Industry 5.0

FIIF x Taival Advisory

11.5.2023

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WHO
WHY
WHAT
HOW

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– WE ARE TAIVAL –
Strategy For Sustainable Success

We provide leading-edge advisory services that guide our clients through planning and executing their transformational journey into world-leading companies which **boost real sustainable success to all stakeholders.**

Founded in 2017

50+ clients ● 100+ projects

Strategy ● Sustainability ● Circular economy ● Data ● Ecosystems

Operations in Finland and Germany

15+ Seasoned professionals

An ecosystem of leading companies & individuals

Agile and co-creative working methods

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The economic landscape is changing

Three Game-Changers are introducing the most **significant and irreversible change** in business dynamics that we have ever seen.
And they exert **pressure on every company.**

Climate Crisis

Digitalisation

Instability of operation environment

Companies have **to transform and acquire new capabilities** to survive.
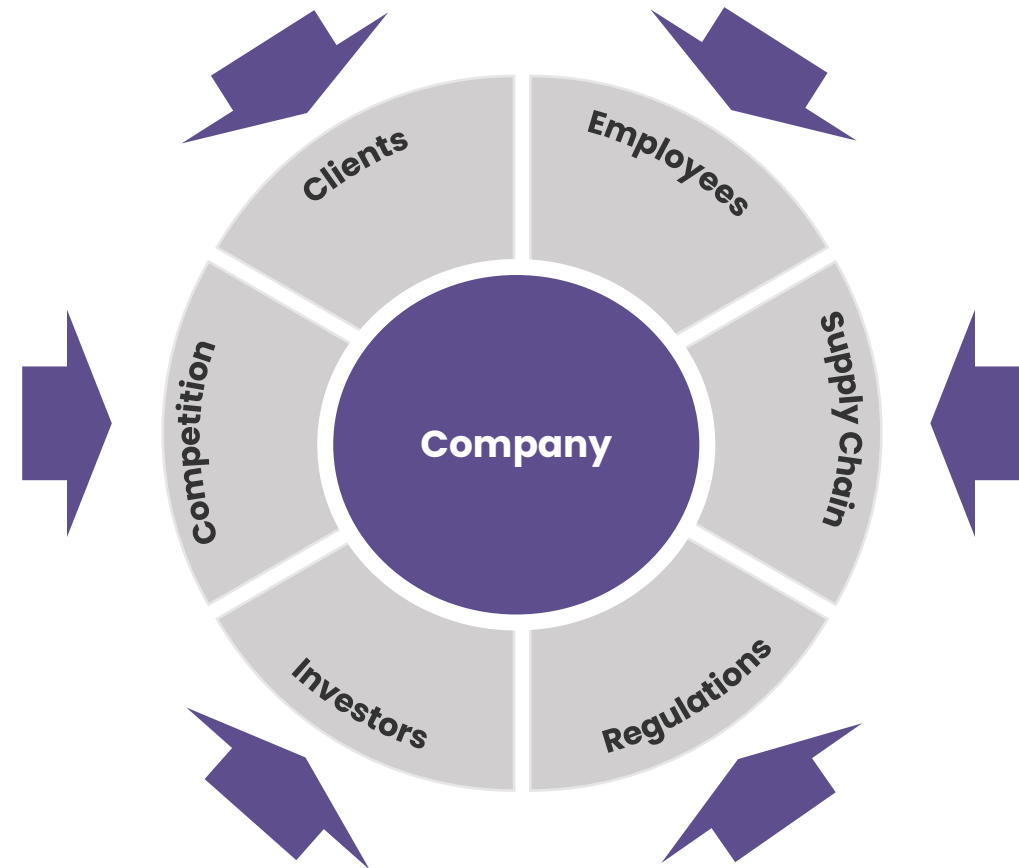
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New requirements put pressure on the economy

Volatile business and operating environment

Financial and economic profits are not sufficient anymore to be successful

Many factors influence the success of a business, such as:

- Employee satisfaction

- Environmental & social considerations

Occurring of new disruptive events

Companies need to be ready to react to disruptions

Every day structural changes influence the economy and our day-to-day life:

- Pandemic

- Global supply and logistics shortages

- War in Ukraine

- Inflation

- Energy shortage

- Extreme weather events

- Refugees

All the challenges co-exits and form complex new circumstances

85 %
of CEOs

.. struggle with prioritizing the short- and long-term challenges to address and battle first.

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Economic challenges around climate change

Repairing the damages from climate change will be a lot more expensive, than reducing GHG emissions now.

The consequences of climate change:

• Damages properties and critical infrastructure

• Impacts human health and productivity

• Increases prices of essential resources eg. Water

Negative effects on over 22 sectors, mainly:

• Agriculture, forestry, fisheries and tourism.

High costs due to damages, insecurities and regulations are to be expected.

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The fights for talents

The developments in the current job market

The challenge to finding and keeping good **employees**

has **surpassed**

the challenge of finding and keeping **customers.**

Some current issues are:

- Changing needs and expectations
- Higher competition
- Changes in business
- Skill gaps
- Changing demographics

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Digital Revolution & Industry 4.0

Lagging behind in industry 4.0

Many companies and industries are still in the middle of the digital transformation. Key elements include:

- Automation
- Robotics
- Big data analytics
- Smart systems
- Virtualization
- AI
- Machine learning
- Internet of things

Humans and advanced technology work side by side now.

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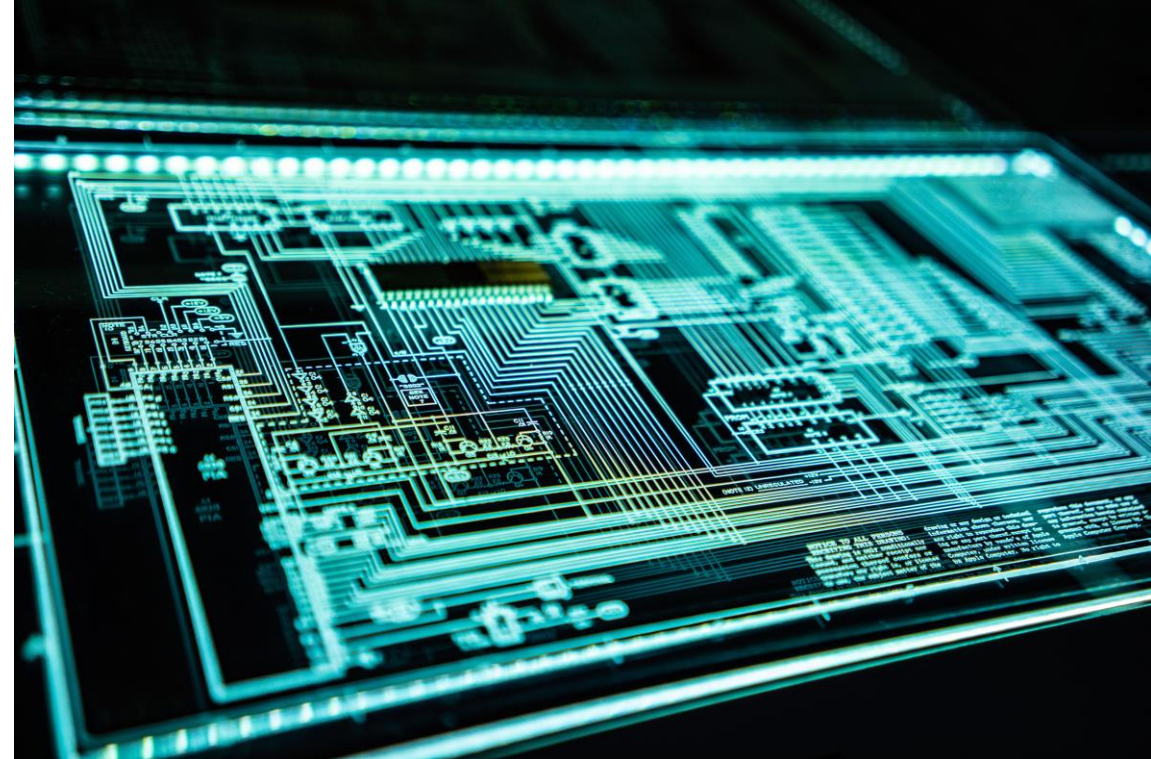
A new industrial revolution is necessary

connecting advanced technologies with humans, sustainability and resilience

Evolution from Industry 4.0 to 5.0

"… provides a vison of industry that aims beyond efficiency and productivity as the sole goals, and reinforces the role and the contribution of industry to society"

"It places the wellbeing of the worker at the centre of the production process and uses new technologies to provide prosperity beyond jobs and growth while respecting the production limits of the planet."

- European Commission

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Core elements of this revolution

A shift of perspectives – companies need to provide solutions

Human centricity becomes the main focus considering the **new technological shift** and IT development at workplaces.

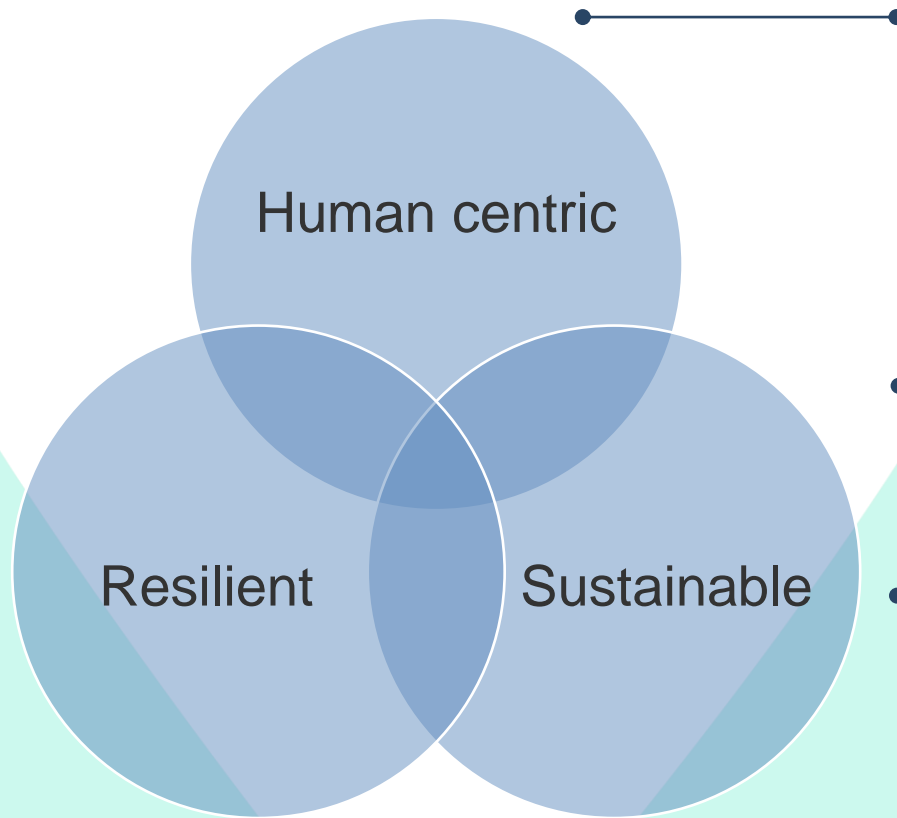| Economic value & Welfare | → | Societal value & Well-being |

Environmental considerations are shifting to the centre of companies and industries.

Focusing on resilient, processes, strategies and operation rather than on growth and profits .

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3 Pillars of Industry 5.0

The current industry 4.0 should be complemented to become sustainable, human-centred and resilient.

Human centric

Resilient

Sustainable

Promoting talents, diversity and empowerment.

A shift in perspective:
People serving organizations
→ Organizations serving people

Agile and resilient strategy with adaptable technologies

Ability to quickly react to crisis while ensuring performance

Respect planetary boundaries in all actions.

Creating positive solutions, eliminating all negative environmental impacts.

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Industry 5.0 technologies

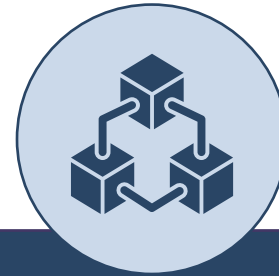## Standardization of advanced technologies

Cloud Computing

Collaborative Robots (Cobots)

Big Data Analytics

6G Technologies

Blockchain

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Opportunities and Challenges

When the complexity of the interlinked topics is overcome many advantages will develop

Opportunities

- Higher value jobs, more design freedom for workers

- Higher personalisation for consumers

- Automated manufacturing, allows more time for service and product improvements

- Resilience and agility can have positive effects on society

- Not only mitigating negative effects

- Activities put planet and people in the focus

- Competitive advantages and future solutions

Challenges

- Complex concept to address and implement

- Difficult to find the right starting point

- Without consideration of 3 pillars, the company falls behind

- Mitigating the concerns of automation and robotics

- Development of technical skills

- Time-consuming adaptation of advanced technology

- High costs and investments

- IT security

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Implementing the new focus into today's industries

Regulatory Environment

EU actively promotes the development to Industry 5.0 with incentives and regulations

The Industry 5.0 movement is not yet won much traction – the EU pushes companies with policies, regulations and awards.

Aim: European industry must lead in digital and green transition → remain driver of prosperity
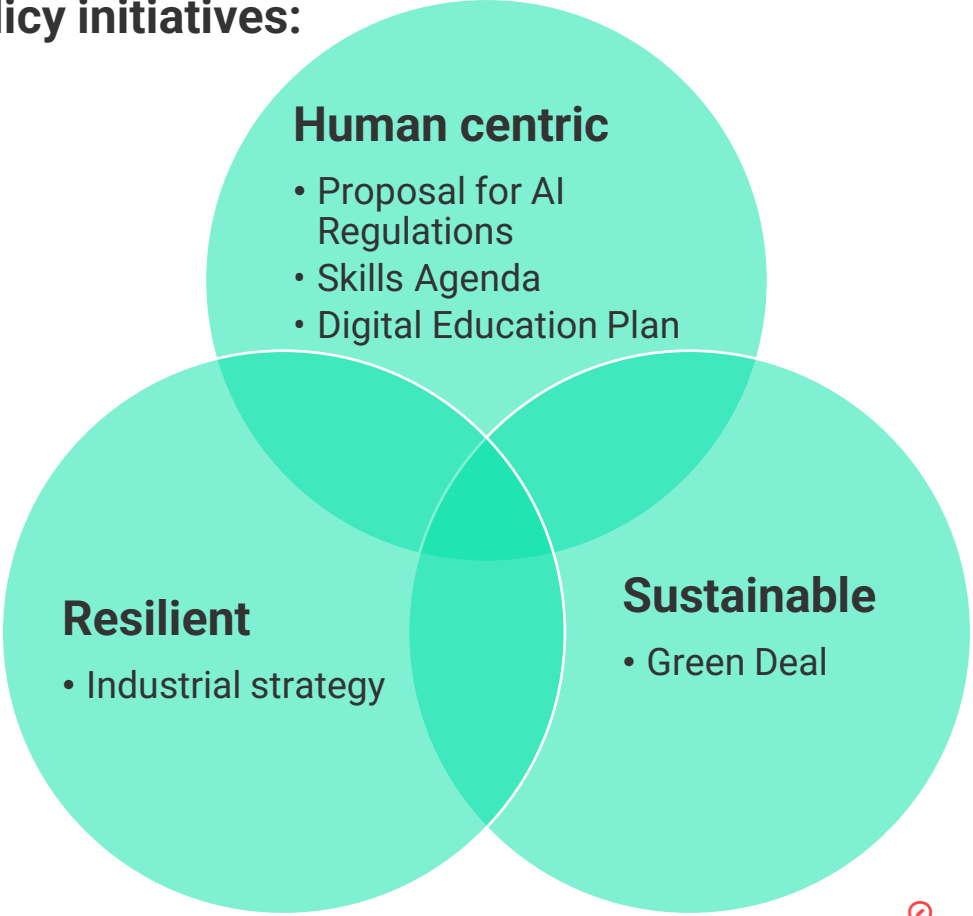
European Commission priorities follow the 3 pillars with:
- "An economy that works for people",
- "European Green Deal"
- "Europe fit for the digital age"

Industry of the Future Award:
- Projects contributing to a human-centric, sustainable and resilient European industry

Policy initiatives:

Human centric
- Proposal for AI Regulations
- Skills Agenda
- Digital Education Plan

Resilient
- Industrial strategy

Sustainable
- Green Deal

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Resilient strategy

Enable flexible adaptability in challenging times

Resilience creates the ability to:

- Anticipate, react and learn quickly and systematically from any crisis

- Maintain stable and sustainable performance.

Agility and flexibility are common approaches nowadays → Does not guarantee resilience

Approach:

The old primary pillar of the strategy decreases resilience:
- Growth
- Profit
- Efficiency

Revising existing:
- Value chains systems
- Energy consumption practices
- Workforce incentives
- Adaptation strategies

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Transformation capabilities

Build your **strategic and transformation capabilities**

Exemplary Tools:

Agile Strategy Development (StratOps)

Strategic Scenario Identification and Planning

Transformation Program support

Build a strategy, which can **adapt to future disruptions** in our economy. The strategy must be **aligned** with

- The **current trends** of **climate and digitalization**
- **Leverage its value** opportunities
- **Utilize** the capabilities and opportunities of collaboration **within ecosystems**

1. Get interested
2. Understand
3. Plan
4. Motivate, make possible
5. Act
6. Influence

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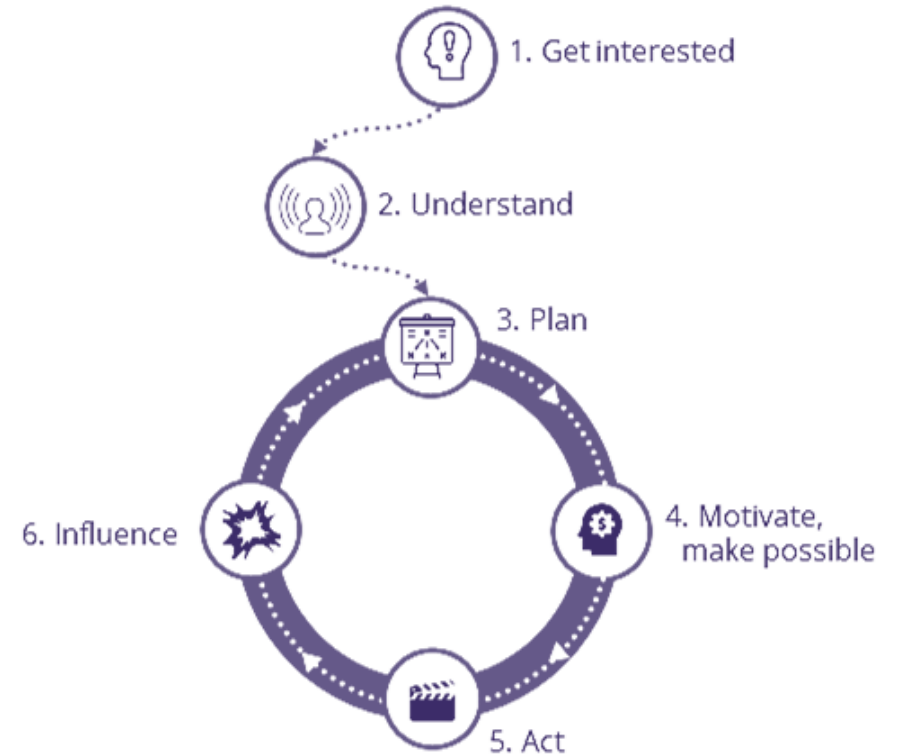
Human-centric operations

Workers must be seen as assets not only as a resource

Focus on employee needs to attract and keep good talents:

- Gain a competitive advantage and create **unique added value** for employees

- Become a company with the **purpose**

- **Empowers** workers

- Addresses the evolving skills and **training needs** of employees

- Increased use of the creativity of human experts working together with efficient, intelligent and accurate machines

  - **Robots performing repetitive** and dangerous jobs

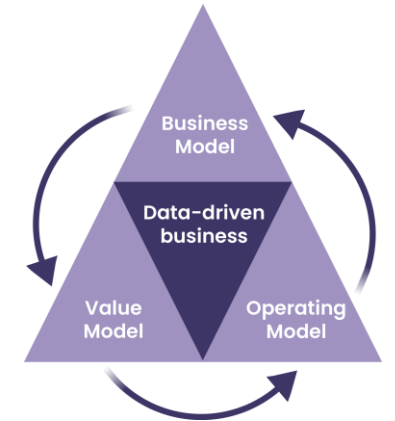 - **Workers f**ocusing on creative and efficient **business solutions**

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Data-enabled and digital business

Build data-enabled business and operating models
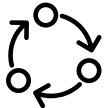
Exemplary Tools:

- **Data-driven operating model**
- **Data-enabled opportunities and business models**
- **Digital Data Platform Design**

By utilizing your data to **create data-enabled business model** innovations and designs you can become a market leader by keeping humans at the centre of activities.

Identify and develop operating models with a focus on the human asset in your **IT and technology** projects.
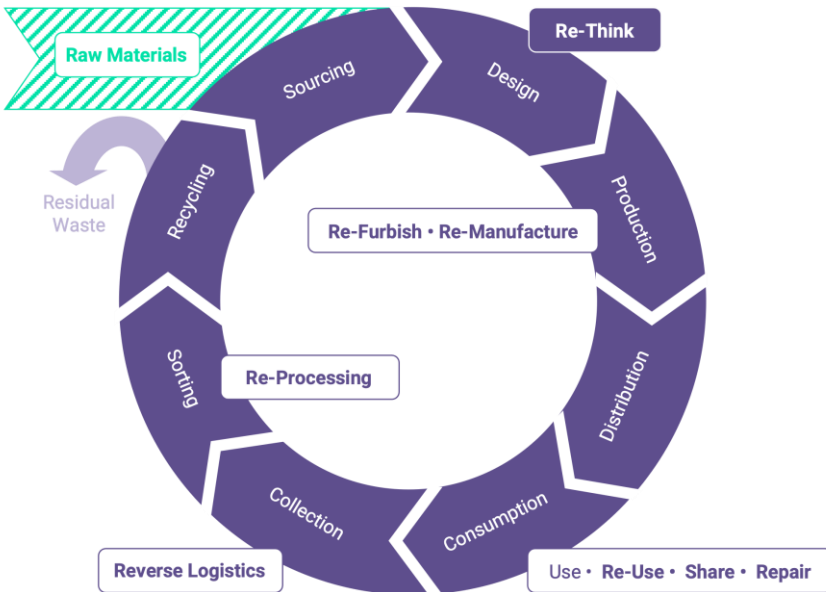
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Sustainable business & operating model

Build your **sustainable** and **circular** capabilities

Exemplary Tools:

- **Circular Economy Assessment**
- **Circular Design Framework**
- **Sustainable & Circular Product and Business Model Innovation**
- **Sustainability / Circular Training**

Become a **sustainable company**, comply with regulations, reduce emissions, and meet consumer demands, by:

- Identifying new **opportunities**
- Creating **new values**
- Implement **circular approaches,** strategies and **designs**

Raw Materials
Sourcing
Re-Think
Design
Production
Re-Furbish · Re-Manufacture
Recycling
Residual Waste
Distribution
Sorting
Re-Processing
Collection
Consumption
Reverse Logistics
Use · Re-Use · Share · Repair

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Application of the Industry 5.0

Examples connecting human-centricity, sustainability and resilience with technologies.

Medical Sector:

The cooperative approach between robots/ IT and the doctors:

- Robotic surgeries

- Diabetics: use an app for tracking of lifestyle to determine the right device.

- Diabetics: use a device tracking their blood levels connected to the insulin device.

Manufacturing industry:

- Cobots: Connecting the imagination of a human with mass& smart machines for mass personalization

- Smart sensors for climate prediction to react to losses

- Artificial intelligence increases optimization and reduces waste

Supply Chain Management:

- Cobots: Pairing intelligent digital ecosystem with human intelligence for hyper-customization

- Automated, efficient and customized supply chains.

- Reducing supply chain wastage.

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Key Take-Aways

Do you want to contiue the conversation?

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Thank you!

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