RECLAIM

Increased productivity, resource efficiency and a competitive edge

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 869884

RECLAIM

Our goals

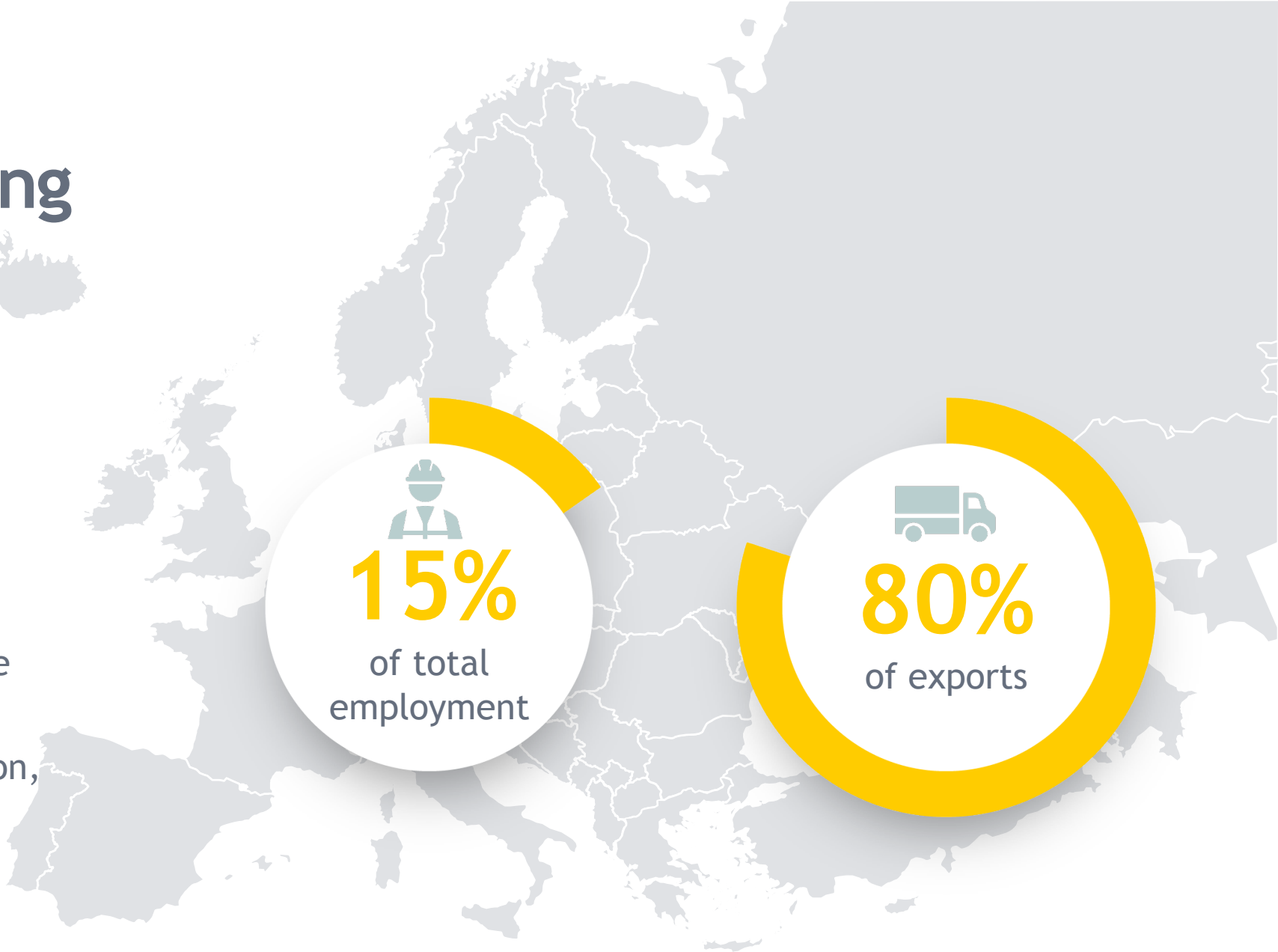
European innovators are working to benefit the environment and the economy with new recycle and reuse techniques for machinery

A range of demonstration sites and tools will **reduce obsolescence** and prove the **advantages of high-tech refurbishment**

Manufacturing in Europe

Strong manufacturing industry is a pillar of economic growth and development in Europe.

It is also essential for production of innovative goods that affect every one of us – transportation, household appliances, medical devices, etc.



Productivity and environmental footprint

Well-functioning equipment is a key to industrial productivity and managing costs.

But a significant share of machinery in EU production lines is approaching the end of designed lifetime.

What happens to it?

Left to rot

Disposed of

Sold

Linear economy choices have significant economic and environmental implications

Our Vision

A circular economy approach

New re-use and refurbishment approaches are needed to ensure European manufacturing remains competitive and protects the environment.

Increasing production efficiency

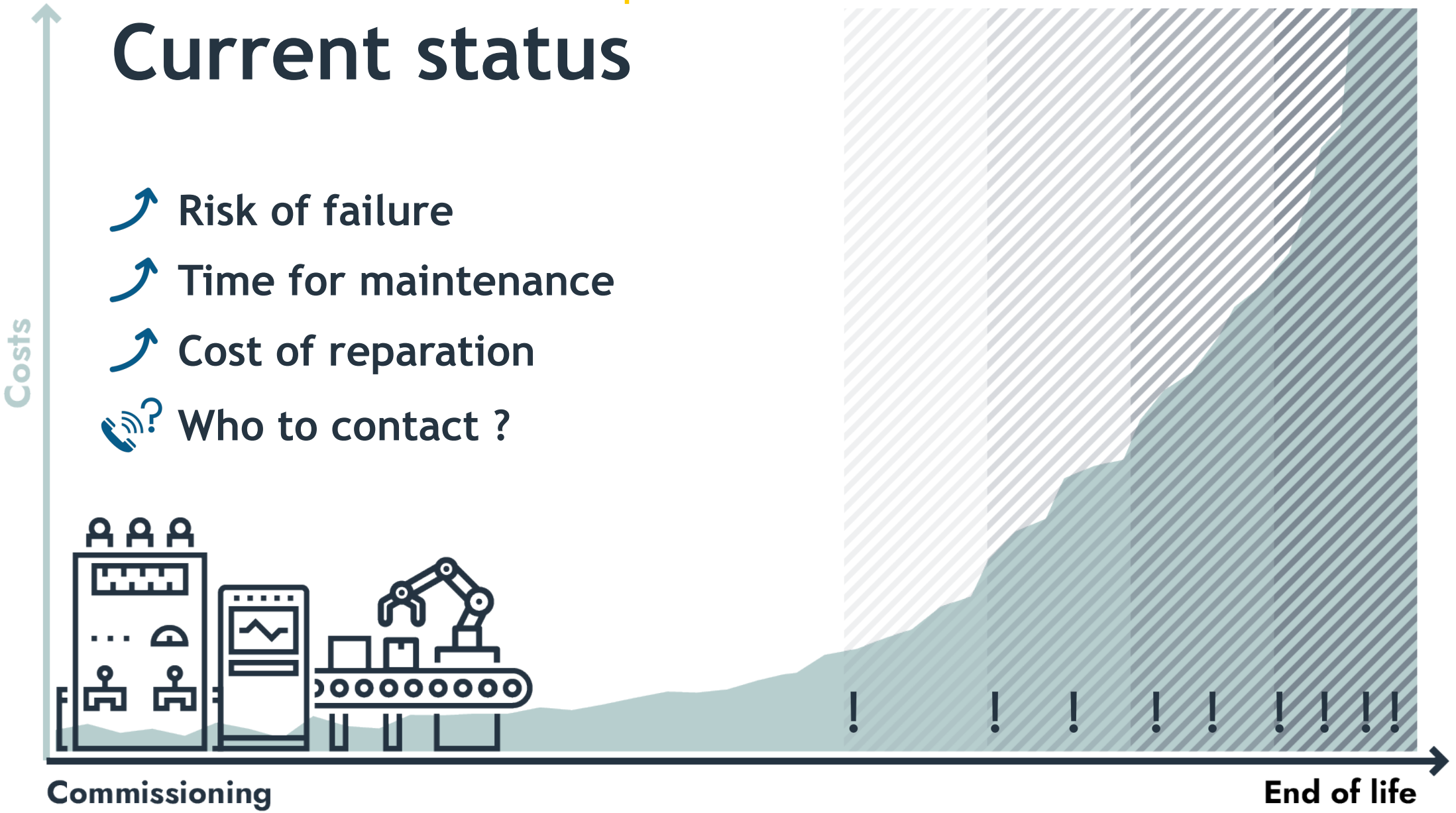
Environmental recovery efficiency

Re-use of production equipment

Extension of Lifetime

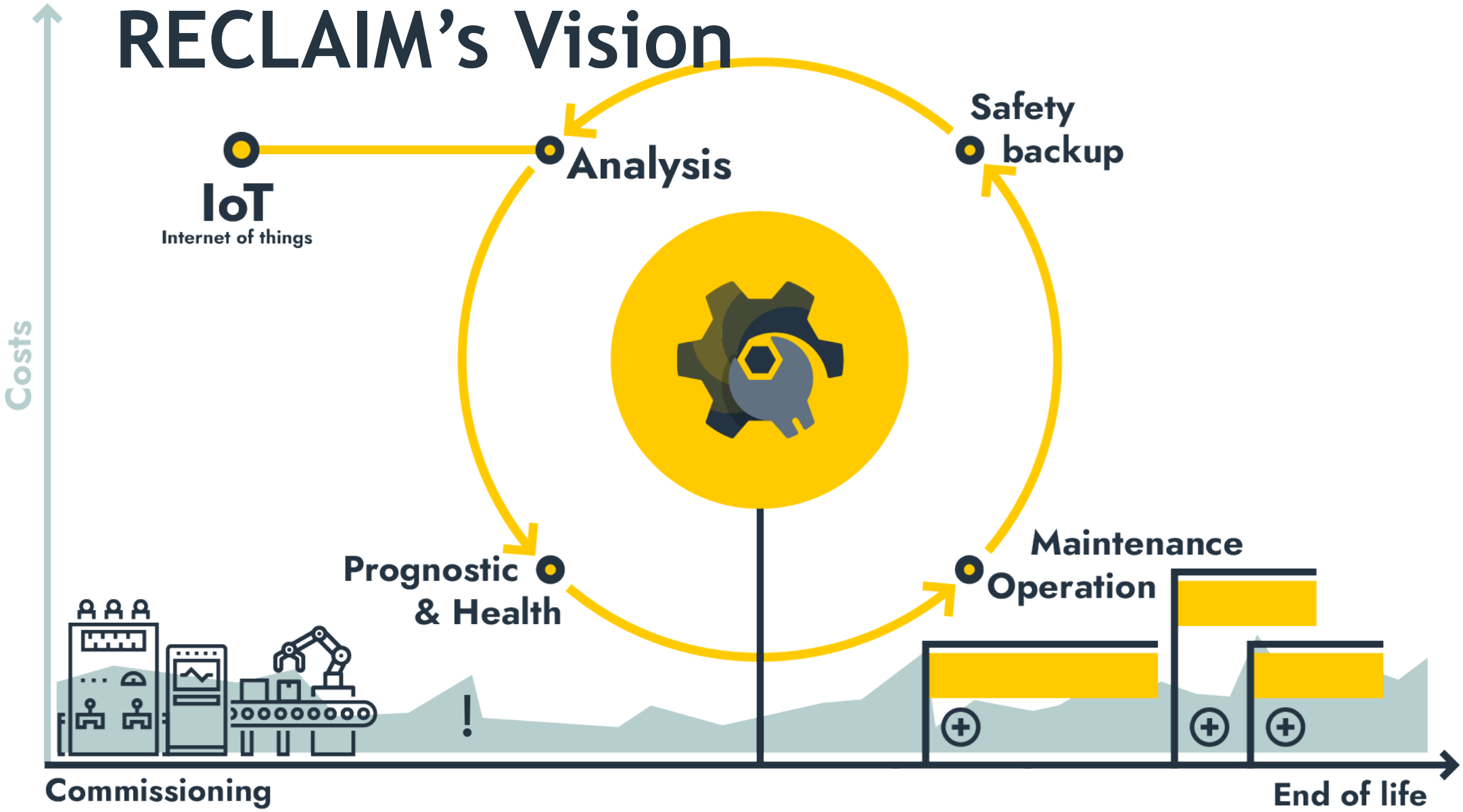
Current status

- Risk of failure
- Time for maintenance
- Cost of reparation
- Who to contact ?



The RECLAIM added value & concept

RECLAIM's Vision



RECLAIM's Core Technical Elements

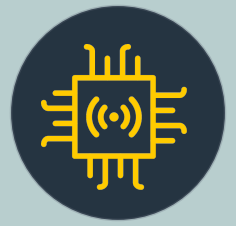
Technical assets are being developed and tested at RECLAIM sites to enhance quality and quantity of information coming from machinery, transform decision making capacity and improve user experience

User layer

- Support and Advice
- Visualization

Real time decision making layer

- Cost Modelling
- Optimization Plan
- Prediction of Failures
- Prognostic & Health



Physical layer

- IoT
- Digital retrofitting infrastructure
- Repository information

Current Status

? Who to contact ?

↗ Time for maintenance

↗ Risk of failure

↗ Cost of reparation

Machine near to its
End-of-Life

RECLAIM's Core Technical Elements

Refurbishment and Re-manufacturing process

User Layer

- Visualization
- DSS Files

Real Time Decision-Making Layer

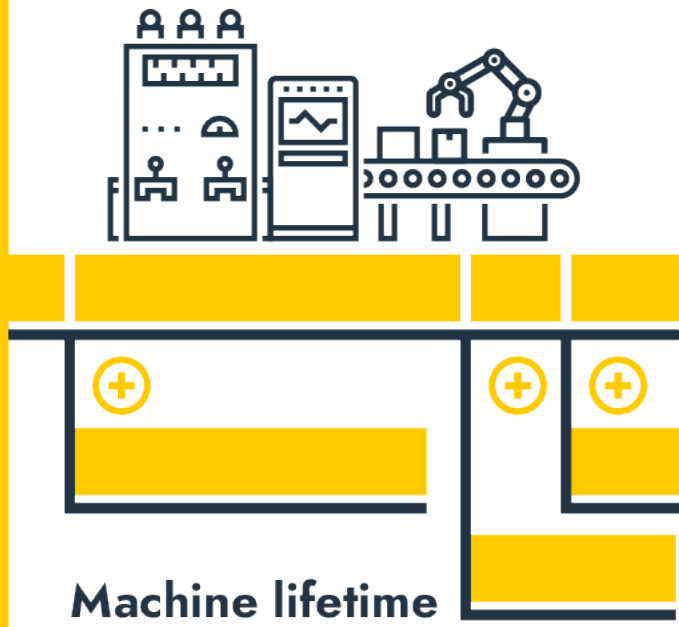
- Cost Modelling
- Prognostic & Health
- Prediction Failures
- Optimization Plan

Physical Layer

- Circular economy strategies
- Repository information
- Digital Retrofitting Infrastructure (IoT)

RECLAIM's Vision

- Analytics
- IoT
- DSS
- ↘ Time for refurbishment re-manufacturing
- ↗ Profit



Machine lifetime
Extension

Demonstration cases in multiple industries across Europe

Welding :

HWH

Robotics and Enamelling :

gorenje

Wood Working :

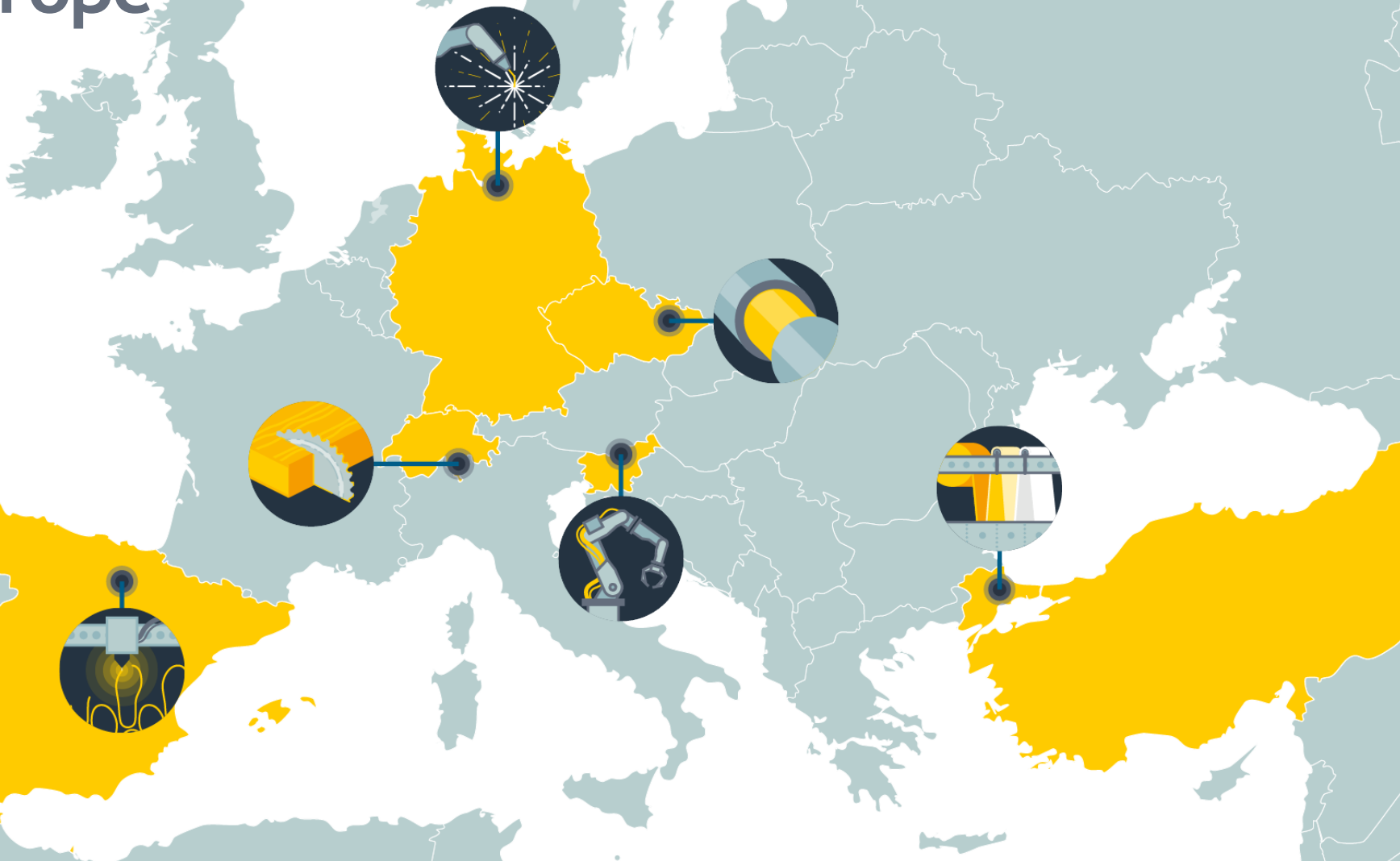
PODIUM

Shoe Making :

Fluchos

Textiles :

ZORLUTEKS



Lifetime Extension of Friction Welding Machines

Selected technical improvements:

- Machine adaptability to different welding tasks
- Online monitoring and predictive maintenance features
- Human machine interface visualisation and in-situ repair, including remote access and remote services

Expected outcomes:

- **+8 years** increase in lifetime
- 50% less **incidents**
- **Maintenance** costs halved

Modernisation and Refurbishment of a White Enameling Line

gorenje

Selected technical improvements:

- Lower maintenance and spare part expenses
- Cycle time reduction and increased operational effectiveness
- Increased material and resource efficiency and reduced emissions

Expected outcomes:

- **10%** less emissions
- **+15 years** lifetime extension
- **30% decrease** in maintenance costs

Refurbishment and Renovation of Robot Cells for Making Tubs

gorenje

Selected technical improvements:

- Improved production stability, with higher operational and equipment effectiveness
- Increased cost-effectiveness
- Extended machine lifetime
- Increased material and resource efficiency to manage environmental impact

Expected outcomes:

+15 years lifetime extension

Up to 10% more effective

50% decrease in maintenance costs

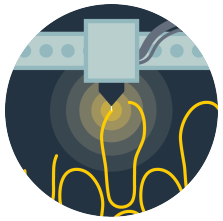
Predictive Maintenance and Refurbishment of a large Woodworking Production Line

Selected technical improvements:

- Extended connectivity and interaction capabilities of the machinery
- Additional sensors to monitor product quality and identify deviation causes
- Failure and breakdown predictions

Expected outcomes:

- 50% less **incidents**
- Halved **repair costs**
- **+60%** in operational effectiveness



Maintenance and Upgrades in the Shoemaking Industry

Fluchos

Selected technical improvements:

- Maintenance and production process optimisation
- Production or service scheduling
- Data driven diagnosis and prognosis
- Refurbishment or re-manufacturing of predefined electromechanical machinery

Expected outcomes:

- 40% less **safety incidents**
- **Maintenance costs** halved
- **+10 years** useful lifetime

Maintenance, Refurbishment and Upgrading of a Bleaching Machine

ZORLUTEKS

Selected technical improvements:

- Identification of the best process settings and product mixes
- Monitoring and control tool for a safe and stable operation
- Improved resource efficiency
- Easy-to-understand resource use indicators and machine operator behavior change

Expected outcomes:

10% less **incidents**

10% less **repair costs**

10% reduction in **wasted materials**

Our partners

Research and Academic Centres

CERTH
CENTRE FOR RESEARCH & TECHNOLOGY HELLAS

CTCR
CENTRO TECNOLÓGICO DEL CALZADO DE LA RIOJA

Aston University

LINKS
ISMB

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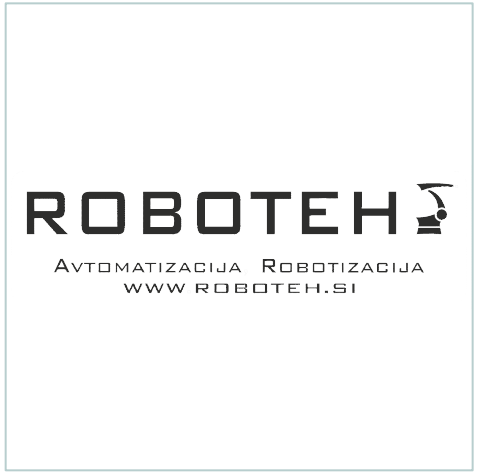
STEINBEIS-EUROPA-ZENTRUM

UNI ENTE ITALIANO DI NORMAZIONE

ESCI
European Science Communication Institute

Our partners

Industrial and SMEs



Our partners

End-users

RECLAIM

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Reclaim project

reclaim-project.eu

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