

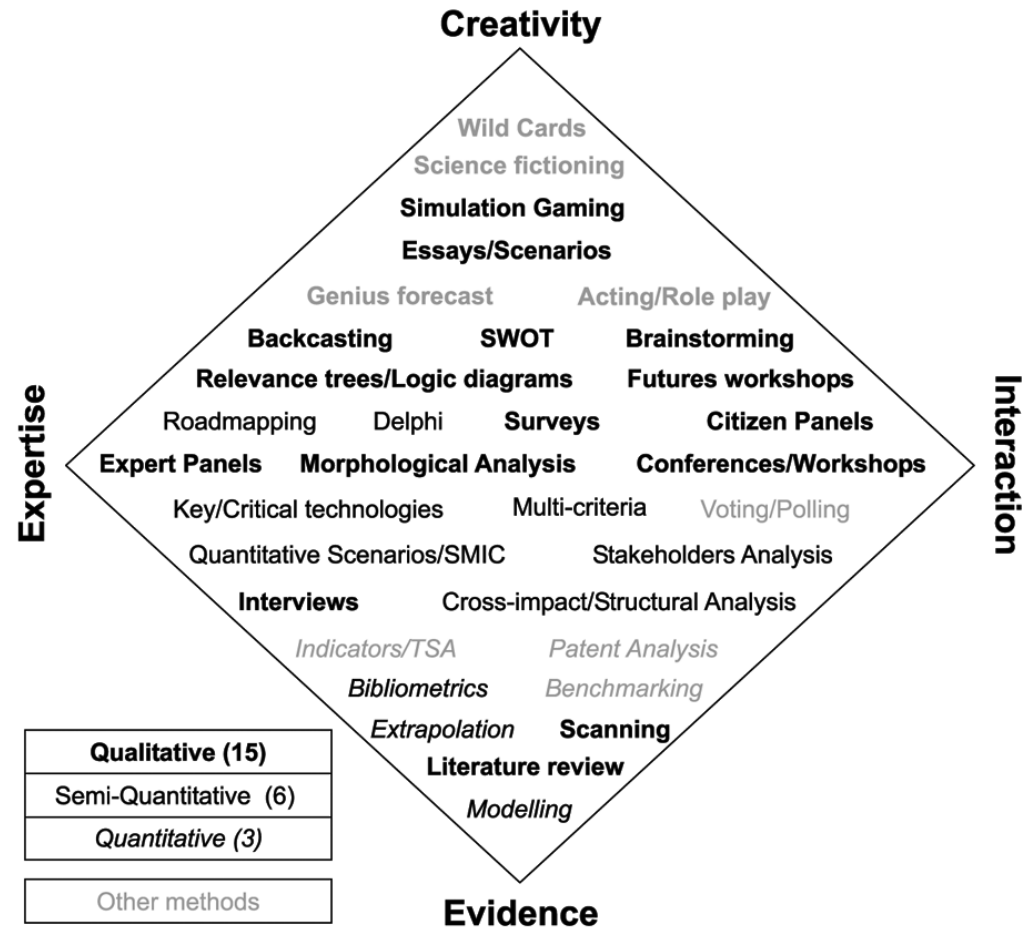
Use of Foresight and Creativity Approaches for Effective TT

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What is foresight?

Common definition:

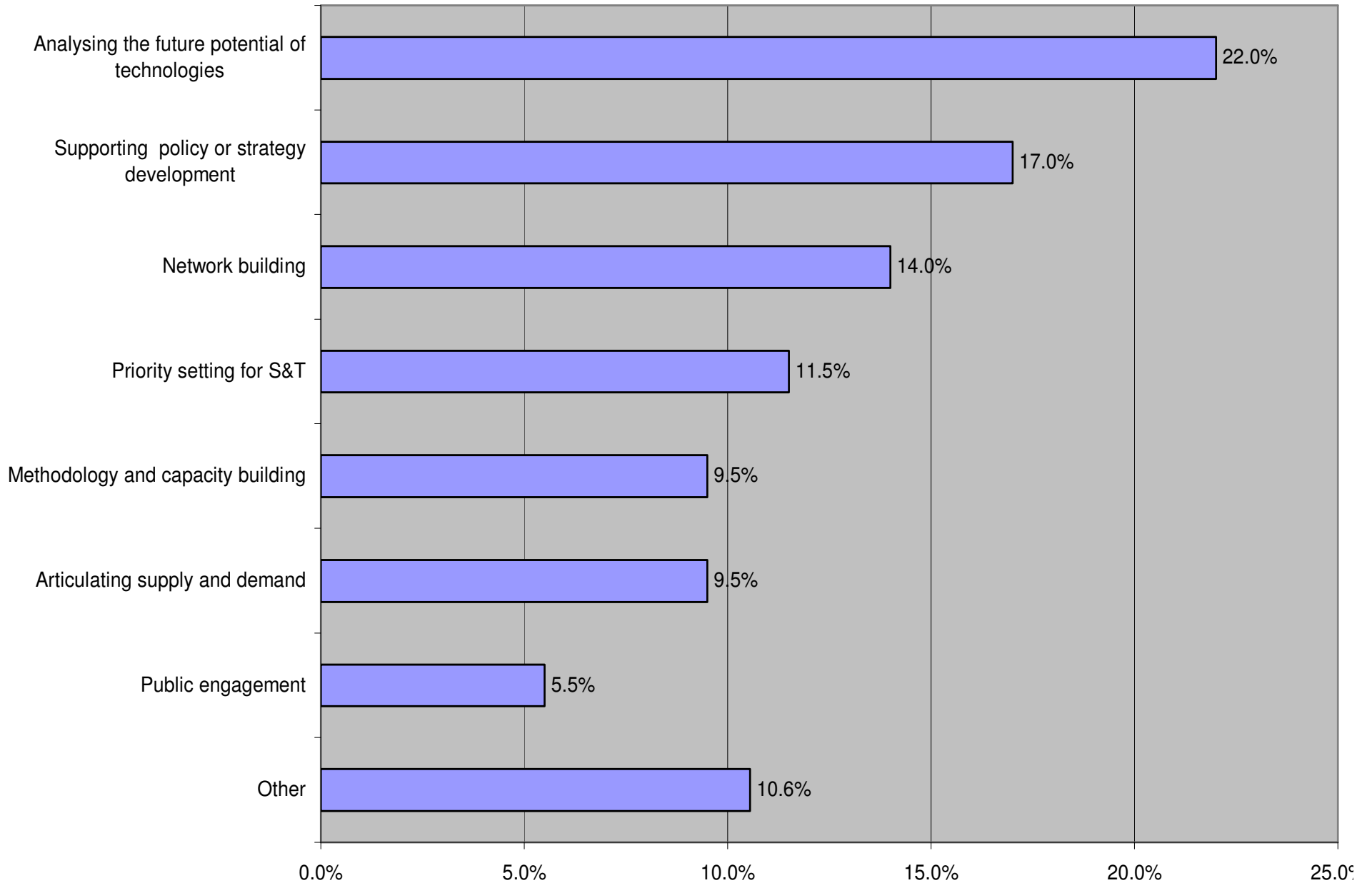
- Foresight is a systematic, participatory, future intelligence gathering and medium to-long-term vision-building process aimed at present-day decisions and mobilising joint actions...



Source: Adapted from Popper (2008)

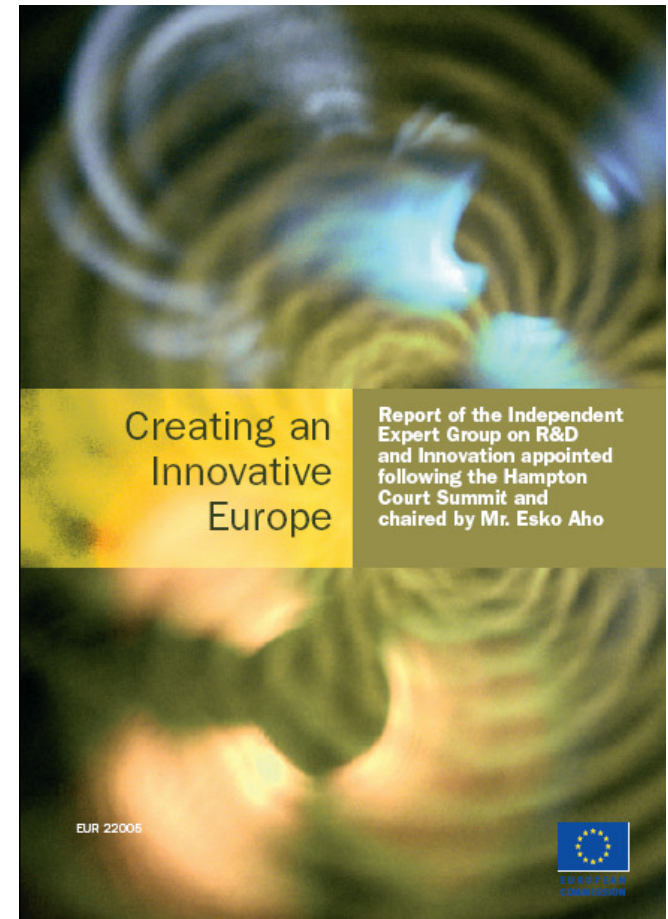
Popper's Diamond relating methods to knowledge sources

Analysis of Objectives of 50 Foresight Exercises (source EFMN)



Innovation & industrial policy

- Emerging role for foresight in new wave demand-side innovation policy
- Need to understand foresight in context of range of tools for innovation policy and how it can interact with, strengthen and be strengthened by combinations with other policies
- Particular opportunities in demand-oriented innovation policies
 - Clusters and technology platforms built on base of common visions
 - Public procurement for innovative goods and services again driven by shared visions



Potential shift towards mission-oriented research and innovation policy

- Grand Challenge concept now being hotly debated in Europe
- Motivating innovation through large scale coordinated efforts involving partnership between government, business and societal groups
- Economic-orientation to some extent already being addressed through EU's Joint Technology Initiatives
 - Public- private partnerships of up to 1 billion funding eg Innovative Medicines, Embedded Systems, Clean Skies
 - Also national equivalents eg UK Innovation Platforms, France Programmes Mobilisateurs
- Further potential in addressing social and sustainability challenges arising from eg climate change, migration, security
- Role for foresight in aggregating the key actors in the research and innovation ecosystem and building the vision

3 cases of application to TT issues

- Case 1 Science park foresight re university-industry links in Manchester
- Case 2 Innovation policy measures for Malta
- Case 3 INNFORMED workshop Plant Biotechnology Applied to the Olive Oil sector in Tunisia

Case 1: Science Park foresight

- Manchester Science Park is company jointly owned by City, 2 Universities and 5 commercial companies
- Company with aim to enhance the economic and technological wealth of the city of Manchester but runs at profit
- Review by Visiting Fellow in 2002 concluded that Scenario Workshop would increase engagement of stakeholders



Workshop

- Theme of workshop to develop Success Scenario for the Contribution of Universities in Manchester to Economic Regeneration and Progress (Knowledge Capital)
- 24 hours and 28 senior participants (Vice-Chancellors, Head of Chamber of Commerce, Government, Community Relations etc)
- Worked through 4 dimensions of University-Business links
 - Research collaboration
 - Commercialisation of knowledge
 - Human resource development
 - Networking and reachout

Structure of Workshop

**Opening Dinner with VIP
Speech and initial discussion**

**First plenary – briefing on
background and objectives**

Initial Break-out groups on Drivers and Shapers

**Land,
infrastructure
and human
resources**

**Universities
and their
mission**

**National,
regional and
city policies
and strategies**

**Business
needs**

**Second plenary on main
elements of Success Scenario**

Second Break-out groups on building the model in key areas

**Commercialis-
ation**

**Human
resource
development**

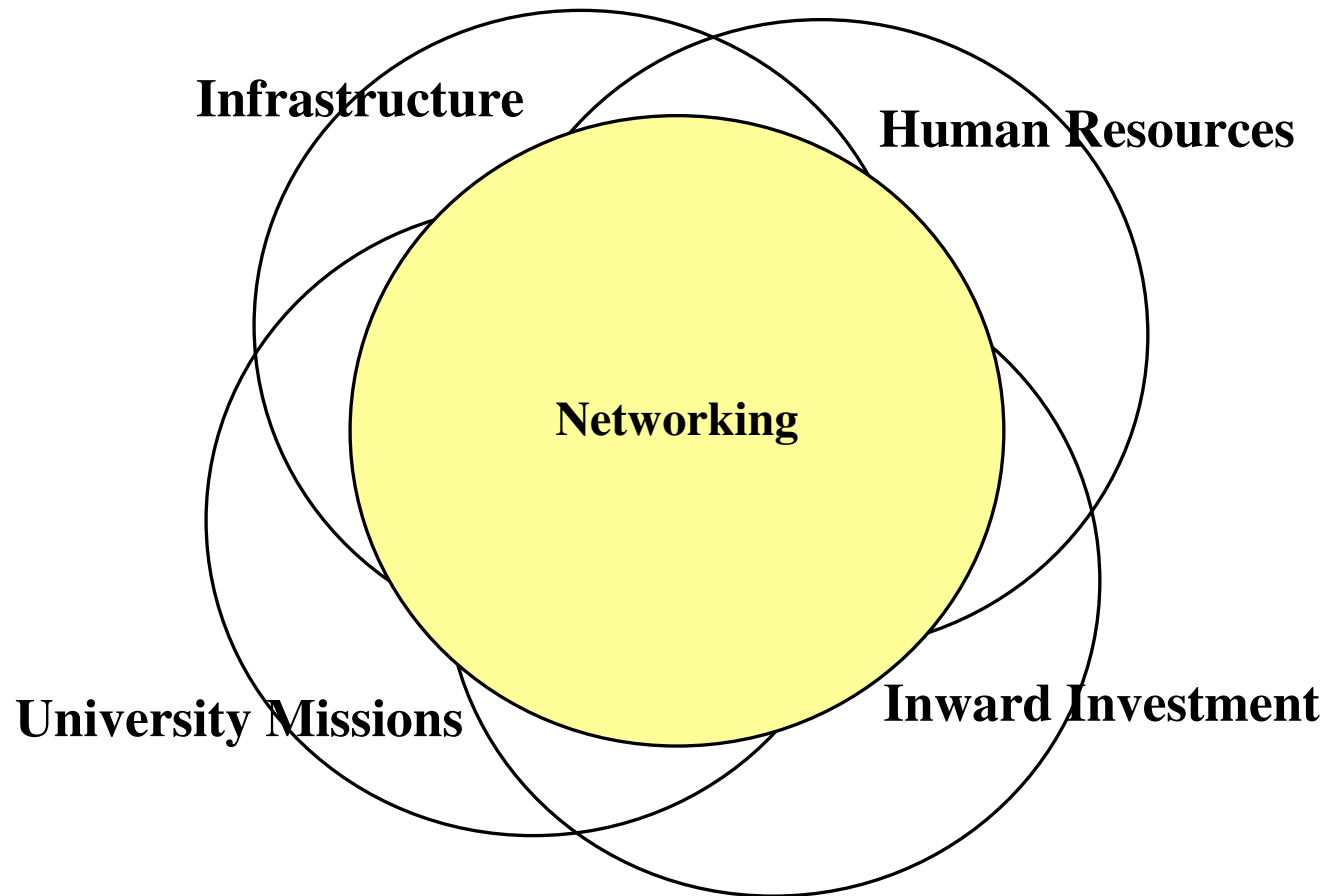
**Research
collaboration**

**Networking
and business
development**

**Third plenary on combining
the elements in a scenario**

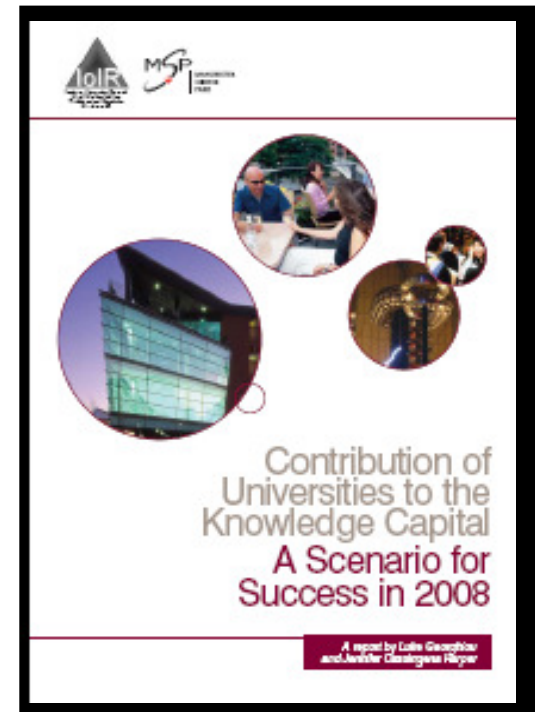
**After meeting – document prepared, circulated
for comment, finalised and disseminated**

Scenario for Success in 5 Dimensions



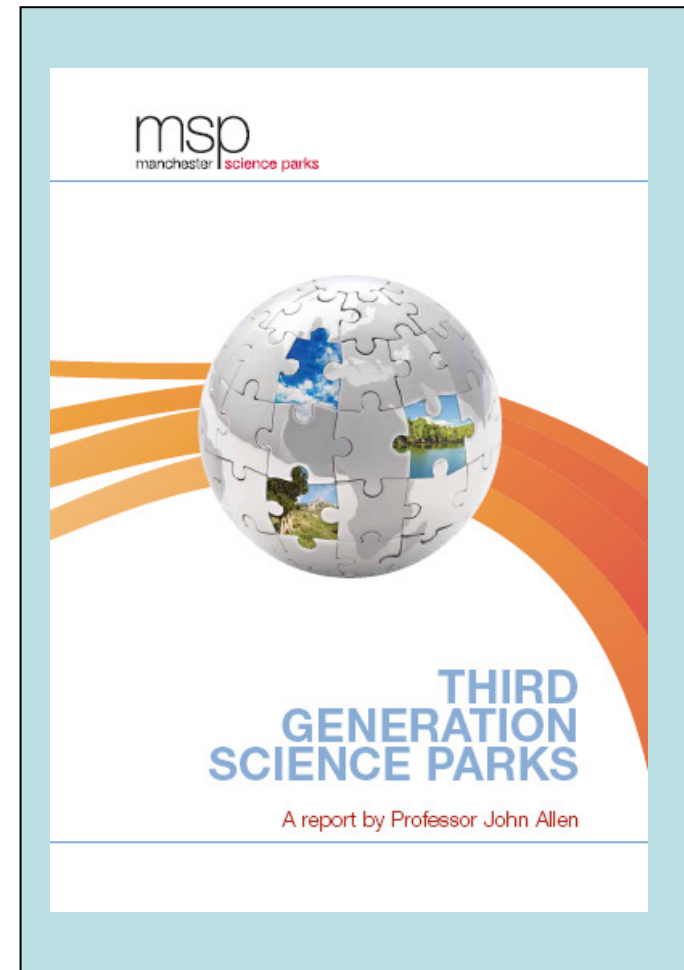
Report

- Report concluded with 10 key actions to reach success and 23 indicators for recognising that success
- Encapsulation is
 - Focus academic resources in Centres of Excellence
 - Promote networks, drop moribund ones and create new ones in new areas
 - Develop cadre of people ready to lead and work in networked knowledge capital
 - Science Park becomes a quality brand rather than a location – enabling a network of hotspots throughout the city in entrepreneurial café culture



Impacts and Follow Up

- Report used as basis for policy agenda in Manchester Knowledge Capital (coordinating committee for knowledge-based development of City)
- Input to merged University strategy
- Input to two national reviews of business-industry links
- Science Park has successfully followed the branding strategy and now has 3 sites with 3 more under negotiation
- Commissioned new exercise with more global look at science parks in autumn 2006 and another planned for Spring 2010 in cooperation with Economic Authorities



Case 2 Innovation Policy Measures for Malta

- Context of European inter-regional project Futures for Regional Development FUTURREG aiming to use futures methods and participatory processes for regional development
- Innovation agency (Malta Enterprise) using foresight within context of ongoing MARIS Project aimed at developing a Regional Innovation Strategy
- Malta Council for Science and Technology providing foresight support to MARIS through the Futurreg project and using the project to consult business and other stakeholders on necessary measures to support future innovation needs

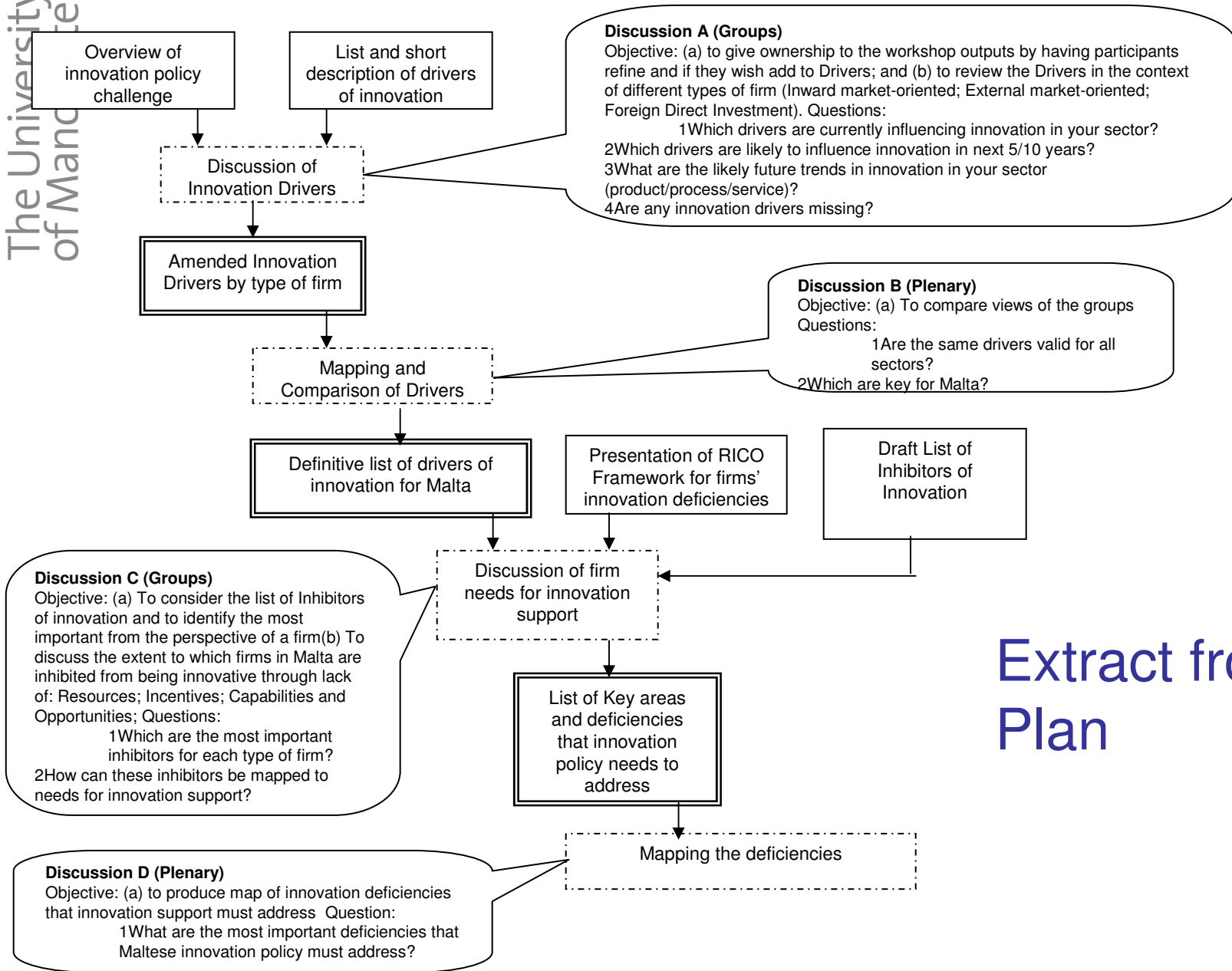


Aims of day

- Defining a broad framework for a future-oriented national innovation policy
- Creating an enhanced and shared understanding of the drivers of innovation
- Exploring success scenarios and designing new measures tailored to the specific needs of three types of Malta-based company
 - Start-ups
 - Established SMEs
 - Large firms (including Foreign Direct Investment)

We plan workshops in detail

The University of Manchester

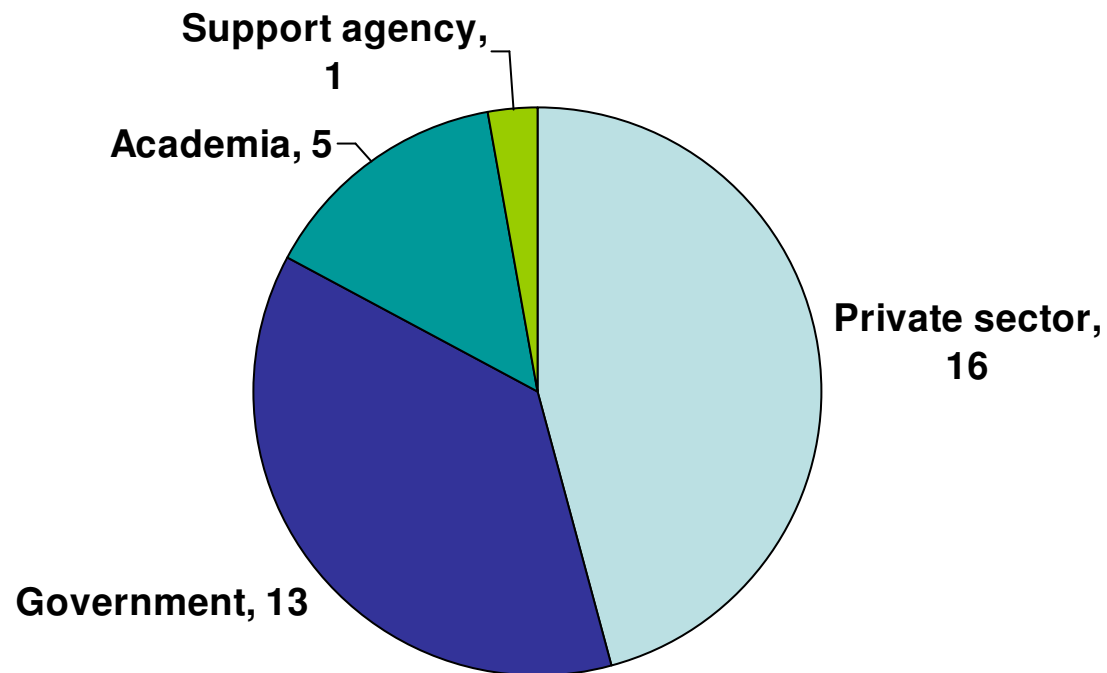


Extract from
Plan

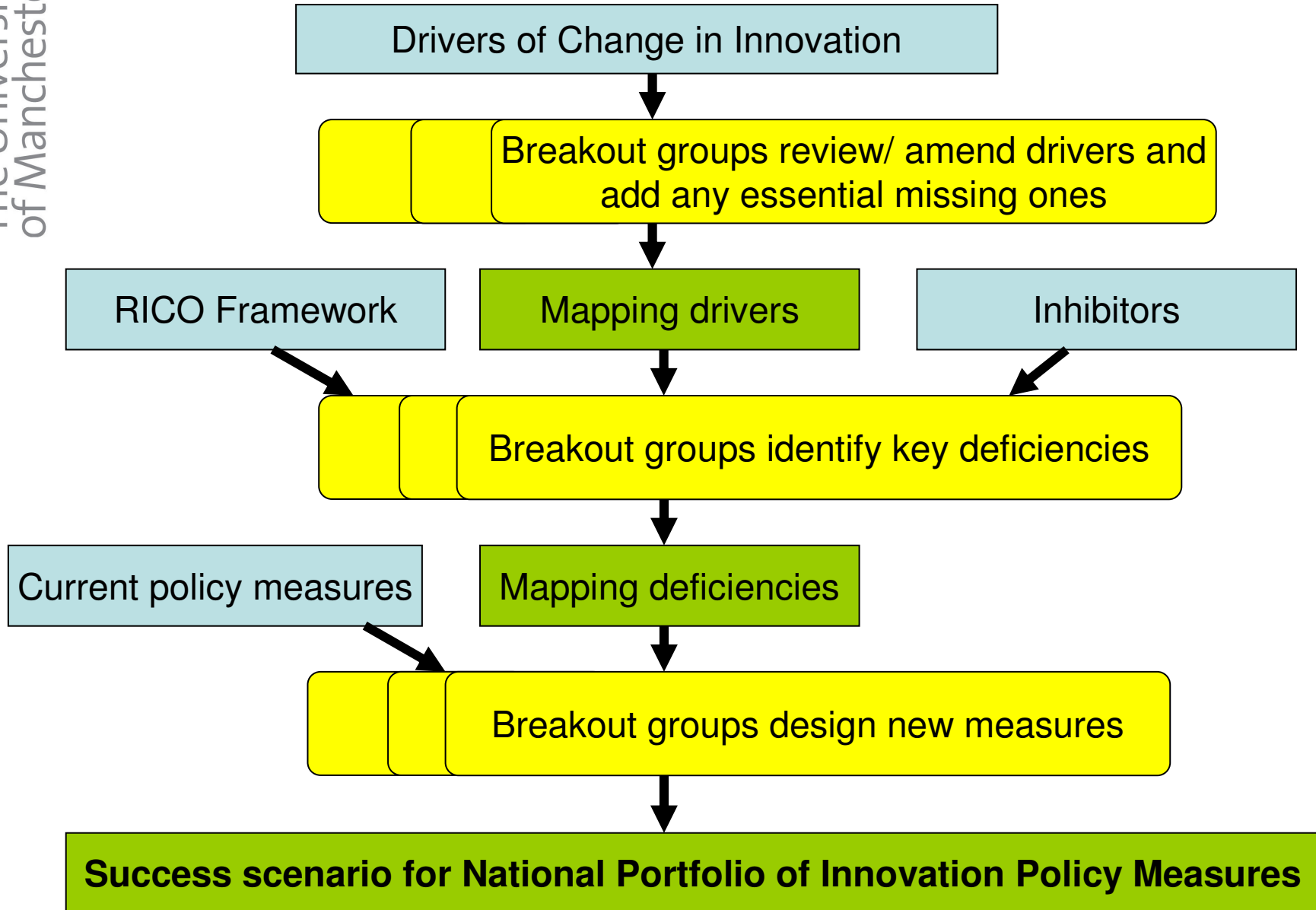
We sometimes use outlooks for each driver to generate three input scenarios

- **Alpha Outlooks** represent a “business as usual” future, in effect an extrapolation of current forces and processes (if not always an extrapolation of trends). Current frameworks and conditions relating to the set of influences are expected here to remain more or less unchanged, or changes that are already planned or in hand are expected to be introduced as scheduled, more or less successfully.
- **Beta Outlooks** consider, in particular, some of the many things that could ‘go wrong’. What would be the circumstances under which frameworks might break down without viable replacement, where projects and plans might go amiss? The intention here is to get a handle on counter-trends, reasons why undue optimism might be unfounded, challenges that could well need to be confronted if we do set out on the routes mapped out by the Alpha Outlook.
- **Delta Outlooks** consider potential changes in direction. The aim here is to go beyond analysis in terms simply of success or failure of the plans and programmes mentioned above. For instance, new goals might emerge, or new frameworks or rules of the game may be established. We are particularly interested in those possibilities that involve more visionary outcomes – especially if these contribute to solutions of major social problems.

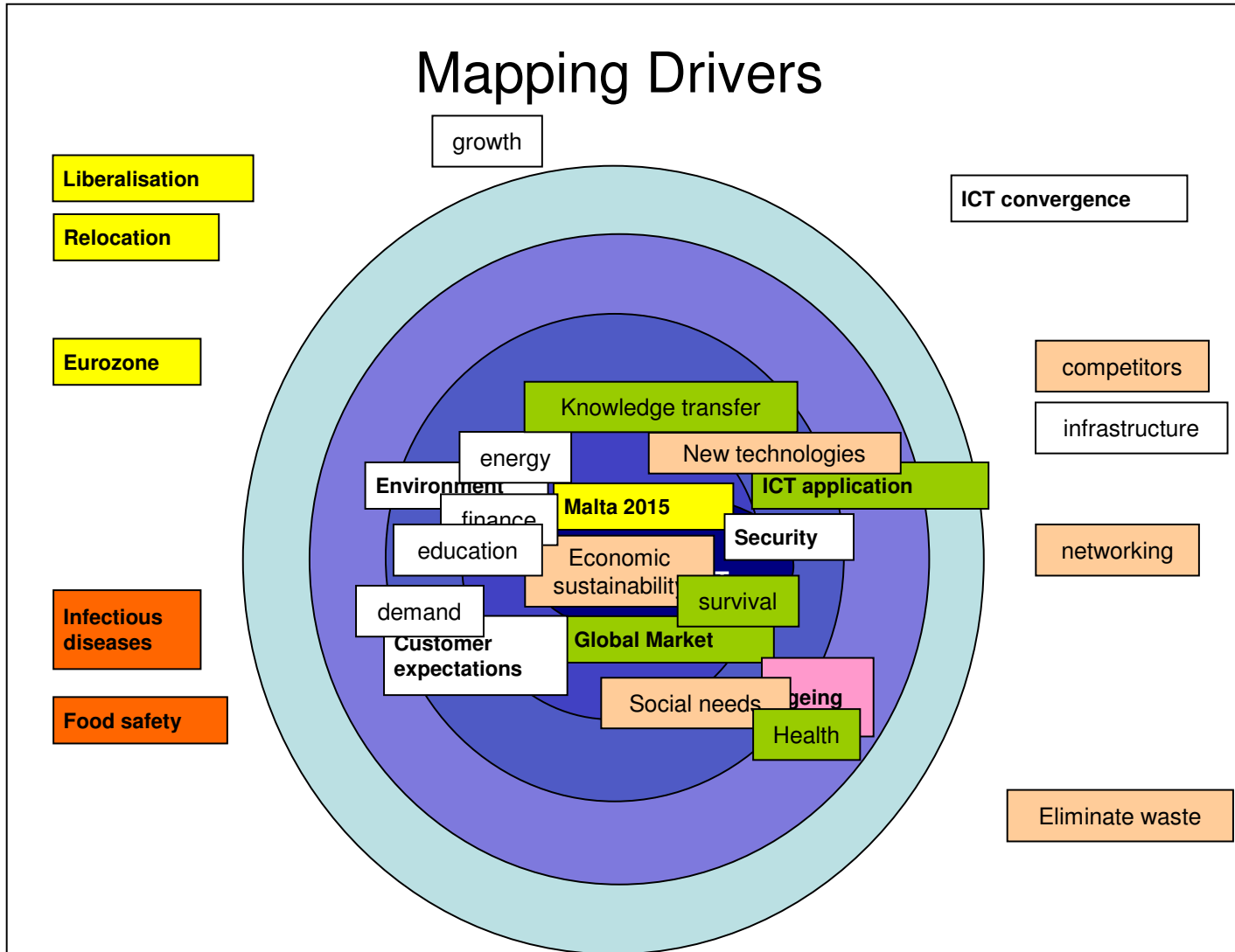
Participation



And need to let participants know the architecture

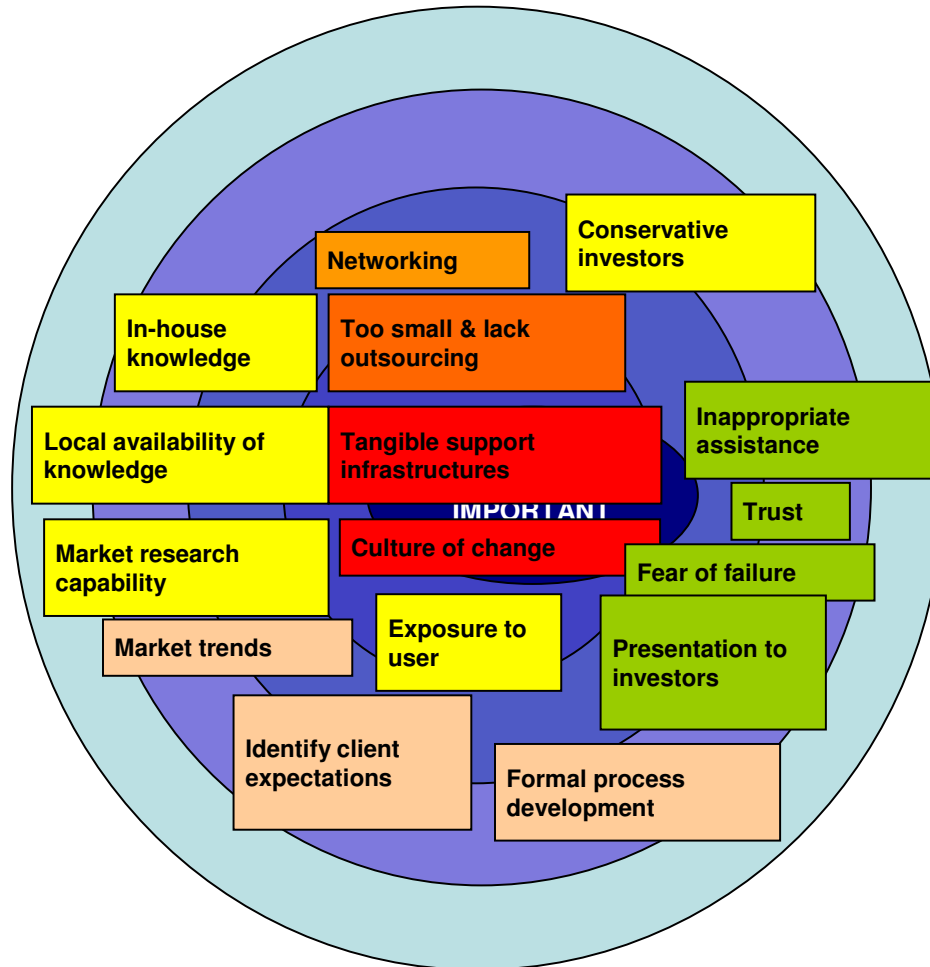


Graphics used to help plenary work



Group work developed ideas

Mapping Deficiencies



Main Output Success Scenario

Innovation Success Scenario for Malta

Change of culture: Culture of change

The Success Scenario for Malta takes as its core theme, Change of culture and Culture of change as culture emerged as the key driver of innovation featuring strongly in relation to the discussion on drivers, deficiencies and measures

Main features of Malta's Success scenario

Overall Vision

- Political Vision on Innovation targeting branding of Innovative Malta and the provision of innovative solutions for societal needs
- An ecosystem of well-networked organisations engaged in mutual learning for self-sustaining growth through the nurturing of constant adaptation and learning processes. This will be supported through a state-of-the-art support infrastructure and an accessible national knowledge platform to provide the springboard for innovation.
- Firms are well-networked to customers at home and abroad and attuned to market intelligence and scanning and enjoying enhanced In-house innovation management capabilities.

Actions Needed – all detailed in report

Innovative Measures to support Start-ups

Measure 1: Support Structures for Innovation

Measure 2: A Strategy for Culture of Change

Innovative Measures to support SMEs

Measure 1: An innovation framework for promoting a culture of change

Innovative Measures to support Large Firms

Measure 1: Supporting Infrastructure

Measure 2: Human Resources and Knowledge Transfer

A photograph of three men walking in a courtyard in Tunisia. The man on the left is pointing towards the left. The man in the middle is wearing glasses and a white shirt. The man on the right is wearing a striped shirt and glasses. They are walking on a paved area with a white building featuring a series of arches and columns in the background. The building has a distinctive black and white striped pattern on the arches. There are black street lamps along the walkway. In the distance, other people can be seen walking. The overall scene is bright and sunny.

Results and Lessons Learned from the INNFORMED Workshops in TUNIS

26 June 2008: Plant Biotechnology Applied to the Olive Oil Sector

Organisation

- Workshop aims
 - To answer the question of what success would like for Tunisia in the field of olive oil in 2020?
 - To identify the key steps that need to be taken now and in the future for the vision of success to be obtained.
 - To provide a basis in a future workshop for establishing or upgrading mutually beneficial cooperation with the EU and its Member States
- 20 participants from research institutes (biotech, growing, processing), government ministries and business sector
 - Commented that they had not been together in this configuration previously

Key economic facts in background

- Tunisia is fourth ranking with production of 157 000 T/yr, exporting over 70 % of its production versus 38 % for Spain and 33 % for Italy.
- Export of packaged Tunisian olive oil is very low, representing 2 % of exports, versus 65 % for Italy, 45% for Spain and 40 % for Greece.
- In terms of quality produced, 75% of European Union production is extra virgin oil while the level in Tunisia is around 25% to 30% of total production
- Costs for olive cultivation and related activities are 50 % higher than for the Spanish

Success scenario – detailed but some key elements here

- Increased Production
 - eg Increased area under production
- Increased Value of Production
 - eg Techniques using genetic markers and other GE approaches
- Improved characteristics of extracted oil
 - eg Improved stability of the oil (anti-oxidants)
- Matching of the needs of buyers and users, consumers ...
 - eg Formal requirements in terms of norms
- Improved use of other by-products ...
 - eg pulp (margins) can be used for extraction of bio-active molecules
- Improved Structure of Industry
 - eg support the consolidation of the sector to achieve critical mass
- Improved Market Positioning
 - eg positive image of Tunisian Olive Oil abroad based on Science and Technology, clinical or nutritional claims and other characteristics

Elements of the Olive Oil Roadmap 2 (Further detail ...)

OBJECTIVES and GOALS

Now (ALPHA Outlook)	Then (DELTA Outlook)	Steps to take ...
<p>??? hectares of olive trees currently under cultivation ...</p> <p>(check how many hectares are under cultivation today)</p>	<p>??? hectares will be cultivated in 2030</p> <p>(insert number of hectares for the future or set a target in terms of % increase in area to be cultivated)</p>	<ul style="list-style-type: none"> • Develop draught resistance to increase area under cultivation ... • Identify varieties with the highest level of resistance ... • Develop new varieties that have improved levels of resistance using a variety of techniques ... • Apply traditional techniques to improvement ... • Introduce advanced techniques based for example on genetic engineering ... • Measure and manage progress towards quantifiable goals ...
<p>COMMENT: There was an interesting discussion on how to quantify goals and set targets ... even though there seem to be no objective measures of ‘resistance to drought’ ... there are practical measures of the impact of resistance to drought ...</p>		
PARTNERSHIPS		
Now (ALPHA Outlook)	Then (DELTA Outlook)	Steps to take ...
<ul style="list-style-type: none"> • Informal and inter-personal partnerships exist • These are ad-hoc and are not developed in a systematic way for professional purposes ... 	<p>Have staff dedicated to developing and maintaining partnerships and professional networks ...</p>	<p>Systematically involve:</p> <ul style="list-style-type: none"> • Nurseries and growers • Processors • Buyers • Ministry of Agriculture • Universities and research labs

Conclusions

- Foresight has important role to play in building vision and commitment to action in policy and strategic areas with high TT content
- The future is a space for discussion where current political and organisational interests move away from foreground of debate
- Essential to get engagement of key players if results are to be applied

Some links

Grand Challenges

- http://ec.europa.eu/research/era/pdf/era7-era-rationales-final-report_en.pdf
- Demand side innovation policy
 - http://ec.europa.eu/invest-in-research/action/2006_ahogroup_en.htm
- European Foresight Platform (formerly EFMN)
 - <http://www.foresight-network.eu/>
- INNFORMED project
 - <http://www.innformed.org/>

