



Digital Transformation –  
Hur påverkar det oss?

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## Vad finns bakom krönet...?

**Sensors & Industrial Internet of Things**



**Remote & Robotized Inspection and AR/XR**



**Digitalized Value Chain**



**Data analytics & Data driven business**



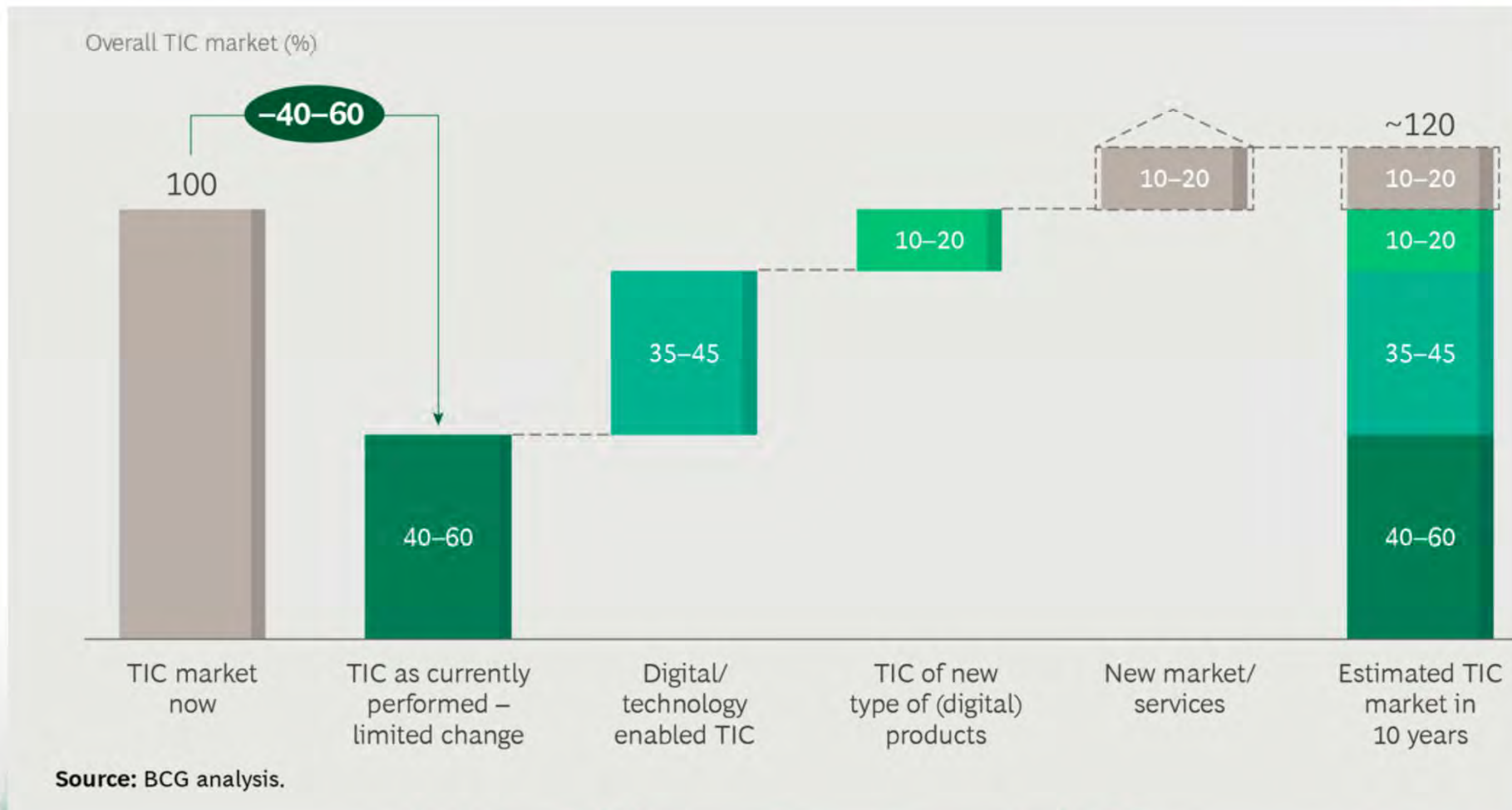
**Changed rules, legal conditions and policies**



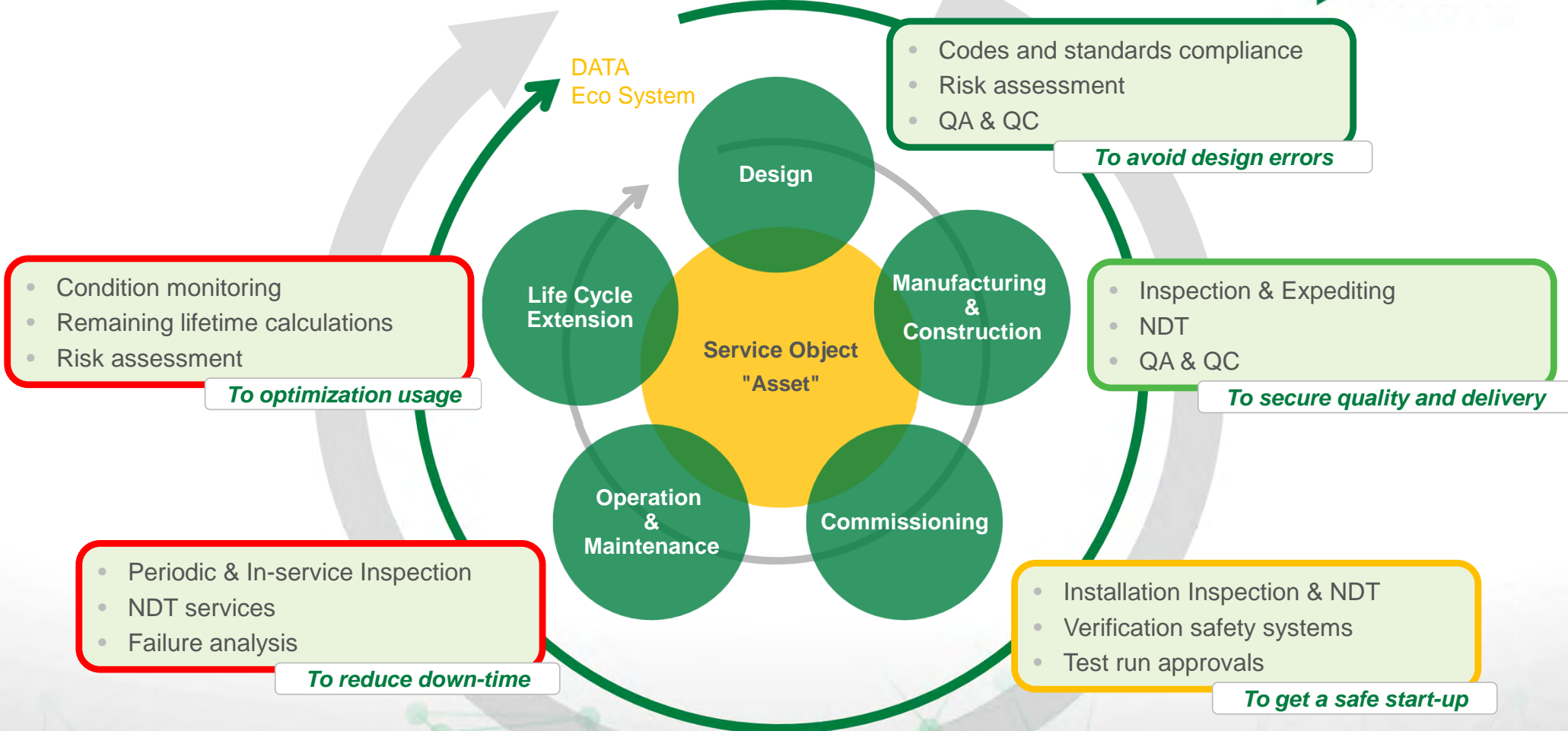
**Climate Change and "Green Deal"**



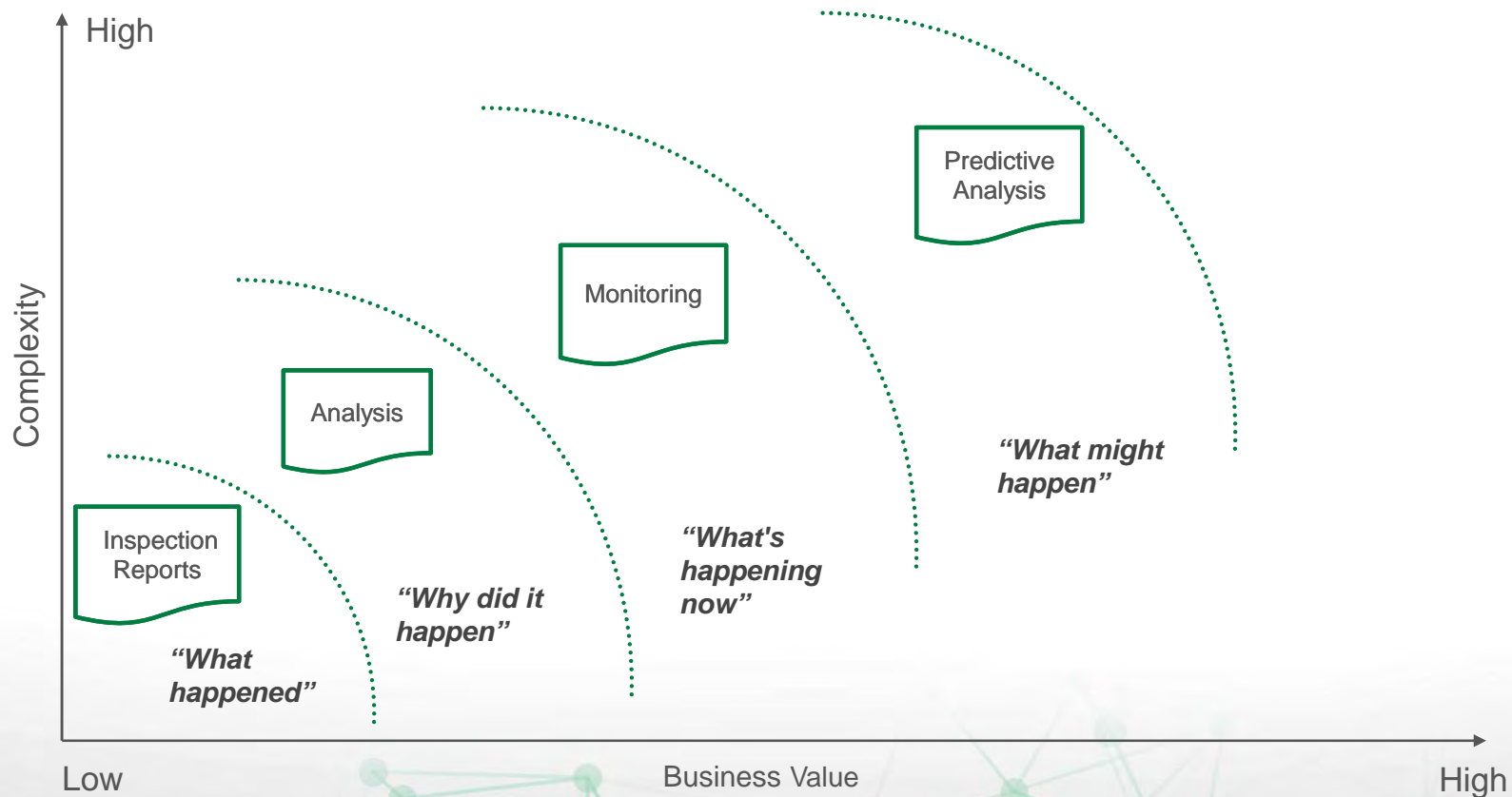
## Digitalization will compensate for shrinking current TIC market



# Impact of digitalization in a life-time cycle

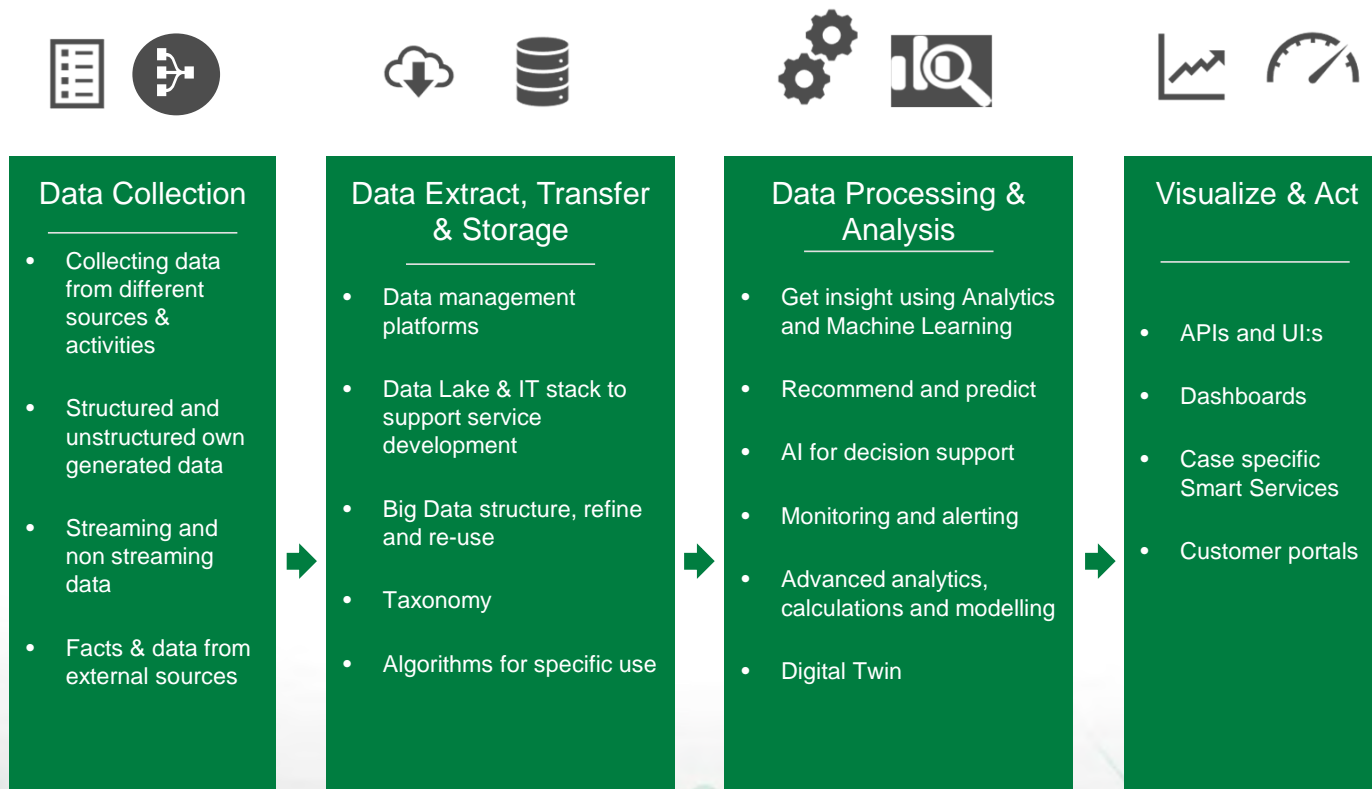


## Digitalization – Structuring and reuse of data to generate increased business value





# From Data Collection to Data Visualization - Data Management Process



# REMOTE AND/OR ONLINE MONITORING

Safe operation, adequate maintenance,  
cost efficiency, optimized service life



# ONLINE MONITORING PROJECTS



**Wall Thickness Monitoring**



**Corrosion Under Insulation Monitoring**



**Pressure Vessel Fatigue**



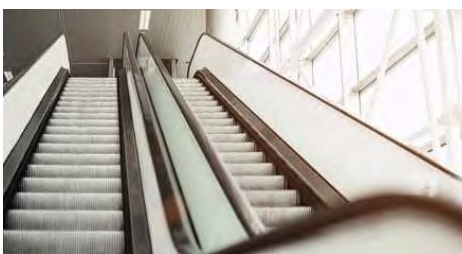
**Mast/Pole Monitoring**



**Crane Monitoring**



**Lift Explorer**



**Escalator Explorer**



**Air Quality Monitoring**



# WALL THICKNESS MONITORING

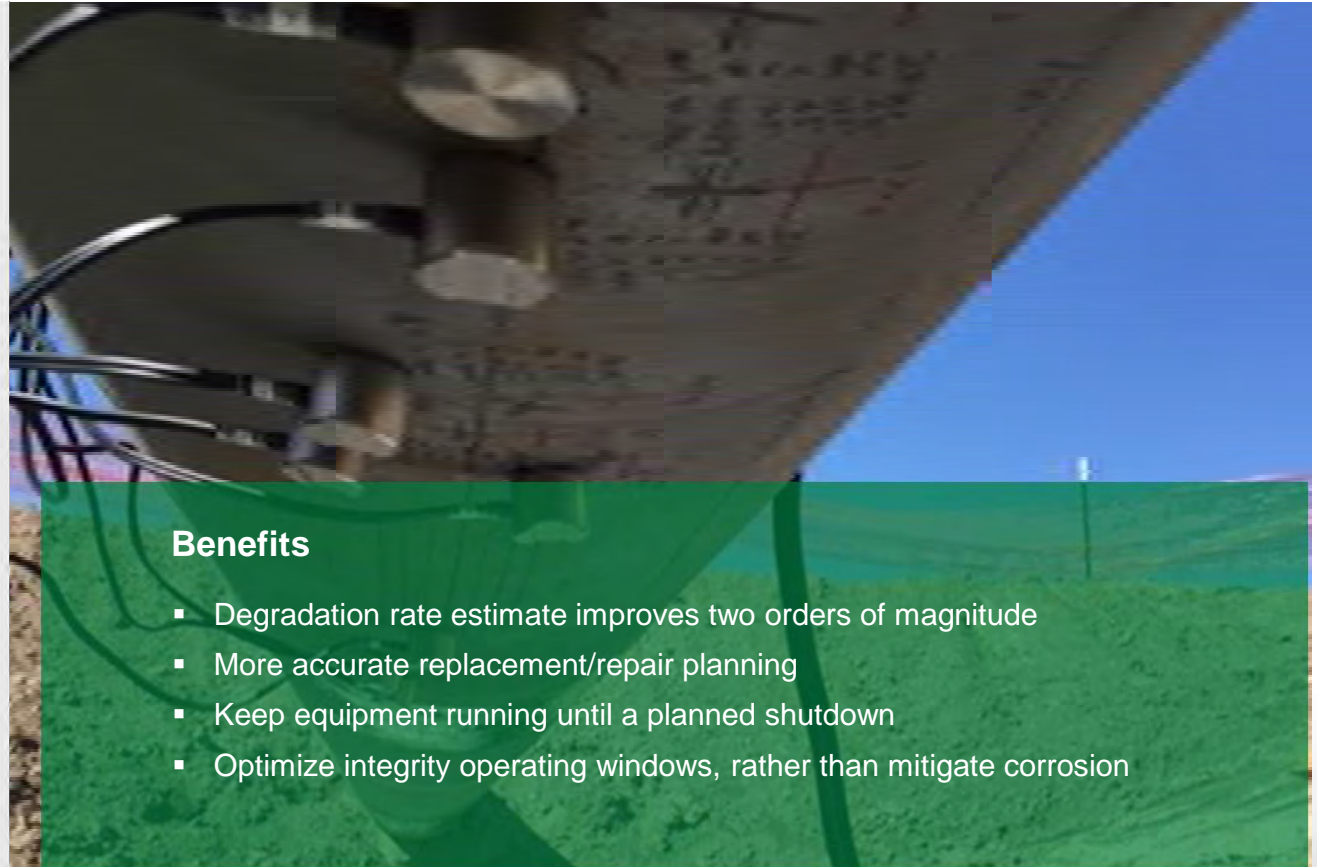


## Internal Corrosion

**Improve insight with two orders of magnitude**

Our methods cover:

- No need for repeated access to hazardous or hard to reach areas, just install once and get updated information every week, day or even hour
- Monitor sections high in a column or buried under the road, saving cost and keeping staff safe.
- Closely and safely follow up on degradation found during inspection, getting a reliable corrosion rate estimate within weeks, not months.



## Benefits

- Degradation rate estimate improves two orders of magnitude
- More accurate replacement/repair planning
- Keep equipment running until a planned shutdown
- Optimize integrity operating windows, rather than mitigate corrosion

# CORROSION UNDER INSULATION MONITORING



## Corrosion Under Insulation

**Integral approach to one of industry's biggest challenges**

Our services cover:

- CUI-specific risk analysis
- Specific and qualified expertise regarding regulation, NDT, coating, insulation and QA/QC
- NDT selection and planning to minimize related cost (e.g. scaffolding)
- Visual inspection, conventional NDT and Advanced NDT techniques combined
- Permanent monitoring of high-risk locations

## Benefits

- Reduce loss-of-containment incidents and unplanned downtime
- Fact-driven, risk-based inspection
- Leverage the benefits of advanced NDT & CUI inspection tools
- Reduced overall cost of CUI management



# PRESSURE EQUIPMENT FATIGUE



## Pressure Equipment

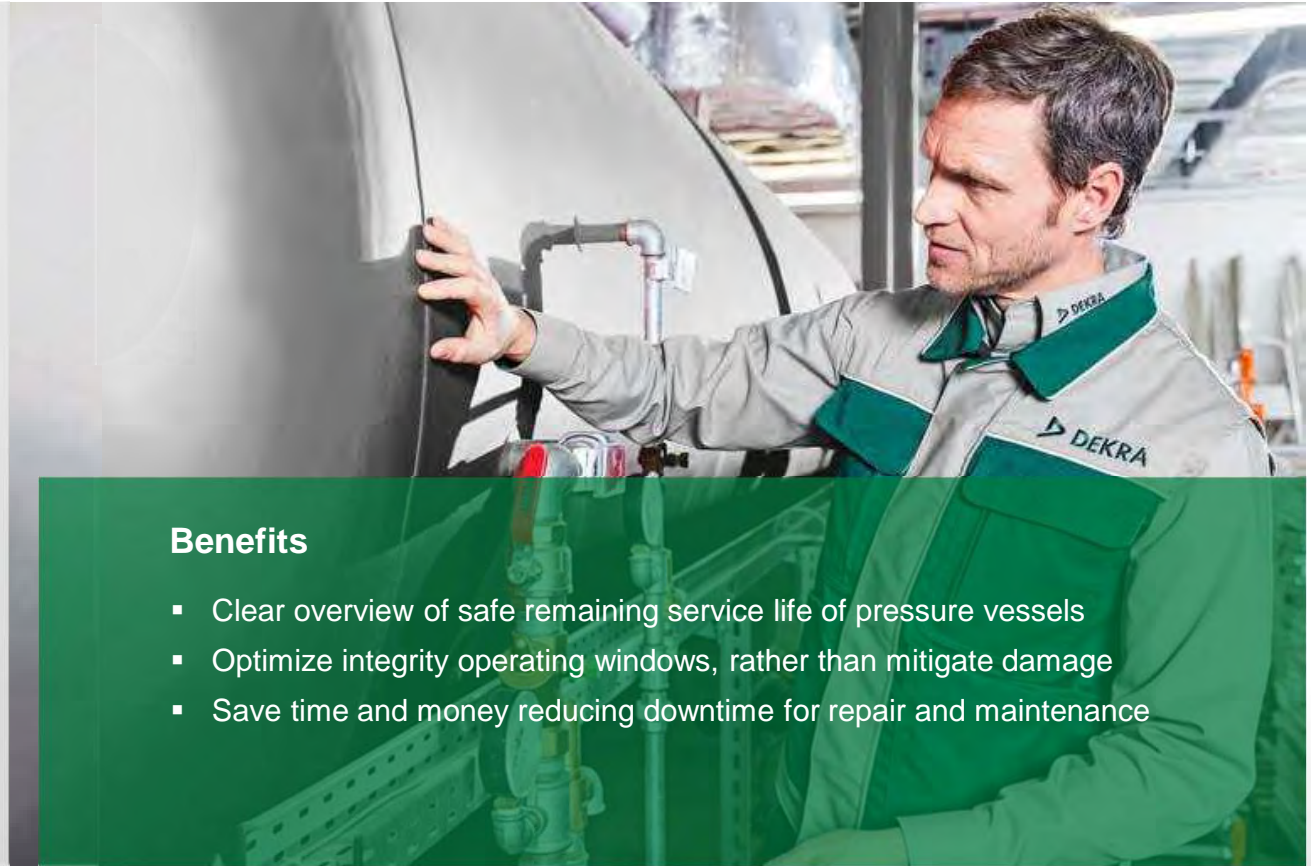
### Monitor your pressure equipment's lifetime

Our methods cover:

- Monitoring temperature and pressure cycles to predict fatigue of pressure equipment
- Combine process control data, targeted IIoT sensors and Digital Twin models
- Customized regulatory watching tool
- Overview of all connected assets and their remaining life predictions
- Combine with SPICA creep monitoring and/or wall thickness monitoring

## Benefits

- Clear overview of safe remaining service life of pressure vessels
- Optimize integrity operating windows, rather than mitigate damage
- Save time and money reducing downtime for repair and maintenance





# VALTO360° A Digital Twin for Orientation & Visualization of information

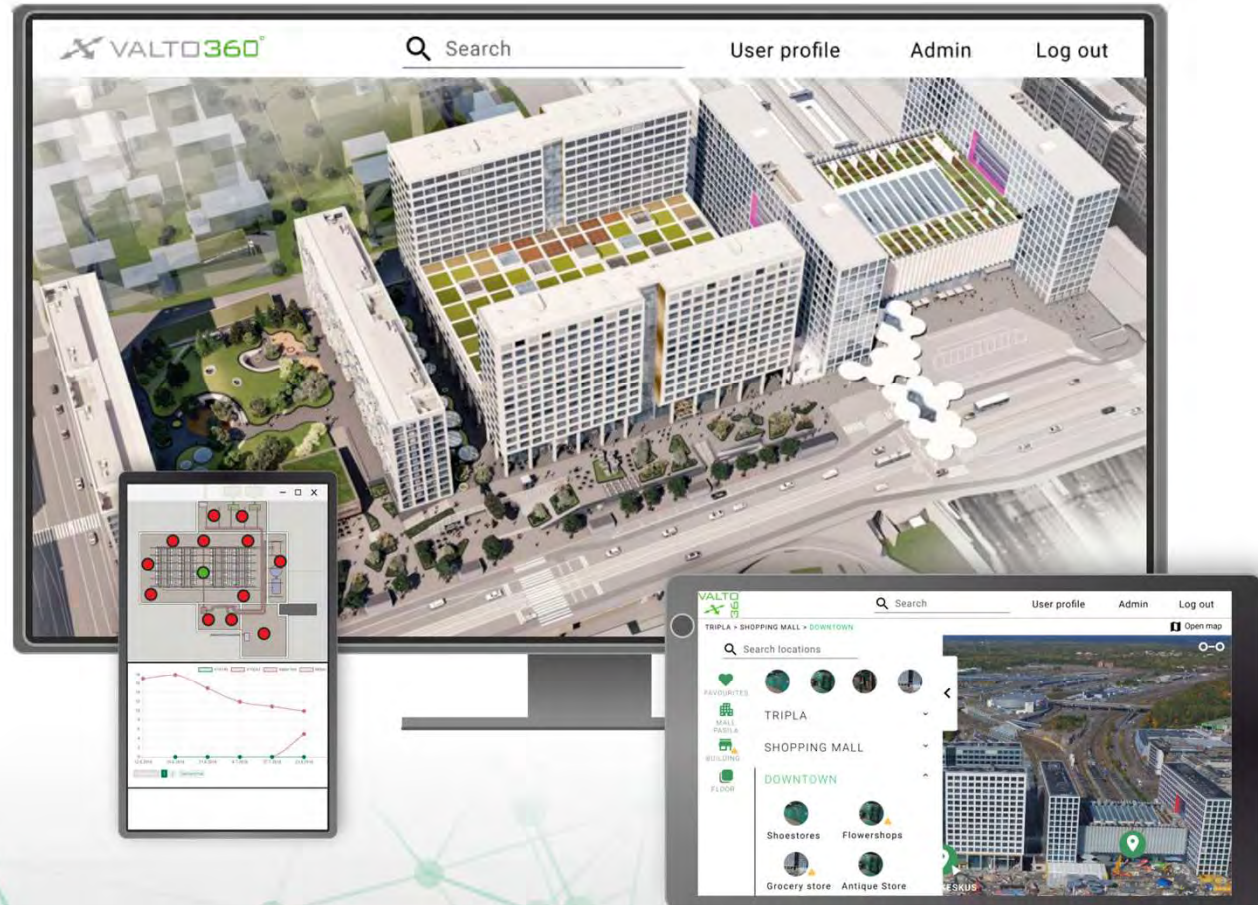


*“VALTO360° is a virtual navigation and reporting tool suitable for many different industry applications, where reliable orientation and access to relevant data is needed”*

VALTO360° is used to produce a digital copy of the production environment with the following elements:

- Area maps and floorplans
- 360° panoramic images
- Points of Information (POI)
- Visual user interface
- QR codes for the production environment

Navigating the virtual platform and assessing data is easy and intuitive.



# Remote Assisted Inspection – “The Connected inspector”



## What is it?

Uses a combination of mobile technology, reality technology, data transfer and analytics so that inspector can access real-time information and simultaneously include experts in the decision-making process..

## Typical applications

- ✓ Remote assisted inspection and audits
- ✓ More cost-effective monitoring of inspector's authorization
- ✓ Enable remote support to customers
- ✓ Guided site inspections on distance
- ✓ Second opinion and support decision making

## Rationales

- ✓ Reduce travel of experts by connecting them digitally to field operations and sites. Reduce wait-time for customer
- ✓ Workers can perform a task with remote assistance from experts ensuring quality and compliance. Data analysis and evaluation on distance
- ✓ Workflow instructions can help reduce errors and ensure first time right
- ✓ Increased flexibility and service mobility
- ✓ Faster and quality assured access to experts and decision-makers



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**TACK FÖR VISAT  
INTRESSE!**

