



# Future-proofing European industry

Manufuture 25.10.2017

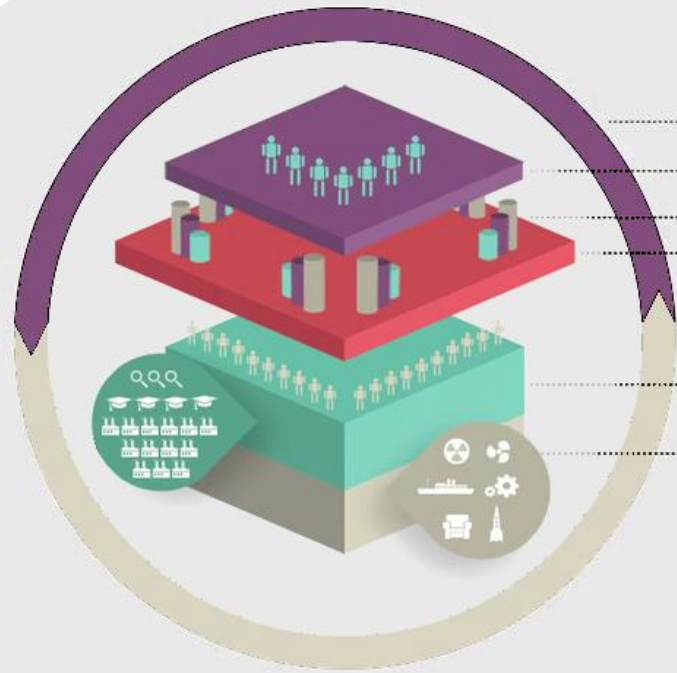
Pitch-presentations from 'Factories of the Future' projects

Riikka Virkkunen, VTT



# Use-it-Wisely project:

## Innovative Continuous Upgrades of High-Investment Product-Services



Improving the quality of products  
and product-based services

Extended life-cycle of product

Customers and end-users

Stepped, incremental innovations

**Use-It-Wisely Platform**



Twenty partner organisations:  
3 research, 4 universities, 13 businesses

High-investment products  
and product-based services

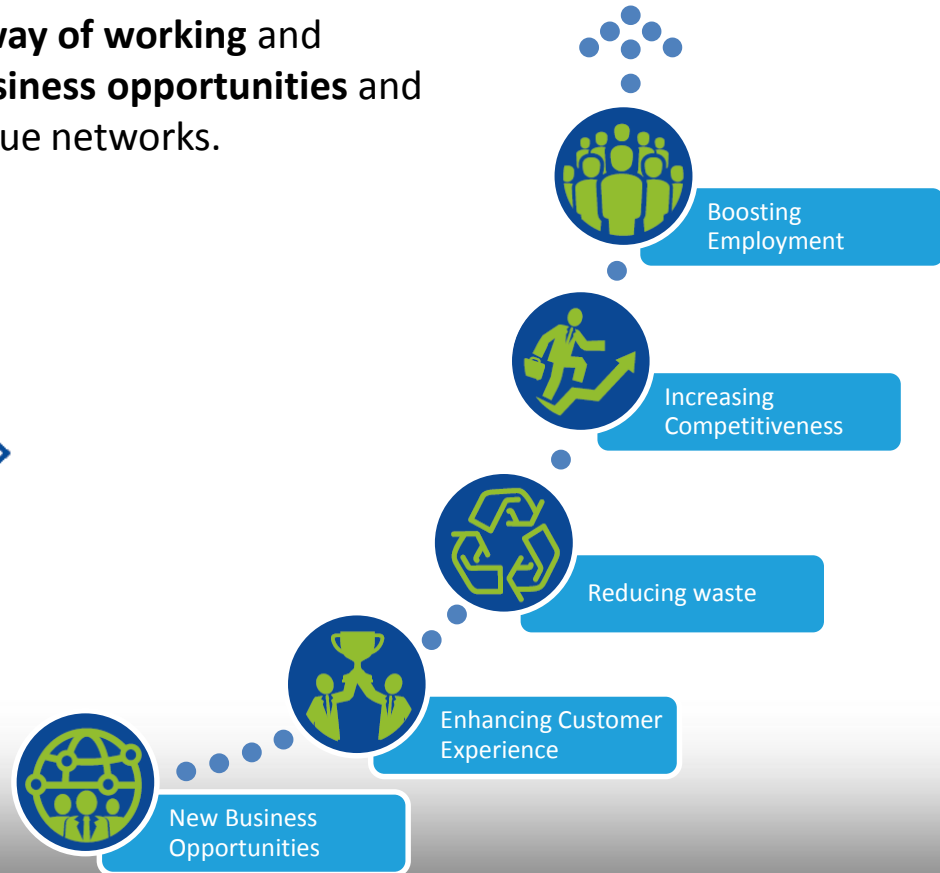


Schedule: 1.9.2013 – 31.11.2016

Budget: 8.6 M€

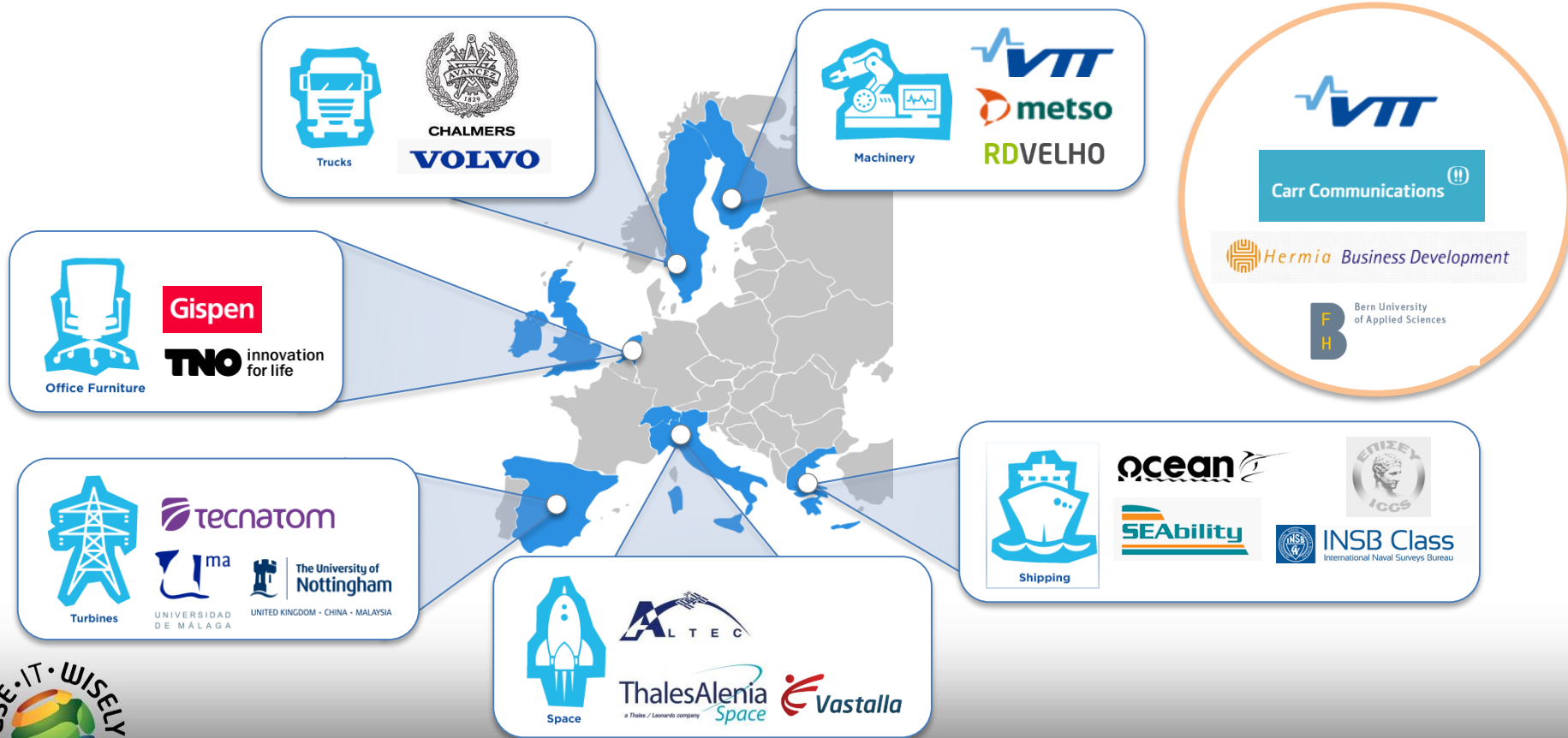
# UIW approach and impact across industries

The UIW approach is based on a **collaborative way of working** and comprehensive system modelling to identify **business opportunities** and develop **technical solutions** within industrial value networks.

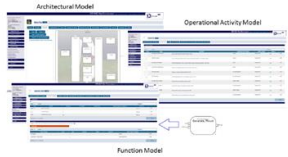


# Twenty partners - six pilot cases

Six different industries, six regional clusters



# Project themes



## Systems approach

- A comprehensive analysis to support strategic decision making
- Tools and processes to support digital, model-based engineering

## Collaboration

- Important systems knowledge exists outside the firm
- Actor involvement, value networks, knowledge exchange

## Innovation

- External sources of innovation
- Creativity and innovation beyond preconceptions

## Sustainability

- Sustainable solutions for extended life and reduced footprint
- Environmental sustainability, social, economic and technical

## New business models

- Products as services, outcome economy, ecosystems
- Circular economy, alternative revenue streams

Tools

Processes

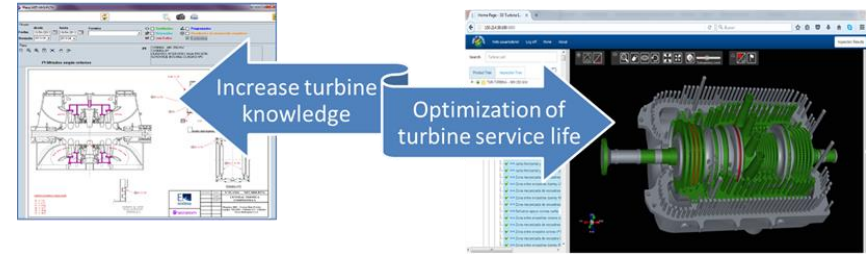
Best  
practice

# Project results 1/2



Reducing maintenance time & cost of power plant turbines

- Collaborative 3D tool



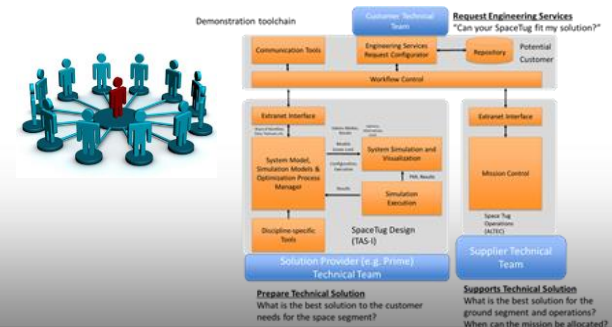
Upgrade service for mobile rock crushers

- New service business model
- AR tools for field use



Model-based toolchain for demanding project deliveries

- MBSE toolchain



# Project results 2/2



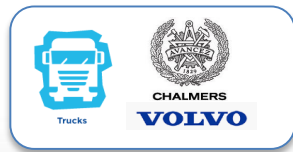
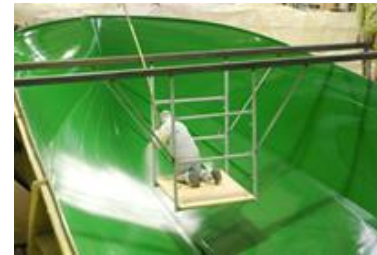
## Transition towards circular business

- Circular LCA tool
- Design framework for CE



## Design configuration and support

- Design configurator



## Efficient production line upgrades

- Process based on 3D laser scanning





# Results in a nutshell

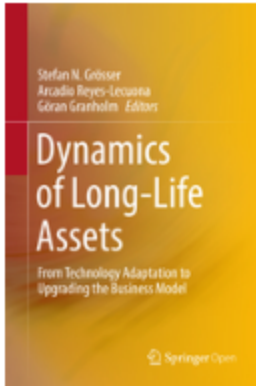
And this is a sample subtitle area, if needed

- Savings in cost and time
- Environmental benefits through lifecycle extension and circular economy
- New business opportunities
- New tools for e.g. strategic design
- New exploitable competence and product prototypes
- A Community of Practise for collaboration, innovation and creativity within manufacturing industries
- Book, scientific publications and conference papers





# Extending the impact of UIW: book



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## Dynamics of Long-Life Assets

From Technology Adaptation to Upgrading the Business Model

Editors: Grösser, Stefan, Reyes-Lecuona, Arcadio, Granholm, Göran (Eds.)

Presents an integrated set of methods and tools to analyze and manage upgrades in capital-intensive assets and systems

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\* Loikkanen, T. et al. Roles, effectiveness, and impact of VTT. Towards broad-based impact monitoring of a research and technology organisation. 2013. VTT, Espoo. VTT Technology 113. 106 p. + app. 5 p.



Net turnover and other operating income  
269 M€ (VTT Group 2016)



Personnel 2,414  
(VTT Group 2016)



Unique research and testing infrastructure



Wide national and international cooperation network