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Roadmapping

Break-out Groups: Policy Planning Methods and How They Can Be Used in Policy-making

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Roadmapping

- **Contents of this break-out session:**

Introduction to Roadmapping	20 mins
Group exercise	40 mins
Discussions and conclusions	15 mins

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What is Roadmapping?

- Strategic planning and action-oriented tool
  - Create and deliver strategies or innovations at various levels
    - **Organizational level**
    - **Industry level**
  - Visual tool for:
    - Graphical representation, framework of the topic of interest
    - Structured view on the given topic
  - Communicate the strategy to wider audience
  - Monitor the progress of the strategy

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What is Roadmapping?

- **In foresight context:**
  - Forward-looking/foresight method
  - Participatory, semi-quantitative approach
    - Normative (drives the user to the vision/goal)
    - Exploratory (following the possible technological developments)

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Some definitions

- *"A roadmap is an extended look at the future for a chosen field of enquiry composed from the collective knowledge and imagination of the brightest drivers of change in that field."*

  (Galvin 1998)

- *„(Technology) roadmap is a tool that brings important support to the innovation manager, letting them define the firm's technological evolution in advance. The tool takes the relationship between **technologies**, their **products** and **services** as well as the relationship with the **target markets** into account.*

  *Roadmaps communicate **visions**, attract **resources** from business and government, stimulate investigations and **monitor** progress. They become the inventory of possibilities for a particular field…"*

  (Dornberger 2009)

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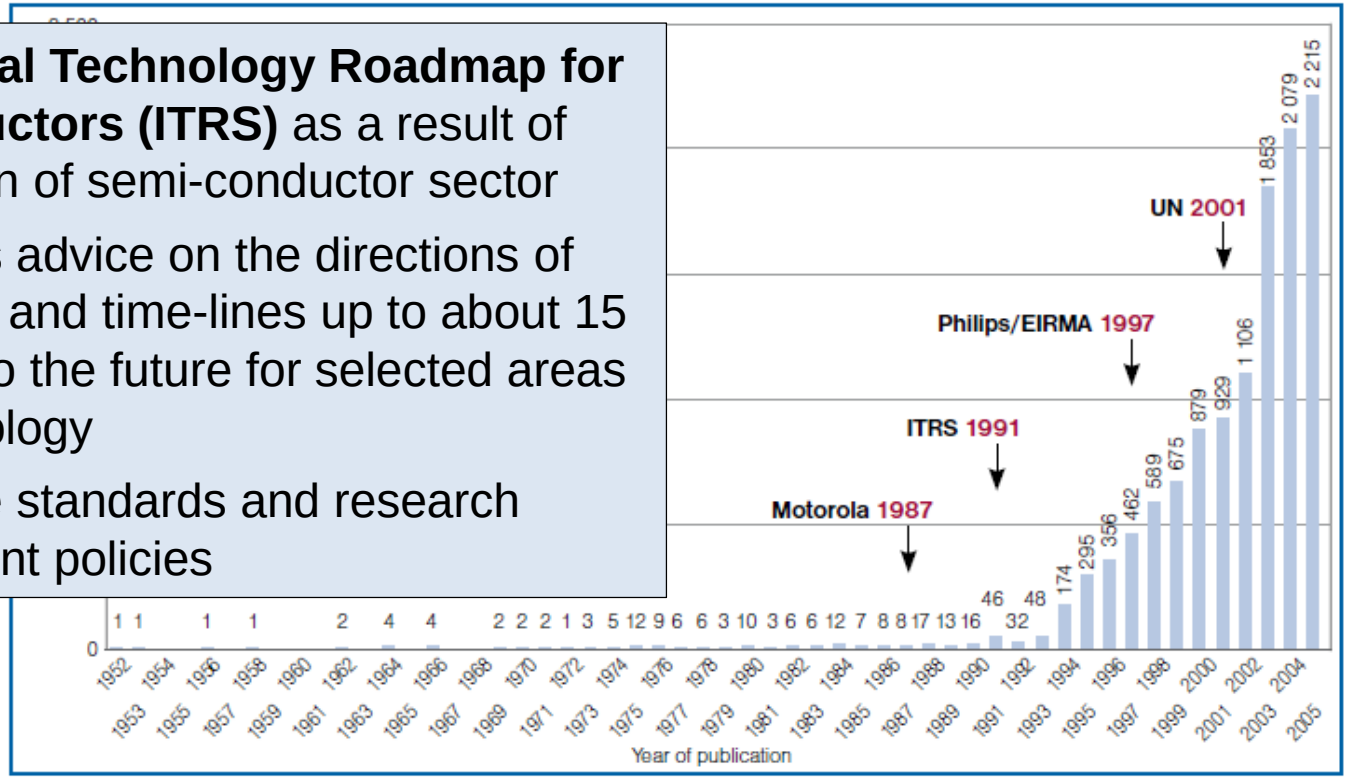
Roadmapping – history

- Originated in the business sector in the late 1940s
  - Support to technology or innovation management

International Technology Roadmap for Semiconductors (ITRS) as a result of collaboration of semi-conductor sector

- Business advice on the directions of research and time-lines up to about 15 years into the future for selected areas of technology
- Influence standards and research investment policies



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Roadmapping

- Wide-spread use of roadmapping in the private and public sector

  - Many different:
    - Approaches for developing roadmaps
    - Representational formats

  - High flexibility of roadmapping, ability to be adopted to various contexts
  - Confusing/blurred picture of the status of roadmapping as a management technique

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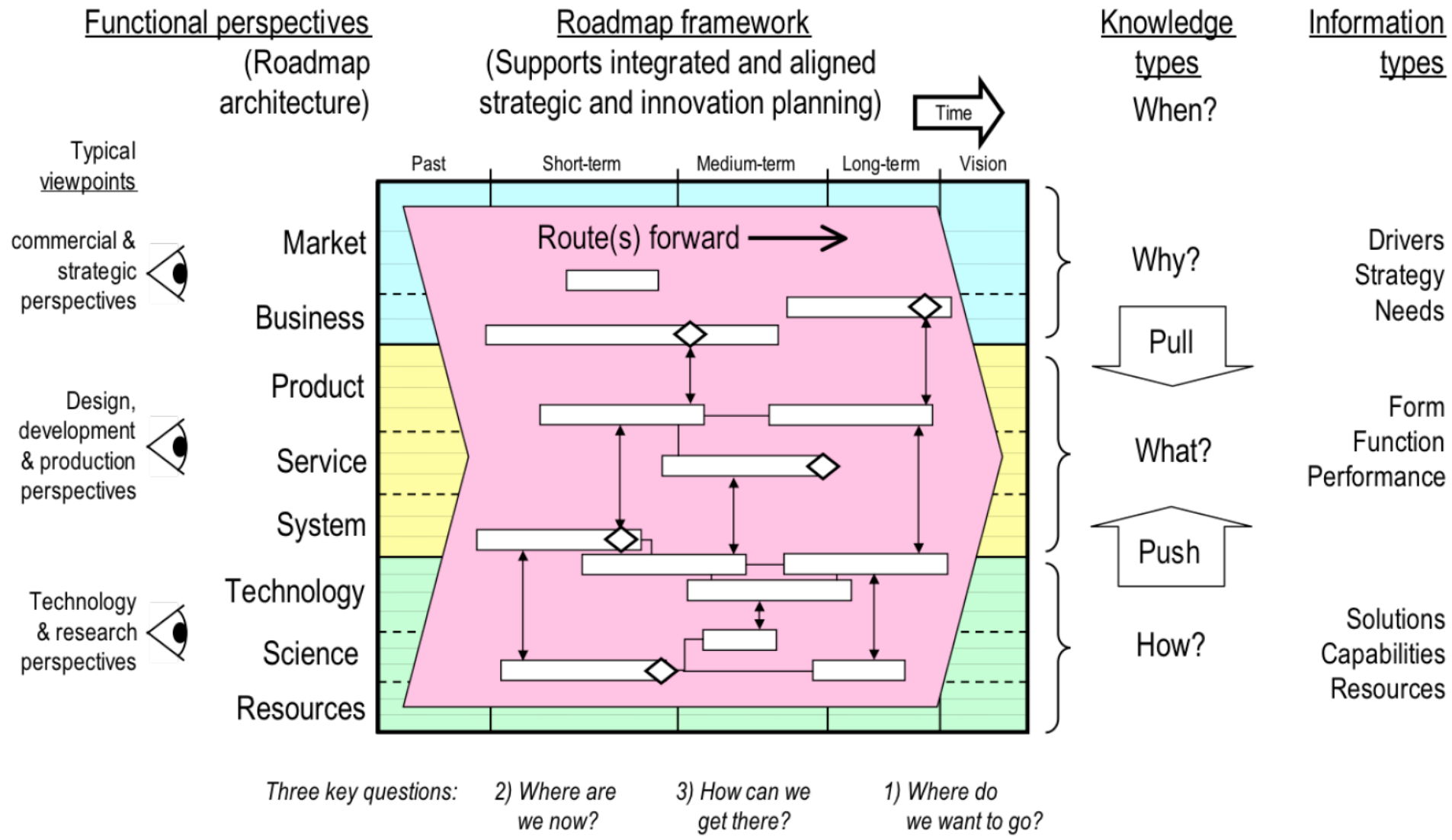
Generic roadmap



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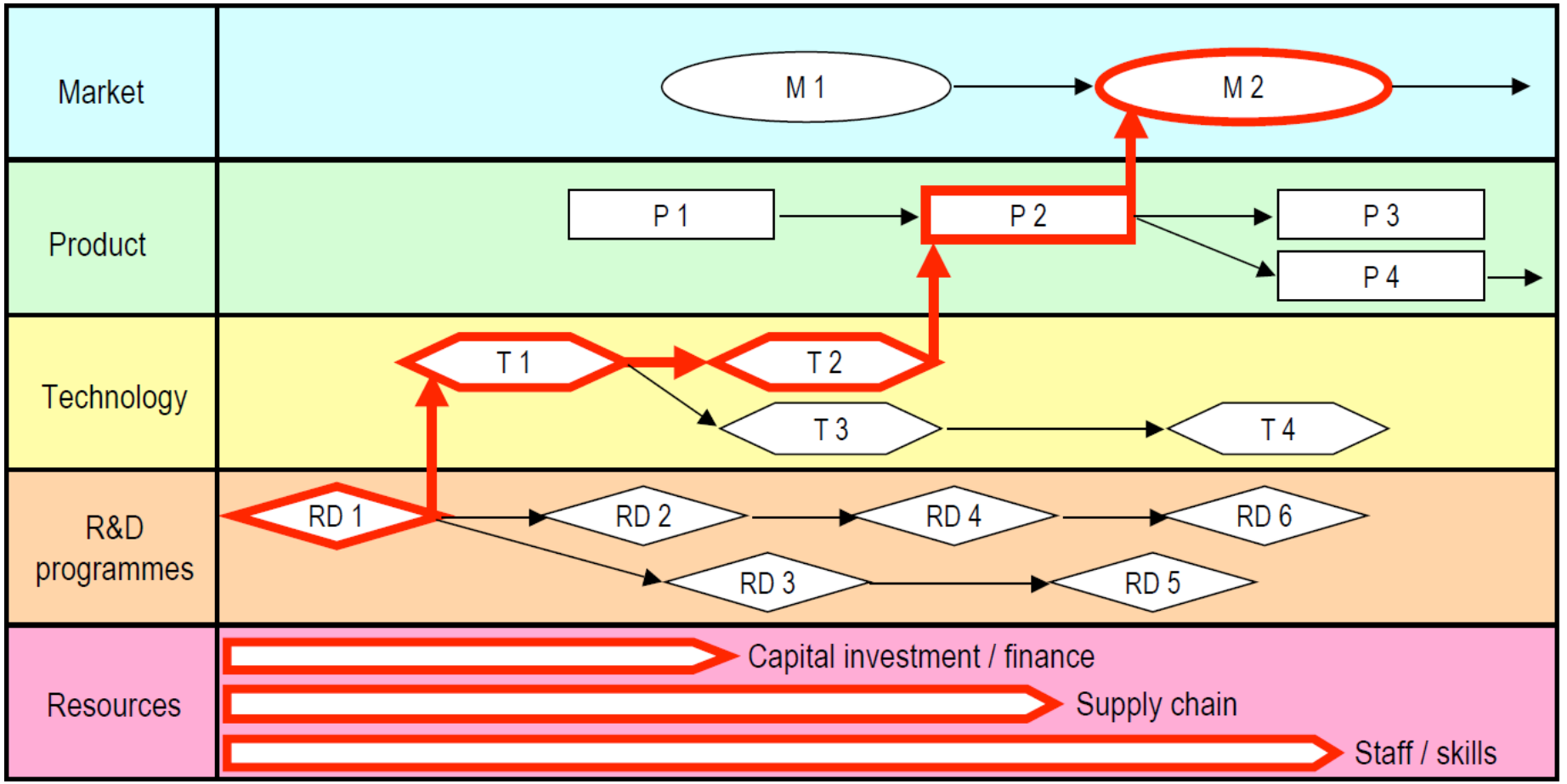
Technology Roadmapping



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Roadmapping in the Public Sector

Application of roadmapping in the public sector? YES

- E.g. US Department of Energy
  Ministry of Industry, Canada
  Various public bodies in United Kingdom

- Provision of intelligence to support the policy-making process (leading to e.g. optimization of public R&D investments and ensure their relevance to society)
  - Adoption of (technology) roadmaps designed by certain industries into policies
  - Public sector as a manager of the roadmapping process

- Adjustment of the technology roadmaps to the purpose of policy-making

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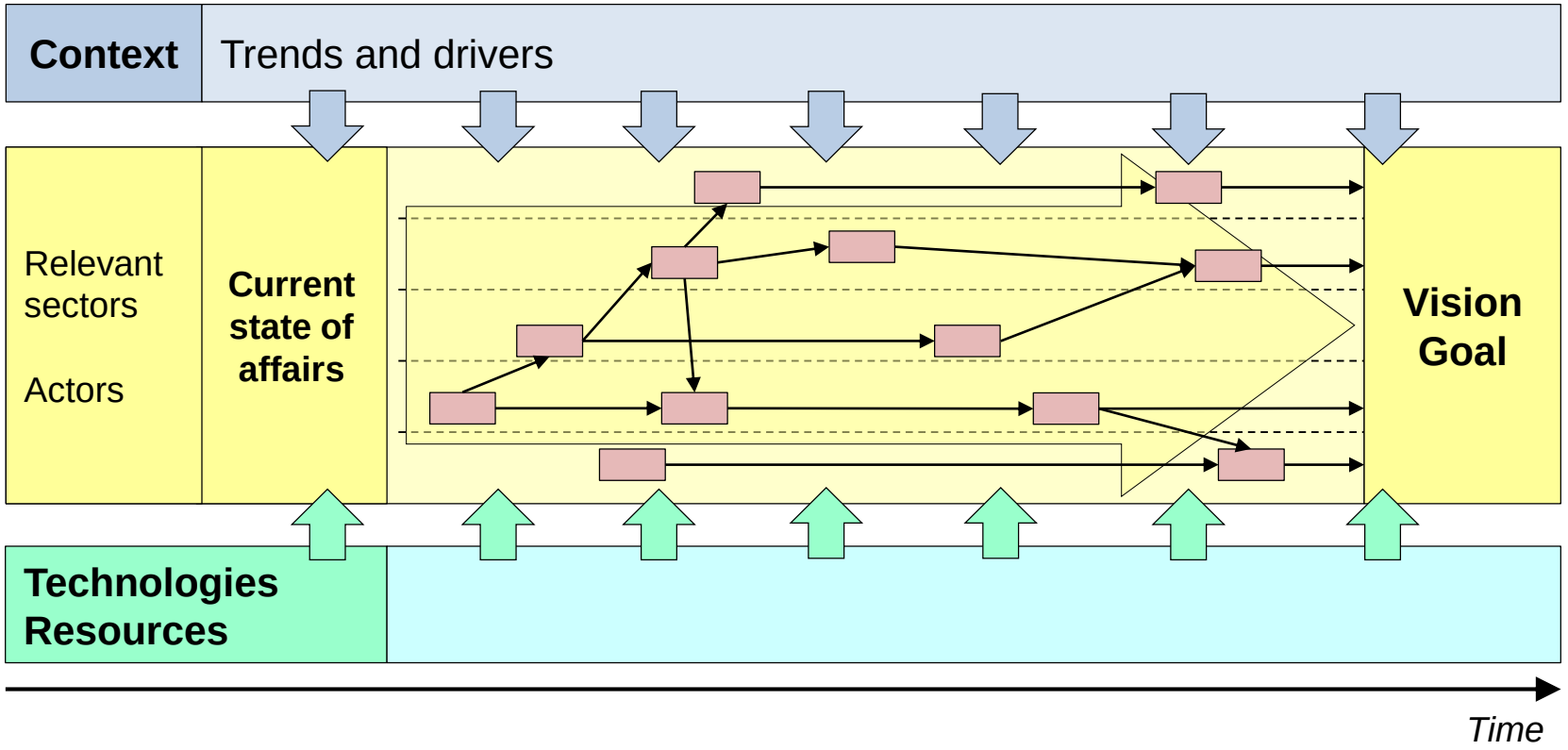
Roadmapping in the Public Sector



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Roadmapping in the Public Sector

The Measurement and Standards for Emerging Technologies (MSET) 2006

(www.technology-roadmaps.co.uk)

- Identification of technology needs and research themes in a number of key UK sectors:
  - Environmentally friendly transport
  - Secure environment
  - Sustainable consumption & production
  - Emerging energy technologies
  - Healthcare & bio-science
  - Intelligent connected world
  - Design, engineering & advanced manufacture
  - Built environment

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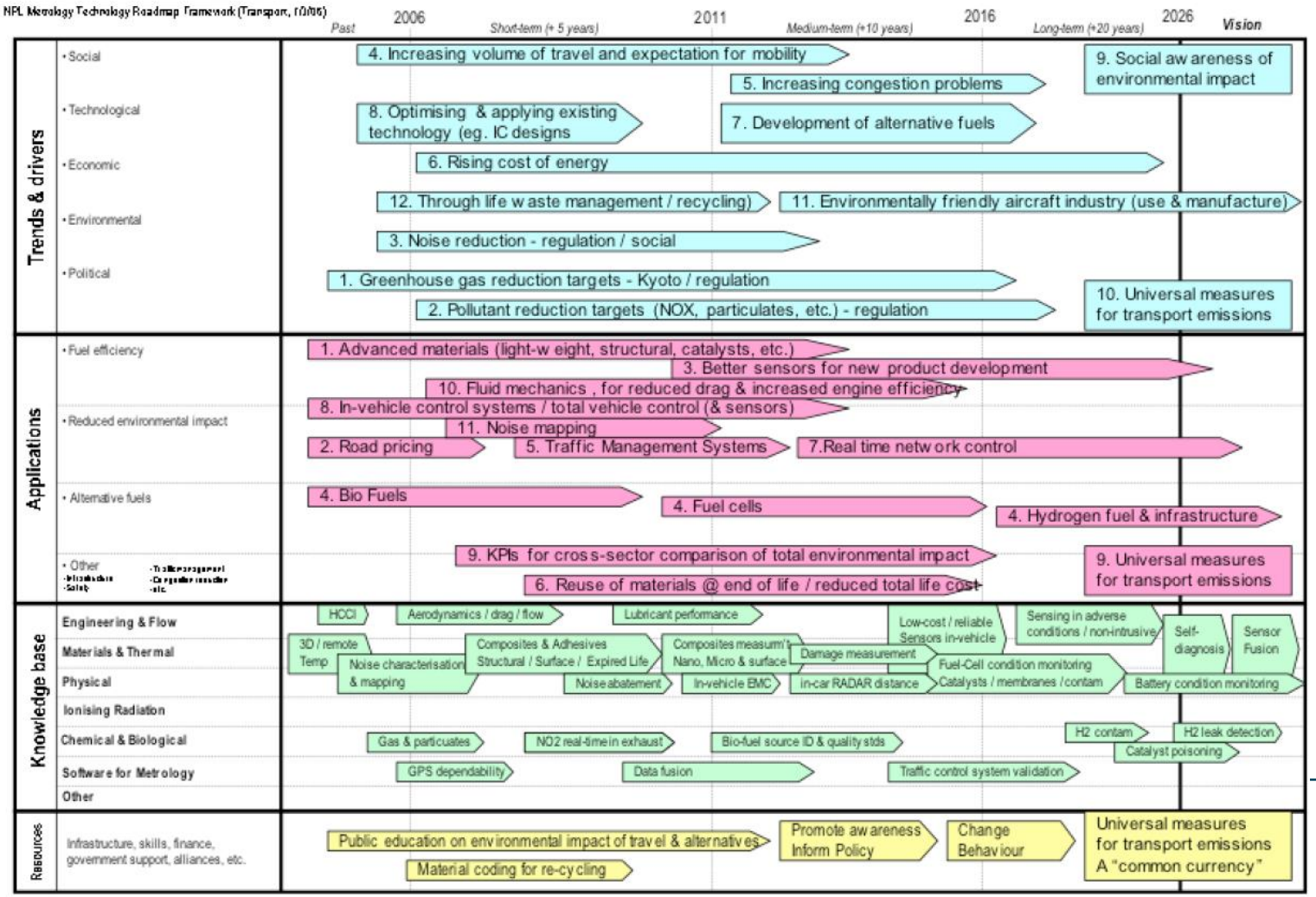
Roadmapping in the Public Sector

Executive summary roadmap for **Environmentally friendly transport**



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Planning for Roadmapping

Context

- Exploration of the issue
- Defining scope and aim
- Identification of key actors/people involved

Architecture

- Design of the roadmap (timeframe, structure)
- Defining a common framework/language

Process

- Set of activities to built a roadmap content
- Activities to make decisions, identify and agree actions and maintain the roadmap

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Roadmapping Process

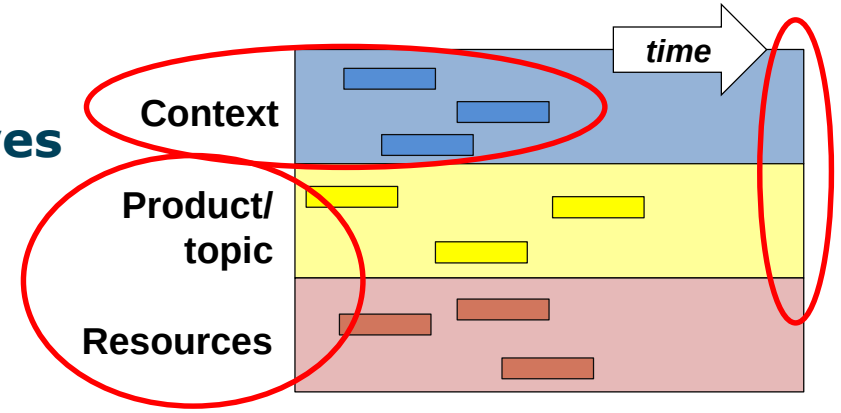
- Participatory approach (workshops with selected key actors)
- Iterative, continuous activity, update

Step 1: Strategic Landscape

- Identification and prioritization of key current and anticipated trends and drivers, constraints, assumptions

Step 2: Clarify vision and objectives

- Clear definition of the vision or goal
- Quantification



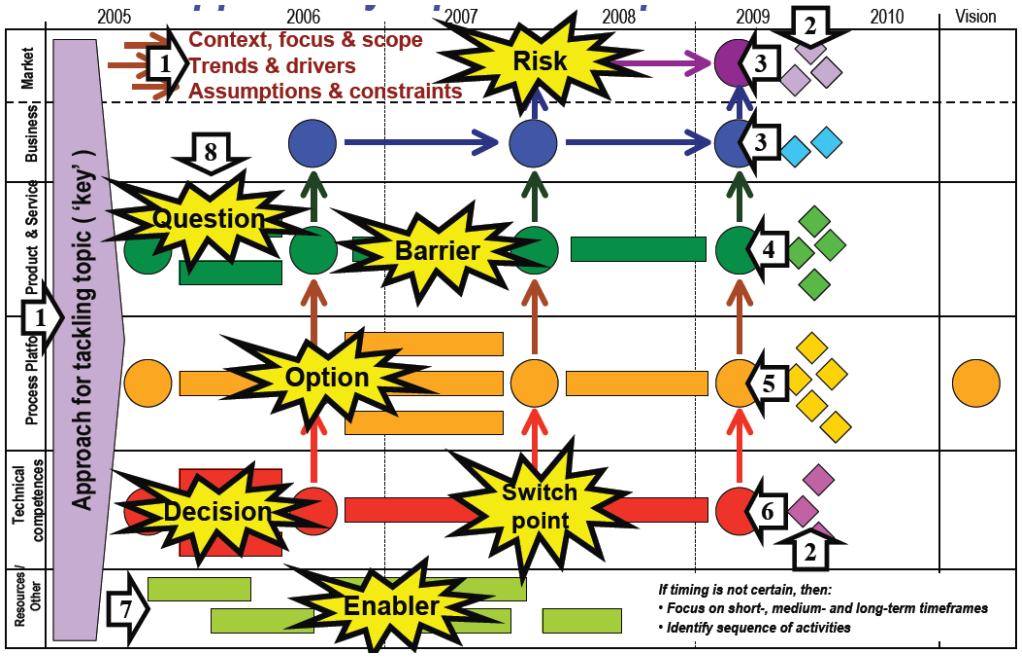
Step 3: Summarization of current situation

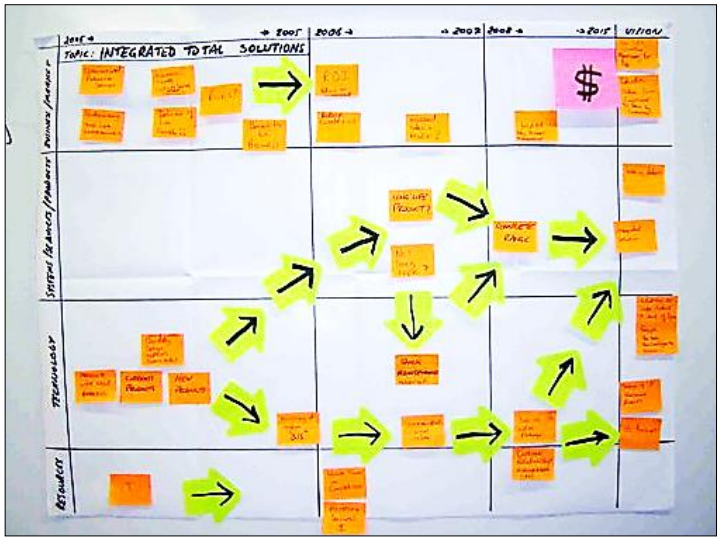
- Assessment of current capacities, resources, state-of-the-art

Roadmapping Process

Step 4: Roadmapping

- Structuring to map the route forward





Step 5: Highlighting

- Key milestones along the way
- Also risks, barriers, enablers, options, decision points, knowledge gaps, …

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Roadmapping Process

Step 6: Communication and implementation

- Shared understanding and commitment of the users/producers
- Assigned tasks, responsibilities, deadlines
- Visual presentation of the roadmap
  - Development of a strategic narrative
  - Allows for monitoring of the progress
- Iterative process – need for constant update

Critical factors for a successful implementation:

- Roadmap embedded in a broader policy strategy, existing network
- The importance of a momentum, creating a sense of urgency
- High level of commitment: involvement of the „right" people, clear link to decision-makers
- Maintaining a degree of flexibility

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Visualizing Roadmaps

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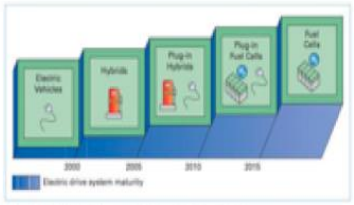

Figure 6-4. Electric vehicle progression from today through 2015.

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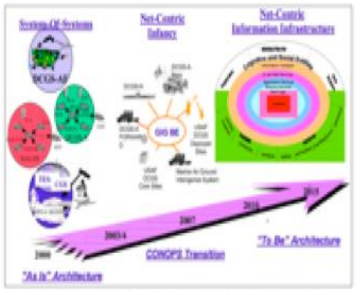

FIGURE H-1: TPPU-TRANSFORMING DCGS TO NET-CENTRICITY

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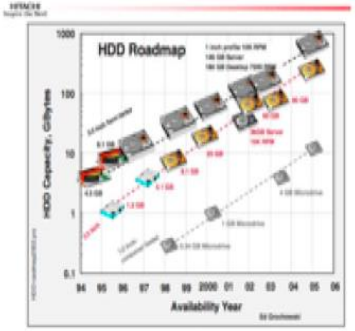

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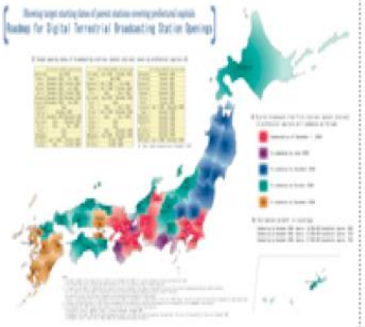

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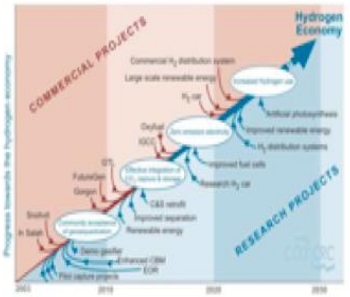

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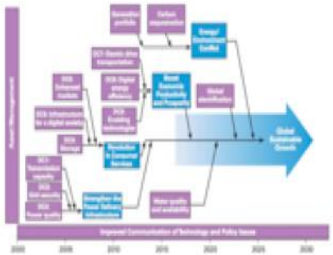

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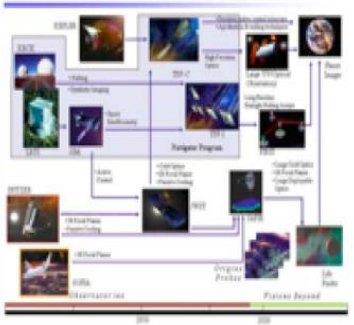

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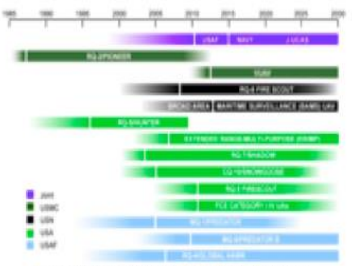

FIGURE 2.0-1. TIMELINE OF CURRENT AND PLANNED DOD UAS SYSTEMS.

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Visualizing Roadmaps

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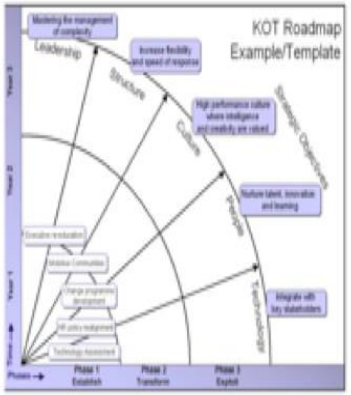

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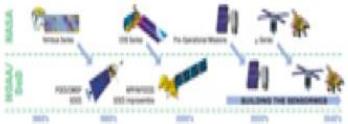

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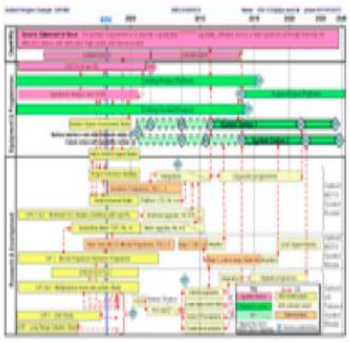

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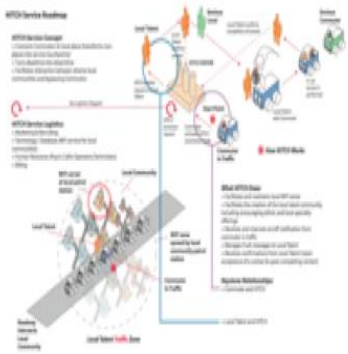

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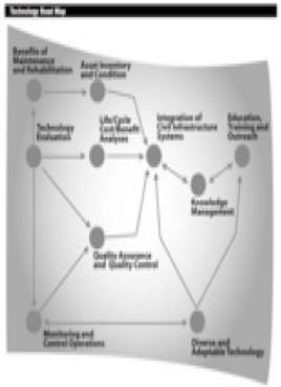

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Group Exercise on Roadmapping

Goal:

- Framing the selected topic for roadmapping

Sustainable cities and communities

Provide access to safe, affordable, accessible and sustainable **transport systems** for all, improving **road safety**, notably by expanding **public transport**, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

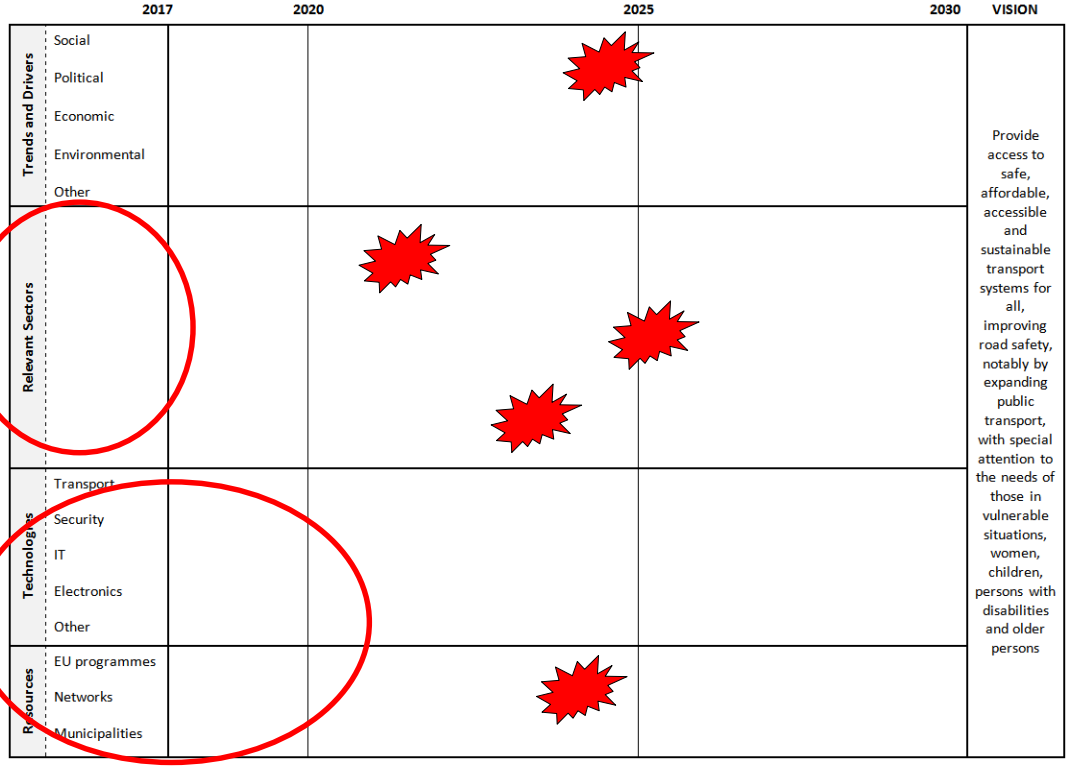
- Indicator: Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities

- Territorial level: Europe
- Time-horizon: 2030

Group Exercise on Roadmapping

In 3 working groups:

1. Identification of **sectors** (and **actors** within the sectors) relevant to achievement of the Sustainable Development Goal 11.2



2. Identification of main **techno-logies** and **resources**

If there's some time left:

3. Identification of main **risks** and **barriers** along the way

Thank you
and let's get to work!

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