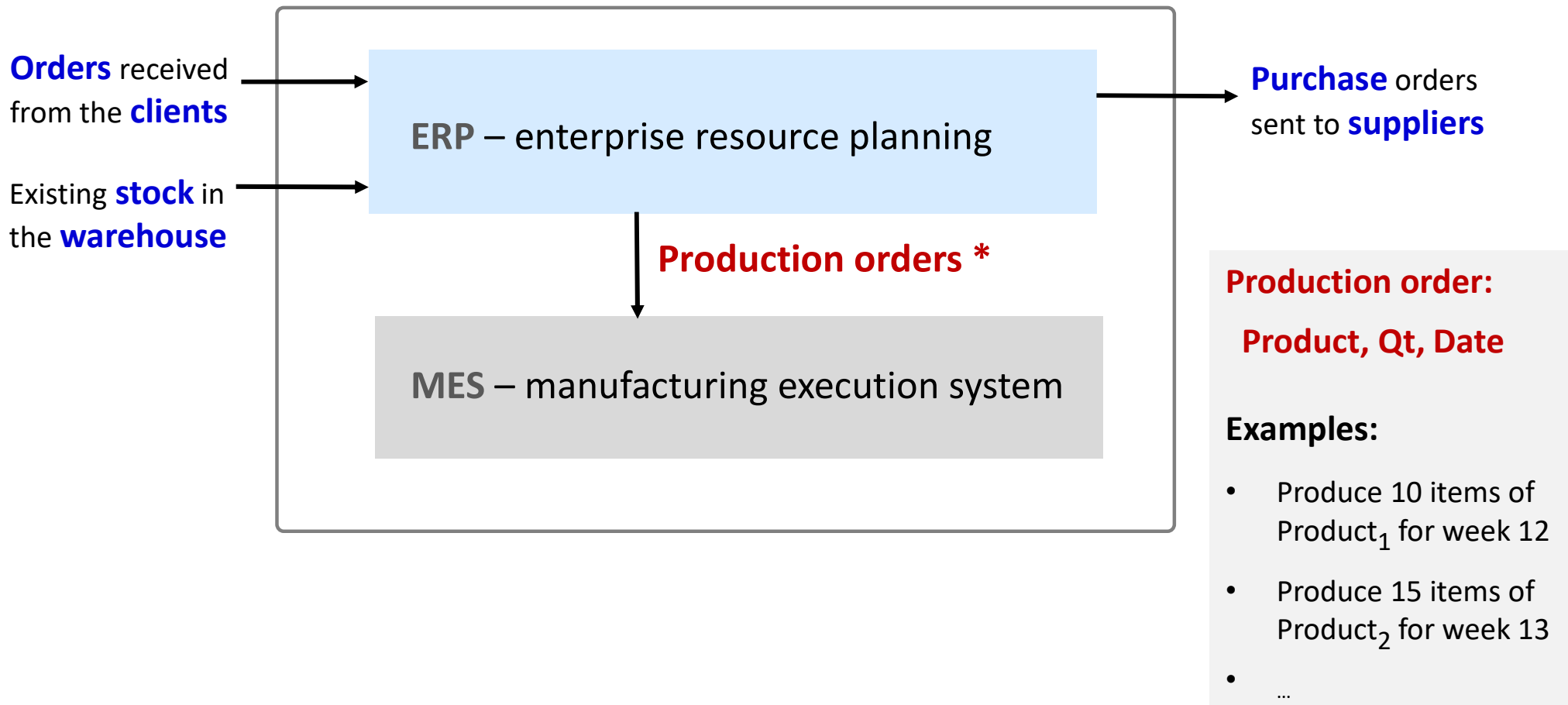
simulator



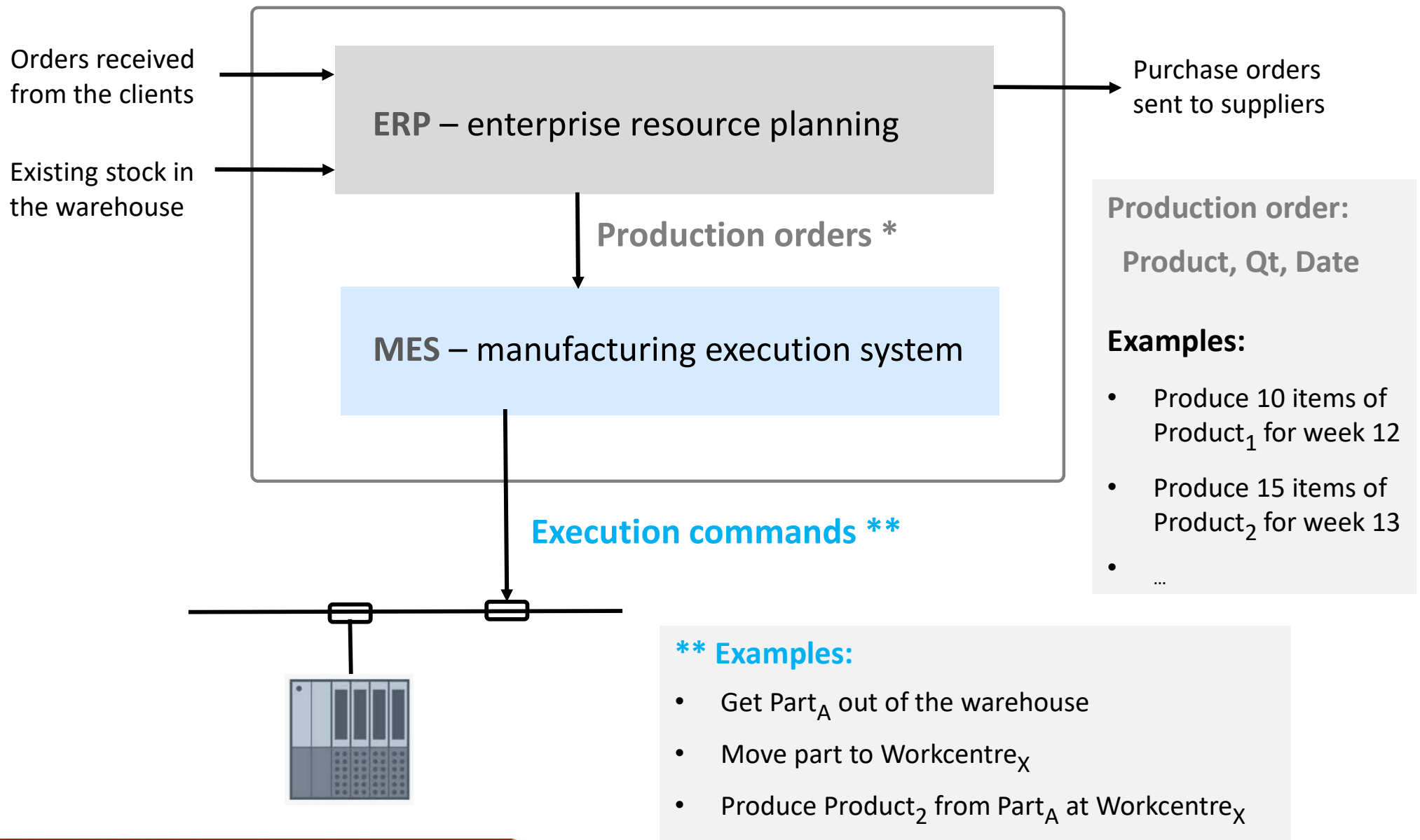
Manufacturing system

quite realistic simulation
see tinyurl.com/taxuxoh

ERP and MES: the main modules of the industrial management system



ERP and MES: the main modules of the management system

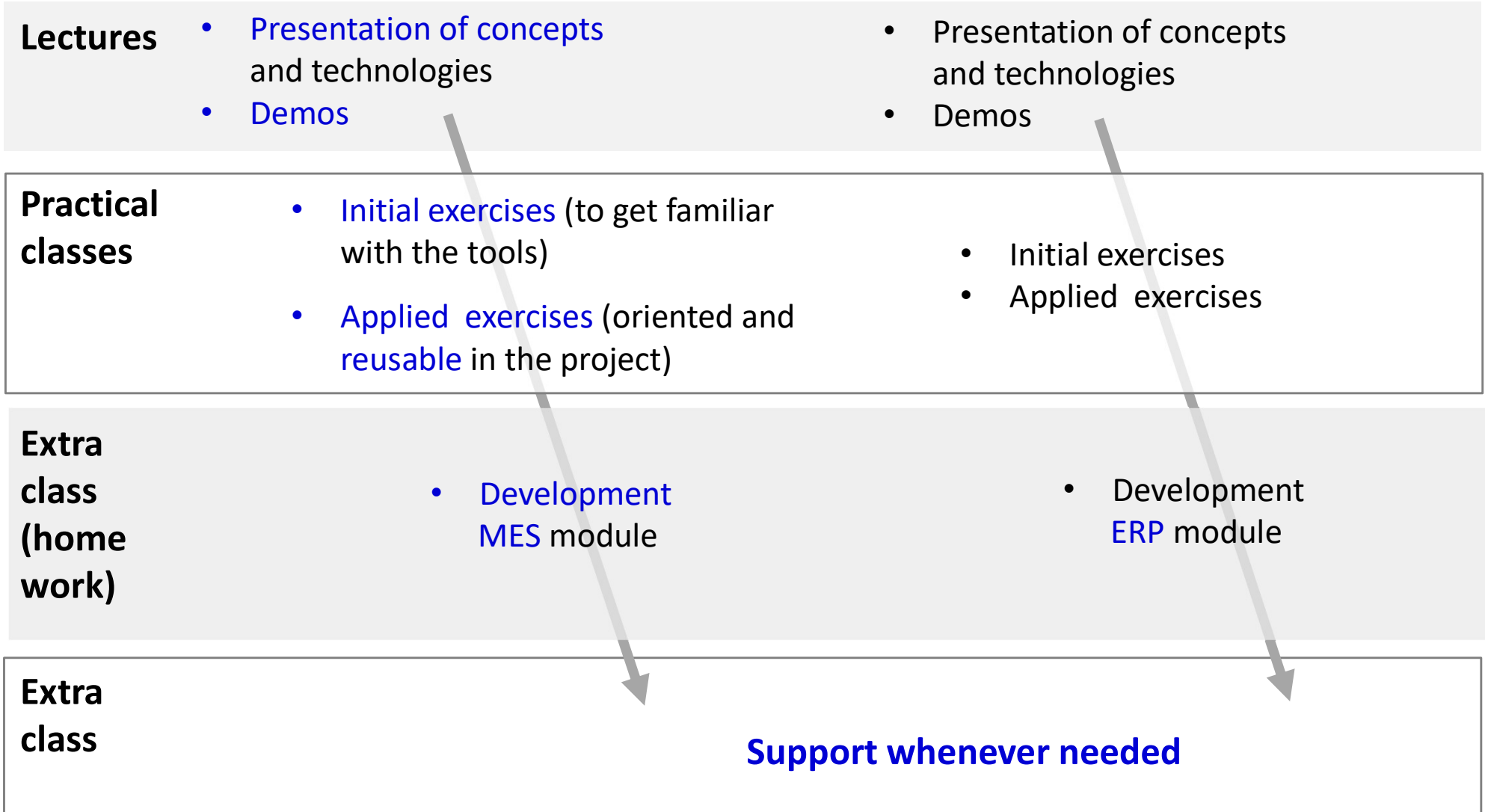


methodology

Methodology

1. **learning by doing** in which the student learns and applies the concepts acquired through his **individual work** with the support of the teaching team.
2. **project based learning** in which students **working in groups** throughout the semester develop a project close to the 'real world'.

methodology



Important recommendation on groups formation

- Students' groups will have 2 elements.
- If you don't like or are "uncomfortable" with computer programming, don't try to find a teammate that is far more proficient than you.

- Instead:

1. find a colleague with similar programming skills and take the opportunity to overcome your difficulties together.
2. whenever you need it, don't hesitate to ask for help from your Colleagues or the Teachers.
3. finally, **enjoy the project 😊 !**

*this is to
take
seriously 😊!*

overall course planning (indicative)

semana	tópicos	deliverables		
1	Apresentação da UC Apresentação do projeto	Download do software	Evaluation	
2	Instalação FIO, CodeYsy, Lazarus Teste de comandos fábrica e armazém			
3	Carnaval Não há aula para nenhuma das turmas	Instalação correta Video com sequência de comandos Utilização do simulador		←
4	Introdução ao Lazarus Exercícios em Lazarus	Exercícios iniciais Lazarus resolvidos		←
5	Apresentação MES (specs) Módulos scheduler e dispatcher			
6	Arquitetura da aplicação Lazarus Introdução aos Scada (interface utilizador)	Mini aplicação Dispatcher (envio automático de comandos)		
7	Apoio ao projeto	Entrega módulo MES		←
8	Introdução aos ERP Introdução à base de dados Postgres			
--	<u>Páscoa</u>			
9	Queries SQL orientadas ao projeto Exercícios SQL	Resolução exercícios SQL		←
10	Apresentação do módulo planeamento Desenvolvimento do projeto			
11	Feriado Não há aula para nenhuma das turmas	Resolução exercício planeamento (paper)		
12	Objetos Lazarus BD Exercício CRUD de uma entidade	Resolução exercício CRUD		←
--	<u>Queima</u>			
13	Especificação módulos encomendas e materiais Arquitetura da aplicação ERP			
14	Desenvolvimento do projeto	Entrega módulo ERP	←	
	Apresentação do trabalho	A data é indicativa	←	

students' assessment

Students' assessment

- **Project : 100%**

- Design of a multilevel industrial management system
- Groups of 2 students
- *No final exam*

Important dates

Deliverable	%
Installation report	10%
MES-Production order	10%
MiniMES application	25%
Database and SQL	10%
Lazarus DB	10%
MiniERP application	25%
Final presentation *	10%

* Till the final presentation, you can improve either the MiniERP or the MiniMES application

contacts

Contacts



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thank you !