

Stirring R&D strategies using Foresight



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AIT Austrian Institute of Technology, approximately 1300 employees, structured in 7 centers, research on key infrastructure issues.



Center for Innovation Systems & Policy analyses R&I processes and systems, using forward-looking approaches, foresight, but also mapping, modelling.



Foresight comprise anticipating trends, risks, emerging issues, and their potential implications and opportunities in order to draw useful insights for strategic planning, policy-making and preparedness.

Foresight...

- opens to ANY future,
- prepares for various opportunities and risks,
- creates common understanding and international networking in a considered sector,
- inspires holistic thinking,
- integrates different perspectives and disciplines.

The idea is to be prepared for thinkable futures.

Therefore, we don't develop only "the most desirable future", or "the scenario with the highest likelihood".

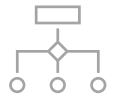
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We at AIT apply visioning, roadmapping, Delphi studies, **scenario technique** mainly.

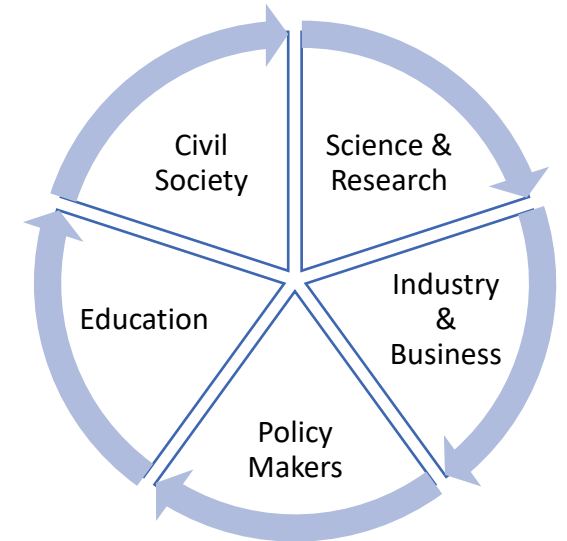
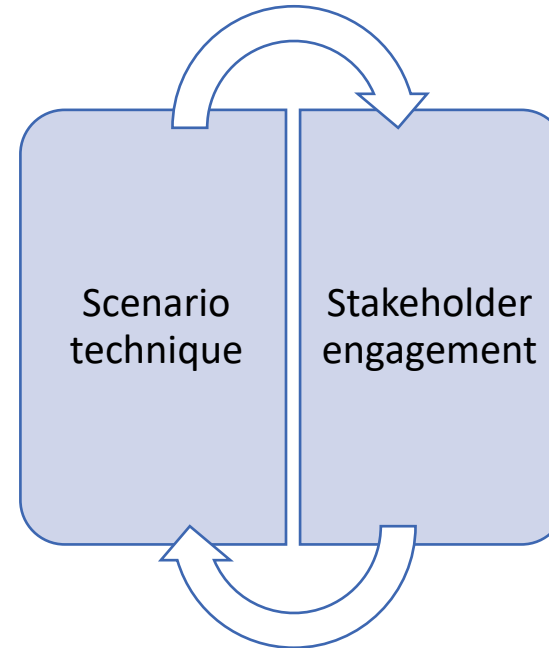


The data, the content come from (a) the thematic focus, (b) existing studies, (c) expertise of stakeholders.



The steps from the broader context analysis to key factors are done via

- (i) Uncertainty / impact analysis,
- (ii) Social Network Analysis,
- (iii) Cross-impact analysis



Stirring R&D strategies : three examples

Austrian Materials Foresight (2013), national (today BMK), **ASMET, MUL, AIT**: "Materials of the Future". Numerous experts and stakeholders were involved (science & research, education, industry & business, public authorities, intermediaries).

- One of the **main goals was to strengthen and further develop high-performance materials and to safeguard Austria as a knowledge and production location.**
- The result of the foresight was **a joint vision and a plan of actions to achieve a sustainable, good positioning of the materials segment and its products** in Austria in the future.



IAMRRI (2018-2021), H2020, 16 partners, MUL: "Webs of Innovation Value Chains of **Additive Manufacturing (AM)** under Consideration of RRI (responsible research and innovation)". 4 scenarios with deduced consequences including innovation characteristics.

- **Input for the Agent Based Modelling:** each scenario has different actors, competences, structures, and dynamics.
- **Creating awareness for putting the AM activities into a broader context** and impact on the society.



SeeRRI (2019 – 2021), H2020, 12 partners, NRI: "Building Self-Sustaining Research and Innovation Ecosystems in Europe through Responsible Research and Innovation" in **Lower Austria**, Nordland (Norway), B30 in Spain. Stakeholders from industry & business, science & research, education, intermediaries, public authorities.

- **Plastics sector in Lower Austria.** Four scenarios with deduced opportunities, risks, consequences.
→ Many further activities, one is the foundation of the association Österreichischer Carbon Cycle Circle ÖCC² (<https://carboncyclecircle.at/>).