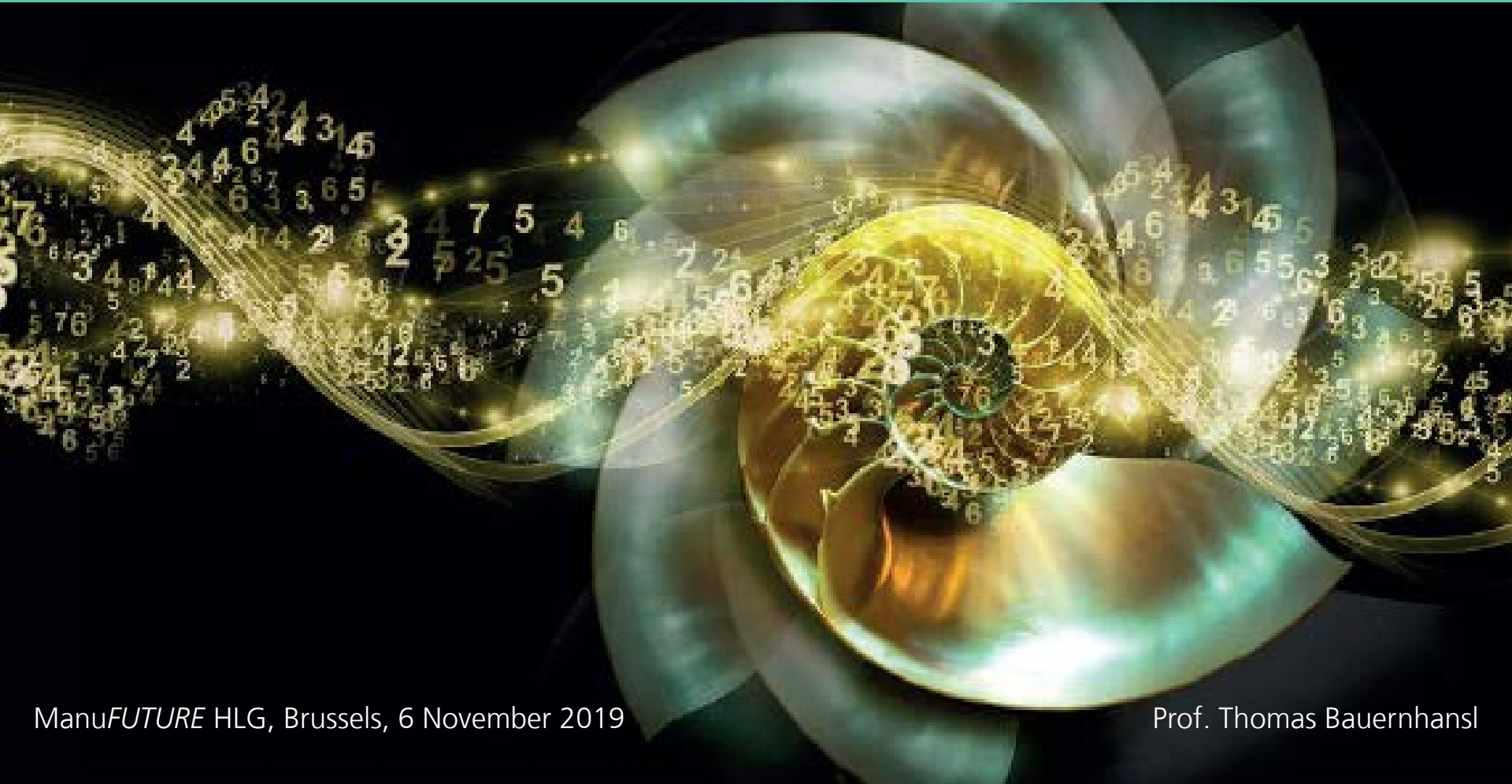


Results of ManuFUTURE Workshop Biological Transformation, Proposal for a ManuFUTURE sub-platform »Bio-Intelligent Manufacturing«



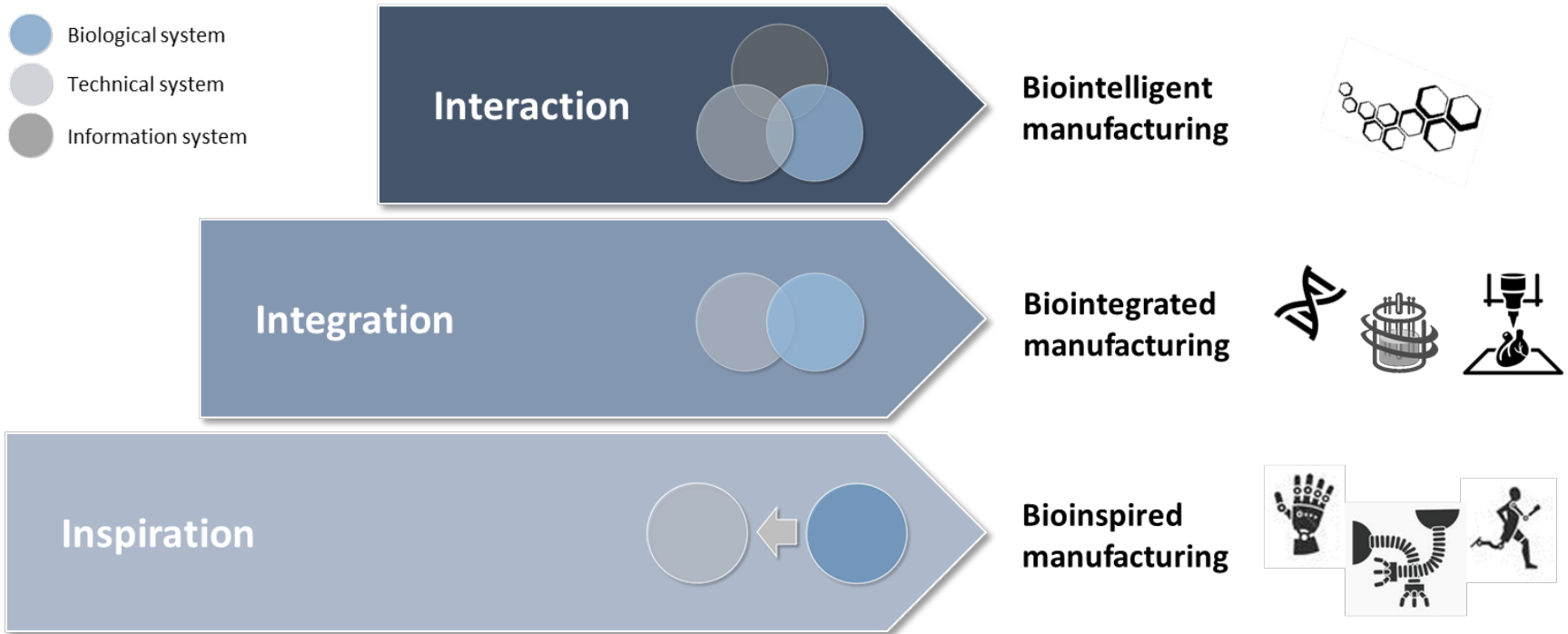
“I think the biggest innovations
of the twenty-first century
will be the intersection of biology and technology.
A new era is beginning, just like the digital one [...]”



(Steve Jobs, 2009)

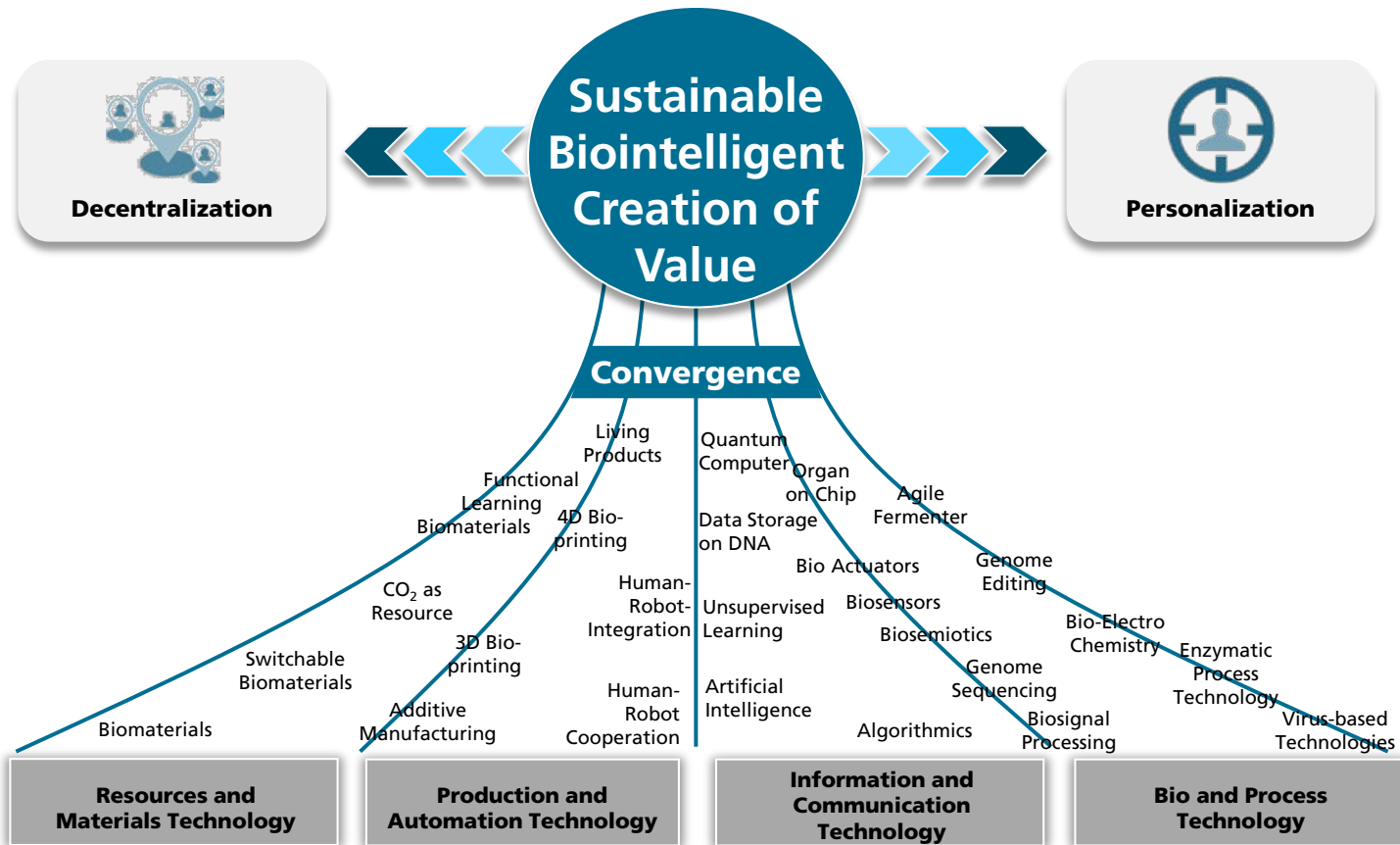
The Biological Transformation

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

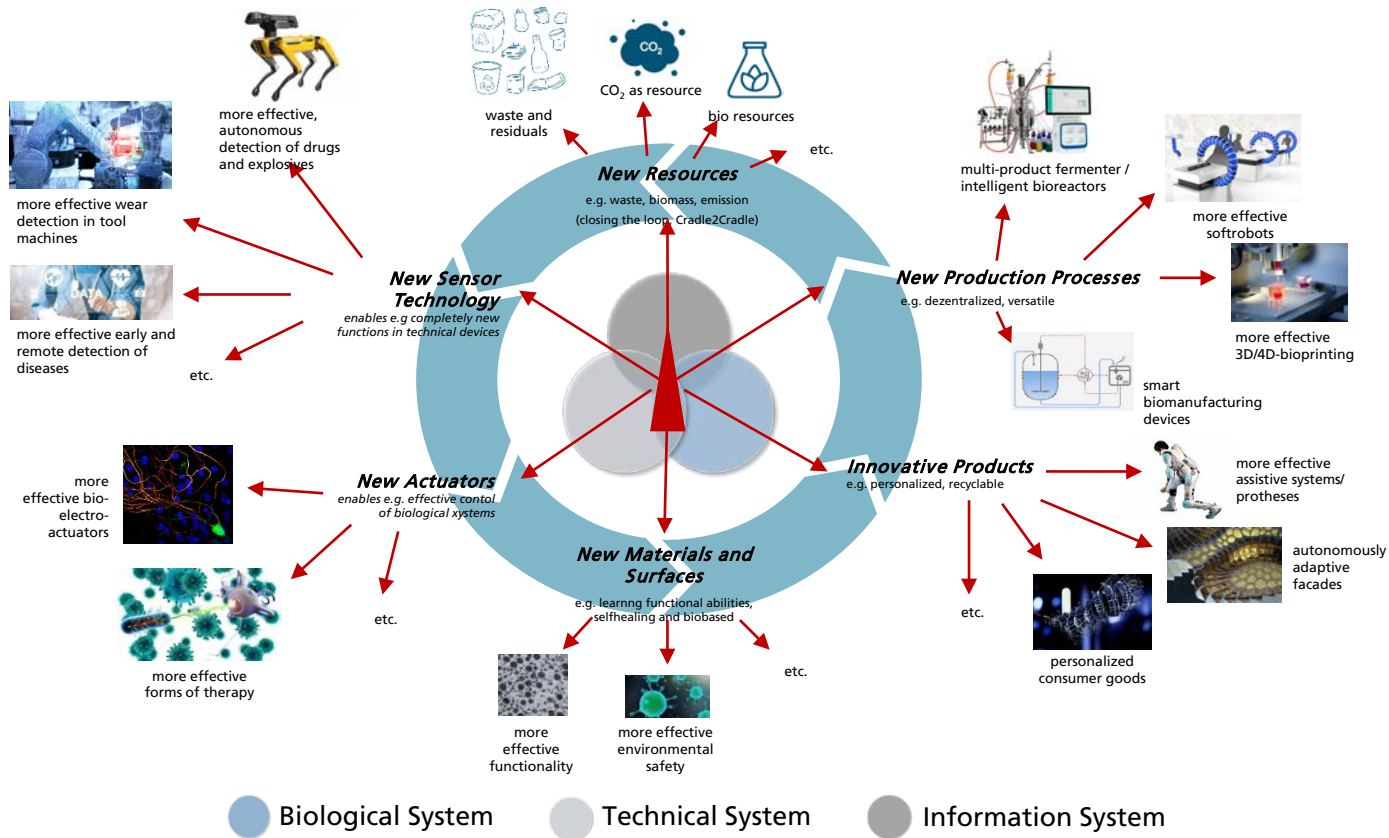


Enabler: Digitalization, scientific progress in life sciences & interdisciplinary cooperation

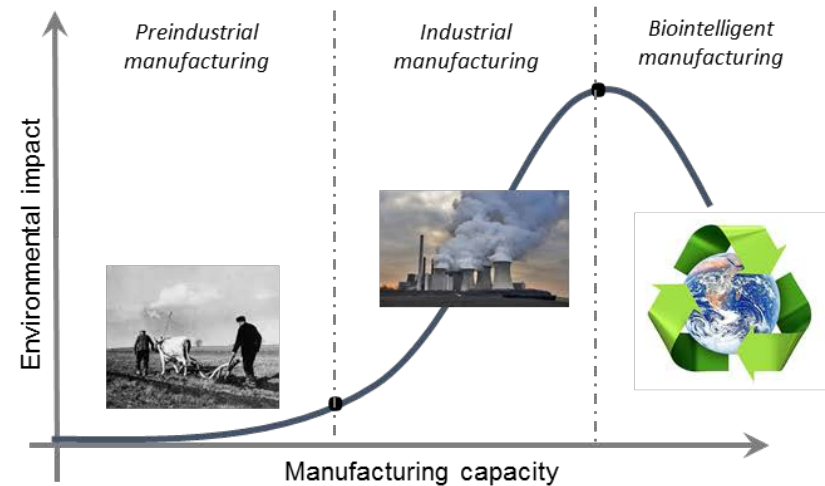
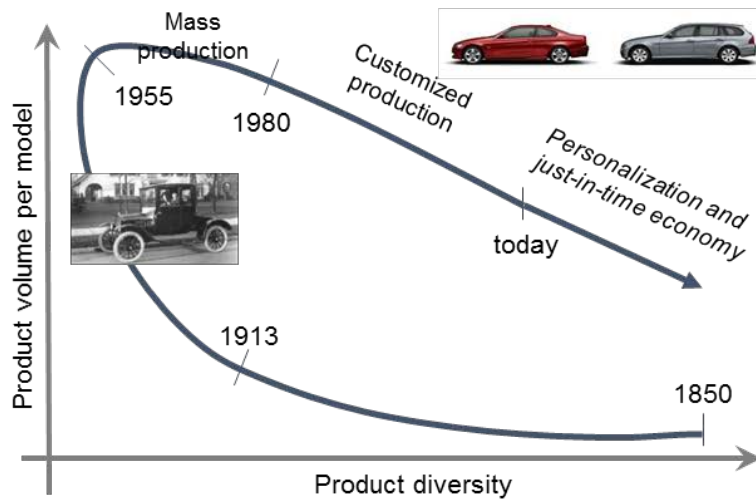
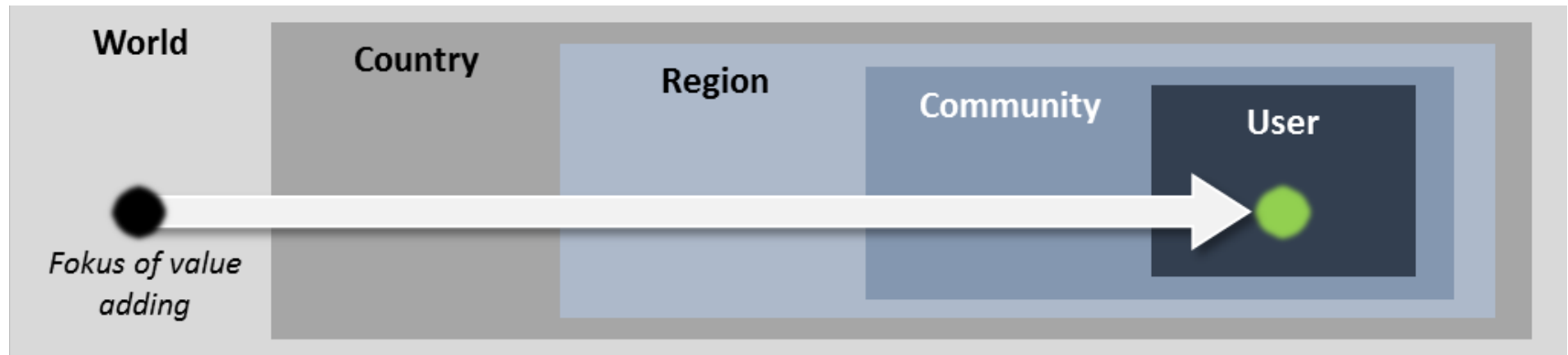
Convergence Leads to Sustainable Technologies



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

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 incubators
- 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

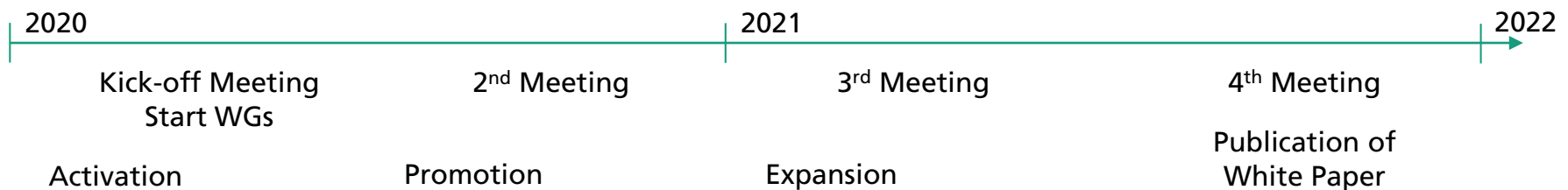
Roadmap 2020 – 2022 of the new sub-platform

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.

