

Rhwydwaith Dyfodolion Cymru
Wales Futures Network



ARSYLLFA ARLOESED
OBSERVATORY OF INNOVATION



Making Futures Matter Rhoi Dyfodolion ar Waith





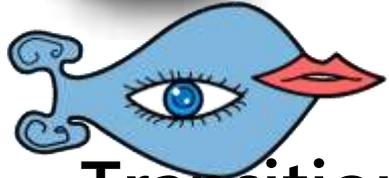
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Transition

Outline



Systemic Concerns

New Rationales

Hybrid Approaches

Clustered Themes

Context

Multi-level Activity

Popular Tools

Actors and Learning

Unforeseen Impacts

EU Agri Foresight
Expert Group

FFRAF report:
foresighting food, rural
and agri-futures



FORESIGHT IN TRANSITION

Foresight as Policy or for Policy

From full-scale foresight
to more embedded activity

More systemic than systematic

More project-focused

Varying levels of intensity

Societal dialogue and democratisation

More meaningful stakeholder engagement

End-users as active participants

Timeless live dialogue





Systemic Concerns

Creative system disruption

Drivers of structural change
Arena/Space, Outreach and
Coordination role

Wired-up systems

Open+social innovation
Knowledge failures (HE/R)

Robust, evidenced-based policies

Globalisation and multilevel
policy coherence



Foresight and Context: Creative system disruption



Recommended long-term agenda for creative system disruption

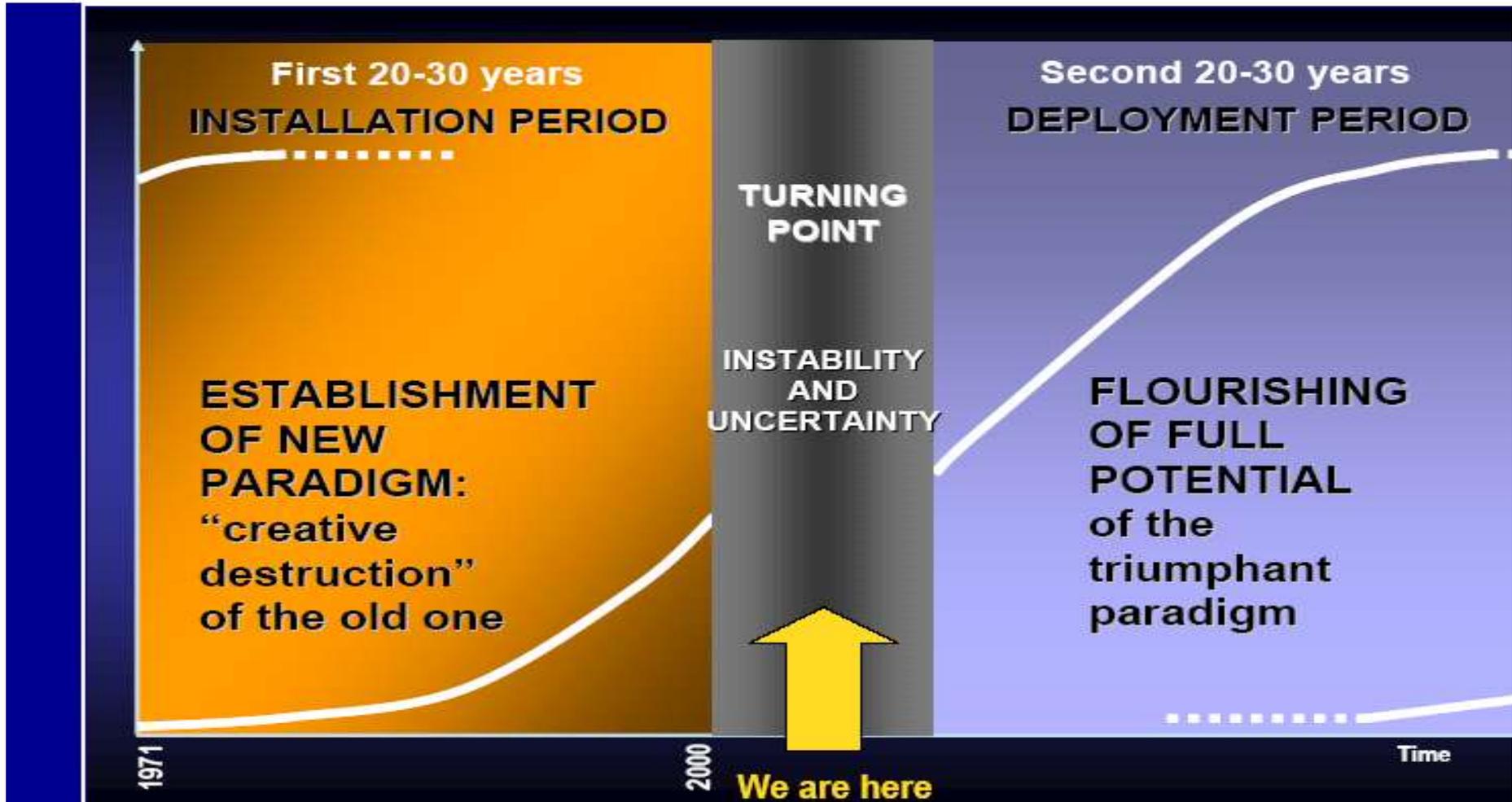
Use of foresight as a vision-setting and policy coordination device as well as a catalyst for systemic disruption.

Optimising European Society's Rich Assets: investments in SSH, cogsci and complexities as drivers of social change and system transformation;

Transforming Europe's Research System by addressing knowledge system failure

2004

But historically the pattern is broken in two



We are currently at a turning point between the creative destruction of the old paradigm and the full potential of the new paradigm (Kavassalis 2005)



As a new arena/space “where policy and investment decisions are discussed and in which “futures” are contested...” (Braun) and helps quantify and qualify the future potential of a key technology

As an outreach role in bringing about broader stakeholder participation, engagement and learning in the communication of longer term issues and the building of consensus on the most promising areas;

As coordination device of collective strategy development for realizing system innovations in society, by aligning “the individual strategies of the variety of industrial, research, policy and societal actors... when they are geared towards long-term objectives that cannot easily be achieved through market mechanisms”. (Weber)

**Foresight's
role in
system
disruption**

Wired-up systems and Innovation Policy

Hidden Innovation

found in the most unlikely places (NESTA) and defined only by current limits of creativity and imagination.

**Many
faces of
innovation**

- New methods of production or improving quality
- Significant technological improvements
- Not necessarily technology-based
- New ways of handling a commodity commercially
- Opening of a new market
- Restructuring of an industry (breaking up monopoly)

New Model of Open and Social Innovation

Knowledge is shared:

Companies actively access relevant R&I from outside (from universities and other knowledge providers) – Foresight fosters closer industry-academia links and active engagement of clients and supply chain in product/process innovation.

Government departments' and public agencies' need for more robust, evidence-based approaches to policy – Growing investments in horizon scanning as a means for joined-up policy making

Knowledge failures in Europe



Limited absorptive capacity for system innovation and disruption

Risk-averse society and investment only in R&D with fast market potential.

European research is currently not delivering the knowledge needed by end-users in the transition to knowledge-based biosociety.



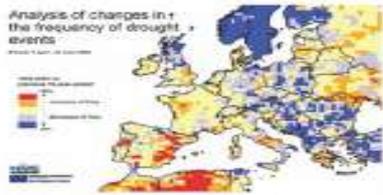
The social dimensions of the shift to the knowledge-based bio-society are rendered more complex by demographic and mobility/migration factors. They call for new systems of education and knowledge diffusion and careful consideration of the implications for education as we enter a new system characterised by a shift from engineering, physical and mechanical sciences to converging" technologies (nano, info, bio, cogno...).

Multi-level activity



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Recognition of growing interconnection and dynamics between drivers of change and different levels of policy-making:

Meta – systemic – global

Supranational – multinational

National – governance – policies

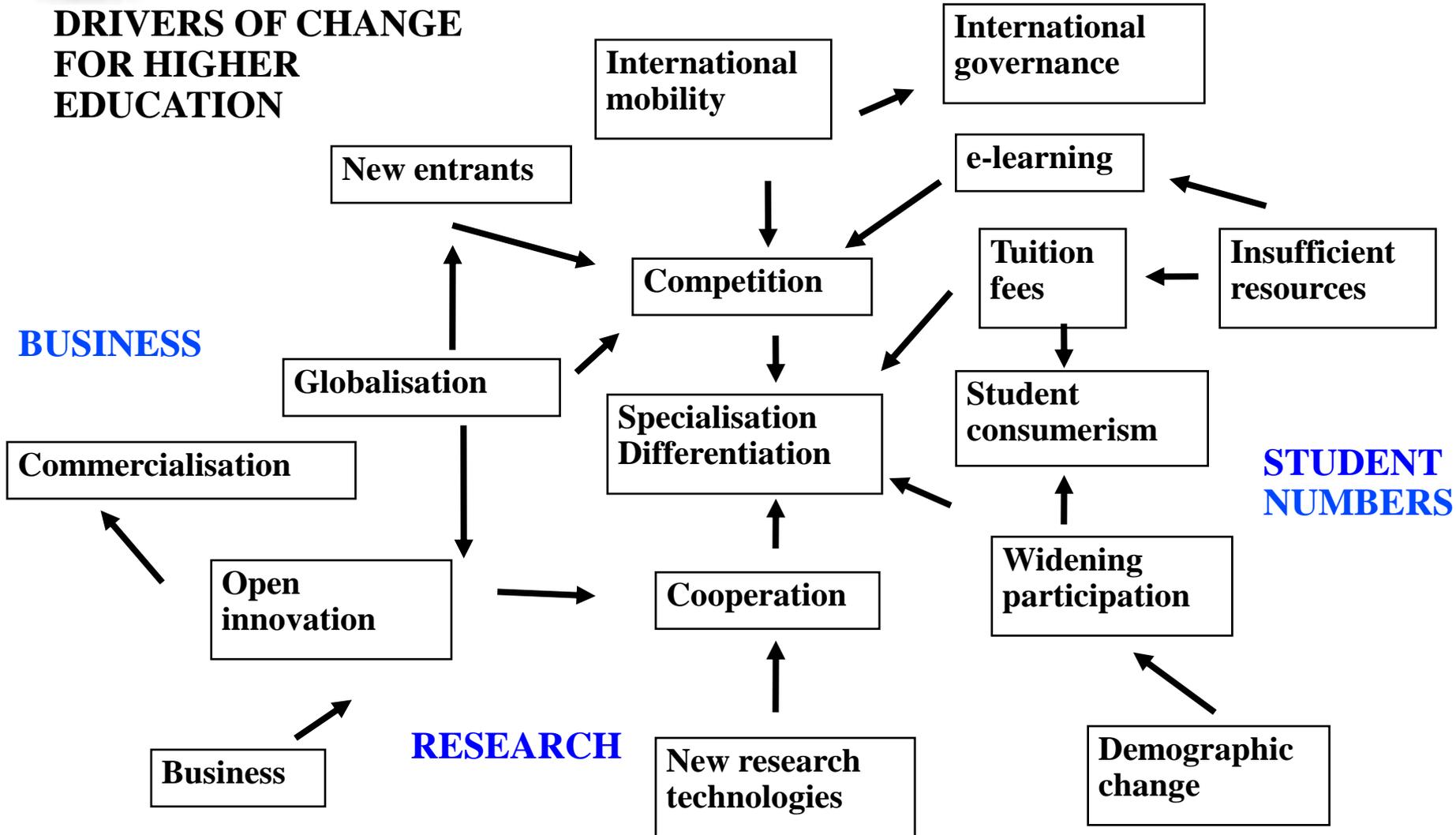
Regional – cities – local development

Higher education - University – science parks

Corporate – innovation clusters

INTERNATIONALISATION

DRIVERS OF CHANGE FOR HIGHER EDUCATION



Clustered Themes emerging



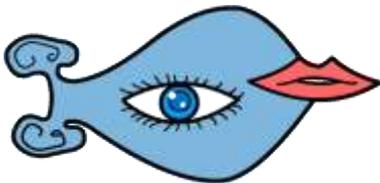
Climate change, global warming & environmental issues and the shift to the knowledge-based bio-economy

Rural communities

Depletion of energy resources

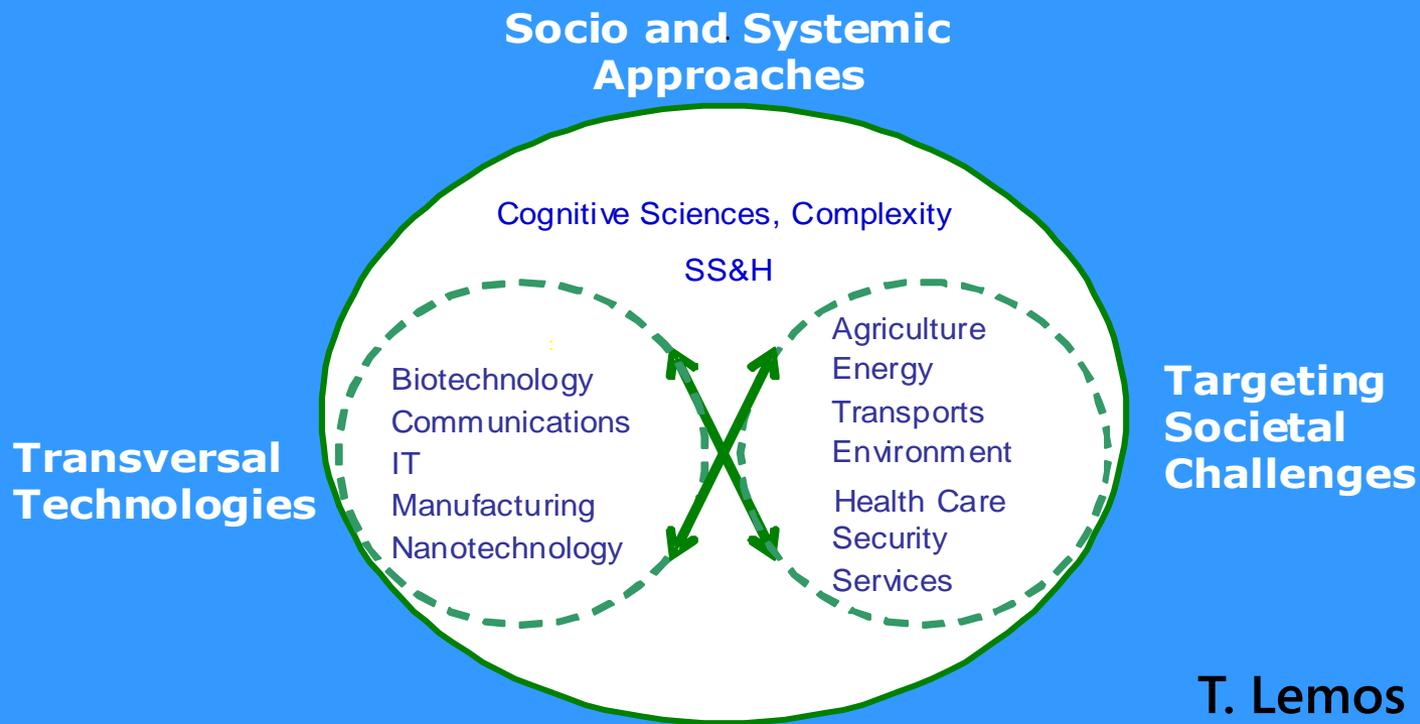
Health, infectious diseases, food and security

Key Technologies and Converging Technologies



Targeted investments in KTs as drivers of structural change

Cluster Approach - Systemic and Holistic Framework for EU R&D System



T. Lemos
2005

Closer watch on new emerging sectors where as yet the EU is not faced with a research gap.
engineer a shift to the bio-economy
capitalise on information economies and other virtual structures

Popular Tools

Expert panels

Scenarios – baseline,
success scenarios and
disruption scenarios

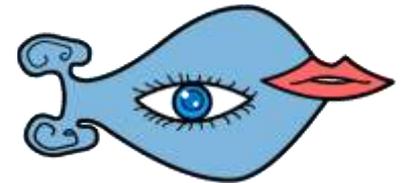
On-line fora and delphi

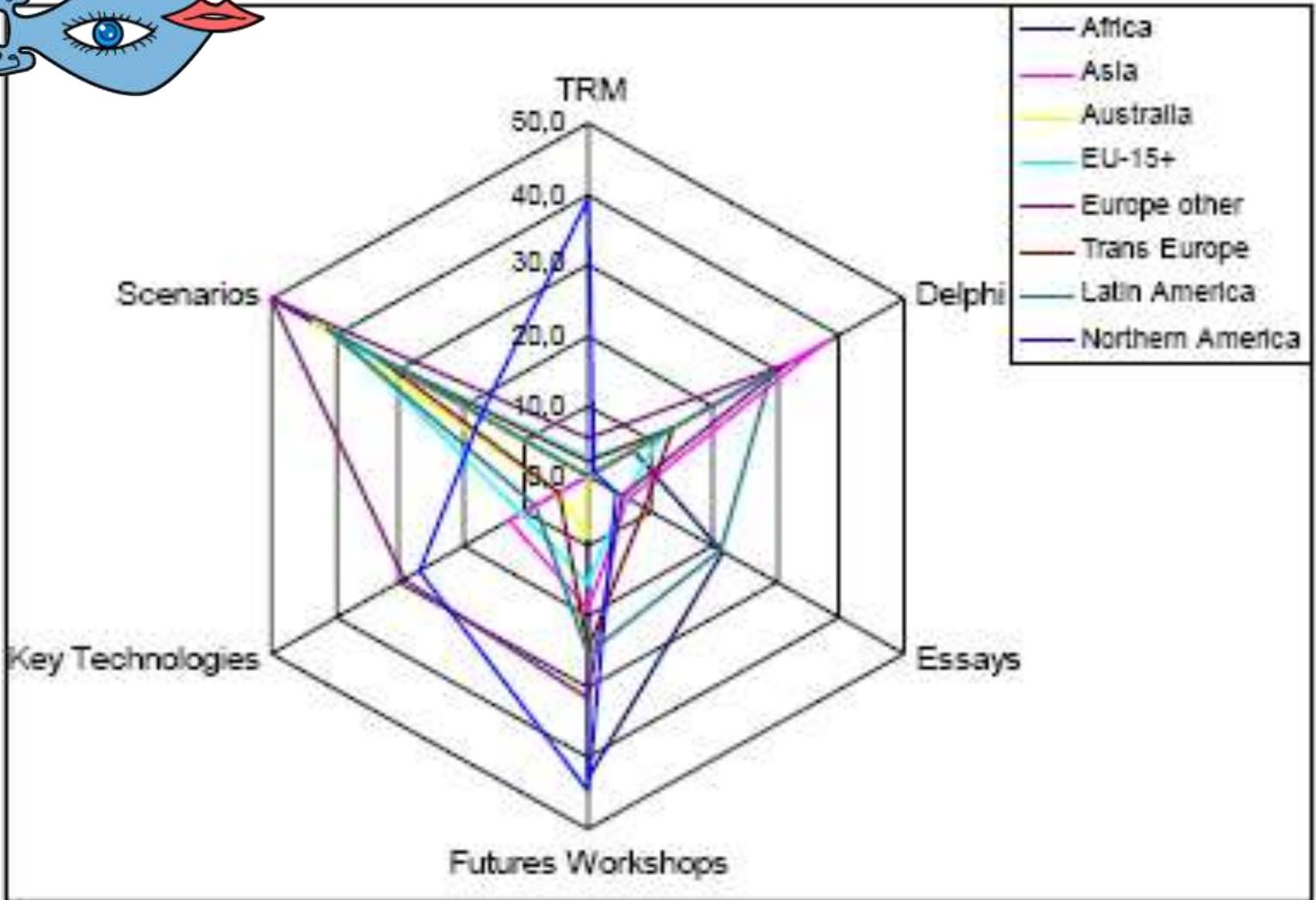
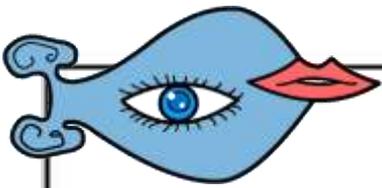
Horizon scanning

Creativity sessions

Future Dialogues

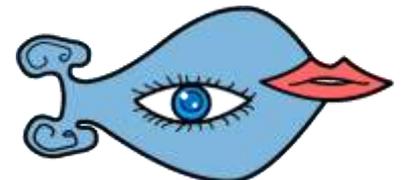
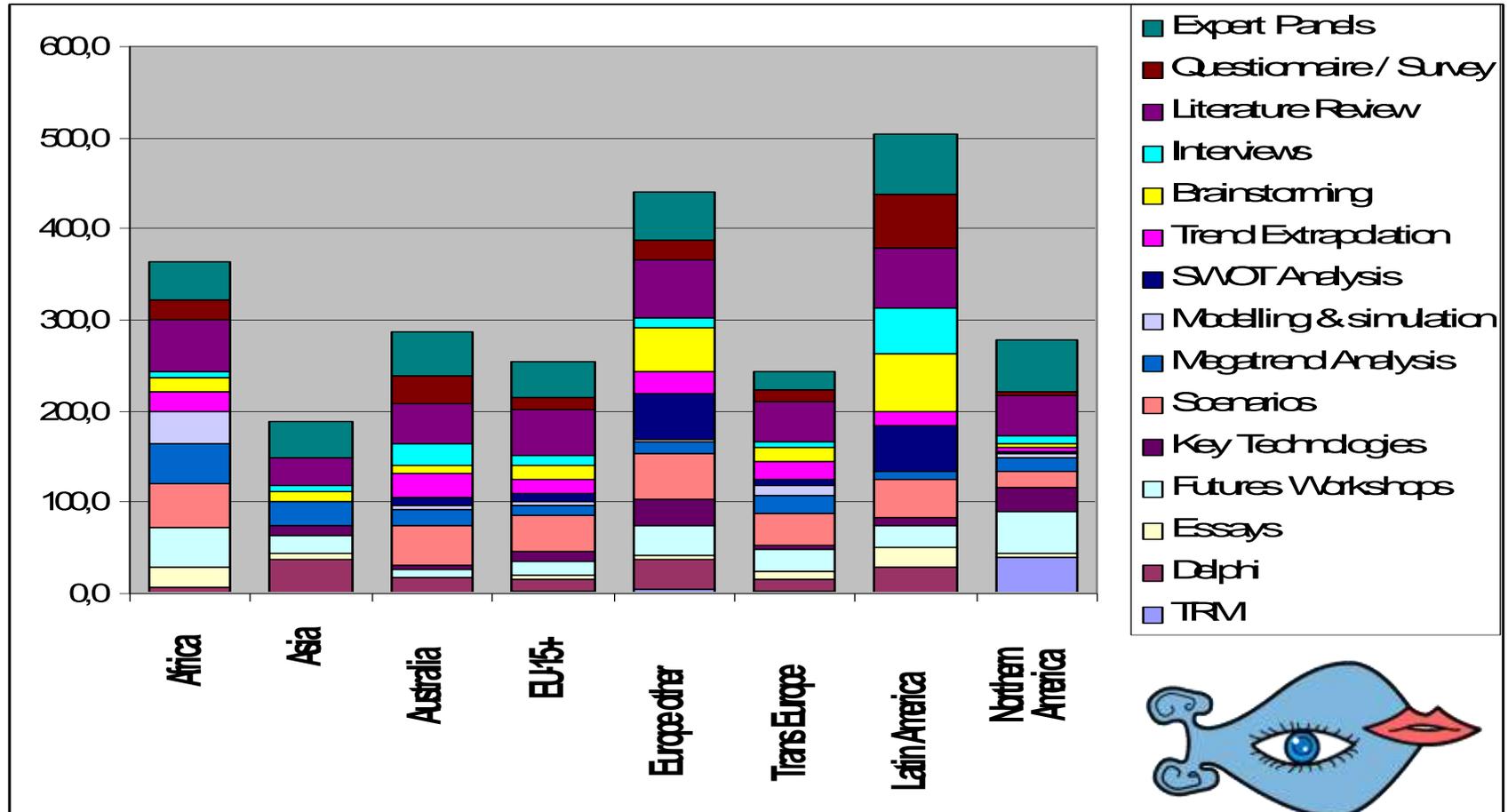
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Popular Methods Worldwide (EFMN)

Multi-use of Methods





Hybrid Approaches

Blends of social themes
and policy concerns



A balance of qualitative and
quantitative for robust,
evidence-based results



Creative process for creative
product



Adaptive foresight and
context-based learning





Foresight in adaptive mode (Weber)

Realistic, learning-based approach

Balance between adapting to and shaping the future

Fast adaptation to contextual developments

Iterations of visions, processes through mutual open learning processes

Foresight's role in transition management

More actor-oriented approaches



Tools & Process + + + Actor-oriented approaches

A tool or set of tools "to survey as systematically as possible what chances for development and what options for action are open at present, ...to determine to what alternative future outcomes the developments would lead" Martin & Irvine

Foresight involves a process where tools are one element, interacting with human inputs of intellect, expertise and sector-specific knowledge "a systematic, participatory, future intelligence-gathering and medium-to-long-term vision-building process" EU FOREN Guide

A philosophy, mindset or approach to life evident at the individual or group level. It separates the proactive from the reactive, the path-dependent from the path-breakers

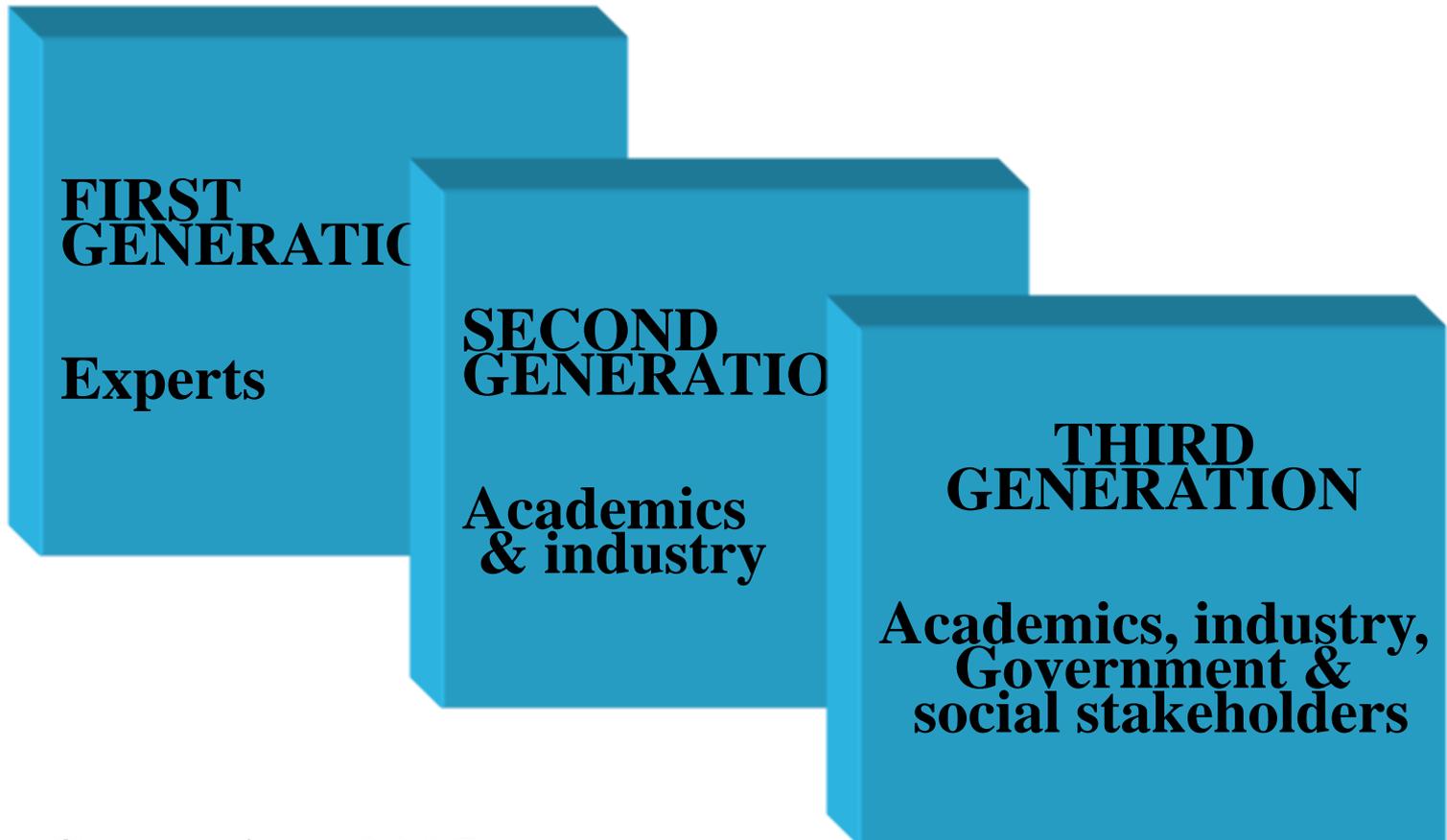
A capacity for anticipating and coping with the future evident at the individual or group level, entailing a set of taught skills but presumes a mindset open to creative thinking and proactive exploration of the future (Harper&Pace)

Actors in the spotlight

Generation	First	Second	Third	Fourth
Focus	Technology forecasts	Technology and Markets	Technology, markets and the social dimension	Innovation system
Programme Structure	Science and technology	Industry & Service Sectors	Thematic, socio-economic, problem-solving	Structural, framework conditions, regional
Actors	Experts	Academics and Industry	Academics, industry, Gov & social stakeholders	+Regional and local players, in-house & external
Objectives	Picking winners	Networking the economy	Wiring up NIS	Self-organising NIS

Source: adapted from Georghiou, 2003

Key actors



Source: Georghiou, 2005

Assumption	Individuals and groups are not set on a pre-determined path - they have the right and responsibility as well as the capacity to review alternative futures and work towards a preferred future. Client-customer relations are critical.
Approaches	<ul style="list-style-type: none">- Actor-based approach- Integrating qualitative and quantitative approaches
Process	Interactive, dynamic and above all iterative – communications and marketing are critical.
Deliverables	Foresight embedding, empowerment, consensus-building, open governance and joined-up robust policies. Quality and ethical concerns addressed.

The foresight process involves



intense iterative phases of open reflection, networking, consultation, and discussion leading to

the joint refining of future visions and the common ownership of strategies, with the aim of exploiting long-term opportunities opened up through the impact of STI on society





Iteration and learning

It is the discovery of a *common space for open thinking* on the future and the incubation of strategic approaches

in this sense the foresight process has no beginning or end, since it builds on previous and ongoing conversations and consultations and sets in motion **learning curves and other intangible spin-offs** which are not easily captured in short timeframes...

Foresight Implementation

The common space and joint ownership elements imply non-linear relationship with implementation

Foresight is part of the “implementation space”.

The conduct of foresight itself moderates the implementation of emerging findings (or at least the conditions for their implementation), and the environment for implementation affects the way in which foresight ought to be conducted - foresight and implementation are interactive activities.

Impact-oriented evaluation must closely consider the foresight process if impacts are to be fully accounted for and explained. (Georghiou and Keenan 2007)



Intangible and Unforeseen Impacts

A less-emphasized benefit of a foresight exercise is its facility to make transparent policy processes and structures and to bring to the fore key challenges and key individuals or champions to the cause.

It also helps to identify hidden obstacles to the introduction of more informed, transparent, open participatory processes to governance as well as other barriers hindering the “wiring up” the national system of innovation



Small country insights

Limits to transfer of foresight approaches

Flagging systemic hidden barriers and concerns below the R&I policy rhetoric.

Factor in from the start the hidden/ informal challenges underpinning the more formal ones – e.g. hidden, societal needs or constraints in the local context which can obstruct progress on the formal objectives

A 'systems' approach balancing formal (political) and informal (societal/ contextual) challenges within a holistic framework.

Communications and mutual learning challenge in priming society and the stakeholders for foresight.



To sum up

Foresight is emerging as a more embedded activity supporting ongoing policy-making processes (backstage move) – varying forms/ levels of intensity.

Yet it can have ambitious goals (creative disruption, wiring up open and social innovation system...

In reality it is more about adapting to than shaping the future..

The tools and process must work but ultimately it is the actors that make foresight happen and sustain it beyond the activity...

It often requires several iterations and spin-offs before its impacts are recognised



Acknowledgements

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and thank you for your attention!!



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