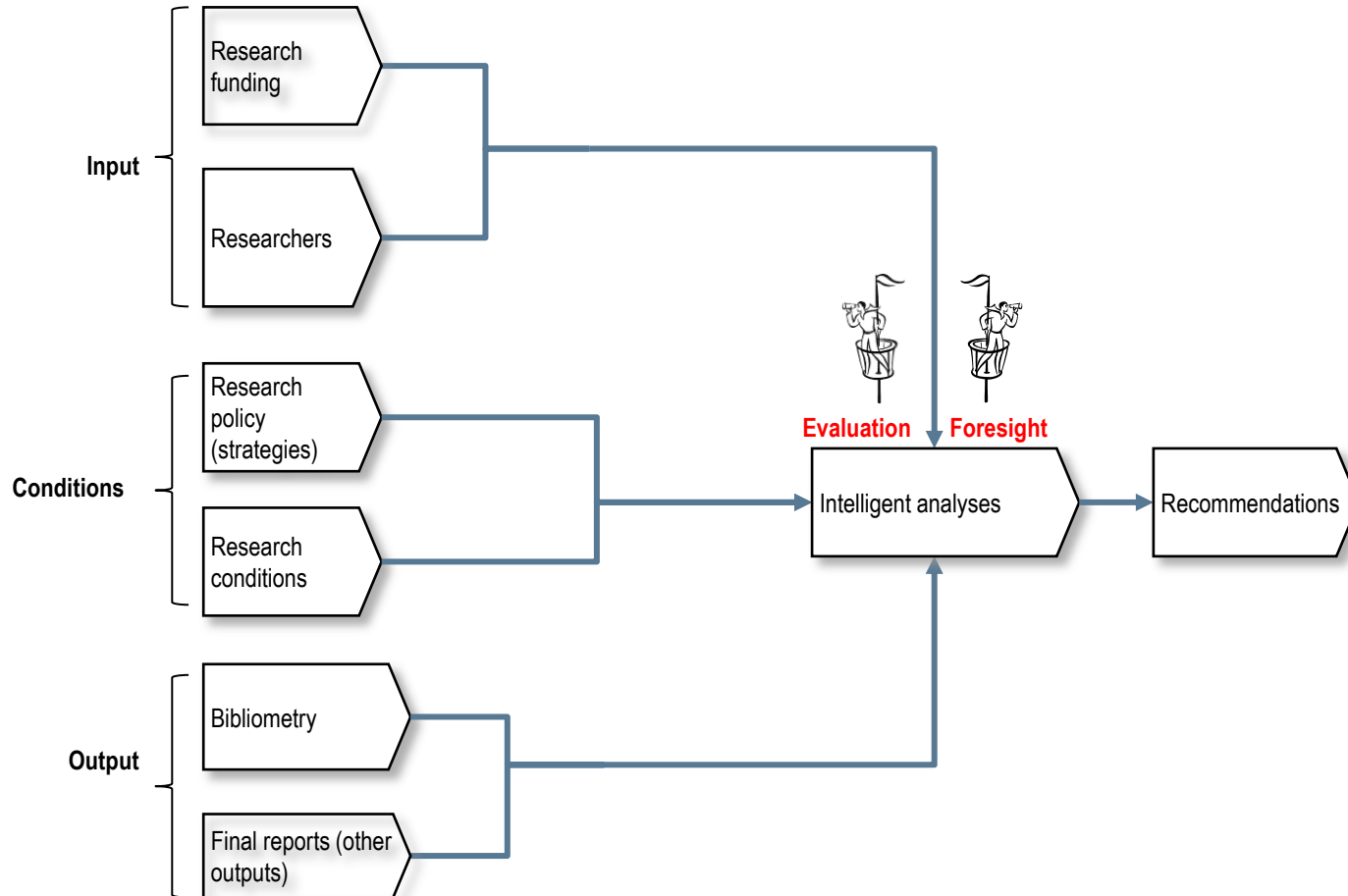


State-of-the-art (tools and analyses)



- 1) Aim – Joint strategy development – emerging themes with overarching scientific relevance for actors in Europe)
- 2) Data to perform foresight in an informed way
 - 1) Input (money and researchers) and output data (indicators of performance wider than bibliometry) with relevant classifications
 - 2) Conditions for research and researchers
 - 3) Policy documents (strategies)
- 3) Organising data in Europe?
 - 1) Recommendations for common funding/output databases?
 - 2) Common structures for horizon scanning?
- 4) Foresight methods for performing intelligent interpretation of data

Foresight to address grand challenges?

- increased complexity, uncertainty, unpredictability sharpens the need for flexible knowledge
- Need for long-term priorities and strategies
- Need for continuous strategic dialogue between stakeholders

Different foci in foresight

R&D focus

Techno-econ focus

Society-econ focus

Goal

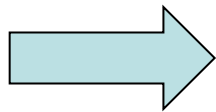
<ul style="list-style-type: none"> •Identify R&D priorities 	<ul style="list-style-type: none"> •Identify research topics relevant for different sectors 	<ul style="list-style-type: none"> •Identify research topics to address societal challenges
<ul style="list-style-type: none"> •National prestige •High quality reseach – international focus 	<ul style="list-style-type: none"> •Increase competitiveness •Address market failure •Strengthen collaboration science - industry 	<ul style="list-style-type: none"> •Contribute to increased quality of life •Address system failure •Strengthen national innovation
<ul style="list-style-type: none"> •researchers •policymakers •ministries 	<ul style="list-style-type: none"> •industry •researchers •policymakers 	<ul style="list-style-type: none"> •policymakers •other stakeholders •researchers •industry

Rationale

Participants

Trends in use of methods

- Quantitative → qualitative
- Analytic → creative
- Normative vs. explorative
- One-dimensional → complex
- Expert based → broad participation
- Trend extrapolation → alternative futures
- One time exercise → continuity



Methods and techniques complement each other

A typology

Dimensjoner

Knowledge

Opinions

Actions

Topics

- Lack of explicit knowledge
- Lack of knowledge about consequences

- Lack of political focus
- Lack of public debate
- Lack of future thinking

- Follow-up activities needed
- New policy orientation needed

Dimensjoner

Social processes

- Unclear conflict structure

- Lack of self reflexion
- Actors in a lock-in situation
- Lack of communication

- New forks of governance needed
- Need for a broad societal debate

Policy

- Lack of knowledge about policy goals
- Need for evaluating existing policy

- Policy does not tackle complexity
- Lack of political legitimacy

- Policy alternatives must be identified
- New innovation processes must be implemented
- Need for new legislation

Different activities – relevant foresight methods

ForSociety tool-kit

Dimensions

Knowledge

Opinions

Actions

Dimensions	Topic	Relevance Trees Expert panels Delphi Critical & Key Technologies Cross impact analysis Structural analysis	Consensus conference STEEPV Horizon scanning SWOT Scenarios	S&T Roadmapping Backcasting
	Social processes	Agent modelling	Stakeholder panels Gaming Science theatre	Citizen hearing Creativity methods Scenario workshop
	Policy	Discourse Analysis	Polling	Multi-Criteria Analysis

ForSociety tool-kit

Stimulate the dialogue between science and society to address grand challenges

- Use different ESF Forward looks systemically and across disciplines and topics
- Involvement of different actors of society, not only experts in different fields
 - Involvement of decision makers
- Participation in all phases of the research process – relevant strategies for involvement

