

Strategic Foresight for the Post-2015 Development Agenda

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Some 'drivers of change'

- Printing, gunpowder and the compass have changed the whole face and state of things throughout the world... (Francis Bacon, 1620).
- Improvements in machinery go hand in hand with the division of labor, and very pretty machines ... facilitate and quicken production... (Adam Smith, 1776).
- The bourgeoisie cannot exist without constantly revolutionizing the means of production! (Karl Marx, 1848).
- Knowledge is the chief engine of progress in the economy (Alfred Marshall, 1897).
- The entrepreneur and his search for new combinations is the driving force in all economic development... (Joseph Schumpeter, 1911).
- Science and basic research are incredibly powerful sources of future economic and societal development... (Vannevar Bush, 1945).

Foresight – '50s to '80s

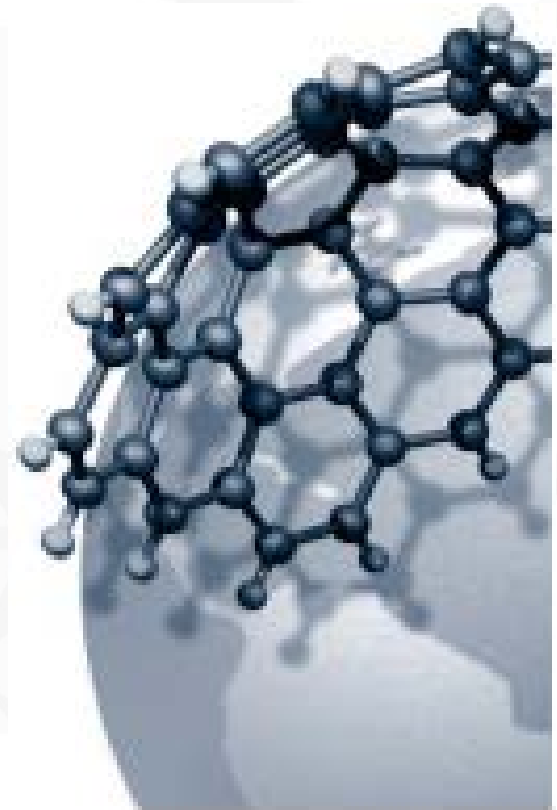
- **The existence of human on the earth surface:** The act of anticipation as an unavoidable human characteristic
- **1950s:** The principles of trend extrapolation and social indicators, and the methods of expert analysis (e.g. Delphi & cross-impact). First computer simulations become well-known
- **'60s:** Narrowly focused technology-oriented forecasting activities – the probabilistic assessment of what is likely to happen in the future
- **'70s:** Change in the understanding of forecasting due to increasing complexity and uncertainty of societies and economies (e.g. unpredicted oil shocks in the '70s)
- **'80s:** Multiple futures thinking, participatory activities, where both processes (i.e. networks, tacit outcomes) and products (i.e. codified outputs) were given emphasis

Foresight - '90s

- Foresight for **S&T policy making** by government, industry and other organisations
- The key elements of Foresight in the 1990s:
 - S&T is central focus
 - Systematic process
 - Longer timeframe than in existing S&T planning
 - S&T in relation to economic and social developments
- *“Foresight is the process involved in systematically attempting to look into the longer term future of science, technology, the economy, and society with the aim of identifying areas of strategic research and the emerging new technologies likely to yield the greatest economic and social benefits” (Martin, 1995).*

- Change in the S&T dominated appearance with increasing concerns on social aspects due to:
 - **The increasing importance of innovation** (both technological and organisational)
 - **The development of service economies.** Considerable portions of economic activity, employment and output have started taking place in service sectors of the economy
 - **Other developments** including globalisation, changes in demographic structures and in cultural practices, and environmental affairs
 - **Recognition of the close relationship between S&T and society**

- “the application of
 - ‘**systematic**’,
 - ‘**participatory**’,
 - ‘**future-intelligence-gathering and medium-to-long-term vision building process**’ to
 - ‘**informing present-day decisions and mobilising joint actions**’”



Policy problems and how Foresight might help

Disconnection of STI from socio-economic problems

Lack of funding for STI

Brain drain

Links STI to wider issues signalling its relevance

Creative and disturbing encouraging innovation

Short-term thinking

Low industrial STI intensity

Disconnection of science from innovation

Little interdisciplinarity

Forward-looking building future-proofing and agility

Discursive enabling strategic conversations

Participative bringing in new perspectives

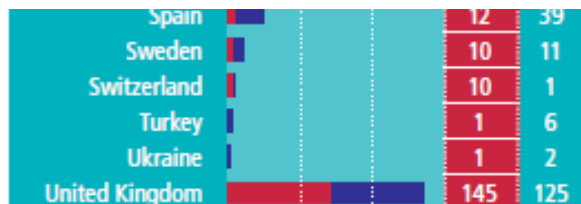
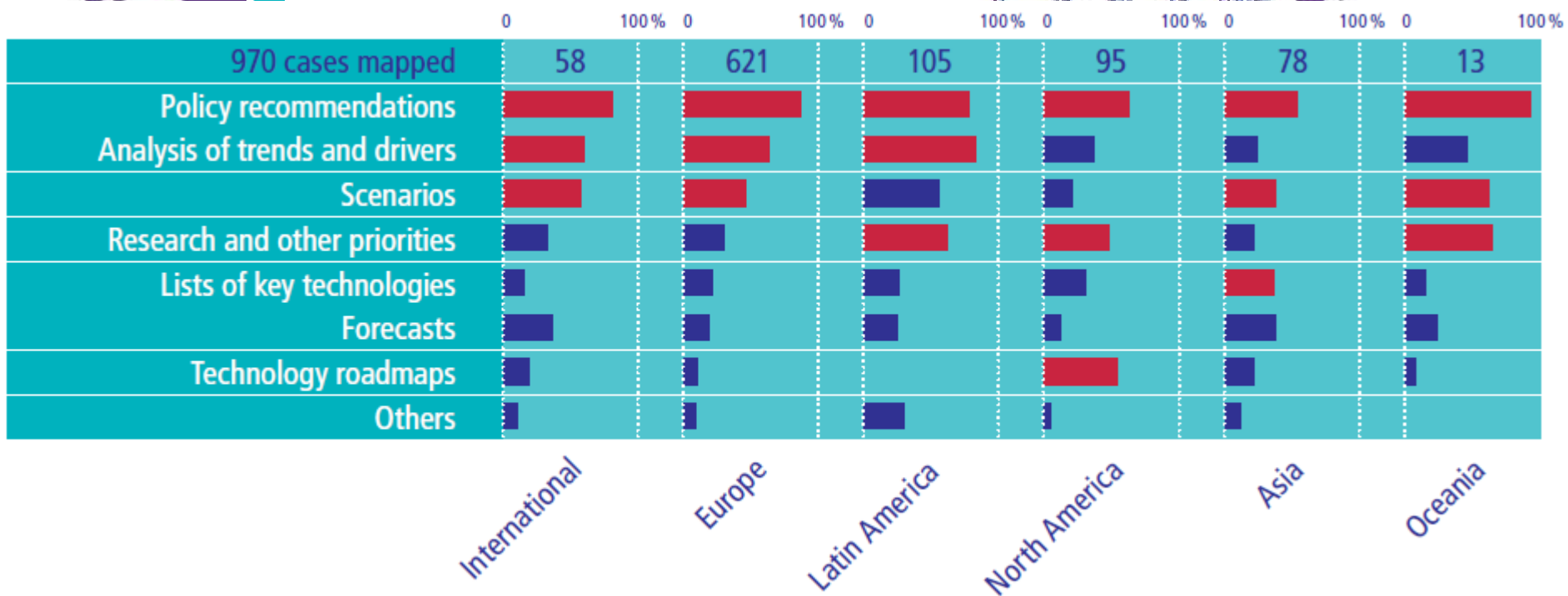
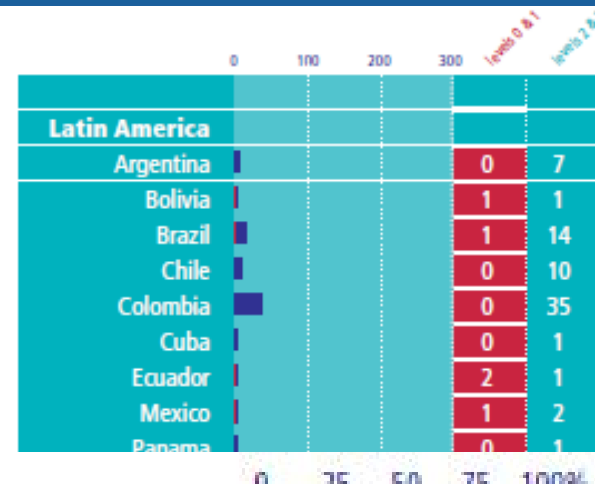
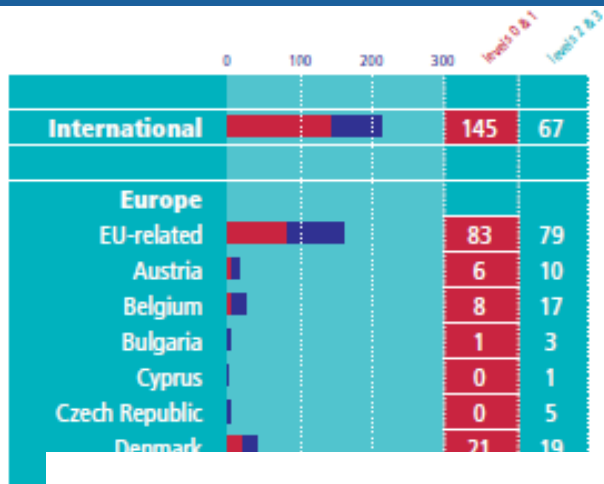
Weak STI planning capabilities

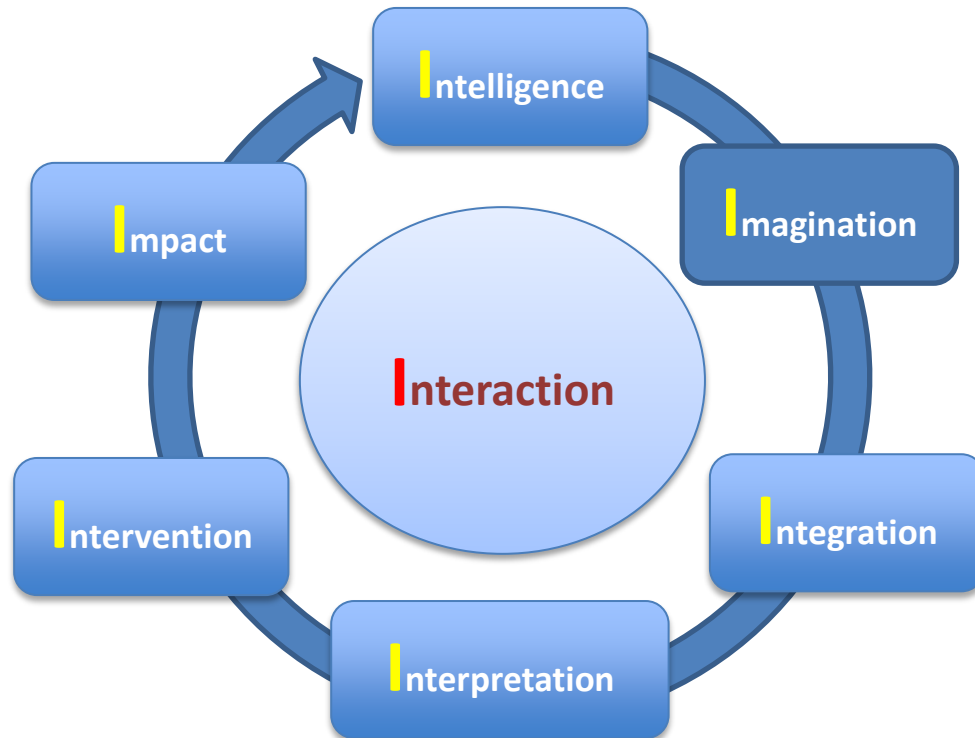
System linkages failures

Builds consensus increasing likelihood of implementation

Transparent structured process providing legitimate priorities

Implementation failures

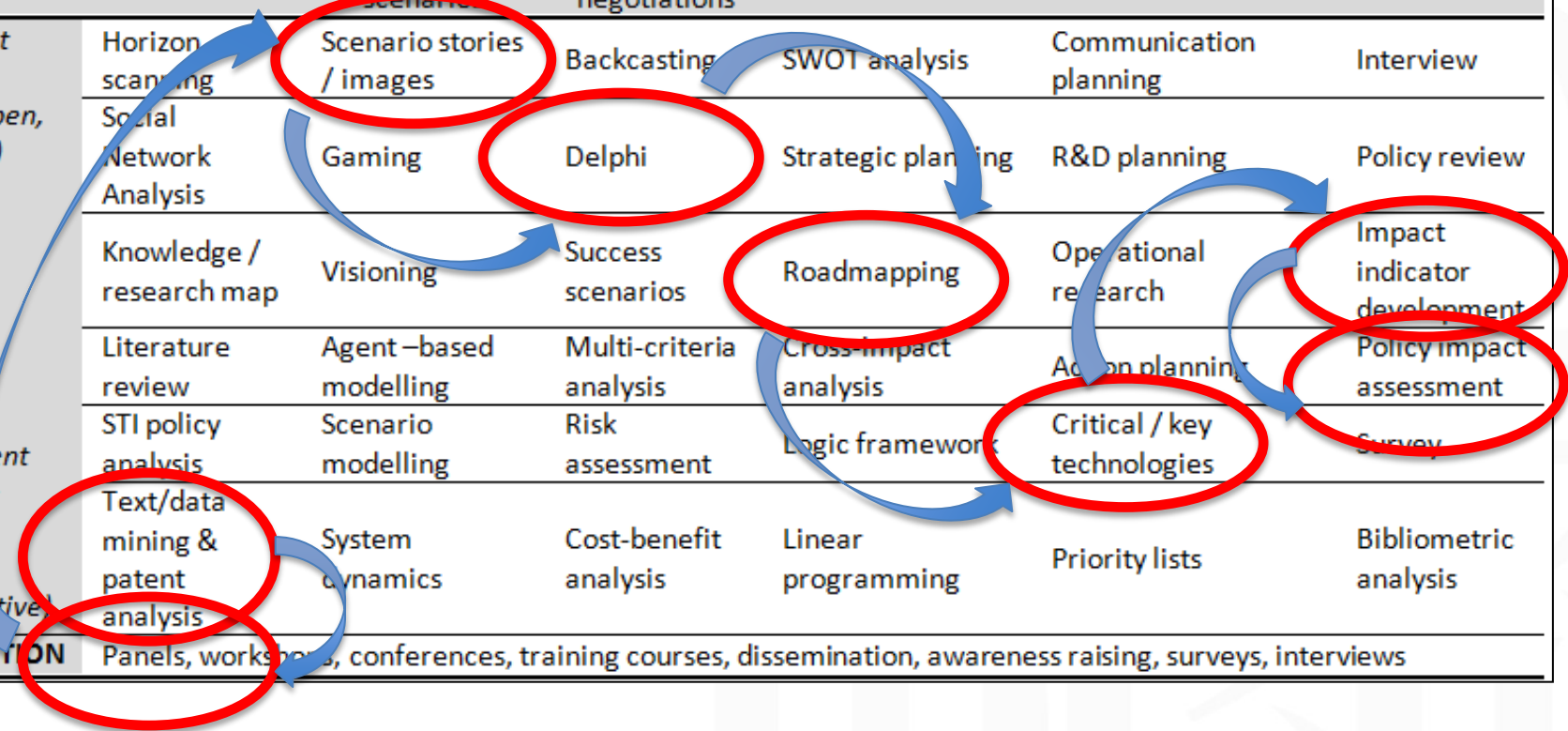


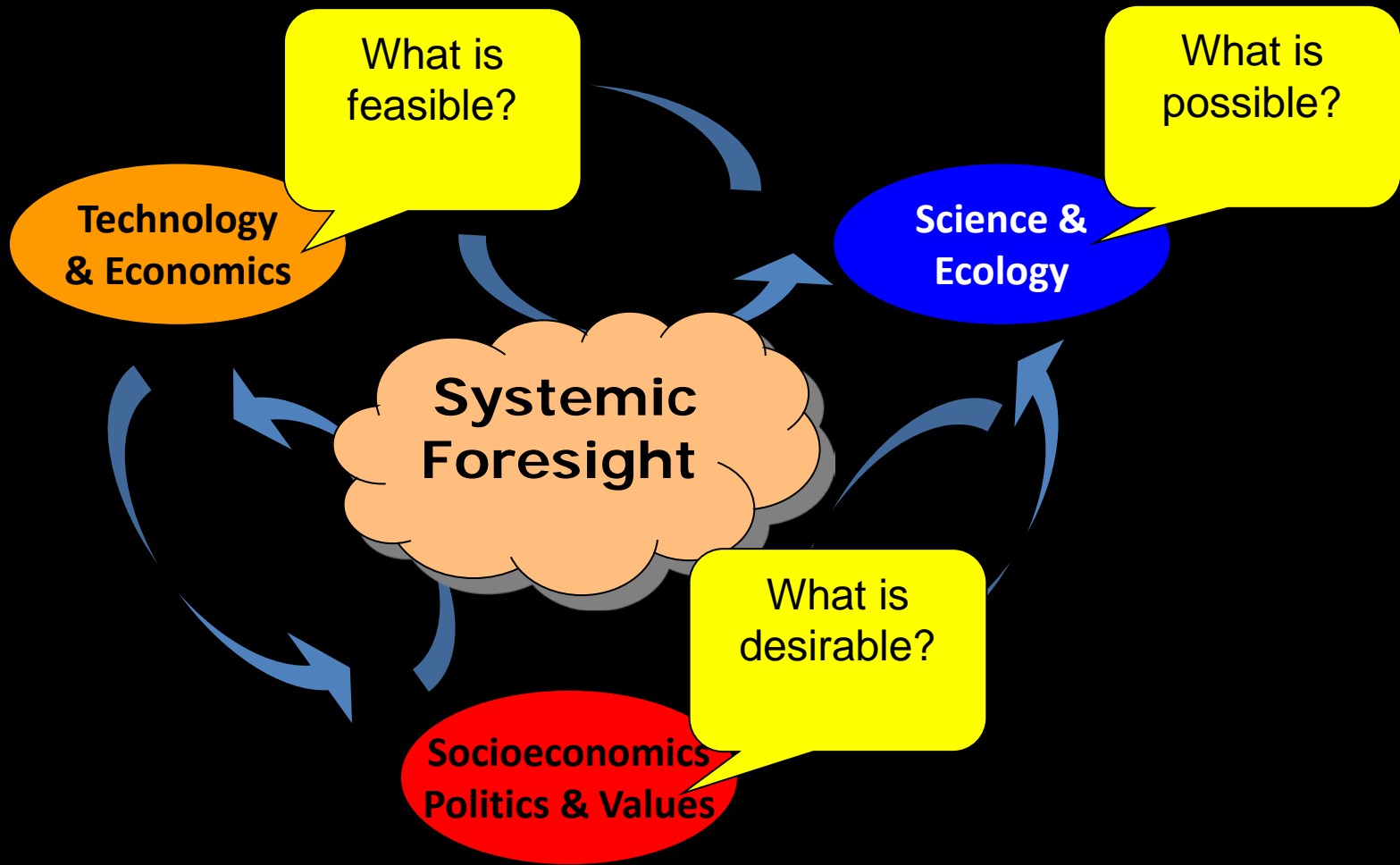


1. **Intelligence:** Creates shared understanding and mutual appreciation of issues by scanning
2. **Imagination:** The input from scanning is synthesised into conceptual models of alternative futures
3. **Integration:** Analyses the alternative models of the future and 'prioritises' them
4. **Interpretation:** Translates future visions into long-, medium-, and short-term actions for a successful change programme
5. **Intervention:** Creates plans to inform present day decisions for immediate change to provide structural and behavioural transformations
6. **Impact:** Evaluates the results and impacts of Foresight exercise, learns from experience and provides input for next round
7. **Interaction:** Mutual learning and collective visioning through intensive negotiations among system actors and stakeholders

Foresight methods

Phases	INTELLIGENCE	IMAGINATION	INTEGRATION	INTERPRETATION	INTERVENTION	IMPACT
Functions	Scoping / surveying	Creative phase	Ordering phase	Strategy phase	Action phase	Evaluation phase
Activities	Survey, scan, evidence	Concept model, visions, scenarios	Priorities, analysis, negotiations	Agendas, strategies	Plans, policies, actions	Review, revision, renewal
<i>Divergent Methods (more open, creative)</i>	Horizon scanning	Scenario stories / images	Backcasting	SWOT analysis	Communication planning	Interview
	Social Network Analysis	Gaming	Delphi	Strategic planning	R&D planning	Policy review
	Knowledge / research map	Visioning	Success scenarios	Roadmapping	Operational research	Impact indicator development
	Literature review	Agent-based modelling	Multi-criteria analysis	Cross-impact analysis	Action planning	Policy impact assessment
<i>Convergent methods (more specific, quantitative)</i>	STI policy analysis	Scenario modelling	Risk assessment	Logic framework	Critical / key technologies	Survey
	Text/data mining & patent analysis	System dynamics	Cost-benefit analysis	Linear programming	Priority lists	Bibliometric analysis
INTERACTION	Panels, workshops, conferences, training courses, dissemination, awareness raising, surveys, interviews					







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Thank you for your attention!

*“Designing scientifically possible,
technologically feasible &
socially desirable futures”*

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