IOIR

PREST

Ten Years of UK Technology Foresight

Ian Miles

PREST

http://les1.man.ac.uk/PREST

Ian.Miles@man.ac.uk

Presentation to NISTEP, February 2003

IOIR

PREST

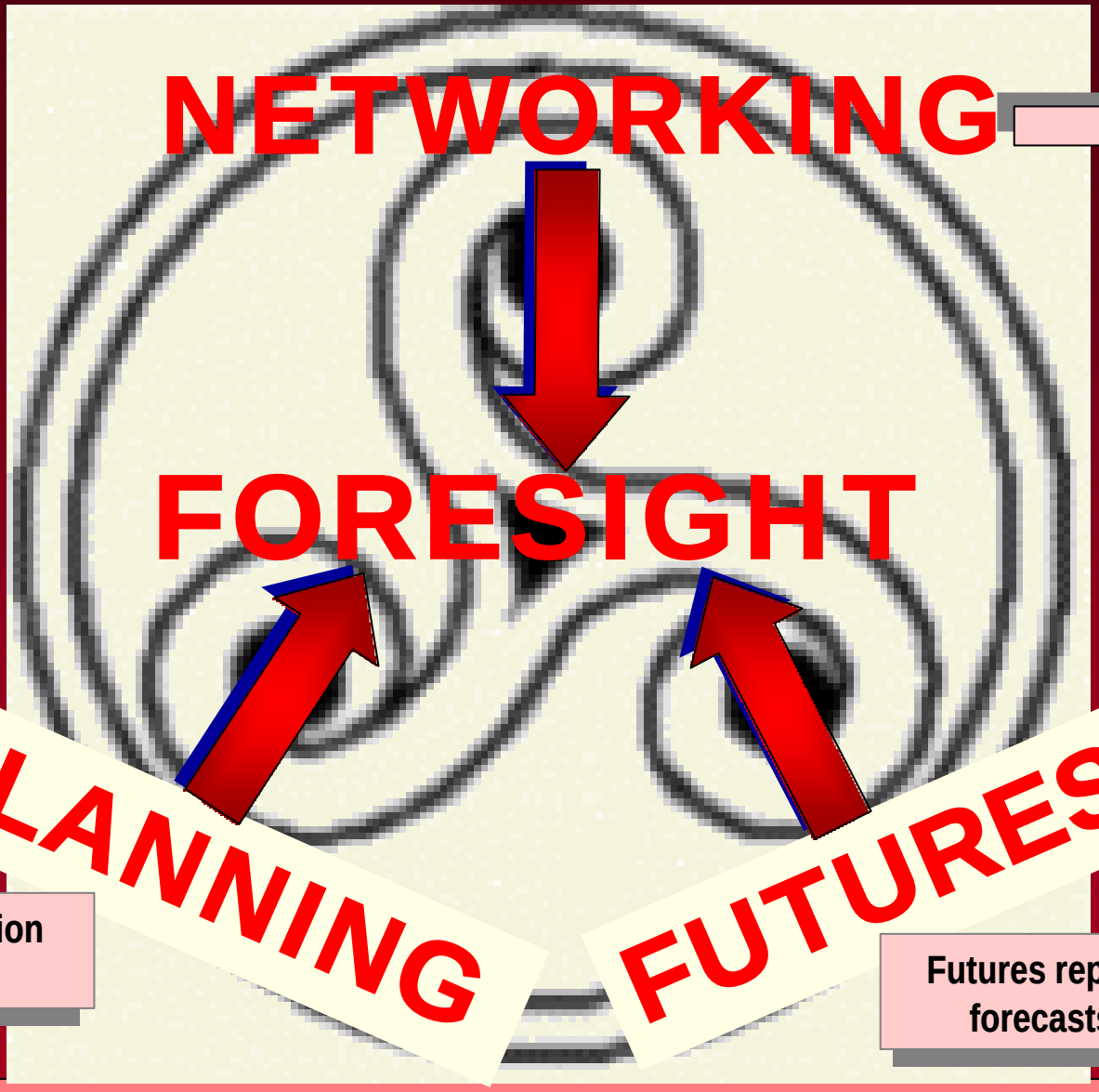
10 Years of Technology Foresight

- What is Foresight? More than the National Foresight Programme
- Three Cycles of the National Foresight Programme: retrospect and prospects
- Foresight more widely in the UK

IOIR

PREST

Fully-Fledged Foresight (3 footholds)



Broadening participation, establishing and reinforcing networks

Strategic action plans

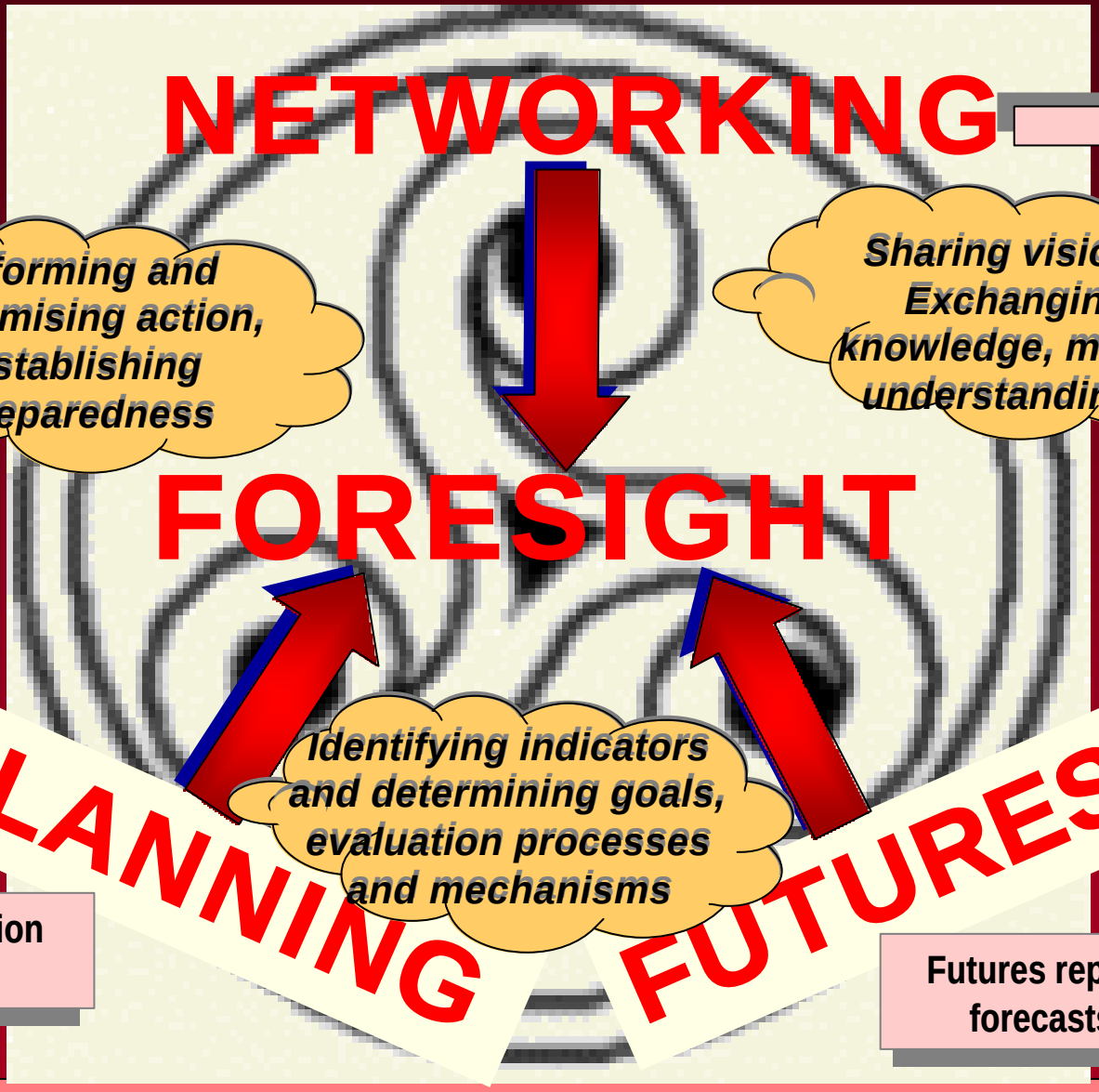
Futures reports, scenarios, forecasts and visions

Presentation to NISTEP, February 2003

IOIR

PREST

Fully-Fledged Foresight (3 footholds)



NETWORKING

Broadening participation, establishing and reinforcing networks

Informing and legitimising action, establishing preparedness

Sharing visions. Exchanging knowledge, mutual understanding...

FORESIGHT

Identifying indicators and determining goals, evaluation processes and mechanisms

PLANNING

Strategic action plans

FUTURES

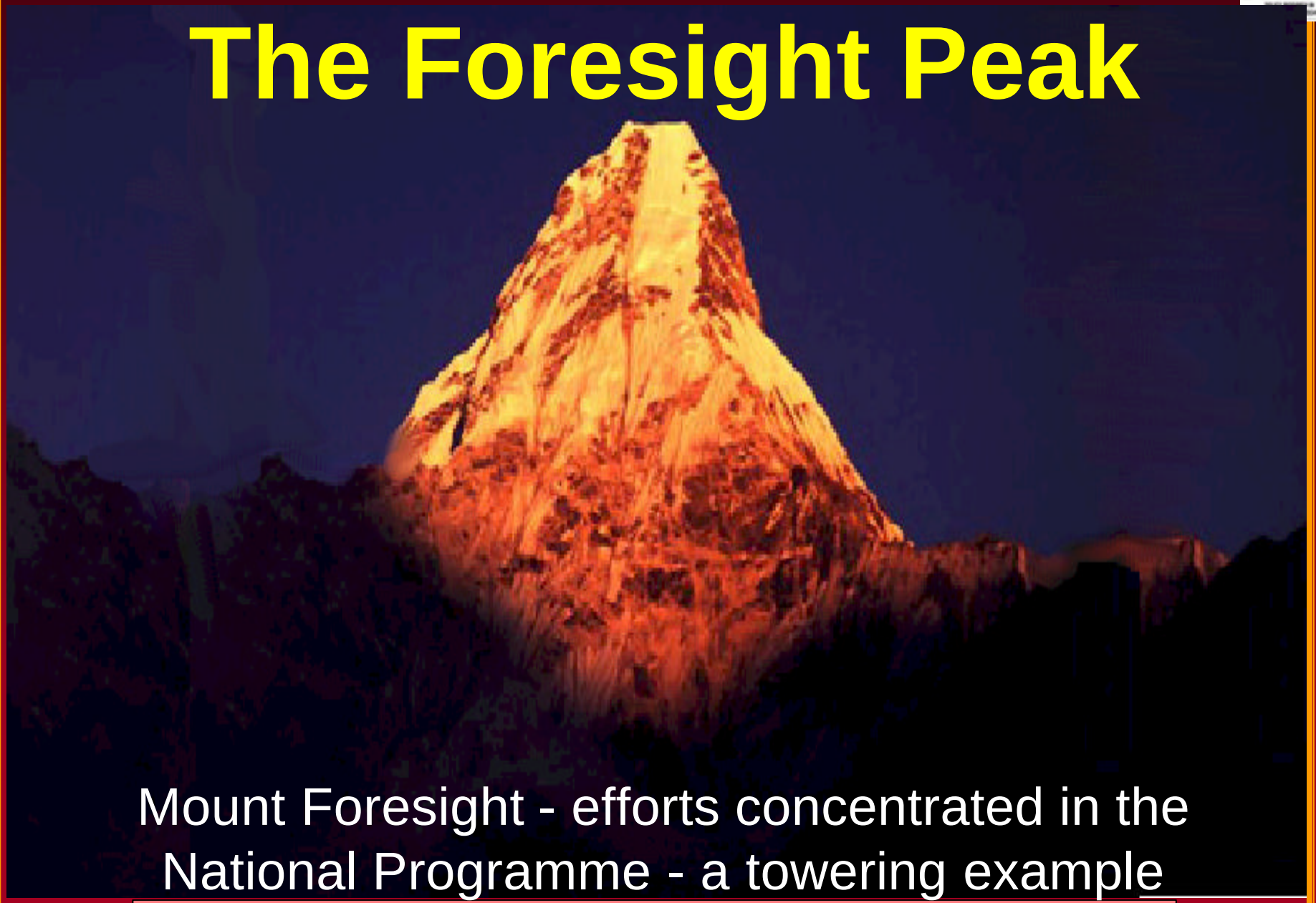
Futures reports, scenarios, forecasts and visions

Presentation to NISTEP, February 2003

IOIR

PREST

The Foresight Peak



Mount Foresight - efforts concentrated in the National Programme - a towering example

Presentation to NISTEP, February 2003

IOIR

PREST

Three Cycles of Foresight

Presentation to NISTEP, February 2003

IOIR

PREST

UK Technology Foresight Programme - early 1990s

- Prehistory of concerns about national innovation system , attention to Foresight in other NIS (esp. Japan: Irvine/Martin), 1990s efforts to determine critical technologies
- 1993 **White Paper:** improve connection between science base & wealth creation + quality of life. Foresight a major instrument.
- **Specific goals:** to inform priorities *(planning)* & promote "Foresight culture" of forward and longer term thinking "beyond the business plan" *(futures, networking)*

Early 1990s Organisational Flow

Initial stages of First Cycle

Pre-foresight
Steering committee
Co-nomination
15 panels prepared

Main stage
- Key issues & trends
- Scenarios
- Wide consultation
- Delphi survey
- Regional workshops
- Panel reports
- Steering Committee report - priorities

IOIR

PREST

Original Foresight Panels (94-98)

- ☑ Agriculture, Horticulture & Forestry *(split)
- ☑ Defence & Aerospace
- ☑ Financial Services
- ☑ Health & Life Sciences
- ☑ Leisure & Learning
- ☑ Manufacturing, Production & Business Processes
- ☑ Retail & Distribution
- ☑ Transport
- ☑ **Chemicals**
- ☑ **Construction**
- ☑ **Energy**
- ☑ **Food & Drink**
- ☑ **IT, Electronics & Communications** (merged)
- ☑ **Marine** **(new)
- ☑ **Materials**
- ☑ **Natural Resources & Environment** *(split)

Mix of technology and "demand"

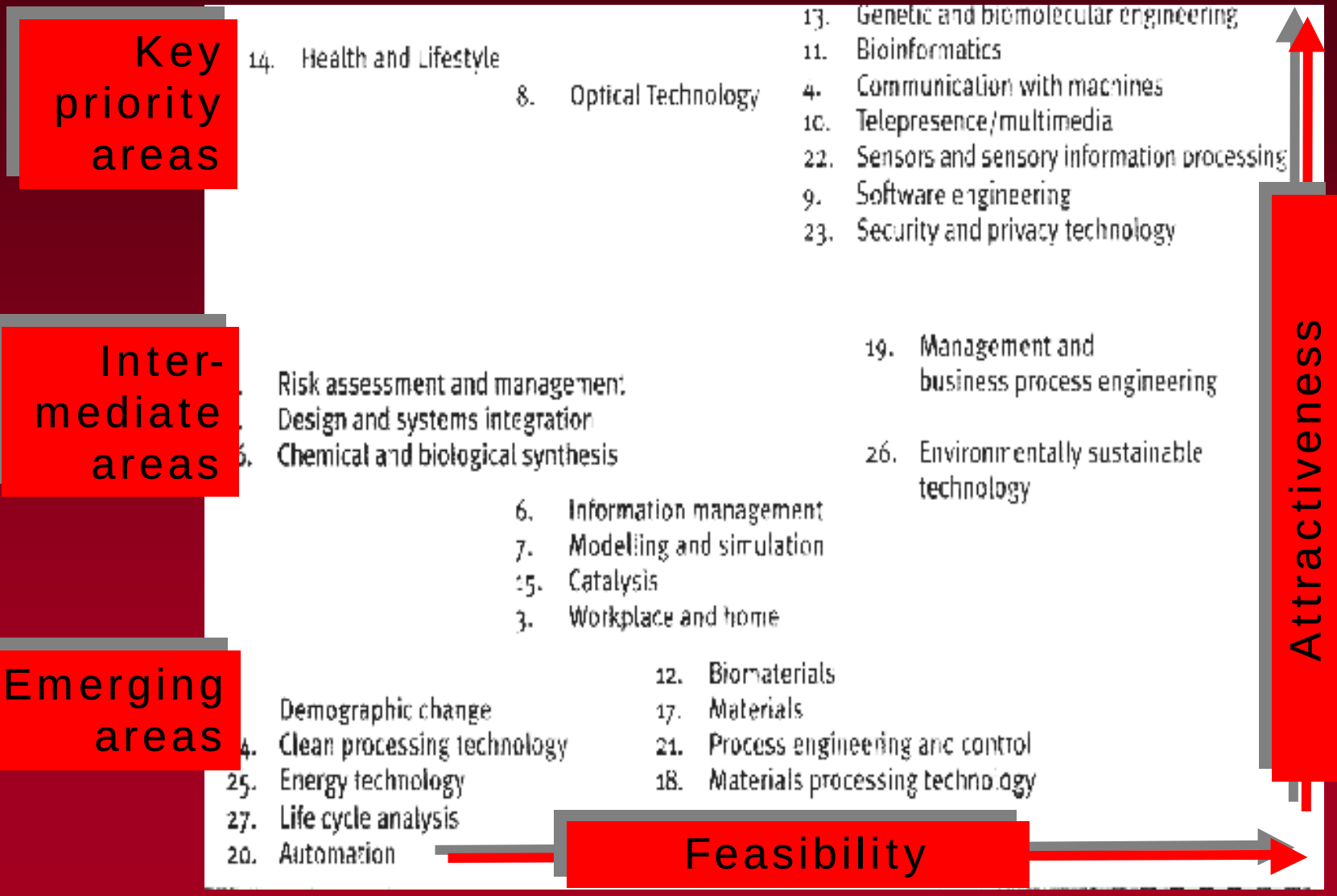
Missing sectors?

Analysis of Cross-sectoral links (e.g. food chain)

Structure: *Panels (Sectoral and Technological) at the centre of the process*

- Defining constituencies of expertise and stakeholders
- Generating lists of Delphi topics
- Undertaking consultations
- Preparing own views as to R&D (and other) priorities in interim and final reports
- Forwarding their proposals in follow-up work.

One Priority: Priorities!



IOIR

PREST

Foresight implementation

- Dissemination by Panels through media, workshops, professional & trade associations
  - 600 events, 130,000 reports distributed
  - 1998 Delphi on website - high usage
- Foresight Challenge funding initiative to support key priorities – e.g. Institute of Applied Catalysis. LINK programme.
- 54% of Research Council spend aligned with priorities of which £300 million new initiatives
- Other government departments acting on own areas, and Panels champion this: Transport, Construction, Defence, etc; and better co-ordination between departments
- Foresight was element in gaining major increase for science funding in Government's Comprehensive Spending Review

IOIR

PREST

Retrospect on First Cycle

Successes

- huge level of voluntary participation
- widespread support, political commitment sustained
- broad priorities accepted
- networking seen as beneficial
- “Foresight” more widely accepted as tool
- taken as model by many other countries

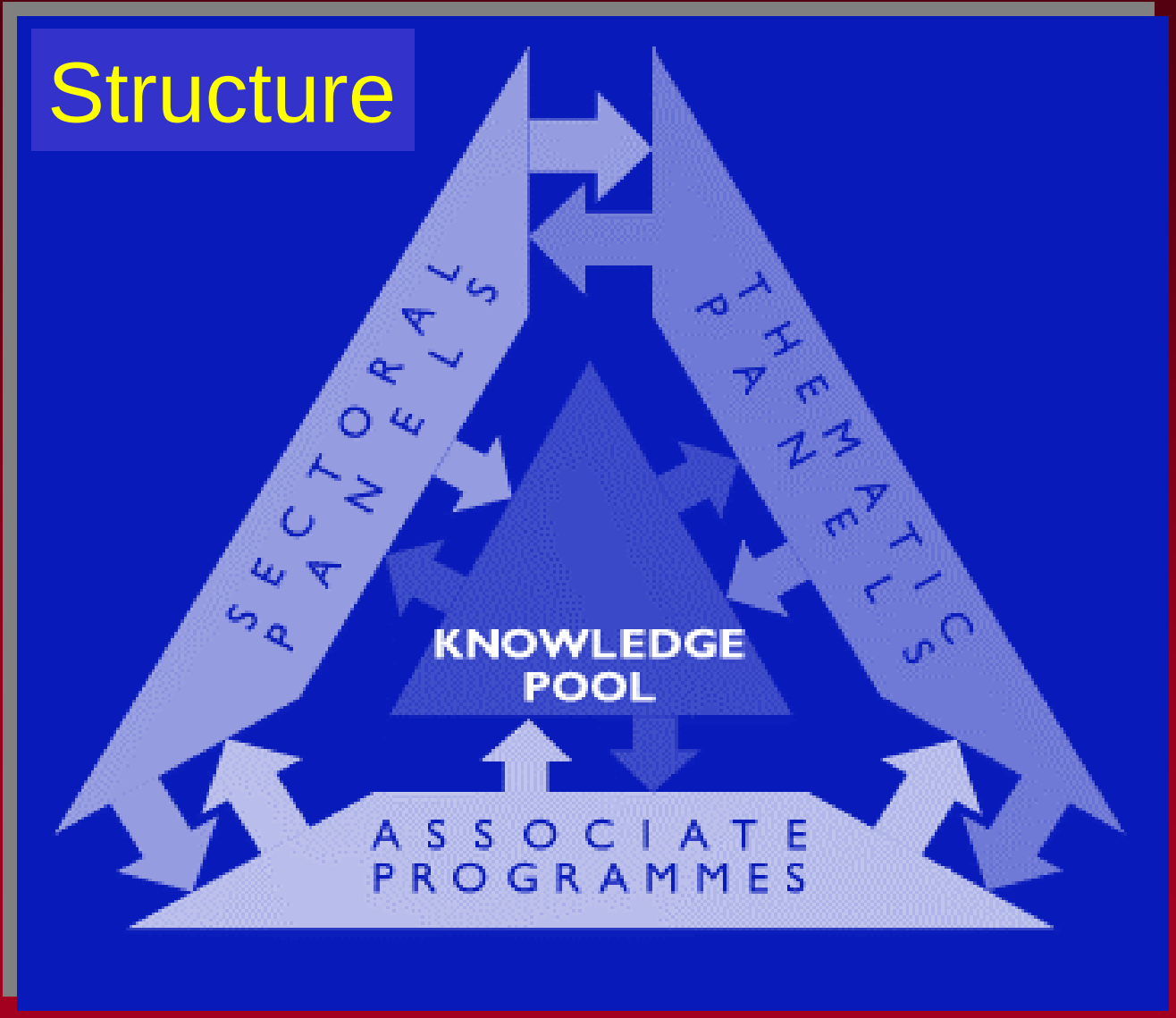
Problems

- insufficient time - esp for USE of Delphi - some frustration
- insufficient technical support, communication problems, lack of coordination and resource pooling between panels, poor comms between panel members and non-members
- tendency to “technical fix” solutions - even though many social constraints & issues identified

IOIR

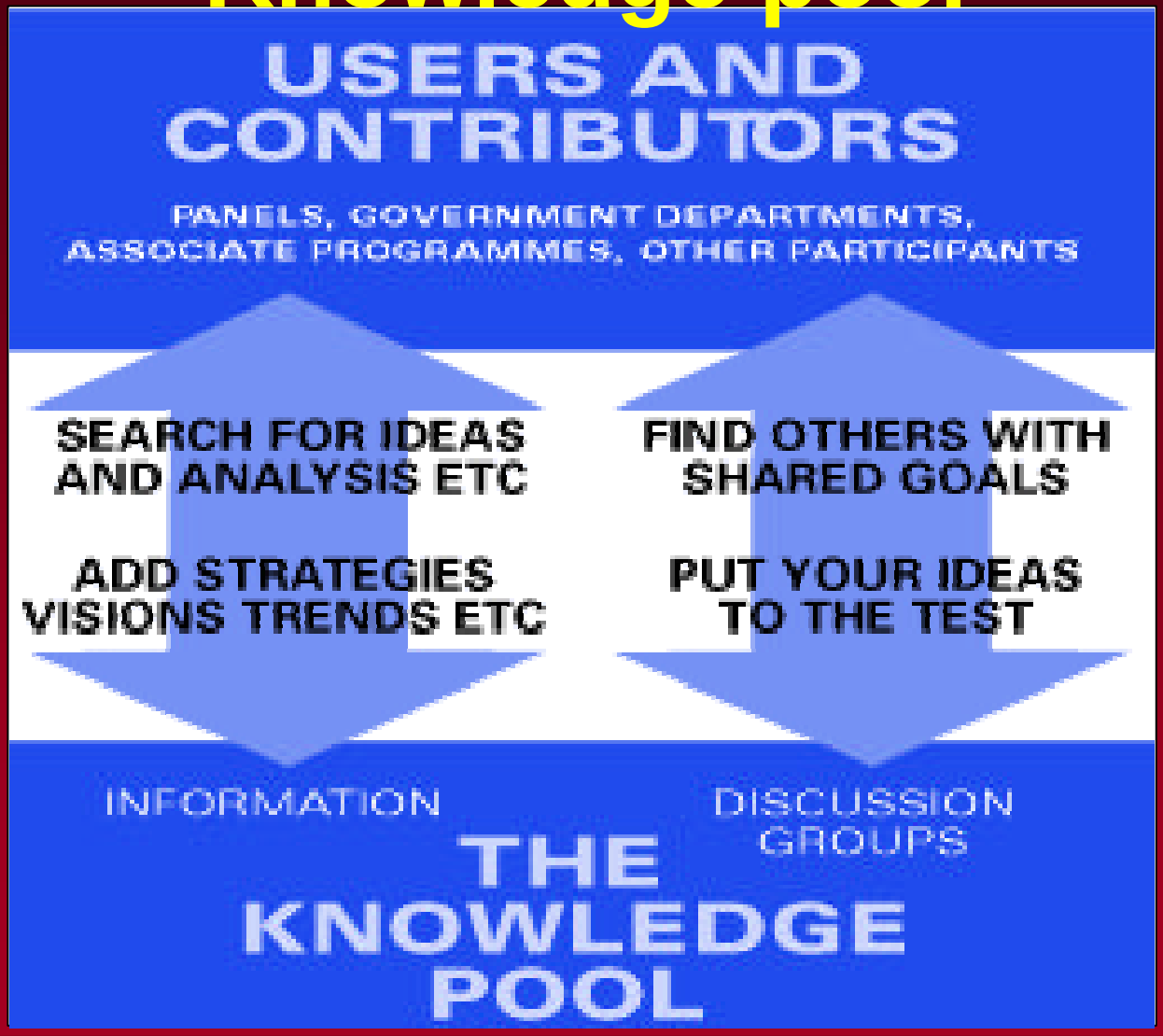
PREST

Second cycle



Source:
Blueprint for the Next Round of Foresight
Office of Science and Technology

Coordinating device: Knowledge pool



PREST

Second Cycle - Other key elements

- **Thematic panels** cutting across issues and bringing in social dimension
  - Ageing population
  - Crime prevention
  - Manufacturing 2020
- All panels to consider **Education, Skills and Training** and **Sustainable Development**
- **Task forces** to stimulate further inter-panel working
- **Associate programmes** to harness enthusiasm of other communities with foresight interest
- Senior executives chairing several panels to reach beyond science & technology community
- **No Delphi**

IOIR

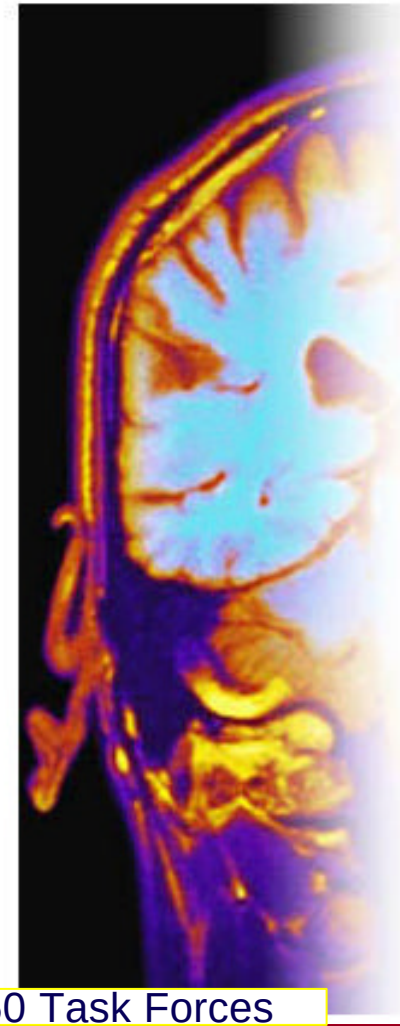
A Transformed Website

Foresight
Making the future work for you

Home | News & Events | What's New | Search | Publications | Help
Consultation | Related Websites | Task Forces | Associate Programmes | Review Area

Welcome to Foresight

- Foresight around the UK
- Ageing Population
- Built Environment and Transport
- Chemicals
- Crime Prevention
- Defence, Aerospace and Systems
- E-Commerce
- Energy and Natural Environment
- Financial Services
- Food Chain & Crops for Industry
- Healthcare
- Information, Communications and Media
- Manufacturing 2020
- Marine
- Materials
- Retail and Consumer Services
- Education, Training and Skills
- Sustainable Development



The UK's Government-led Foresight programme brings people, knowledge and ideas together to look ahead and prepare for the future.

Business, the science base, Government, the voluntary sector and others work through thirteen Foresight panels to think about what might happen in the future and what we can do about it now to increase prosperity and enhance the quality of life for all.
Click to find out more about Foresight.

Foresight can help you get ready for the future by...

...giving you the chance to get involved in Foresight networks and contribute to the **current Foresight consultations**.

...providing free access to a wide range of information about the future, including the current thinking of Foresight panels and others. Click to find out how to use this site or get copies of Foresight publications.

...providing guidance on how you can do Foresight for yourself. Click to find out how to do Foresight and for scenarios, trends and statistics to get you started.

TF
CP
CP

→ sectoral → thematic, Almost 50 Task Forces

Presentation to NISTEP, February 2003

IOIR

PREST

Retrospect on Second Cycle

- Cut short - internal high level review initiated
- Impact and profile less than First Cycle
- Some reports publicly criticised in Parliament by responsible Minister – variable quality
- Problems with Knowledge Pool - low interactivity
- Short Steering Group report – pamphlet without priorities exercise
- Website streamlined, much documentation removed (key reports remain, but not always easy to locate)
- Why was there failure to build on relative success of First?

IOIR

PREST

Second Cycle Problems

- Institutionalisation of panels - reduced access to vision and individual commitment of members, and increased lobbying content
- Panel chairs lacked time or commitment
- Transfer of methodological design to new framework, plus staff changes, reduced any capitalisation or learning from first cycle
- Lack of core methodology - reduced rigour of approach, scope for integration
- Still awaiting rigorous evaluation

2001 Organisational Flow

IOIR

PREST

Third Cycle

- Aim "to increase UK exploitation of science", inform but not direct public and private research funders
- LINK cannot be driven by Foresight priorities, though should be seen as useful and responsive mechanism
- Replacing broad set of standing panels with fluid rolling programme of projects, organised in different ways...
- Brainstorming of "visionaries" to develop initial shortlist of projects
- Projects based on initial seminar, literature and horizon scanning, in-house and external support with use of futures techniques to avoid extrapolation
- Delivery target: overview, vision of what success will look like, recommendations for action, networks keen to take recommendations forward

Website Now

Foresight

Making the future work for you

Home | Site Map | Whats New | Search | Login to Private areas | Help

Update on Foresight Consultation

Projects:

Cognitive Systems

Flood and Coastal Defence

Foresight:

About Foresight

Previous Rounds

Publications

News and Events

Website Info

Related Web Sites

Register Your Interest

Contact Us

Welcome to Foresight

The current Foresight Projects are investigating the future of **Cognitive Systems** and **Flood and Coastal Defence**

What is Foresight?

- The UK Foresight programme is managed by the Office of Science and Technology and brings together key people, knowledge and ideas to look beyond normal planning horizons to identify potential opportunities from new science and technologies and actions to help realise those opportunities.
- The current round of Foresight - launched in April 2002 - operates through a fluid, rolling programme that looks at 3 or 4 areas at any one time. The starting point for a project area is either: a key issue where science holds the promise of solutions; or, an area of cutting edge science where the potential applications and technologies have yet to be considered and articulated. For more about the first two projects - 'Flood and Coastal Defence' and 'Cognitive Systems' - and how we are collecting views, please click on the appropriate button on the left panel.
- For more background information on the UK Foresight Programme click here.

News

- Update on Foresigh Consultation.

IOIR

PREST

Third Cycle - First projects

- **Flood and coastal defence project**
  - To produce a long term (2030-2100) and holistic vision for future risk of fluvial and coastal flooding taking account of climate change, land use and socio-economic change
  - Method to produce range of risk-based scenarios and review possible responses to threats and implications
  - OST project team (4 people) + experts, website consultation, workshops and commissioned work
- **Cognitive systems project**
  - To produce vision for future development of cognitive systems through exploration of recent advances in neuroscience, computer science and related fields over next decade
  - Method holding parallel workshops in life and physical sciences and then bringing together on basis of summaries by expert writer –budget £250K

Two more projects imminent - 4 at any time

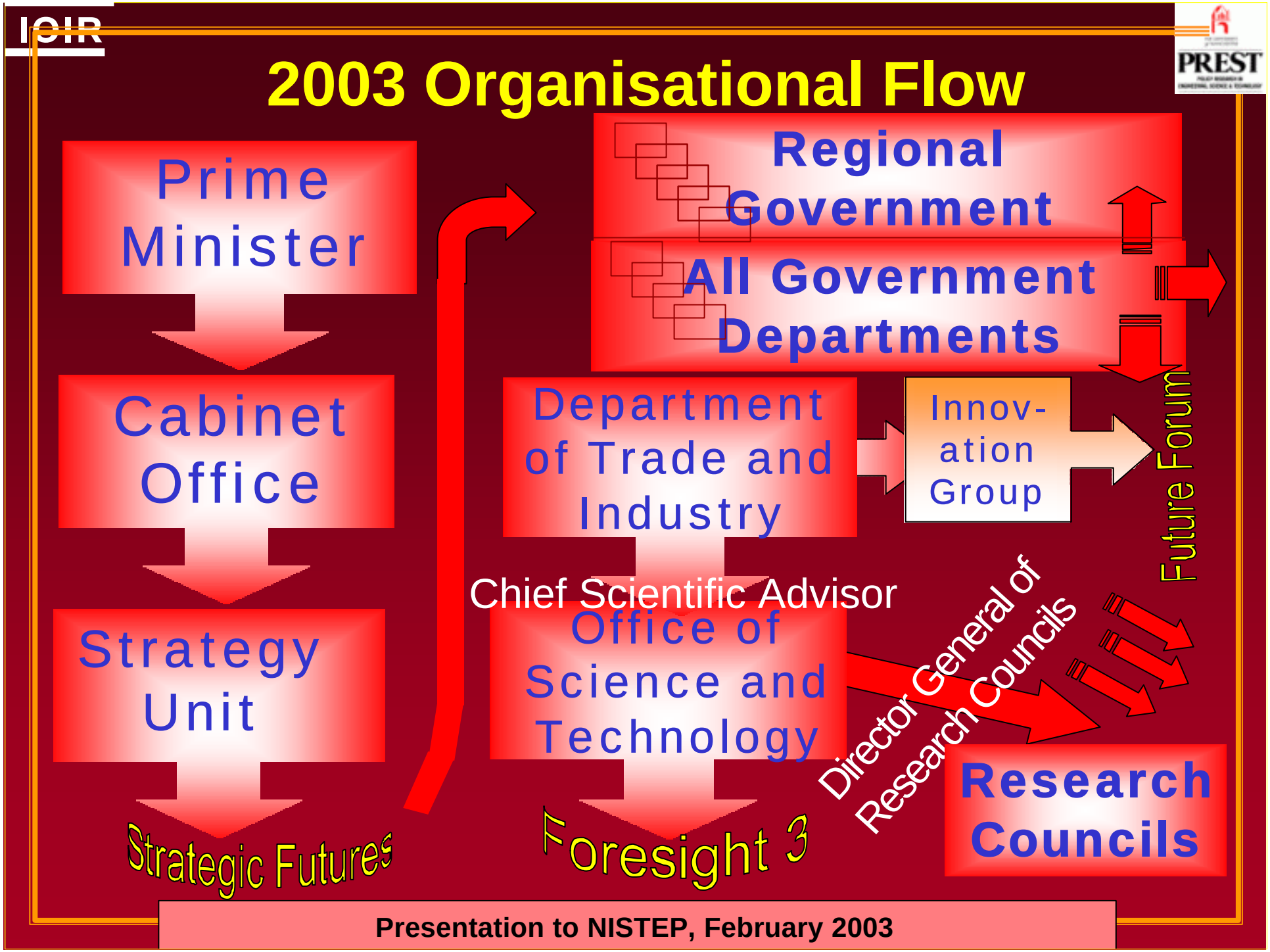
IOIR

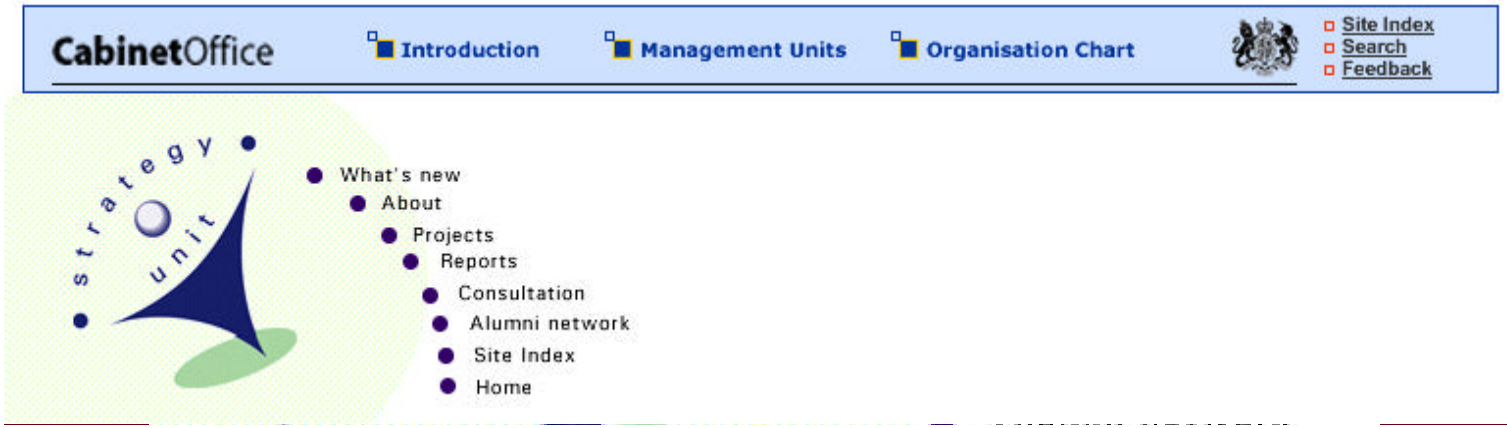
PREST

Three Cycles of Foresight

people working in Foresight directorate

1994 2000 2002


IOIR
PREST
2003 Organisational Flow
Prime Minister
Cabinet Office
Strategy Unit
Strategic Futures
Regional Government
All Government Departments
Department of Trade and Industry
Innov-ation Group
Future Forum
Chief Scientific Advisor
Office of Science and Technology
Foresight
Director General of Research Councils
Research Councils
Presentation to NISTEP, February 2003



What's new

February 2003

- Local Government in the Future (10 February) The PM and DPM have asked the Strategy Unit to carry out an analysis of: the key social, economic and political trends likely to impact on local government over the next 10-15 years; the scenarios that may alter the future environment within which local government operates; and the implications of key trends and scenarios for local government over the next 10-15 years.
- The London Project (7 February) The Prime Minister and Deputy Prime Minister have asked the Strategy Unit to undertake a study of the long-term issues facing London and its role as the UK's capital and as a world city. The study will help to inform long-term policy-making.
- Assessment of Technological Options to Address Climate Change (February 4) This report reviews the technical potential of low-carbon technologies to reduce global greenhouse gas emissions by the middle of the century. It looks at the current and future costs of different technologies, and their suitability in different regions of the world. It was commissioned by the Strategy Unit and undertaken by ICCEPT at Imperial College.

January 2003

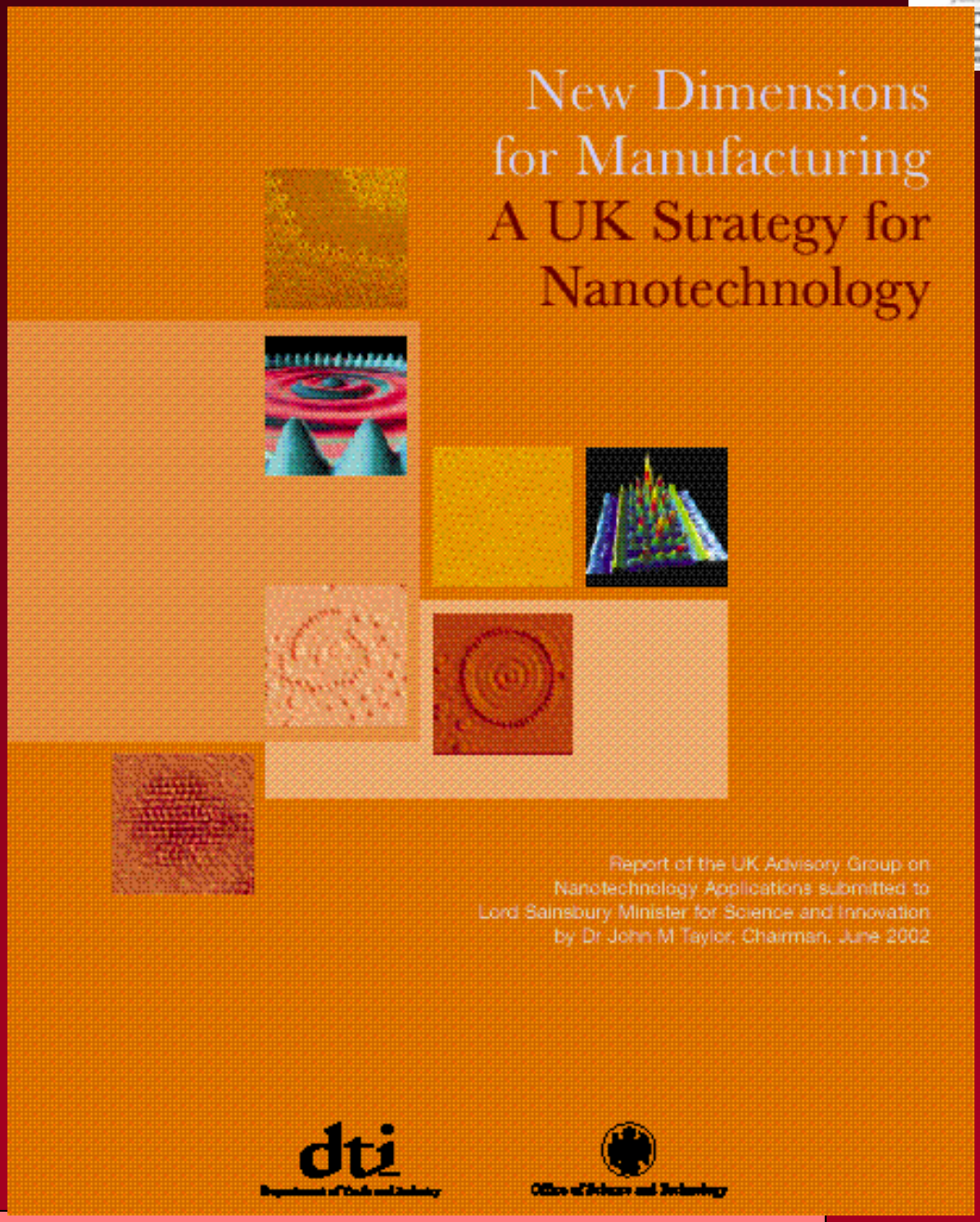
- GM Crops - (30 January) The Strategy Unit has now published an overview methodology paper and a series of background working papers. Responses to these papers are invited, to arrive by 5.00pm on Friday 28th February 2003.

http://www.cabinet-office.gov.uk/innovation/whatsnew/whatsnew.shtml (1 of 3) [2/12/2003 3:58:19 PM]

DGRC Scenario Workshops:

biotechnology,
ICT,
nanotechnology
...

not *very* long term,
but participatory,
scenario
workshop plus
research, linked
to action ➔ ➔ ➔



IOIR

PREST

Foothills of Foresight

A rich Foresight landscape - what is the role of the National Programme?

Presentation to NISTEP, February 2003

IOIR

PREST

A Diverse Environment

- Overall S&T priority setting across areas is now the function of (new)overarching body for Research Councils (RCUK). This selects key areas to propose to HM Treasury. DGRC work feeds in here - Foresight as rationale. Some RC work too - e.g. ESRC Genomics Scenarios.
- Foresight activities now underway continually and/or on occasional basis in many locations, and many other parts of public sector and government now taking this on board.
- Not everything that is labelled Foresight is strictly speaking Fully-Fledged Foresight: but some things not labelled Foresight are!
- Currently - limited use of Delphi-type methods in UK, though EU development ongoing.

IOIR

PREST

Conclusions

- Cycle 1: First Foresight programme was major step in arresting declining role (and budget) of S&T) in political agenda
- Follow-up was bound to be difficult but problems of cycle 2 were unanticipated. Not simply a matter of "over-reaching" beyond narrow Technology Foresight.
- Cycle 3: focussed Foresight activity - closely engaged with strategic decision-making within pre-selected areas of S&T (thus very limited if any role in selection of priorities across areas).
- To some extent original goals of refocusing science base have been achieved
- To some extent Foresight culture more generally embedded - but what role for centre now? And how to relate to EU activities?

IOIR

PREST

End of Presentation