# Iulink - NIQR Conference

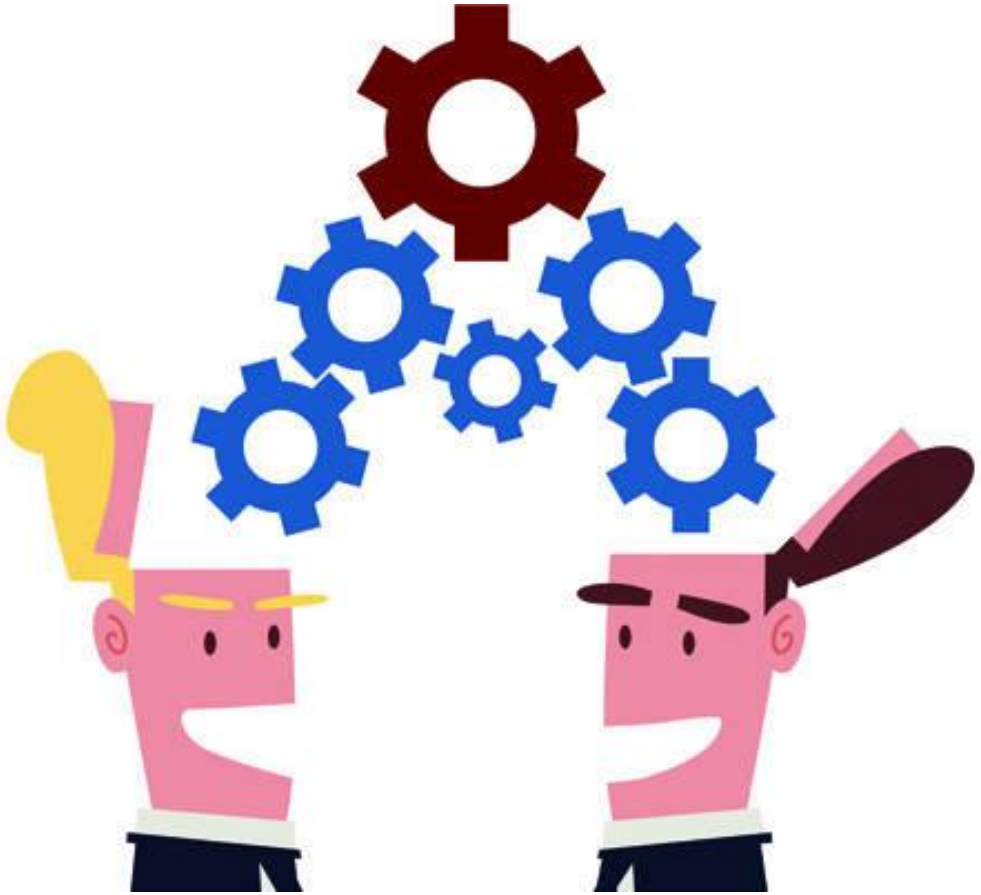
# Quality & Safety Revolution

SMART PEOPLE IN DIGITAL COMPANY.

## «People and skills»

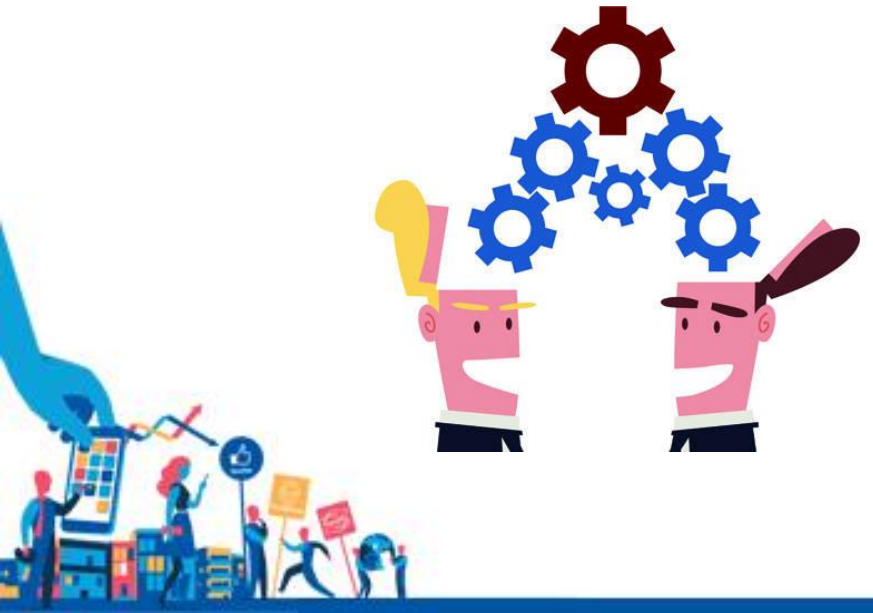

Bernhard Konzet – CEO

# Business and Technology must converge more and more




# Faisal Hoque

## Today's Divergence between Business Managers and technologist



| Business Managers | Technologists |
|---|---|
| **Expect** technologists to **understand** their requirements and produce systems that optimally address the business needs | Rarely understand the business needs fully - of the enterprise, department or individual. End up developing systems and tools that may address the stated needs, but also with **added/omitted functionality which in their opinion the end user will/or won't – need or want.** |
| Assume that they're **communicating** while actually they are only **dictating** | Assume that business managers will appreciate their technology when they often deliver **greater complexity**. |

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# OSSERVATORIO DELLE COMPETENZE DIGITALI

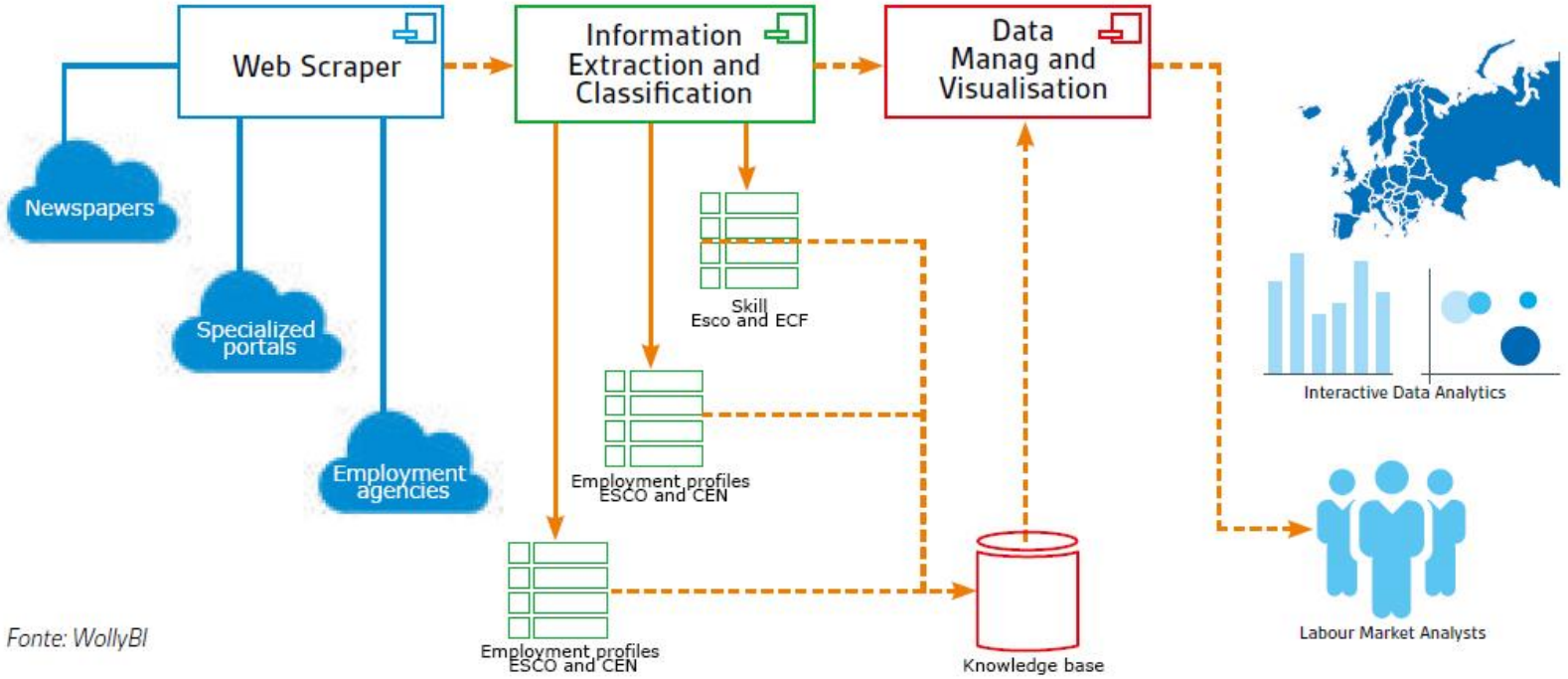
# 2018

Acfmt CONFCOMMERCIO IMPRESE PER L'ITALIA CONFINDUSTRIA

MIUR

Agenzia per l'Italia Digitale
*Presidenza del Consiglio dei Ministri*

# Digital Skill rate I




*Fonte: WollyBI*

- 540.000 Announcements WollyBI (Milan)
- Methodology. KDD for
  - scraping,
  - transformation,
  - cleaning,
  - classification and visualization

  from the main Italian sources

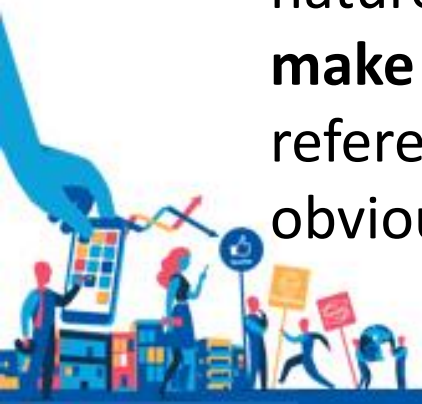
- **Automation.** Use machine learning algorithms to automatically classify job vacancy according to ISCO classification system (fourth level)
- **Skill.** Extract skills from the text and reconcile them with existing ESCOs, identifying new emerging skills.

# Digital Skill rate II

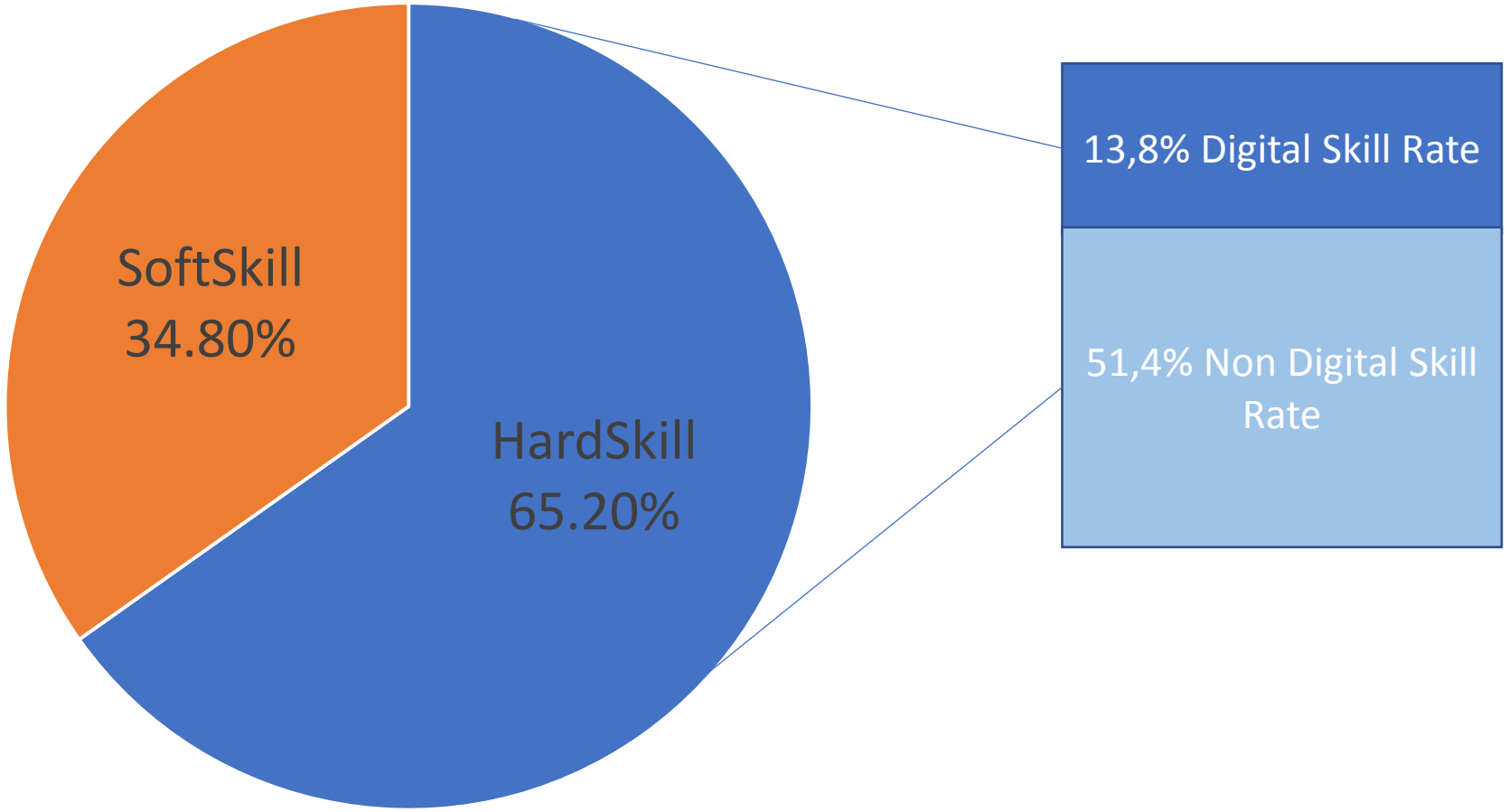
**The digital skill rate (DSR)** provides a percentage indication of the pervasiveness of digital skills within an ISCO profession in terms of frequency and relevance of the skills present within it.

Non-Digital Skill Rate and the Soft Skill Rate defined respectively as a percentage value of the request for non-digital and transversal skills.

The aim of the DSR is not the general profiling of occupations in terms of skills, but **the measurement of the pervasiveness of digital skills** in the individual professions as it emerges from the **needs of the market**. In fact, the very nature of job advertisements induces those who draft the announcement to **make explicit the skills considered most important** in the business context of reference, leaving aside those that are considered to be less, if not even obvious.



# Digital Skill rate III



# DSR - Geographic Distribution

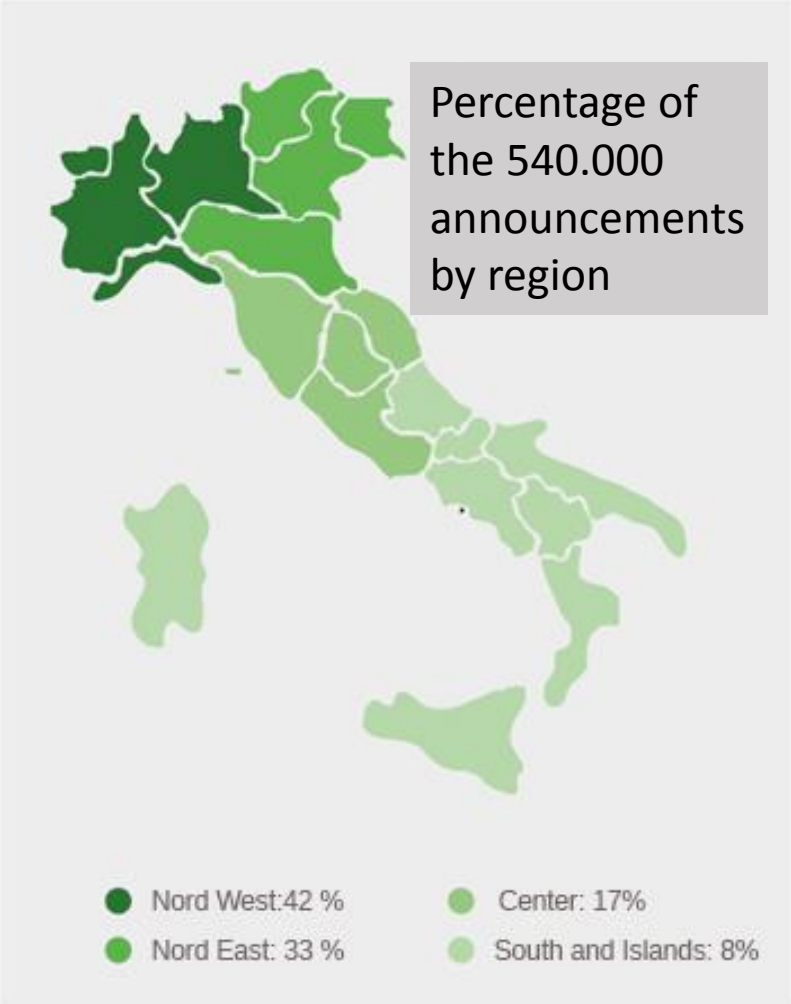



Fig. 1 Percentage distribution of ads by macro-region

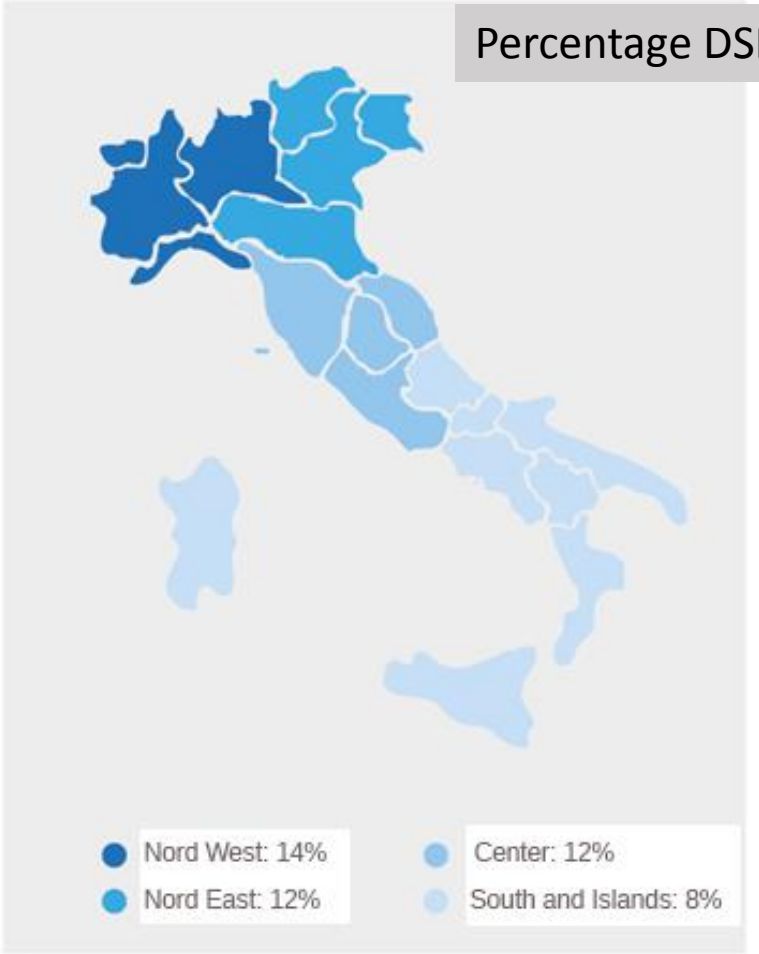
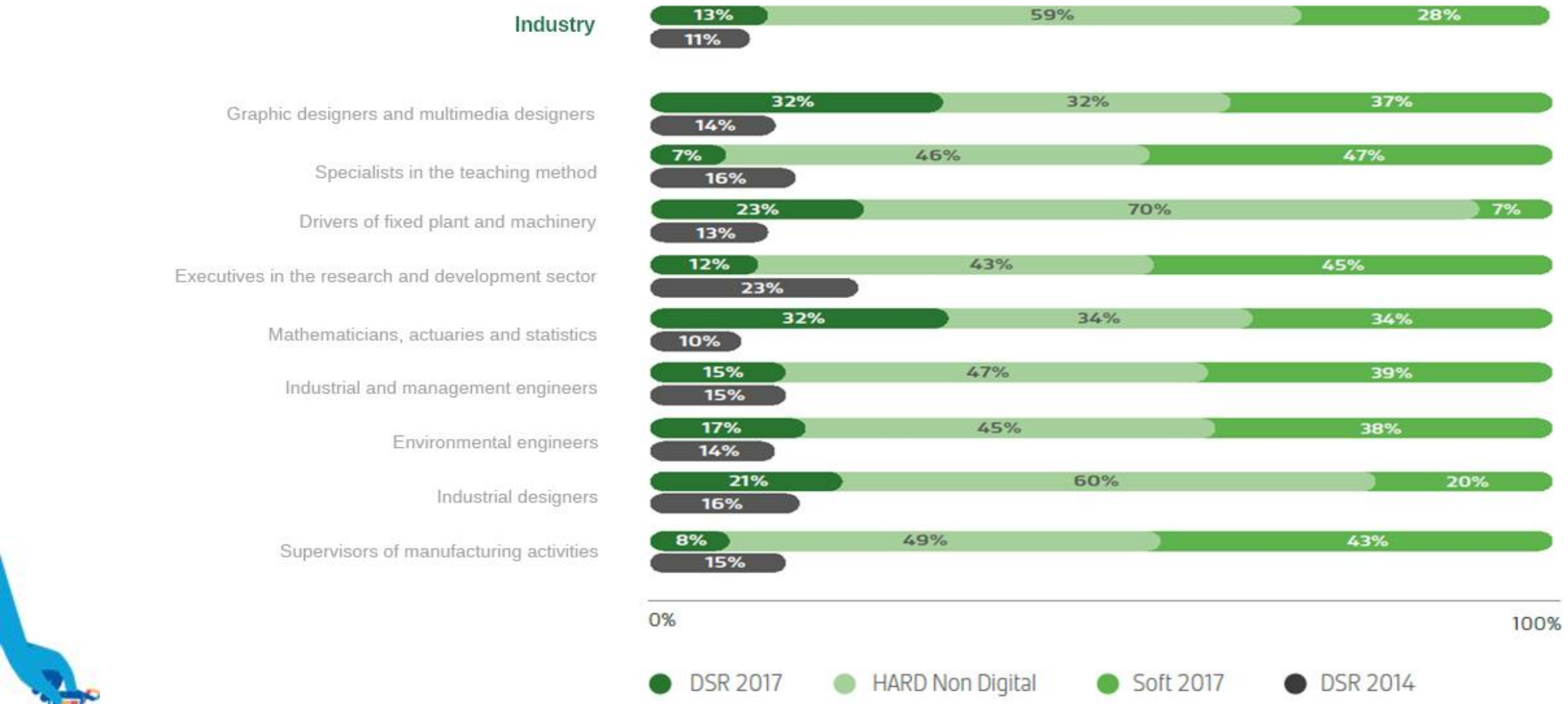



Fig.2 Digital Skill Rate for macro-region

> Fig.7 Distribution of skill rates and variation DSR 2014 vs 2017 for the professions of core business processes in industry



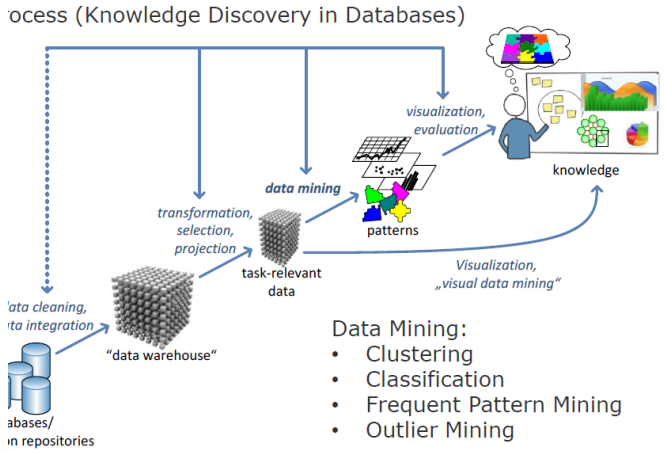
› Fig.3 DSR and trend change of ads (2014 vs 2017) of the business areas in the industry

# Skills



# Complexity


# The Quality & Safety Heroes




# Data

# Technology

# Competence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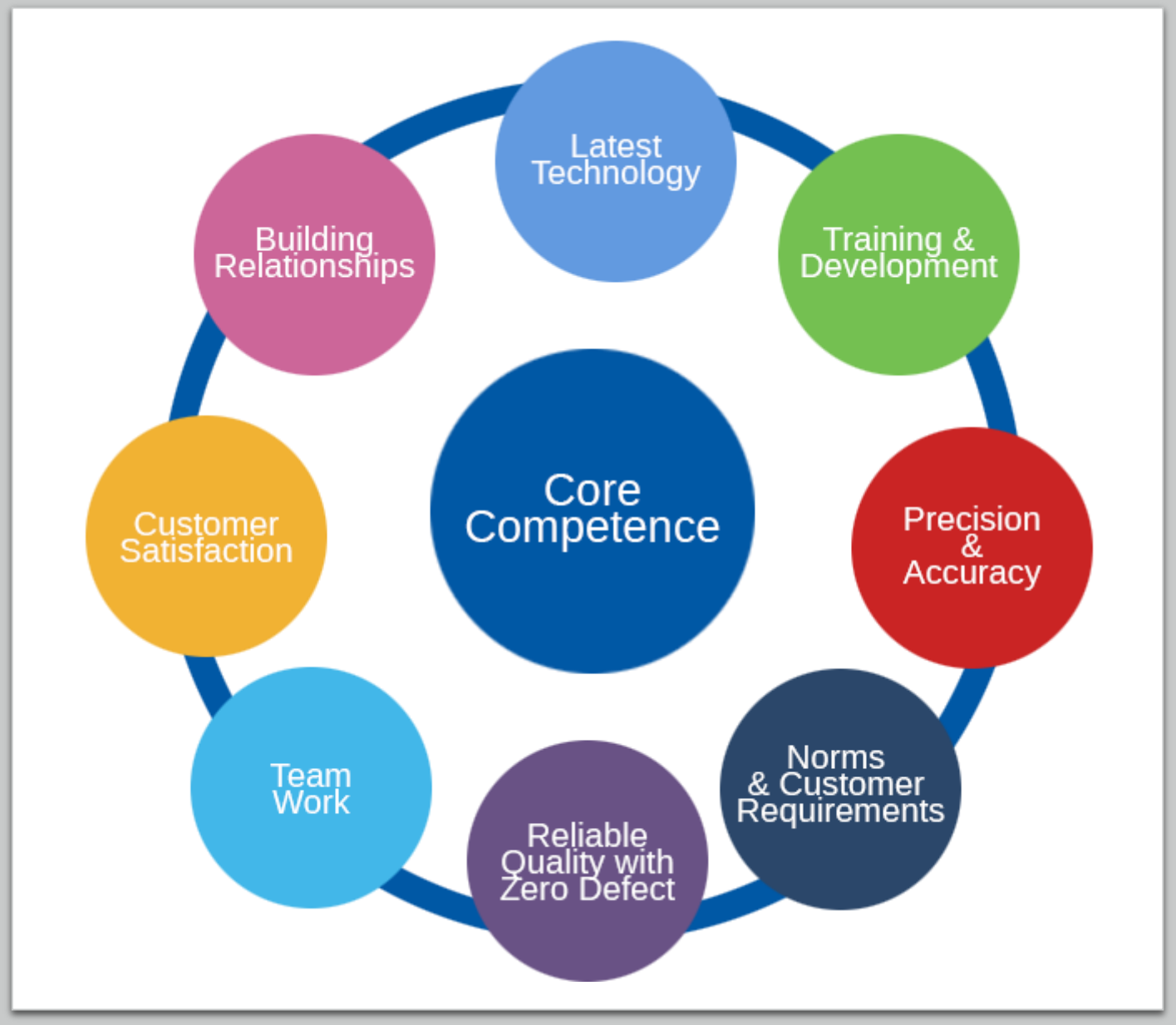
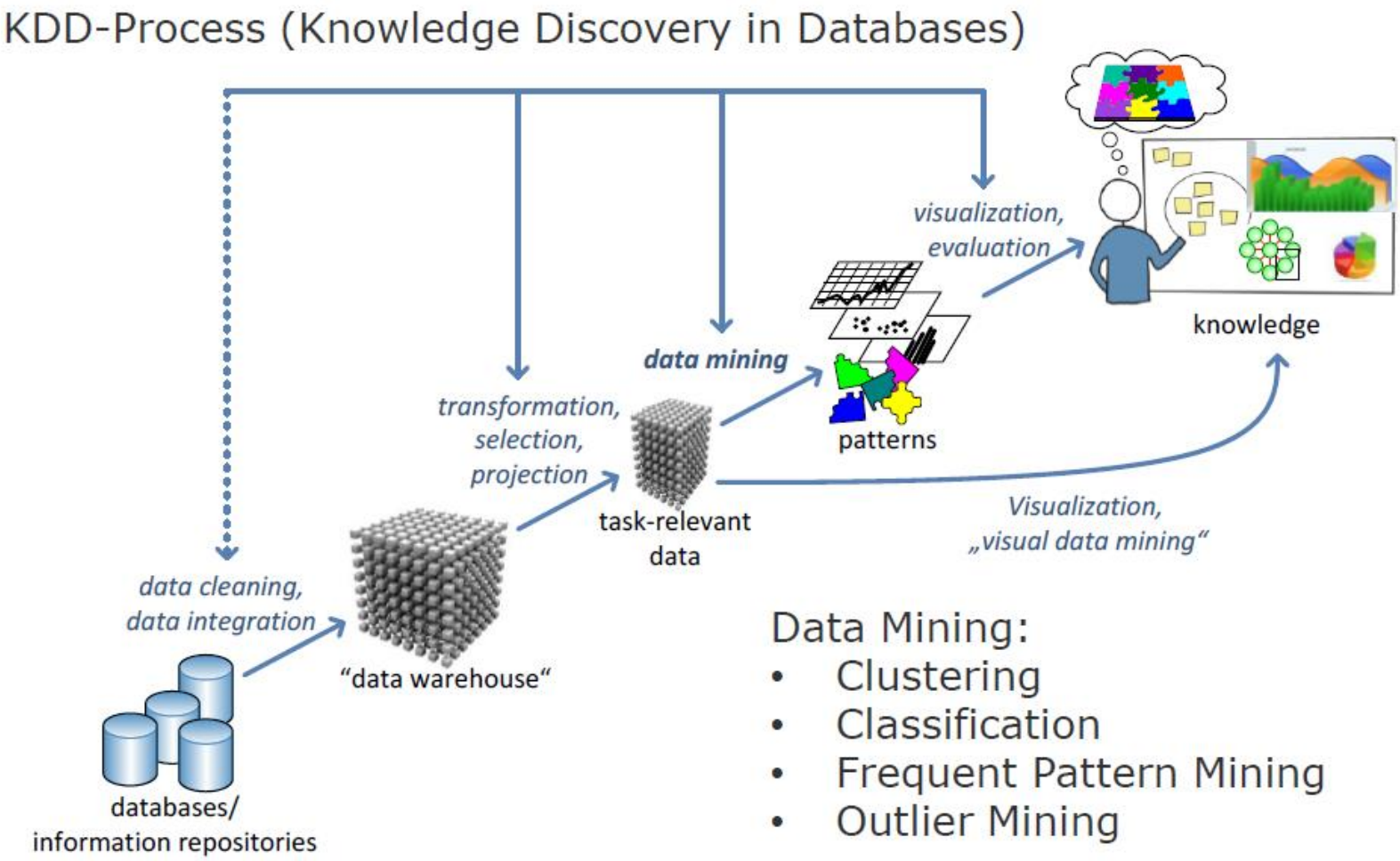
S


Latest Technology
Training & Development
Precision & Accuracy
Norms & Customer Requirements
Reliable Quality with Zero Defect
Team Work
Customer Satisfaction
Building Relationships
Core Competence

# Ex. Complexity in Norms

# KDD – Knowledge Discovery in database




Data Mining:

- Clustering
- Classification
- Frequent Pattern Mining
- Outlier Mining

# Difference - Unsupervised / Supervised learning?

Machine Learning

## Clustering: Unsupervised learning

- The class labels of training data are unknown
- Given a set of measurements, observations etc. with the aim of establishing the existence of classes or clusters in the data.
  - Classes (=Clusters are unknown)
  - You don’t know what you are looking for

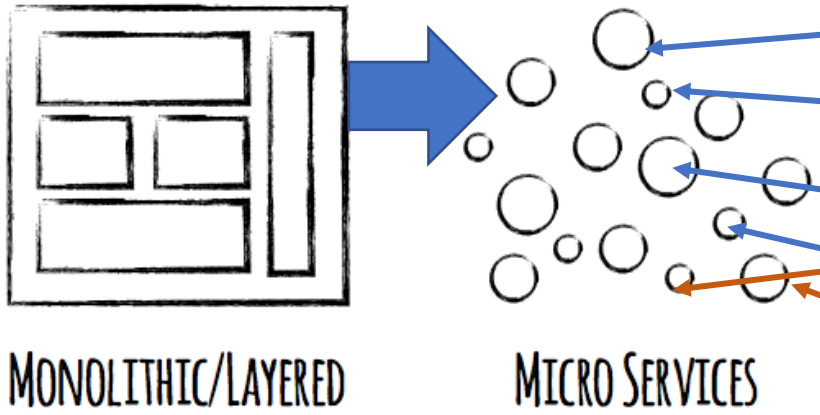
## Classification: Supervised learning

- Supervision: The training data (observations, measurements etc) are accompanied by labels the class of the observation
  - Classes are known in advance
  - you know what you are looking for
- New data is classified based on the information extracted from the training set

**[WK91]** S. M. Weiss and C. A. Kulikowski. Computer Systems that Learn: Classification and Prediction Methods from Statistics, Neural Nets, Machine Learning, and Expert Systems. Morgan Kaufman, 1991.

# Technology: at Services - everyone knows what is a WebService?

- **Application** that organizes services




Smart Client

Machinery Integration

User interface

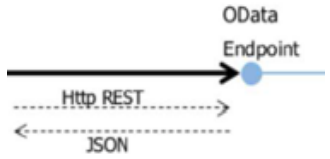
Notifications not only via Email but also via Facebook, Blog (Yammer, Trello, …)

Connecting to Services with AWS, Microsoft Services, IBM Watson

Integrations with other systems:
-Customer / Supplier Portal
-INAIL portal

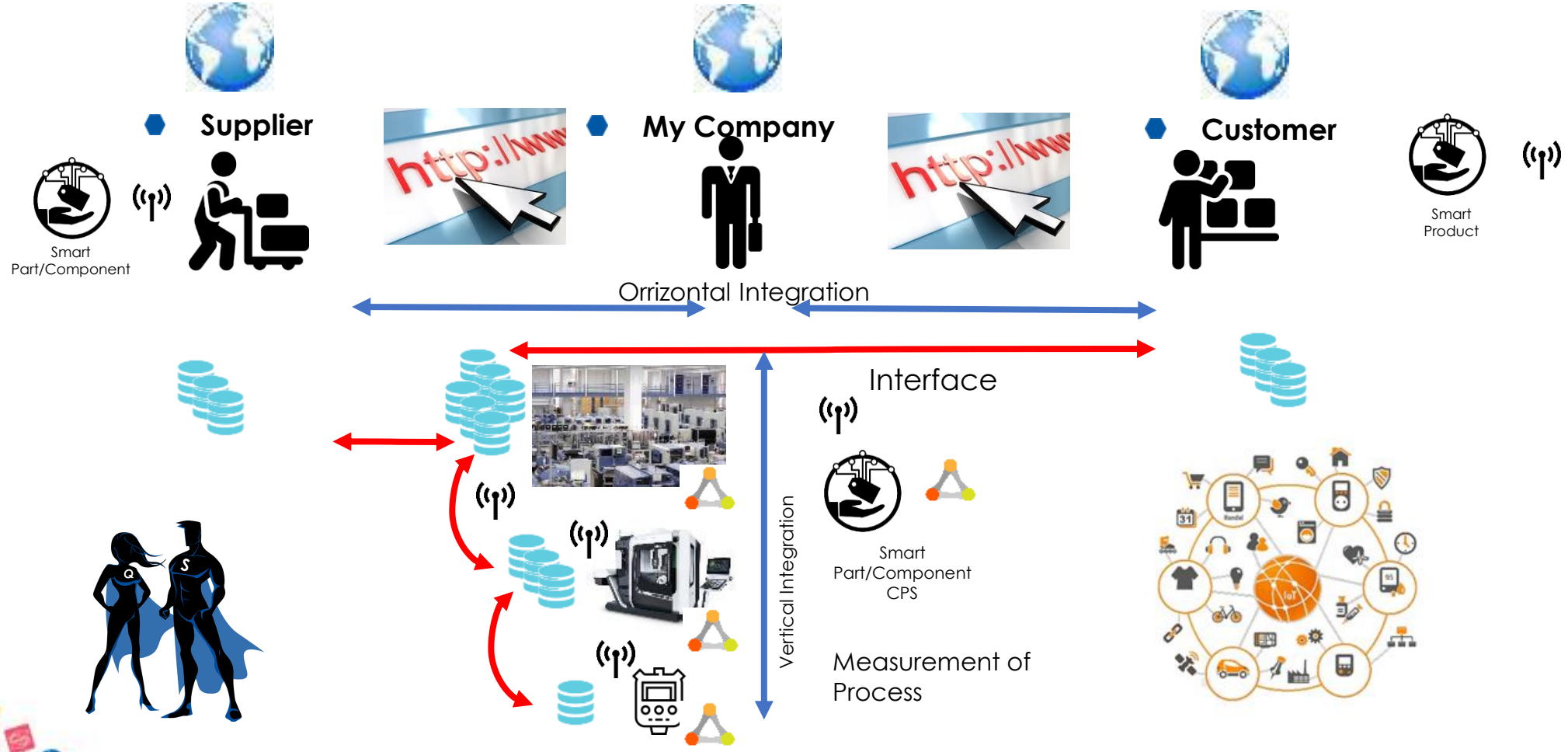
Connecting to Public Services such as ISCO / ESCO

- **Application** within a service organization

# Trend: Competence, Technology, Complexity, Speed and Growth

Data: Correct, Correlated, Consistent, Safe, Usable



# Industry 4.0 Roadmap

Gurus like Singulary University

How do I imagine the digital world in the medium to long term?

How do I immagine my business domanin in the digital worl?

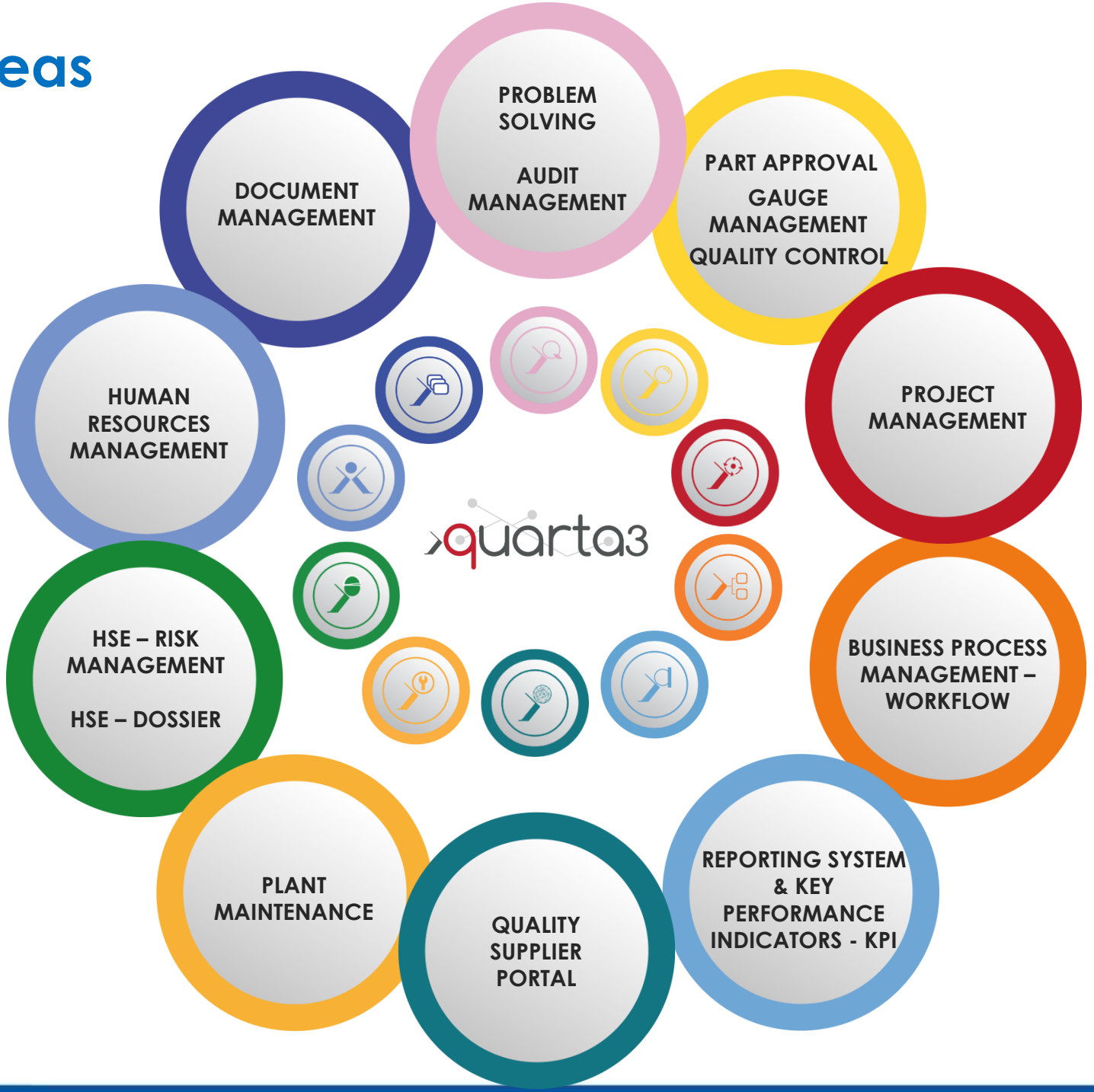
How can I create more value for my customers
Example Design Thinking


How do I optimize my products and services for being ready for the digital world?

How can I optimize my processes for gaining competitivity for the products of today?

How will this new products and services be produced and delivered?

# Thematic areas



Blulink
VALUE BEYOND COMPLIANCE

BECOMES PART OF THE MARPOSS GROUP


INTEGRATION QUARTA3 & MARPOSS MEASURING INSTRUMENTS

INTERNATIONALIZATION

NEW SKILLS

**Measurement** and **EDGE Technology** for Blulink

**Information Technology** and **data analysis** for Marposs

QUALITY 4.0 / INDUSTRY 4.0

# Thanks for your attention

Bernhard Konzet CEO

**Blulink – *Value beyond Compliance* –**
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