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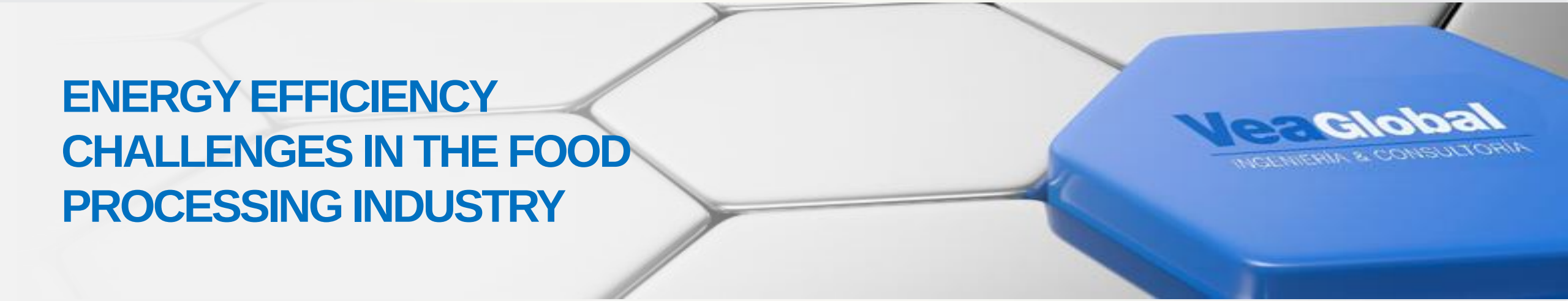
ENERGY EFFICIENCY CHALLENGES IN THE FOOD PROCESSING INDUSTRY



GESTINER 4.0

Angela Laguna Abad
Federico Javier Navarro Leach

0. CONTENTS

1. VEA GLOBAL IN A NUTSHELL

Vea Global Areas

RESEARCH , DEVELOPMENT AND INNOVATION

STRATEGY AND ORGANIZATION

ENERGY

ENVIRONMENT AND SUSTAINABILITY

ENGINEERING AND WORKS

PROJECT MANAGEMENT AND FUNDING

TRAINING

DISSEMINATION AND COMMUNICATION

ENERGY EFFICIENCY IN FOOD INDUSTRY

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Main ideas

Current and future megatrend

- The scarcity of resources and climate change
- Food industry sector has to adapt this challenge

GREENFOODS

- Meat have the greatest environmental impact in the area
- Energy costs represent the fourth highest cost

Energy prices fluctuate considerably

- The cost of energy is the most influential in the cost structure
- Reducing energy consumption has direct impact on economic savings

Energy consumption is greater than 90% of the total

- Auxiliary industrial facilities

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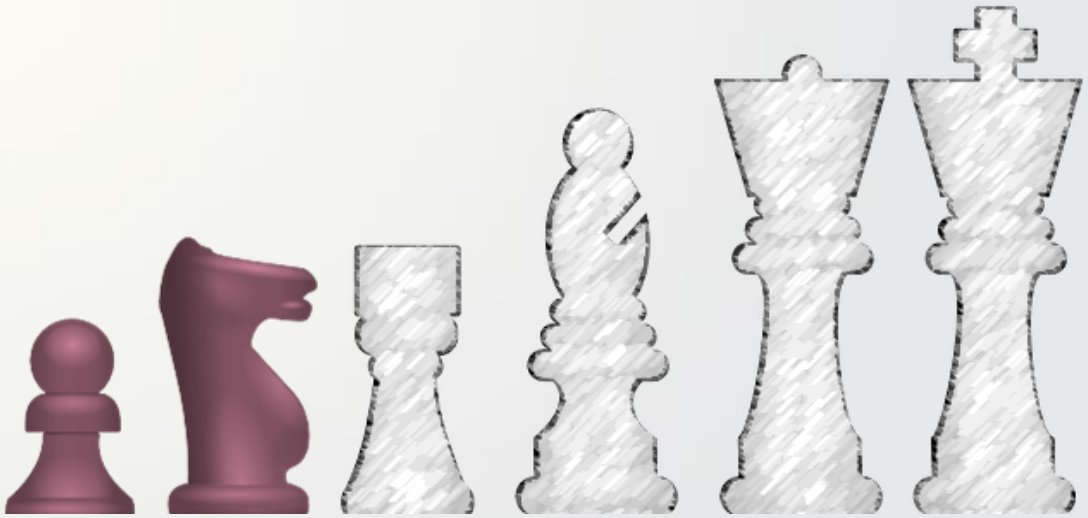
Work process

1. Improving energy efficiency in the current situation

- Study of current systems and their operation
- Energy audit
- Proposals to improve current energy efficiency

2. Digitization of energy efficiency

- **3. Staggered migration to Industry 4.0**



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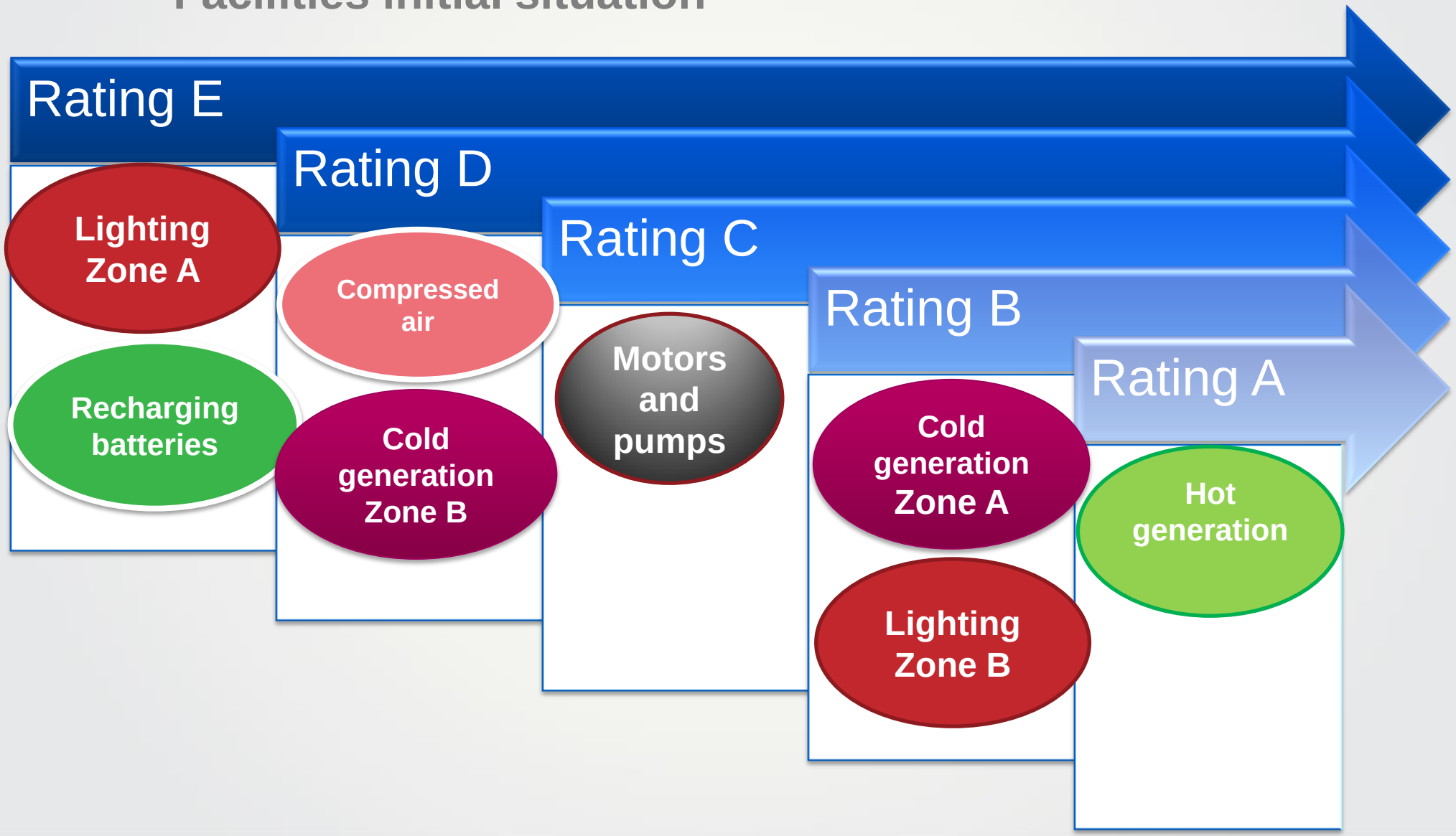
Facilities initial situation



2. ENERGY EFFICIENCY IN FOOD INDUSTRY

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Work process

1. Improving energy efficiency in the current situation

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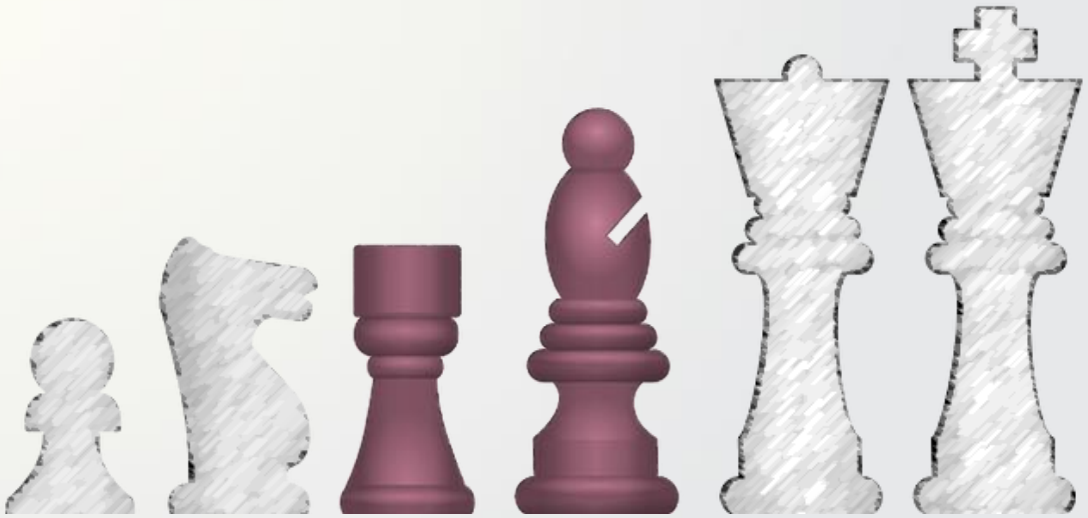
- Proposals to improve current energy efficiency

2. Digitization of energy efficiency

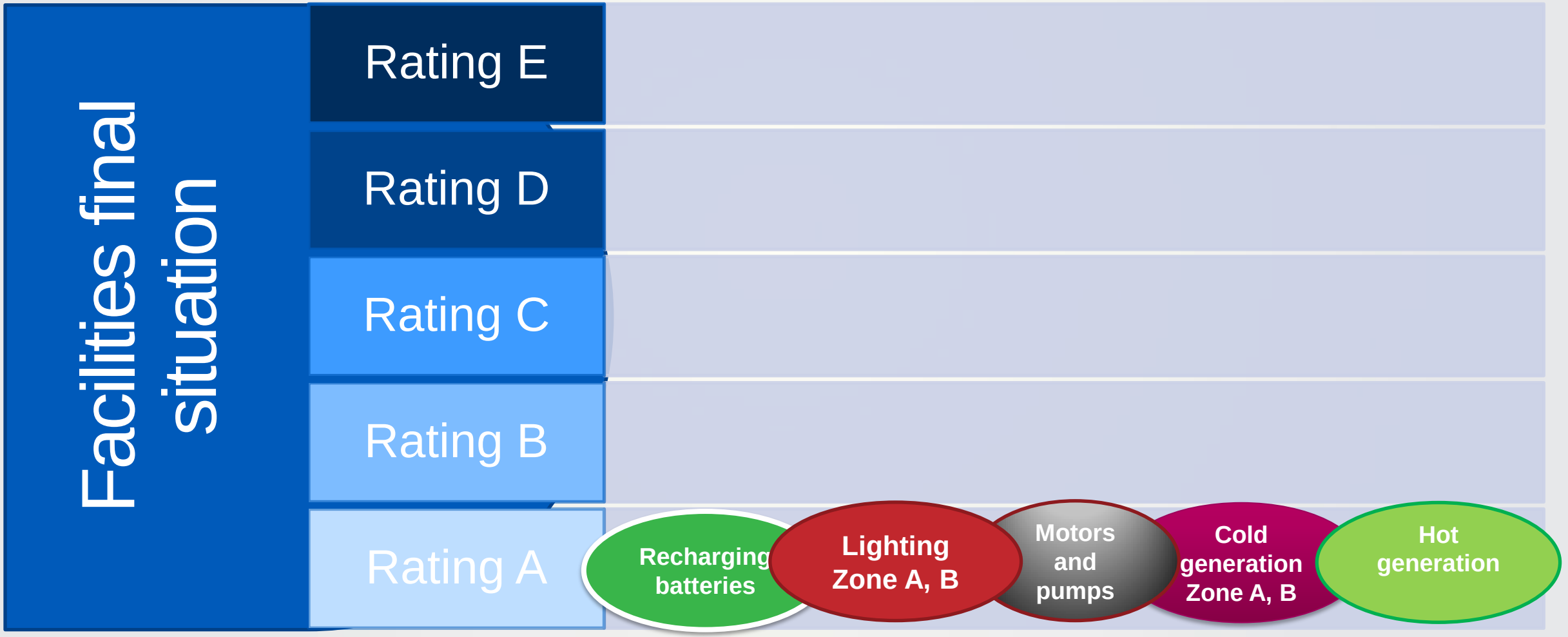
- Analysis current automatization level
- Study the possible automation of the efficiency improvements

3. Staggered migration to Industry 4.0



2. POSSIBLE FINAL SITUATION

Facilities final situation



2. ENERGY EFFICIENCY IN FOOD INDUSTRY

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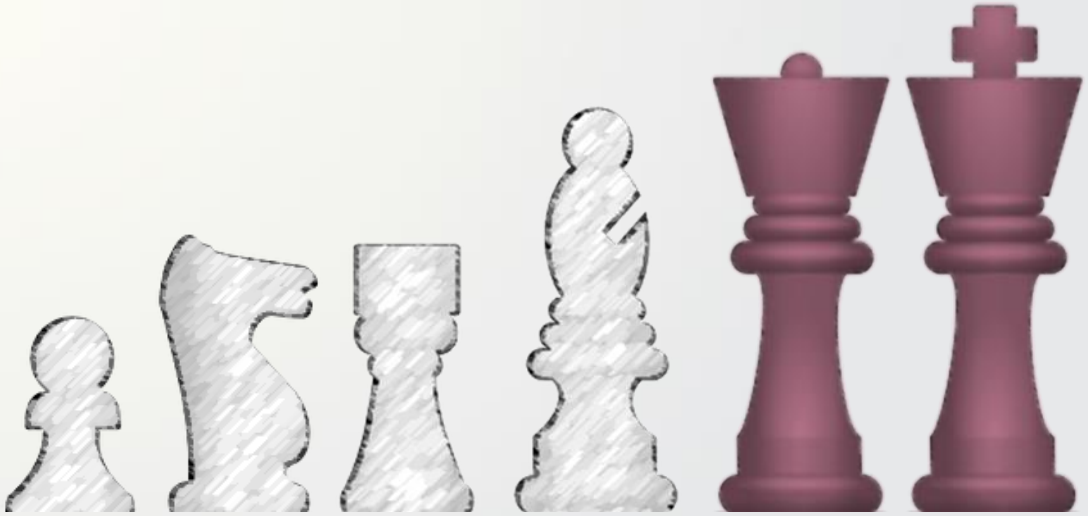
3. Staggered migration to Industry 4.0

- Technical proposals for migration to INDUSTRY 4.0
- Detailed case study (cold generation)



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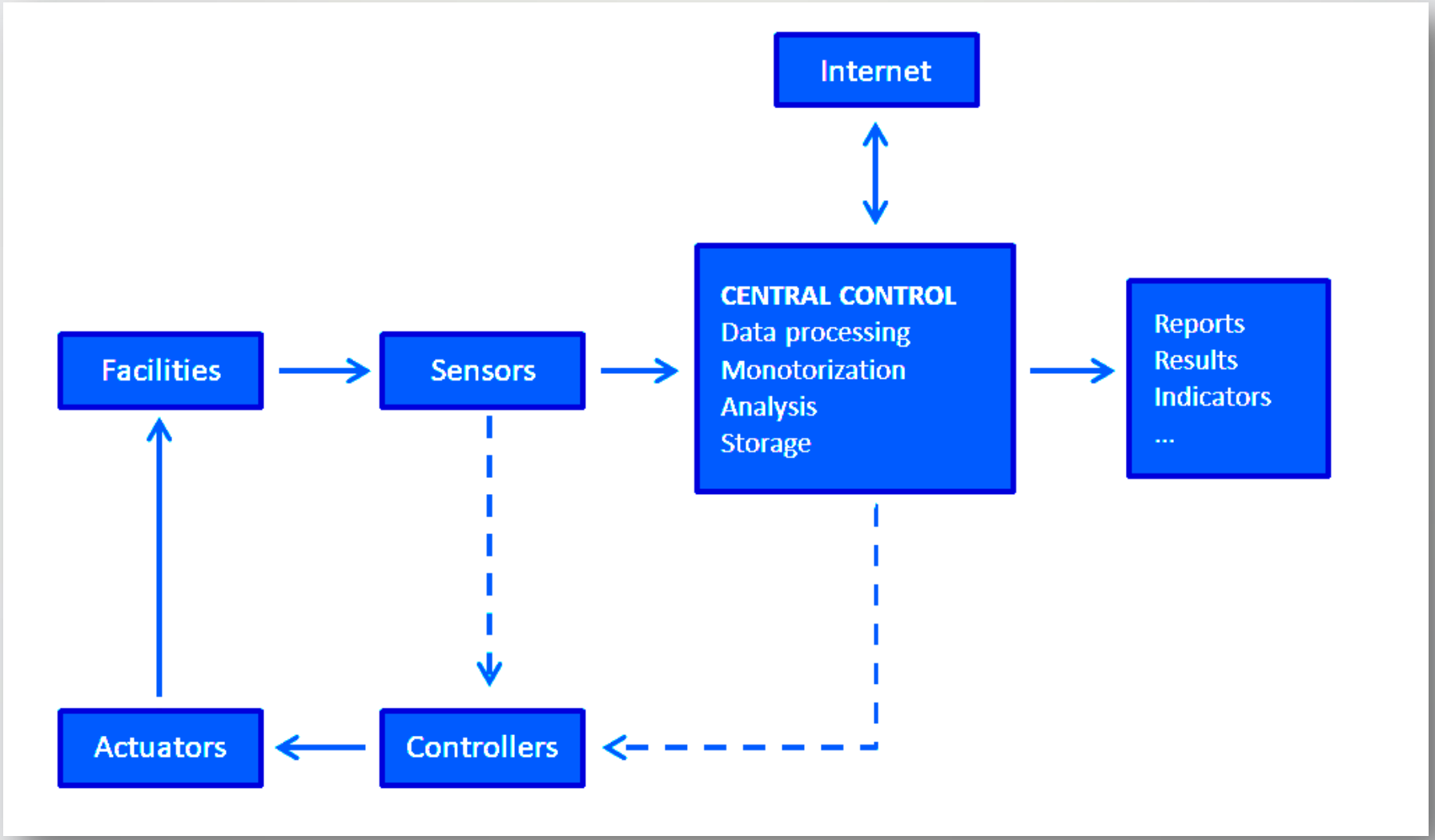
MIGRATION TO INDUSTRY 4.0



2. ENERGY EFFICIENCY IN FOOD INDUSTRY

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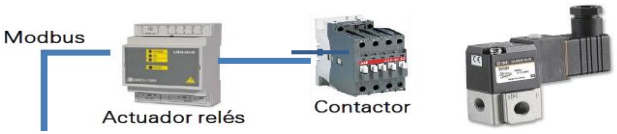
MIGRATION TO INDUSTRY 4.0

Variable to be measured	Selected equipment	Signal reading and adaptation equipment	Visualization via GESTINER4.0 (Dashboard)	ACTUATION GENERATED BY CONTROL CENTER ACTUATOR
Air input temperature	ifm TP3231 		 	  
Air humidity	PCE-P18L 			
Air input flow rate	ifm SD0523 			
Tank pressure	ifm PA3224 			
Tank output flow	ifm SD0523 			
Electric motor measurement	Circutor CVM-NET4+-MC-RS485-C4 			

SENSORS AND SIGNAL ADAPTATION

COMMUNICATION SYSTEMS

CONTROL CENTRE WITH GRAPHICAL INTERFACE

ACTUATORS

3. EXAMPLE OF A SUCCESS PROJECT

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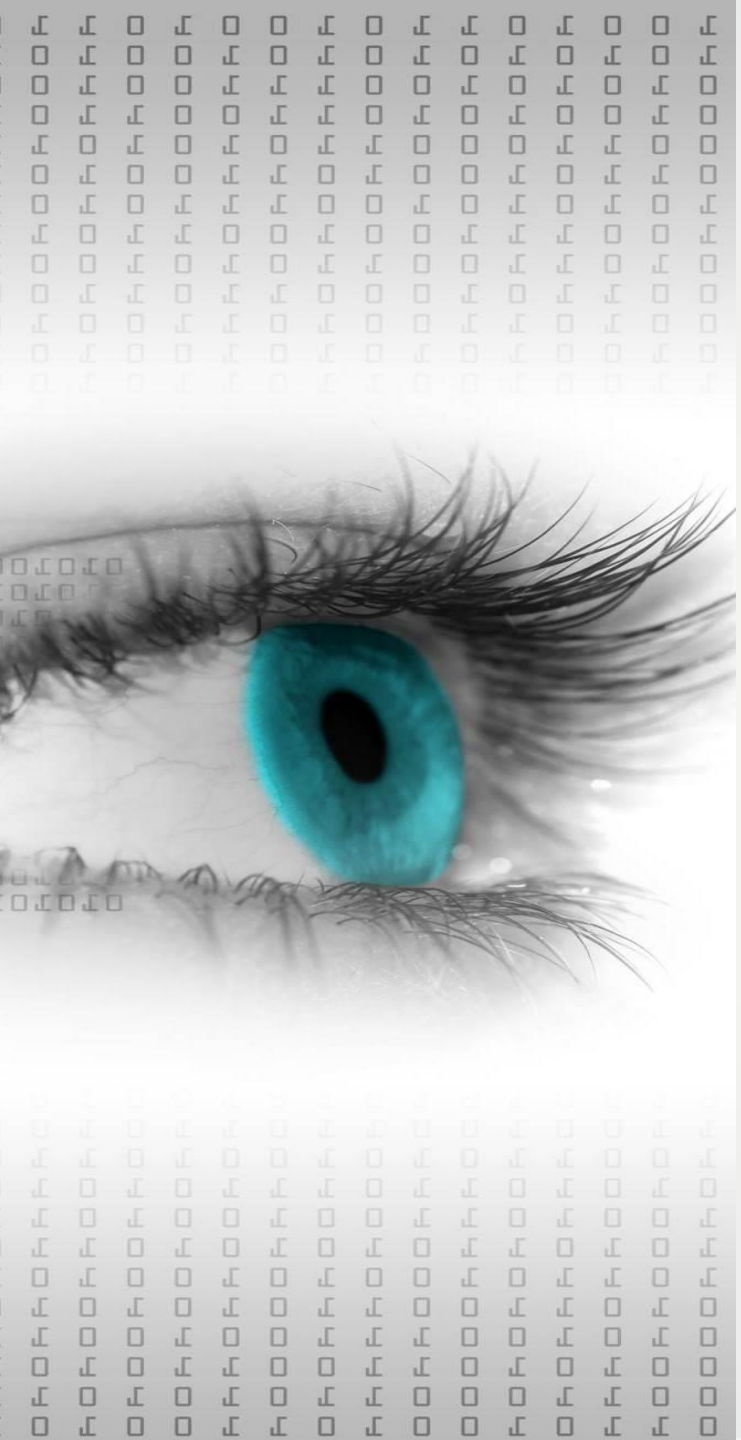
ARENTO INDUSTRY

The conclusion of the project is entirely satisfactory for the pilot company ARENTO MEAT INDUSTRY



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THANK YOU VERY MUCH

Ángela Laguna Abad
alaguna@vea-global.com
@AngelaLagunaALA

Javier Navarro Leach
jnavarro@vea-global.com

@VeaGlobal

www.vea-global.com
@VEA Global