EU ENI East Twinning project
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# Priority Setting in Science and Technology
# Train the Trainer Workshop
# 16th of July 2021

science KNOW

business GROW

umweltbundesamt
ENVIRONMENT AGENCY AUSTRIA

JOANNEUM RESEARCH

FWF
Der Wissenschaftsfonds.

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Promoting Innovation.

# Priority setting in Science and Technology

## *Overview*

- Part 1: Basics in STI priority setting
- Part 2: Our conceptual approach to the priority setting workshops
- Part 3: Practical training

# Priority setting in Science and Technology

*What is priority setting?*

- "Priority setting can be defined as a **negotiation process** in which diverse **actors** and **stakeholders** seek to agree on **common goals**, **objectives** and **actions**" (OECD, 2012).

- …is a process of choosing some activities which involve **allocation** of **public resources over others**" (M. Keenan, M. Cervantes, 2010).

- "…processes by which **decision** about the **allocation** of **scarce** health care **resources** are taken" (Robinson S., Dickinson H. et al, 2010).

# Priority setting in Science and Technology

## *Rationale and Motivation*

- Managing **scarce resources** for **competing** targets
- Improving the **coordination** among **actors** in the national/regional science and innovation system
- **Mobilising actors** from **science** and **industry** for science and innovation activities
- **Enabling the translation** of scientific output into socio-economic development

# Priority setting in Science and Technology

*Basic approaches*

- **Traditional**, based on industrial policy priorities (originally with the accent on military technologies, which subsequently has shifted towards civilian ones);
- **system-oriented** (focused on functional aspects such as cooperation, networks, etc.); and finally
- **target-oriented** one (trying to meet social and economic challenges, including global ones).

# Priority setting in Science and Technology

*Types of Priorities*

- **Thematic priorities** are S&T fields in which investing could make a biggest contribution to solving major social and economic problems in the medium to long term.
- **Functional priorities**, span from measures to support human resources in research, public-private cooperation, research infrastructures, and international cooperation.

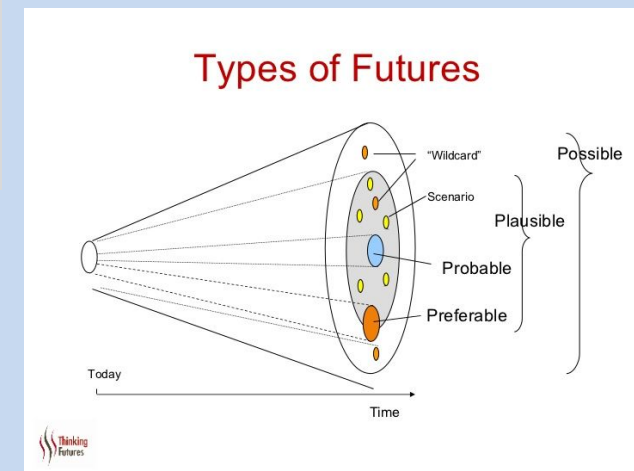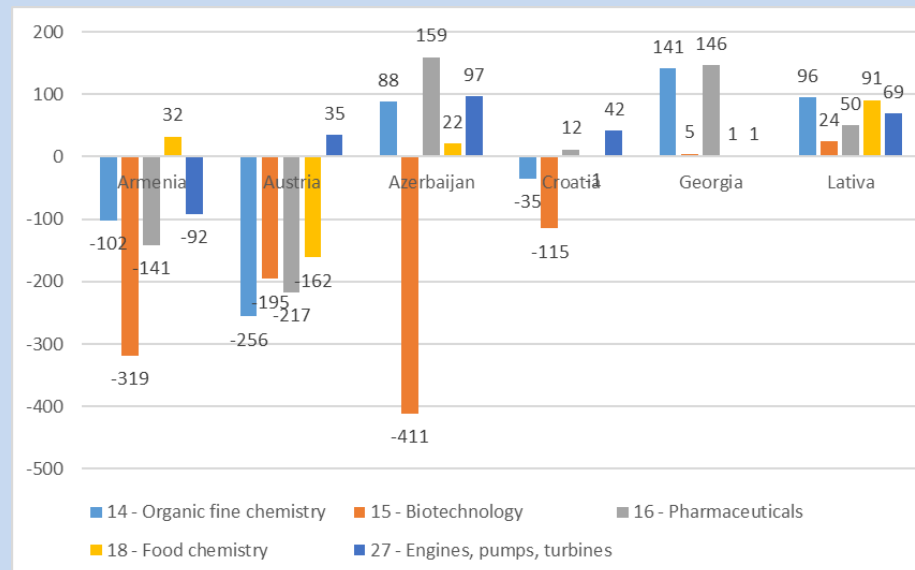# Priority setting in Science and Technology

## *Types of Priorities*

- **"Mission-oriented" priorities** are set, taking into account global and national-level **challenges**, to accomplish major national socio-economic objectives, implement large-scale national programmes or projects (which may comprise various S&T subject areas) such as the green deal or promoting development of information society.

# Priority setting in Science and Technology

## *Methods to identify priorities*

- Quantitative analysis: e.g. bibliometrics, patents, benchmarking (past to present)
- Consultation of Stakeholders and/or experts (medium to long term)
- Foresight (very long term)





Types of Futures

# Priority setting in Science and Technology

## *Criteria for Prioritisation*

- **Strength in particular research fields:**
  - existing research capacities and productivity,
  - quality of research in a given field,
  - future promising research fields
- **Relevance:**
  - contribution to socio-economic development of a region/country/system
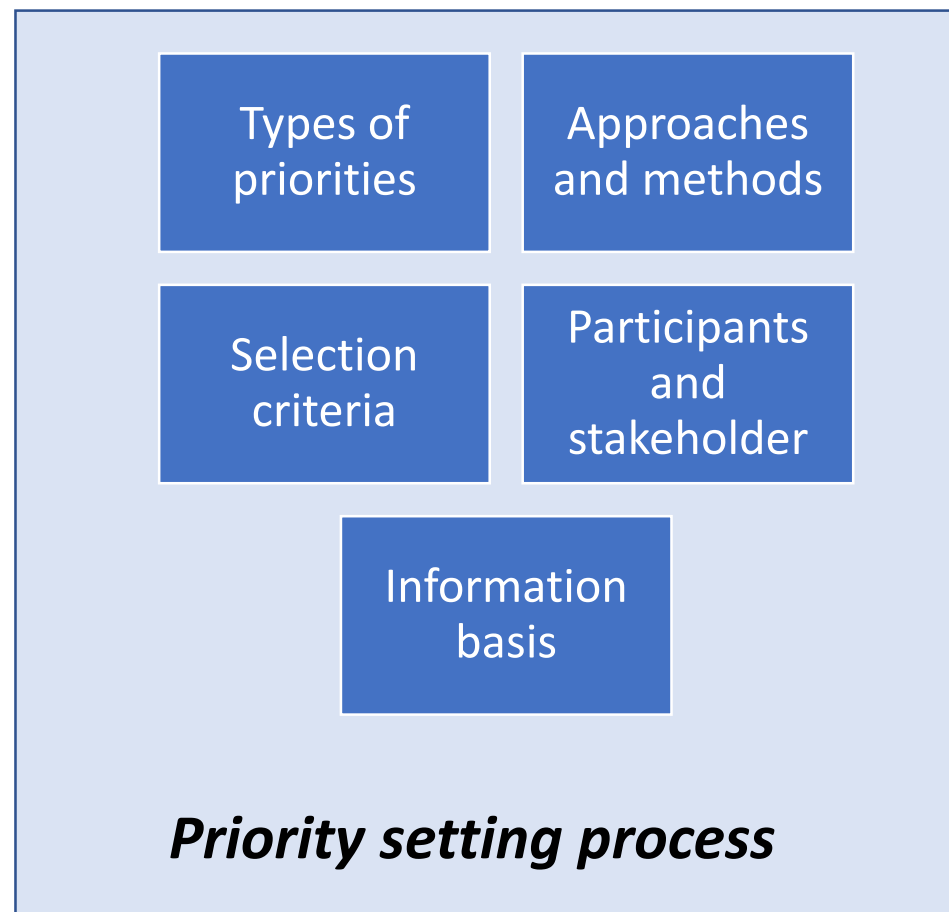  - Potential to address most pressing environmental/societal problems

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# The workshop concept

Types of priorities

Approaches and methods

Selection criteria

Participants and stakeholder

Information basis

*Priority setting process*

## The Workshop concept

**Type of priorities and selection criteria:**

- Identification of thematic priorities
  - Elaboration by subject area
  - ICT, Renewable energy, circular economy, health, agriculture, arts and humanities
- Selection criteria
  - Strength in particular research fields:
    - existing research capacities and productivity,
    - quality of research in a given field,
    - future promising research fields
  - Relevance:
    - contribution to socio-economic development of a region/country/system
    - Potential to address most pressing environmental/societal problems
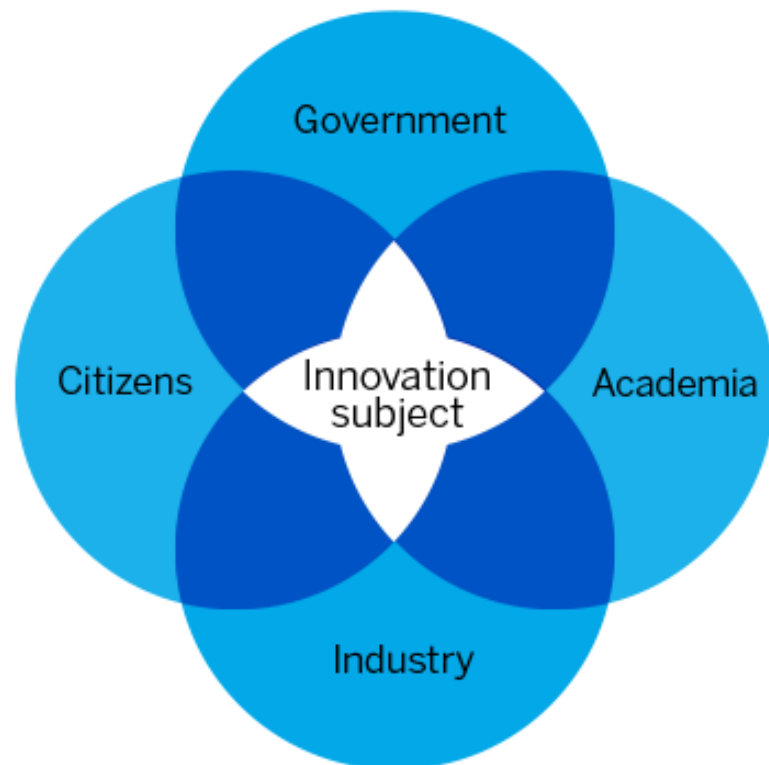
## The Workshop concept
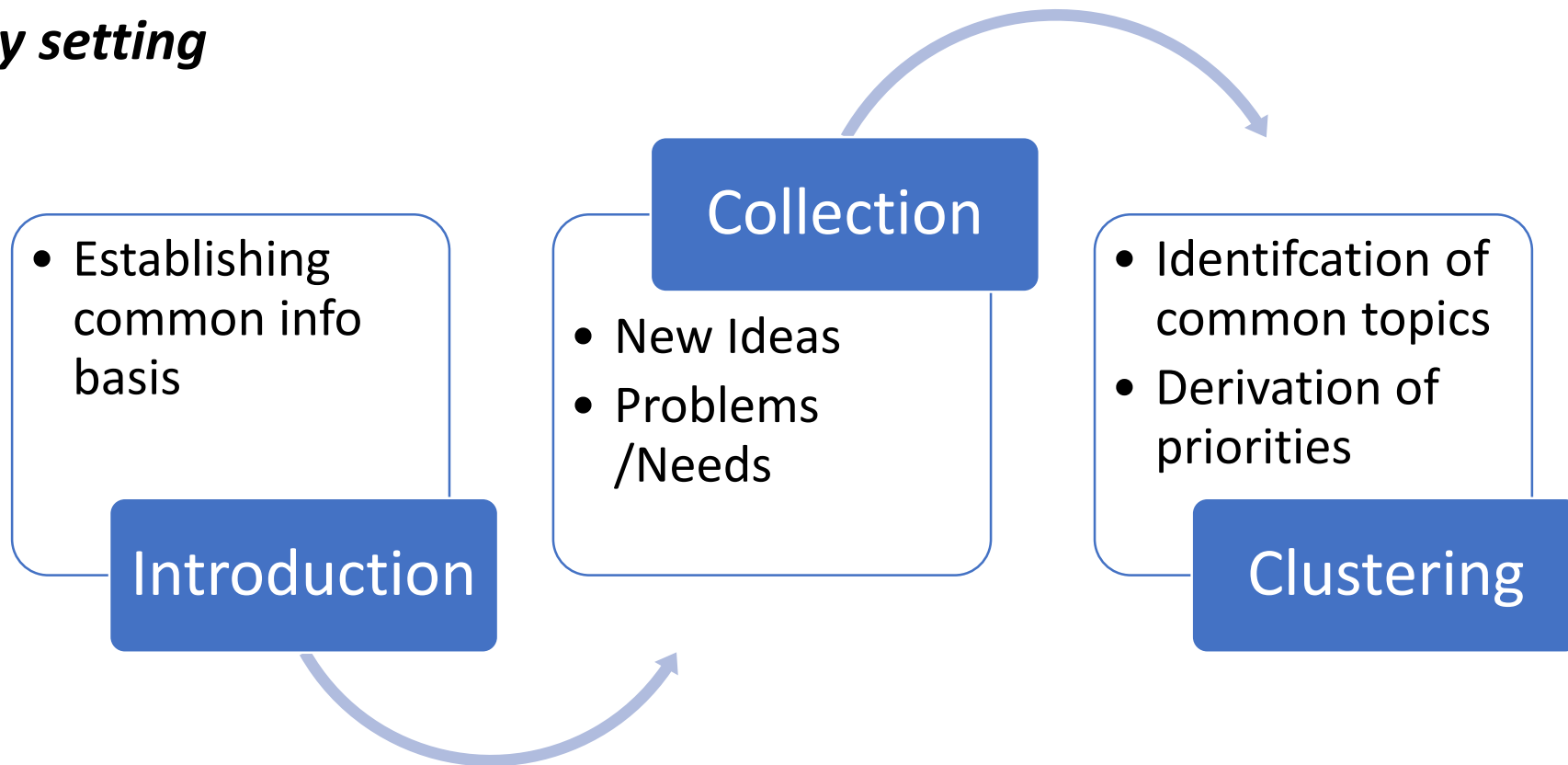
**Participants and stakeholders:**

- **Involvement** of **all parts** of the national science and innovation system
- **Active interaction** between all parts of the **quadruple helix**
- **Mobilising** and **translating**



The Quadruple Helix Model

Government

Citizens — Innovation subject — Academia

Industry

# The workshop concept

- **The Priority setting process**

**Introduction**
- Establishing common info basis

**Collection**
- New Ideas
- Problems /Needs

**Clustering**
- Identifcation of common topics
- Derivation of priorities
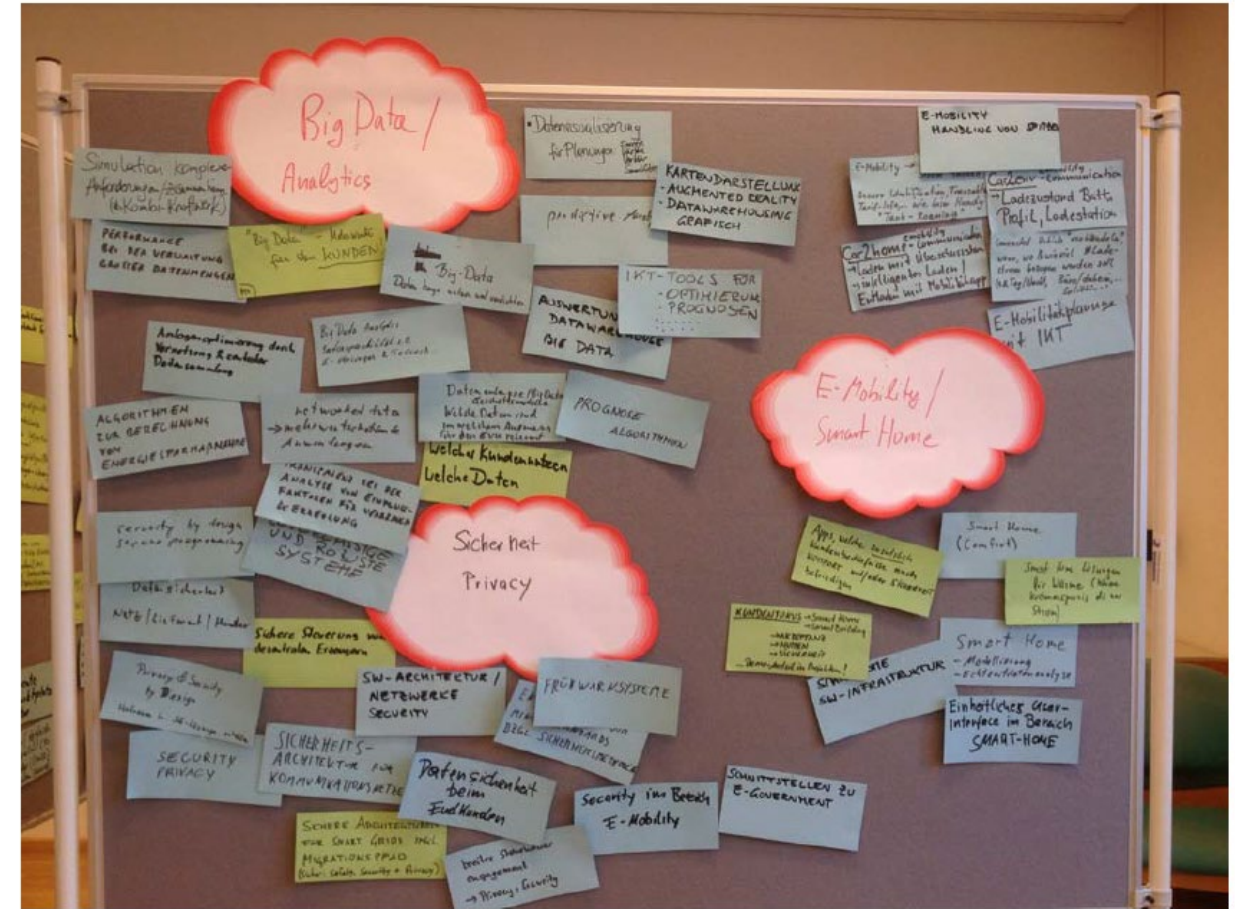
# The Workshop concept

## Methodological approach

- **Interactive workshops** as main method to identify priorities
  - One workshop per subject area
- Working in **moderated small groups**
  - **Active confrontation** of **research needs** (economy/society) with **existing competences**
  - Stimulation of discussion with **guiding questions** through moderator
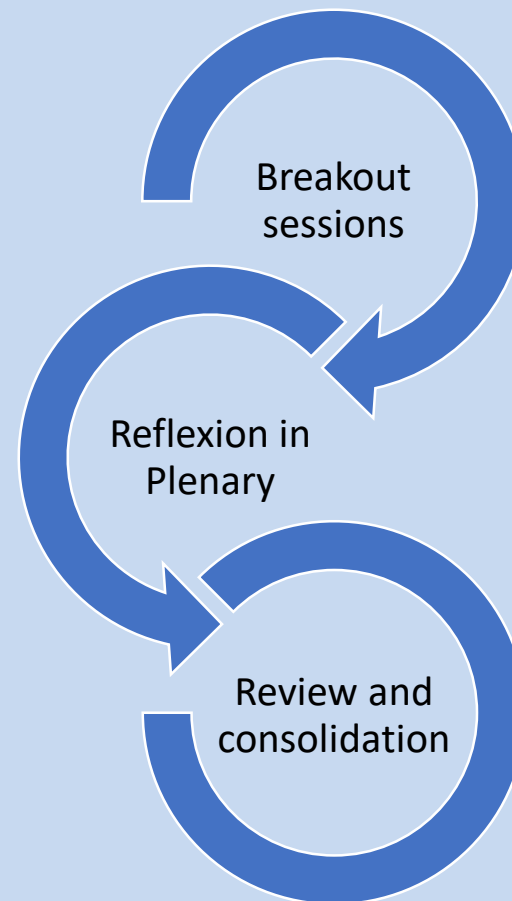
Breakout sessions

Reflexion in Plenary

Review and consolidation

# The Workshop concept

## Use case example: identification of priorities for ICT and energy in Austria

- Interaction of stakeholders from
  - Science (Universities, RTOs)
  - Energy providers
  - ICT companies
- Collection of ideas at bulletin boards
- Clustering of results and identification of main topics

# The Workshop concept

## Use case example: identification of priorities for ICT and energy in Austria

- Two stakeholder Workshops (Graz/Vienna)
- Consolidation of the results by the project team in cooperation with key stakeholders
- Development of a final map of priorities and report

# The Workshop concept

## Main practical points to be taken

- Start discussion by addressing the needs
  - Ask persons from the enterprise sector/civil society to start
  - Ask persons from science sector how they can address the needs
- Mobilise all participants of the WS actively
  - Use guiding questions
  - If needed start the collection process by providing one or two (pre-prepared) examples of post-its
  - Ask people to briefly explain their input (what does it mean?/why did you post it?)
- Granularity of collected information
  - Avoid too high levels of granularity
  - If granularity gets to high try to generalize

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# Practical Training

## *Main instructions*

- We will use Jamboard as bulleting board
  - Click on the link provided in the chat mode
  - You are able to create post-its and to move them around on the jamboard
- Our training case:
  - Identification of research needs to make თბილისი (Tbilisi) a green low carbon city
  - Collection and clustering of items
- Our guiding questions:
  - What are the most pressing issues to make თბილისი (Tbilisi) a green low carbon city?
  - What is needed from the science sector to accomplish this?