

#### Classification and Certification

how the shipping industry might have something to learn from the way other industries handle classification and certification, particularly in their use of technology

Hamburg 19<sup>th</sup> of October 2017

FACTOR 01 GmbH

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- Introduction
- Major Certification Trends
  - New certification areas
  - The impact of digitalization
- Examples of digital projects
- Discussion

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#### Introduction

Major Certification Trends

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# How third party inspection started...



# Today...

Developed countries





New T.I.C. Services

- Energy efficiency
- Cyber Security
- •••

**Emerging Markets** 





Traditional T.I.C. Services

## Looking for differentiation in the T.I.C. Sector (Testing Inspection Certification)

Can I say:
I am testing better than my competitor?







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## New testing, inspections and certification spheres

From product safety and quality

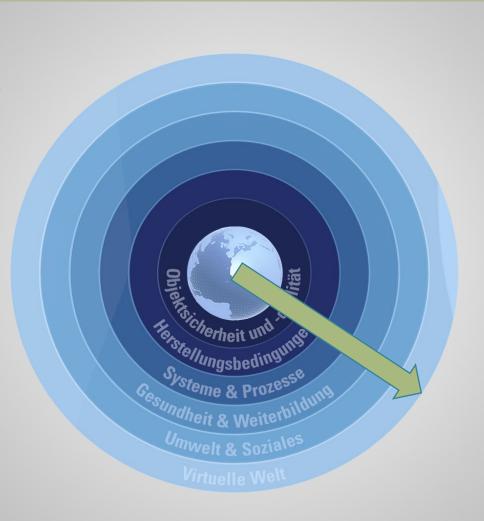
Manufacturing conditions

Systems & processes

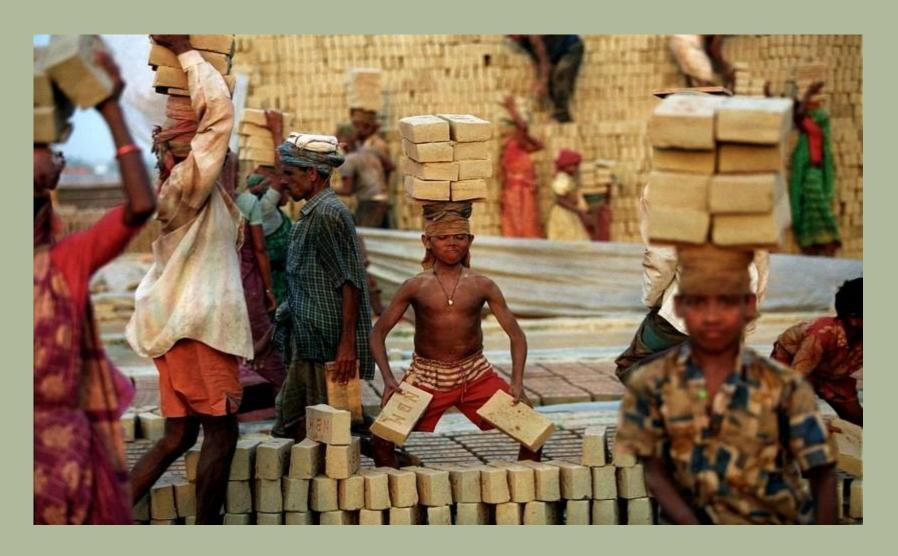
Health & education

Environment & social systems

Virtual world



# and it is still necessary...



### because this is what you want to avoid...



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## The digital transformation

April 8, 2005 during the funeral of Pope John Paul II



March 13, 2013, during the presentation of Pope Francisco, as the new high priest of the Catholic





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#### **New Competition**



2004

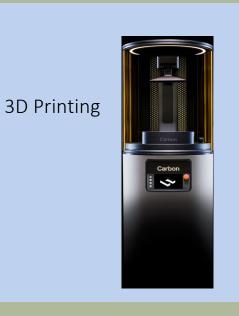
<u>2017</u>













https://www.gv.com/portfolio/

## Disruptive Technology

From Product to Service







Conversion



**External Influence** 



MD of Melia Hotels will have 20% of his Bonus indexed to tripsadvisor rating

Influence

\_\_\_\_

Create a new source of customers

Force new Rules

Extended Social Network Concept



Impacting Operational processes





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#### Smart Roads Internet of Things! (IoT) Warning messages and diversions according to climate conditions and unexpected events like accidents or Smartphones Detection Electromagnetic Levels traffic jams. Detect iPhone and Android devices and in Measurement of the energy radiated Air Pollution Smart Lighting general any device which works with Wifi or by cell stations and WiFi routers. Control of CO, emissions of factories, pollution Bluetooth interfaces. Intelligent and weather adaptive lighting emitted by cars and toxic gases generated in in street lights. Perimeter Access Control Traffic Congestion Intelligent Shopping Access control to restricted areas and detection Monitoring of vehicles and pedestrian Forest Fire Detection of people in non-authorized areas. affluence to optimize driving and walking Getting advices in the point of sale according to customer habits, preferences, Monitoring of combustion gases and preemptive routes. Radiation Levels presence of allergic components for them fire conditions to define alert zones. or expiring dates. Distributed measurement of radiation levels Wine Quality Enhancing Noise Urban Maps in nuclear power stations surroundings to Monitoring soil moisture and trunk diameter generate leakage alerts. Sound monitoring in bar areas and in vineyards to control the amount of sugar in centric zones in real time. grapes and grapevine health. Offspring Care Control of growing conditions of the offspring in animal farms to ensure its survival and health. Sportsmen Care Vital signs monitoring in high performance centers and fields. Structural Health Monitoring of vibrations and material conditions in buildings, bridges and historical monuments. Water Leakages Detection of liquid presence outside tanks and pressure variations along pipes. Vehicle Auto-diagnosis Waste Management Information collection from CanBus to Detection of rubbish levels in containers send real time alarms to emergencies to optimize the trash collection routes. or provide advice to drivers. Smart Parking Item Location Monitoring of parking spaces availability Search of individual items in big surfaces in the city. like warehouses or harbours. Water Quality Golf Courses **Quality of Shipment Conditions** Study of water suitability in rivers and the Selective irrigation in dry zones to Monitoring of vibrations, strokes, container openings sea for fauna and eligibility for drinkable reduce the water resources required in or cold chain maintenance for insurance purposes.

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## Data Mining with artificial Intelligence (A.I.)



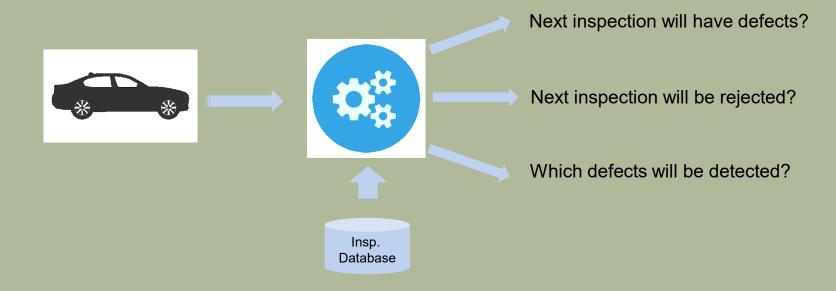


Data Mining allows for the

"understanding" of heterogeneous test report data, regardless of the degree of content structure or form.

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## Predictive Engines



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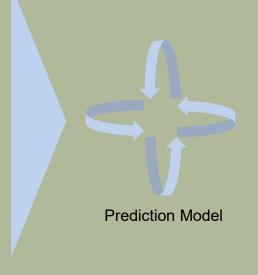
### **Smart Pricing**



Timeframe data

PTI Information

Historical Price Data



PTI Station 82 Monday, 03.07.2015 From 13:30 until 14:45

Price	Inspections	Revenue
30€	10	300€
31€	9	279€
32€	9	288€
19€	48	912€

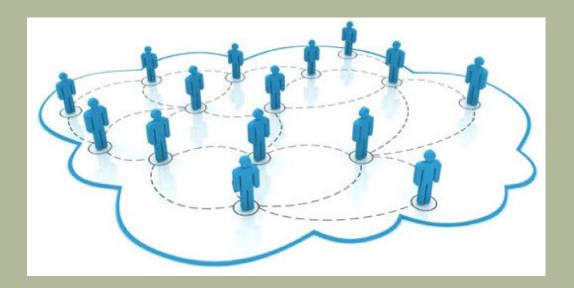
Inspection price prediction

Recommendation Price Table

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# **Crowd Testing**

Combination of the results of crowd testing with the results of expert testing

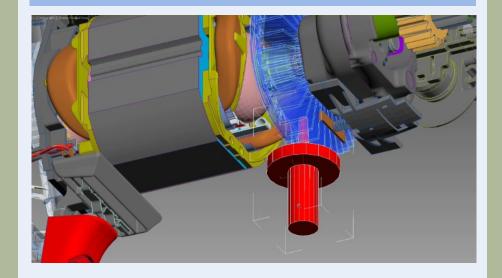


# Simulation of working conditions



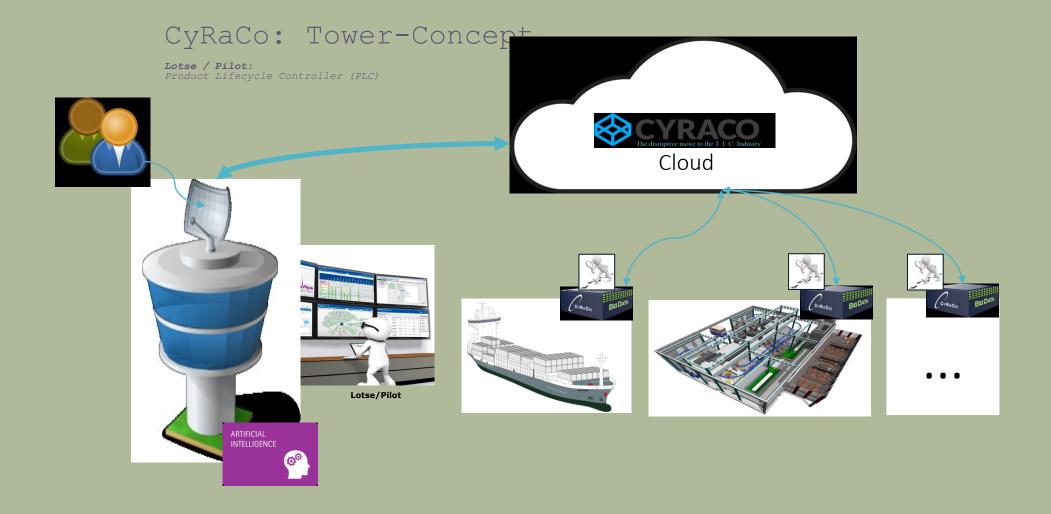
#### Virtual Testing

Verification on measurements, material, handling and safety, based on client's CAD-Files instead of physical and expensive prototypes allow an early detection of failures during the development process!

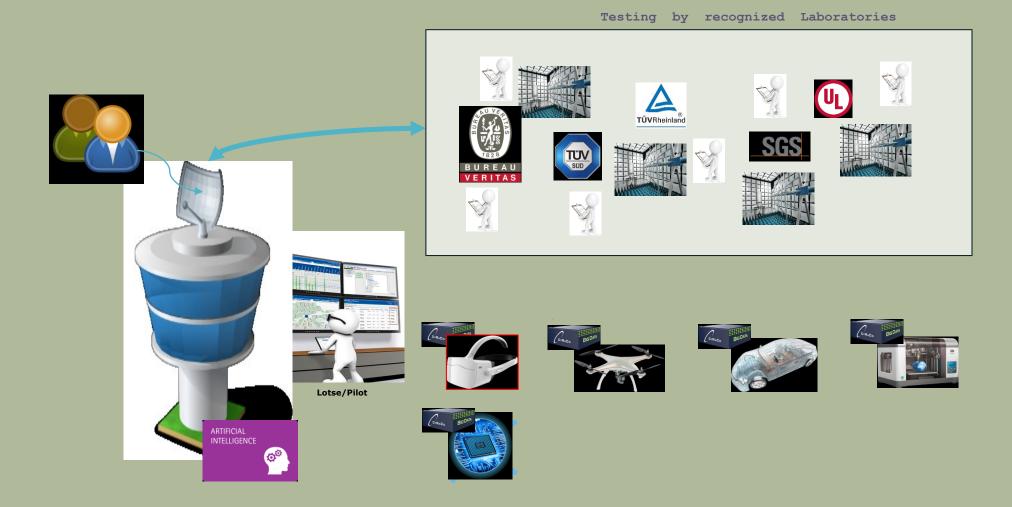


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## Remote Inspection



# Inspection Certification Portal



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# Goldgräberstimmung – In the mood of the gold digger



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THANK YOU