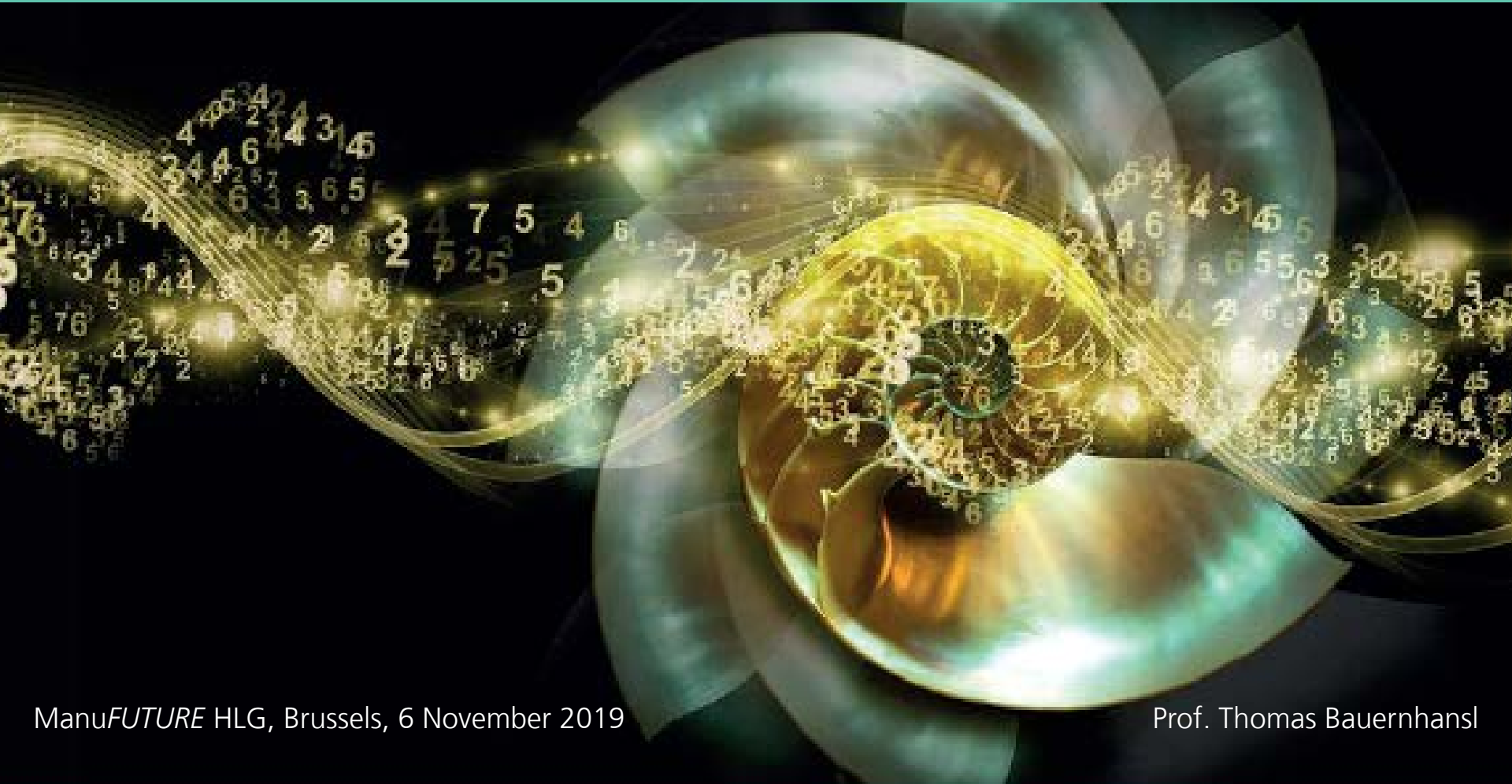


# Results of ManuFUTURE Workshop Biological Transformation, Proposal for a ManuFUTURE sub-platform »Bio-Intelligent Manufacturing«



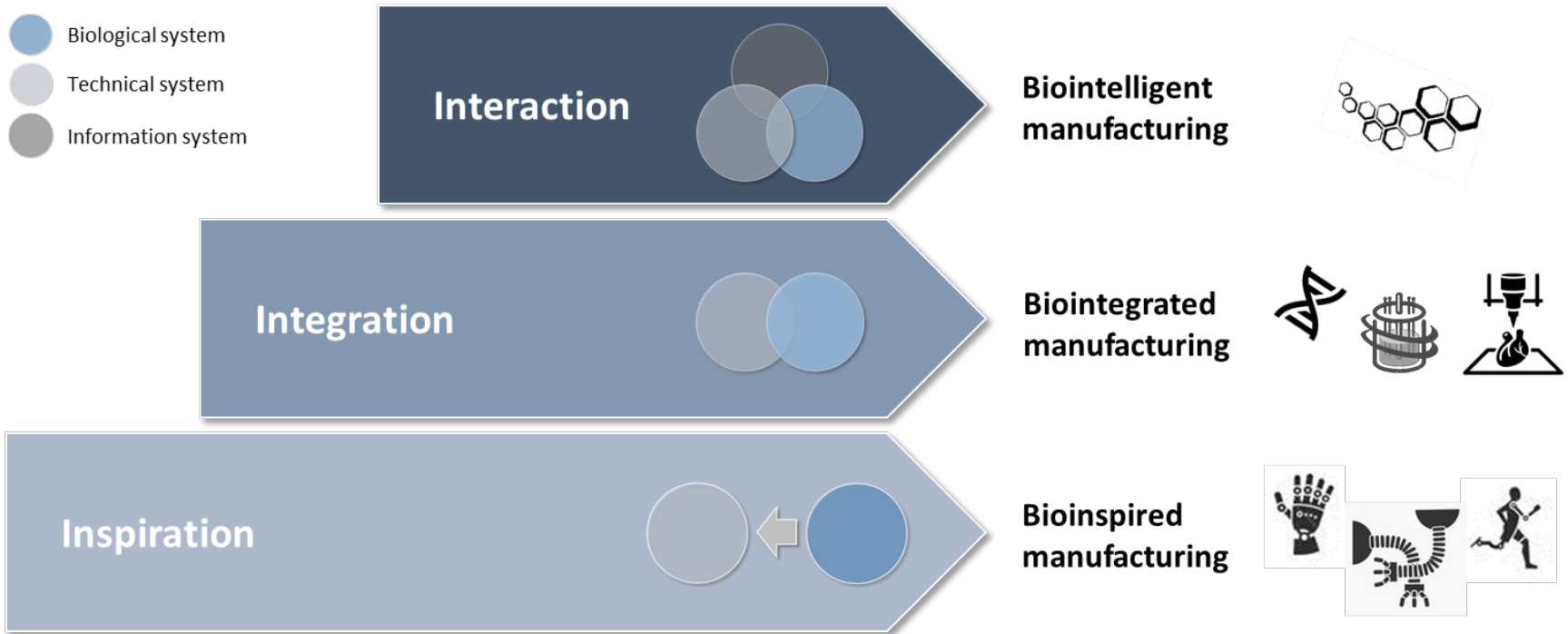
“I think the biggest innovations  
of the twenty-first century  
will be the intersection of biology and technology.  
A new era is beginning, just like the digital one [...]”



*(Steve Jobs, 2009)*

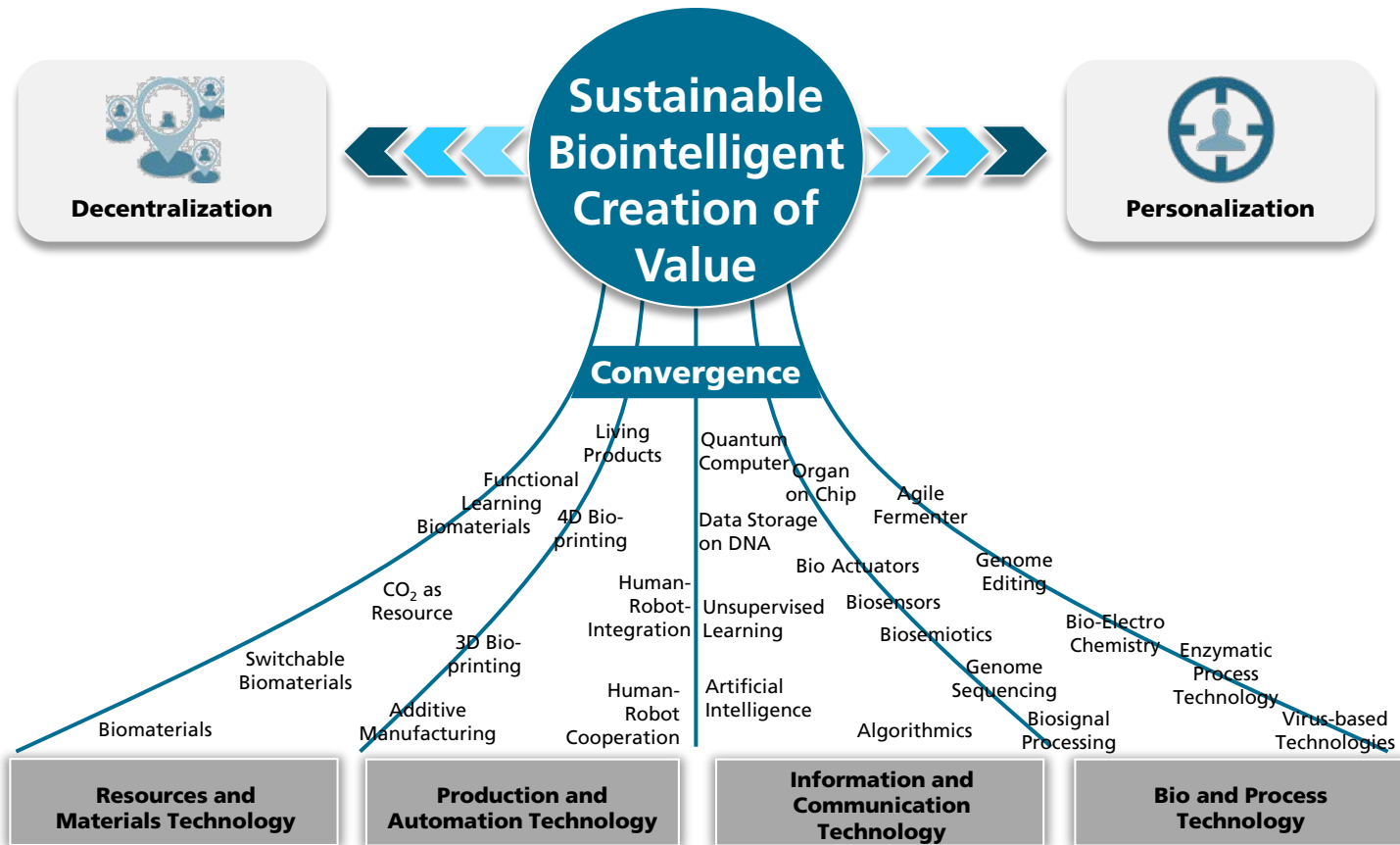
# The Biological Transformation

The increasing utilization of materials, structures and processes of living nature in technologies with the goal of sustainable added value

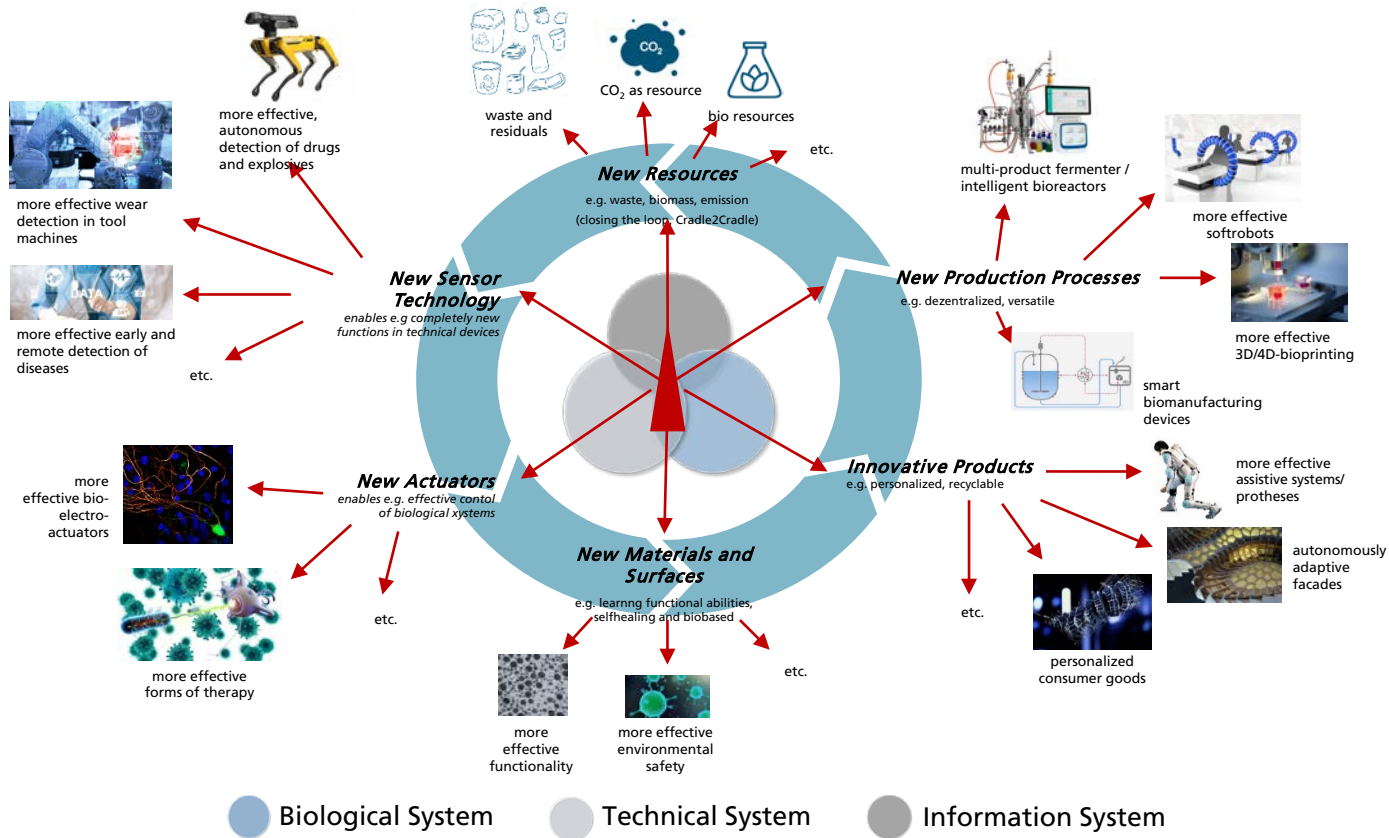


**Enabler:** Digitalization, scientific progress in life sciences & interdisciplinary cooperation

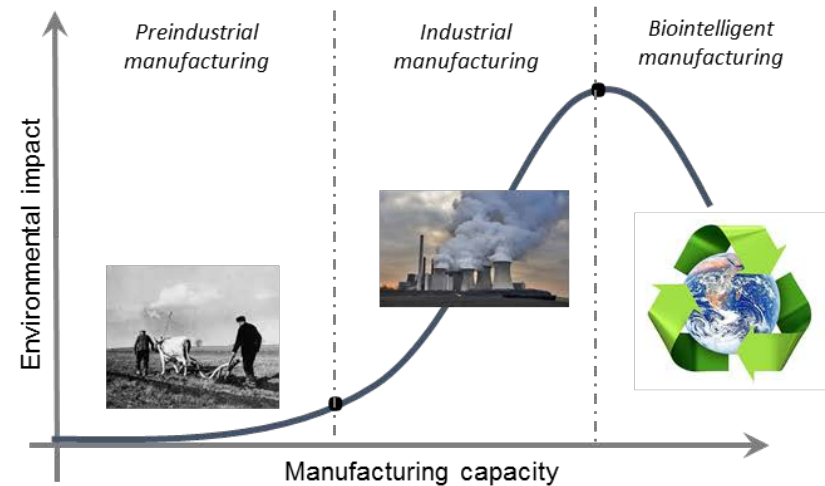
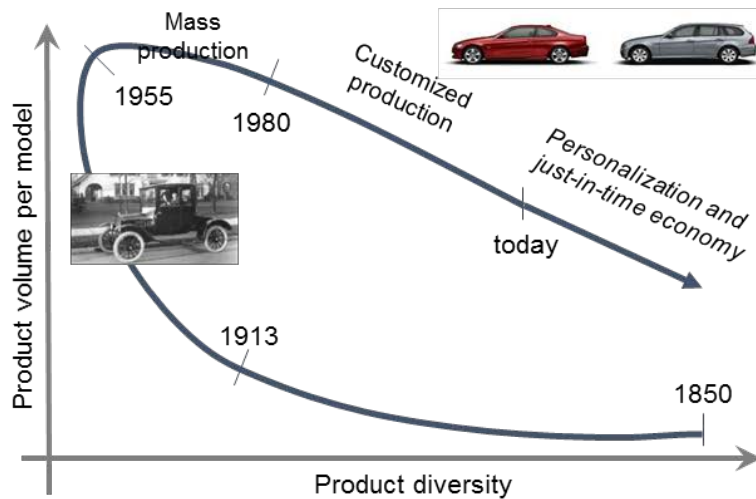
# Convergence Leads to Sustainable Technologies



# A New Innovation Space Arises



# From a globally distributed supply economy towards a technology based user-centric just in time economy



# Bioeconomy and digital technologies

## Enabler of Biointelligence

... knowledge-based production and utilization of biological resources, biological processes and principles to sustainably provide goods and services across all economic sectors.

*FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS FAO*

... encompasses the production of renewable biological resources and the conversion of these resources and waste streams into value-added products, such as food, feed, bio-based products as well as bio-energy.

*NATIONAL BIOECONOMY BLUEPRINT US*

... is based on the use of research and innovation in the biological sciences to create economic activity and public benefit.

*EUROPEAN BIOECONOMY STRATEGY*



Source: [www.wikipedia.de](http://www.wikipedia.de)

# BIOLOGICAL TRANSFORMATION – A TASK FOR EUROPE

## Results of the *MANUFUTURE* workshop, 28 June 2019



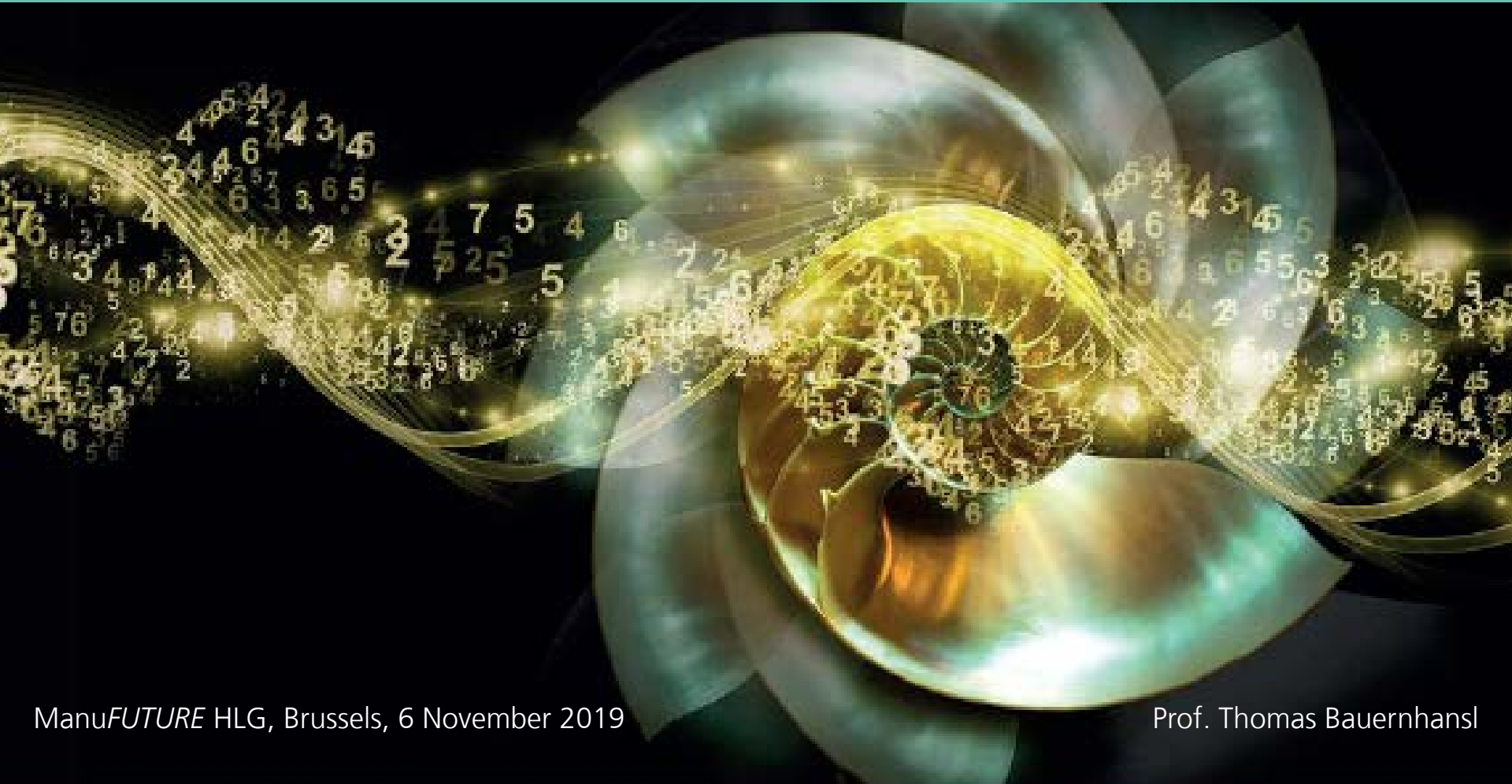


# Recommendations from the workshop in Brussels

## Eight key points to make an impact for Europe

1. **Agenda Setting** → Dialogue platforms for DGs, national and regional ministries, industry and research
2. **Innovation and communication** → Promotion of interdisciplinary research projects involving science, companies, society and politics
3. **Interactive Creation Spaces** → “Vendor-managed Inventory” in defined co-creation spaces through thematic, partly company-financed excubators
4. **Funding Formats** → Agile funding formats for translation processes by EC, e.g. innovation funds
5. **Infrastructure** → Translation centers to bridge the gap from pilot plant to industry scale
6. **Financing** → Activation of an innovation-oriented capital market by mobilizing private- and venture capital
7. **Integration** → Integration of all stakeholders in a new economy shaped by participation
8. **Training** → Education of specialists by interdisciplinary training and study offers, as well as custom-fit further training formats

# Proposal for a Manu*FUTURE* sub-platform »Bio-Intelligent Manufacturing«



# Scope of the new sub-platform

The sub-platform »Bio-Intelligent Manufacturing« shall

- integrate the relevant stakeholders into *ManuFUTURE*
- promote the networking with and the participation of other industries
- sensitise traditional industrial sectors for novel innovation potentials via an increasing use of biological components and systems

The sub-platform is supporting the *ManuFUTURE* Vision 2030 from the specific aspect of the »biological transformation of products, processes and value creation«, one of the 10 highlighted contributions from applied research, in close conjunction with a second one, the »circular economy, resource and energy efficiency«.

# Management structure of the new sub-platform

The sub-platform will be chaired by a person from an industrial company.  
A senior researcher from an RTO will complement the chair as secretary.  
We propose Martin Thoma from Fraunhofer IPA as secretary.

The work of the sub-platform shall be market-driven  
and is initially clustered into four working groups:

- Industrial Applications ⇒ selecting relevant industrial sectors and key companies
- Research & Technology Development ⇒ defining relevant research topics
- Skills & Education
- Standardisation

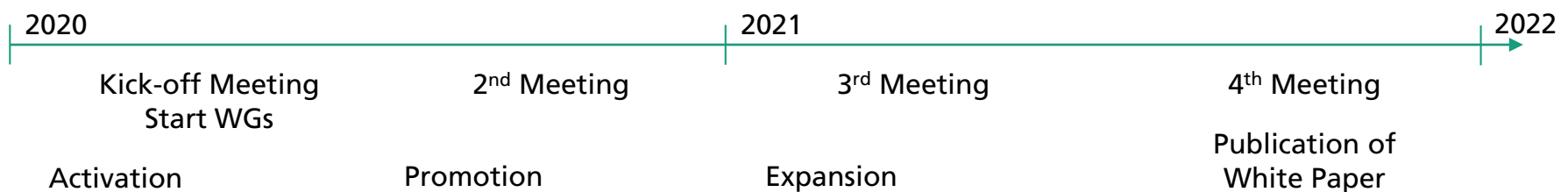
# Roadmap 2020 – 2022 of the new sub-platform

## Activities planned to launch the sub-platform

The first months focus on the acquisition of participants and the promotion of potential activities. An adequate number would be at least 50 participants.

A kick-off meeting will bring the participants together for the first time, to identify partner requirements and to allocate responsibilities.

Within half a year, the main topics in the working groups should be identified. Max. 1.5 years after the start, a joint white paper with detailed recommendations for action in the fields of the working groups should be prepared and published.



# Thank you for your attention.

