



NATIONAL RESEARCH
UNIVERSITY

Foresight experience from the UK & Russia

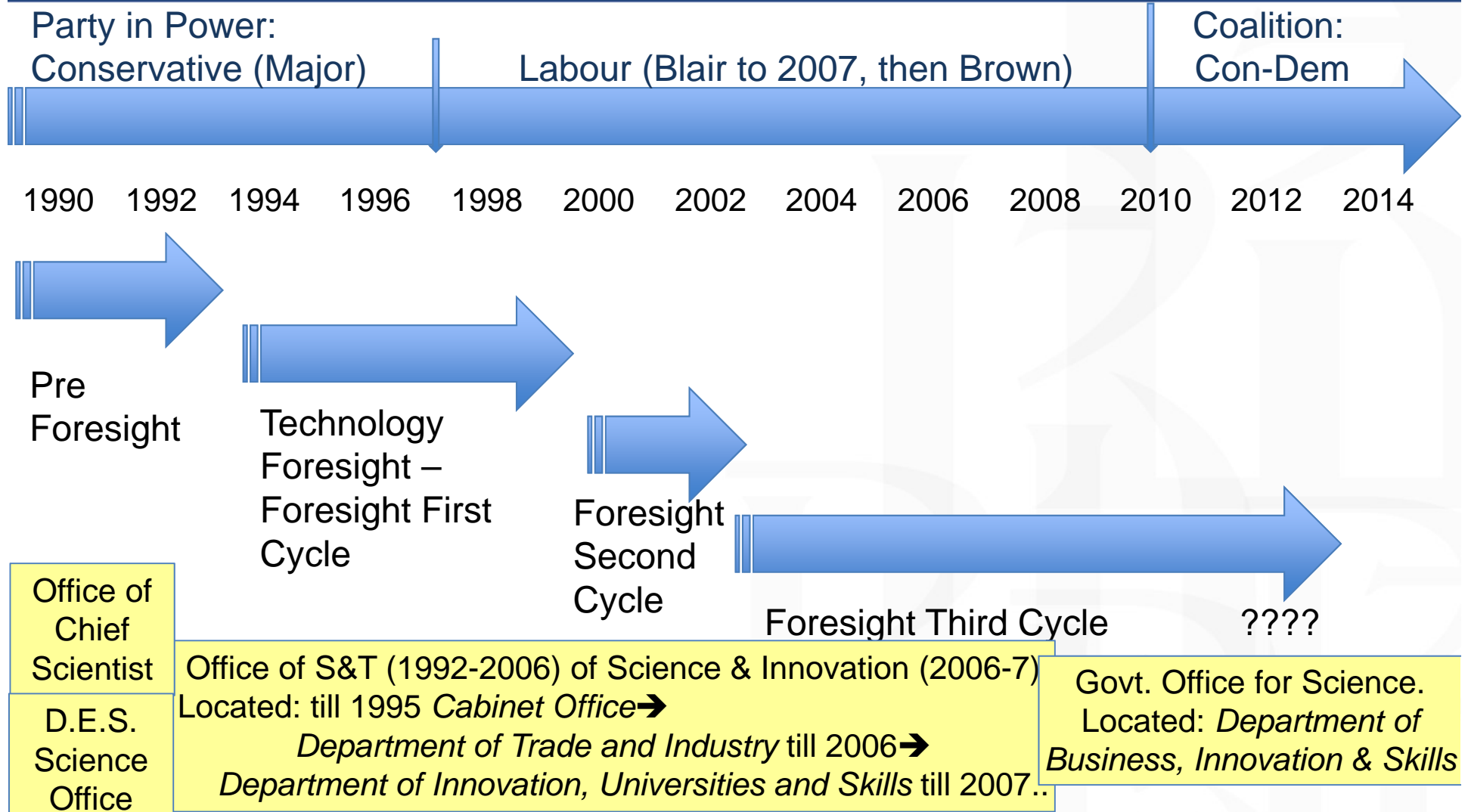
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*Many thanks to Prof. Ian Miles, Alexander Sokolov and Alexander Chulok of the HSE for their valuable contributi

Three cycles of Foresight in the UK





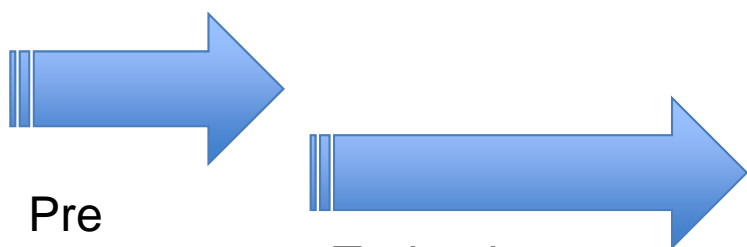
Early Foresight

"We consider Foresight to be a long overdue attempt to address the UK's failure to turn excellence in basic research into industrial success. We want to make sure that its momentum is not lost".

Party in Power:
Conservative (Major)

Labour (Blair)

1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014



Pre
Foresight

Technology
Foresight –
Foresight First
Cycle

Office of
Chief
Scientist

D.E.S.
Science
Office

Office of S&T (1992-2006)

Located: till 1995 *Cabinet Office* →
Department of Trade and Industry.

- Informing major decisions about R&D funding.
- Sectoral/Technological panels with some common methodology and orientation.
- Substantial impacts on priorities.
- But also: “wiring up of national innovation system”.
- Much learning embedded into major ministries and senior policymaking
- Widely acclaimed.

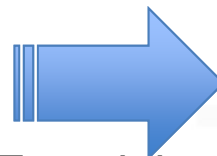
Foresight, Interrupted

Party in Power:

Labour (Blair to 2007, then Brown)

1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014

- Intended to carry on Foresight mission – but with new staffing.
- Numerous panels and WGs, with little common methodology
- Hope of using new web-based media.



Foresight
Second
Cycle

- Quality of panel work challenged.
- Topics “lacked ownership” in DTI
- Programme reviewed, and found to be mismatched to the Foresight mission.

Office of S&T (1992-2006)
Located: *Department of Trade and Industry..*



Foresight Rebooted – the Third Cycle

Party in Power:

Labour (Blair to 2007, then Brown)

Coalition:
Con-Dem

1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014

- Moved away from wide-spectrum Foresight, to more Focused Foresight projects directed at specific themes
- Aimed for impact by enlisting senior policymakers into leading roles
- A few cases of limited impact but many projects highly influential.
- Location subject to wider politics.

2004 OST Horizon
Scanning Centre
in Foresight Unit

Foresight Third Cycle

????

Office of S&T (1992-2006) of Science & Innovation (2006-7)
Located: *Department of Trade and Industry* till 2006 →
Department of Innovation, Universities and Skills till 2007..

Gvnmnt. Office for Science.
Located: *Department of
Business, Innovation & Skills*



Third cycle of Foresight – completed projects



Detection and Identification of Infectious Diseases



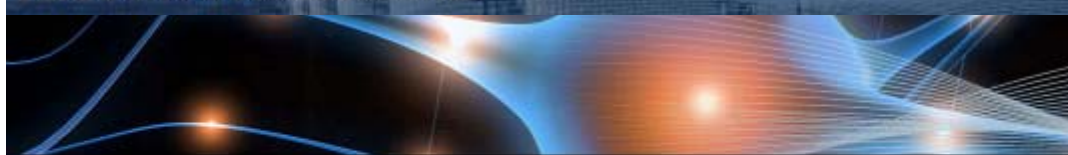
Brain Science and Addiction



Cyber Trust and Crime Prevention



Flood and Coastal Defence



Cognitive Systems



Land Use Futures



Intelligent Infrastructure Systems



Mental Capital and Well Being



Sustainable Energy Management and the Environment



Tackling Obesity: Future Choices



Exploiting the Electromagnetic Spectrum

Third cycle of Foresight – the most recent projects

The Future of Cities

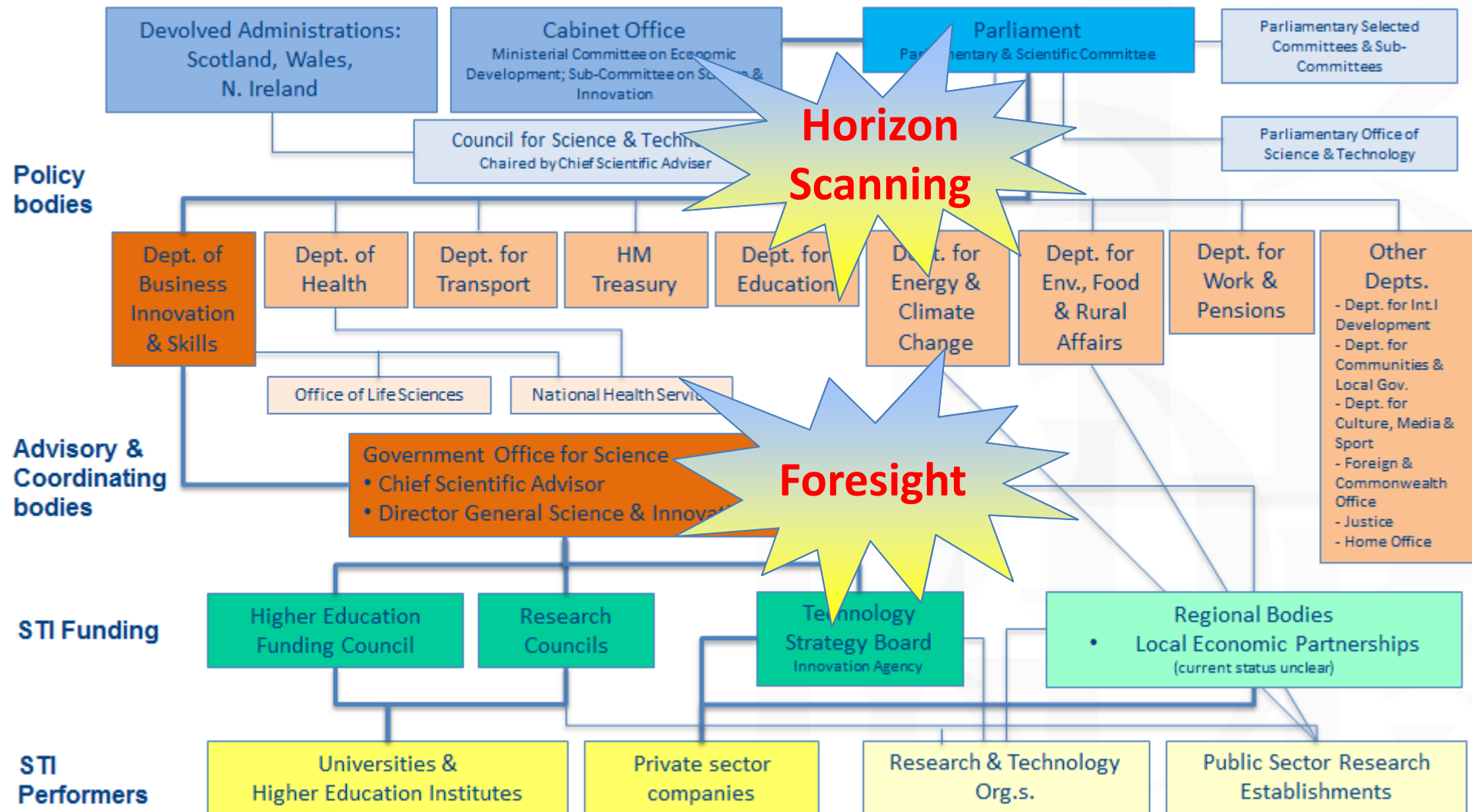


Cities are centres of innovation and growth and emerge from the demand for populations to interact. The Office for National Statistics calculates that almost 80% of the UK population already live in urban areas. There is no single definition of cities in the UK and many government statistics rely on city boundaries that are not representative of the true extent of our urban communities.

The Future of Demographic Change

Foresight are running a Policy Futures project looking at the implications of demographic change for the UK Government. Over the coming decades demographic pressures such as an ageing society and an increasing population will mean that the government has to make robust decisions on a range of issues such as pensions, healthcare and education provision. This project aims to improve our understanding of the challenges of future demographic change to promote well informed, cross departmental decision making which is resilient to future uncertainties. The project will report in the new year.

Third cycle of Foresight – organisational structure



Our work

- ✓ Horizon Scanning Centre
- › Technology and Innovation Futures
- › Reports
- › Futures community
- › Futures resources
- › Good practice

Horizon Scanning Centre

The Foresight Horizon Scanning Centre was set up in 2005 as a centre of excellence for strategic futures thinking to encourage longer term thinking and evidence-based analysis throughout Government.

Our goal is to support the use of evidence-based futures thinking in developing more innovative Government strategies and policies which are resilient to different future outcomes.

The Centre works with departments to help them improve their futures capability. At a time of substantial public service reform, futures thinking has a critical role to play in helping to ensure that wider perspectives are identified, traditional assumptions challenged and new possibilities explored.

Our main activities are:

- **Futures projects** - The Foresight Horizon Scanning Centre does short projects, looking at more discrete issues 10-15 years in the future. The Centre has contributed to the development of policy in several government departments through its projects.
- **Training** - We are relaunching our training under Civil Service Learning in Autumn 2013.

Related links

- [Horizon Scanning Programme: a new approach for policy making](#)
[Horizon Scanning Programme](#)

Current projects

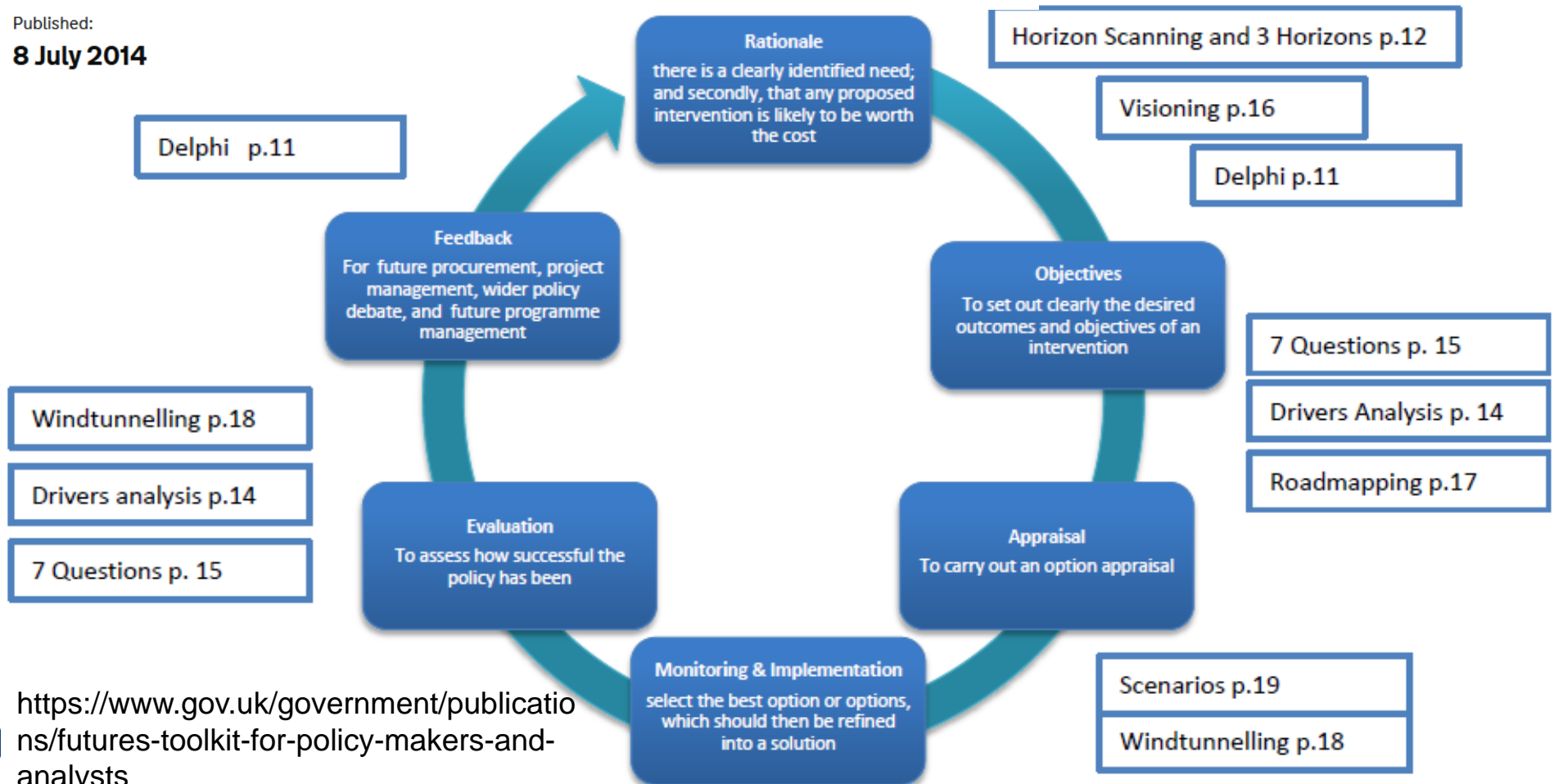
- [The Future of Cities](#)
- [The Future of Demographic Change](#)



Process of Horizon Scanning

The horizon scanning programme is developing a set of tools to help make long-term strategic thinking an essential part of what good policy looks like. Our toolkit, launched as a beta, is designed to help policy, strategy and analyst officials across government. It explains how to do futures analysis, and just as importantly, how to ensure that analysis has real impact.

Published:
8 July 2014



<https://www.gov.uk/government/publications/futures-toolkit-for-policy-makers-and-analysts>



Foresight in Government

GOV.UK

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Policies Publications Consultations Statistics Announcements

Collection Foresight projects

From: Government Office for Science
First published: 31 October 2013

Foresight uses the latest scientific evidence and futures and provide strategic options for policy.

- Contents
- Policy futures reports
 - Foresight reports
 - Horizon scanning reports

Foresight projects examine ei science might be part of the s applications and technologie

- Contents
- Role
 - Members

Current projects

- [Future of ageing](#)
- [Future of cities](#)

Policy futures report

Policy futures projects are sh futures and evidence analysis understanding.

[Future identities: changing i](#)
21 January 2013 Research and analysi

[Reducing risk of future disas](#)
27 November 2012 Research and ana

<https://www.gov.uk/government/collections/foresight-projects>

Horizon Scanning Programme Team

Horizon scanning is about exploring wh uncertainties better.

- Contents
- Role
 - Members

<https://www.gov.uk/government/groups/horizon-scanning-programme-team>

GOV.UK

Search

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Collection Future of cities

It is not about fu whether This hel

The Hor From: Government Office for Science
scannin First published: 26 June 2013
outside Last updated: 15 January 2015, see all updates
increas

- round Foresight project looking at the opportunities and challenges facing cities over the next 50
- taking years.
- range areas
- settir Contents
- privat Working papers
- either Essays
- comp Seminar reports
- Announcements

We live in a world that is rapidly urbanising and reurbanising. In the next 50 years, populations will grow, and the number of people in UK cities is predicted to increase. The UK has both an attractive environment for growth, and a large number of cities that want to take advantage of this potential for growth.

For this growth to be sustainable and to benefit all, we need to consider a number of themes, including leadership, finance, and liveability. The project will consider these issues, providing evidence to help policy makers ensure that UK cites are:

- well led and managed, providing the best services, quality of life, economies and jobs
- attractive, ensuring that UK cities have a reputation as great places to live, work and play
- smart, clean and green so that growth and development occurs in ways

Stay u
insigh
paper

<https://www.gov.uk/government/collections/future-of-cities#working-papers>

Foresight and/or Horizon Scanning

- The two seem to be separated (again)
- S&T Foresight in GO-Science – but projects are driven by social agenda (cities, ageing)
 - Meanwhile applied R&D funding informed by other means
- HS in Cabinet Office for broad strategy

Horizon Scanning – a review of the programme

- Horizon Scanning is a part of the Cabinet Office without links with Foresight
- In January 2013, the chairman of the joint intelligence council, published his review, which led to the creation of a new horizon scanning programme overseen by the cabinet secretary through an advisory group that includes permanent secretaries from all major government departments.
- The Cabinet Office website says that it "helps policymakers in government to take a longer-term strategic approach, and makes present policy more resilient to future uncertainty" – but how? Horizon scanners need to be involved in deadline-driven policy processes, rather than spending all their time researching, analysing and publishing reports.
- One approach would be to introduce incentives: performance management drives behaviour in the civil service, and officials could be rewarded for good use of horizon scanning.

Alun Rhydderch

<http://www.theguardian.com/public-leaders-network/blog/2013/aug/09/horizon-scanning-futures-research-policymaking>



Other related activities: Applied R&D funding

Our focus areas

Over the last three years we have identified priority areas to focus our work. Working with business, we have produced strategic assessments outlining technology and innovation opportunities in those areas, whether they are areas of technology or of technology application. For more information select an area:

[Advanced materials](#)

[Bioscience](#)

[Built environment](#)

[Creative industries](#)

[Electronics, photonics and electrical systems](#)

[Emerging technologies and industries](#)

[Energy generation and supply](#)

[Environmental sustainability](#)

[High value manufacturing](#)

[High value services](#)

[Information and communication technology](#)

[Medicines and healthcare](#)

[Nanotechnology](#)

[Transport](#)

Innovate UK
Technology Strategy Board

Our strategic focus: 2011-12 to 2014-15

Our budget for the period 2011-12 to 2014-15 is over £1bn. In partnership with business and other funders, this will generate investment of around £2.5bn to drive economic growth.

Our strategy for business innovation over these years concentrates on five areas:

- **Accelerating the journey between concept and commercialisation**
- **Connecting the Innovation landscape**
- **Turning government action into business opportunity**
- **Investing in priority areas based on potential**
- **Continuously improving our capability.**



Other related activities: Catapult Centres

Core funding, Business funding, Joint Projects

Solihull

Guy's Hospital,
London

Glasgow

Harwell Science &
Innovation Campus

CATAPULT



High Value
Manufacturing



Cell
Therapy



Offshore
Renewable Energy



Satellite
Applications



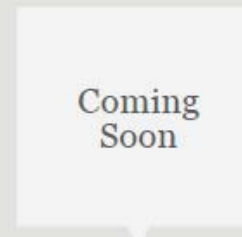
Connected
Digital Economy



Future
Cities



Transport
Systems

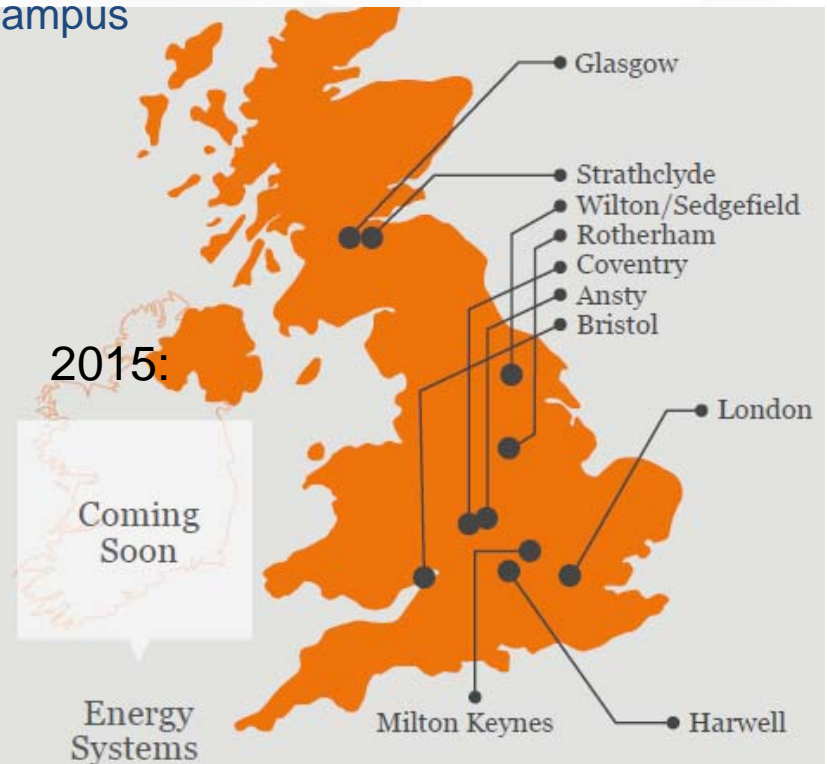


Diagnostics
for Stratified
Medicine



Energy
Systems

2015:



King's Cross,
London

Borough

Milton Keynes

London

“Physical centres for innovation that connect businesses with the UK’s research and academic communities.”

<https://www.catapult.org.uk/home>



Conclusions

- Foresight Programme has had a major impact on UK STI
- In C21st impact on cross-governmental coordination around certain key areas, and some impact on broader STI communities in these areas, and on other countries and IGOs
- Recurrent confusion and conflict around role of separate Horizon Scanning activity

.... With a new administration preparing major cuts in public expenditure, Foresight may well be vulnerable. The long view is often sacrificed in the face of immediate problems, and several important TF and technology assessment programmes have been destroyed elsewhere by partisan politics. The UK programme has had a major impact on the future orientation of several parts of the UK political system, as well as significantly influencing TFPs elsewhere [7]. It remains to be seen whether the UK programme is sufficiently well-embedded to maintain its current scale and effectiveness. Foresight approaches are far more widely known and appreciated now than in previous decades, so they may well be foresight without the programme.

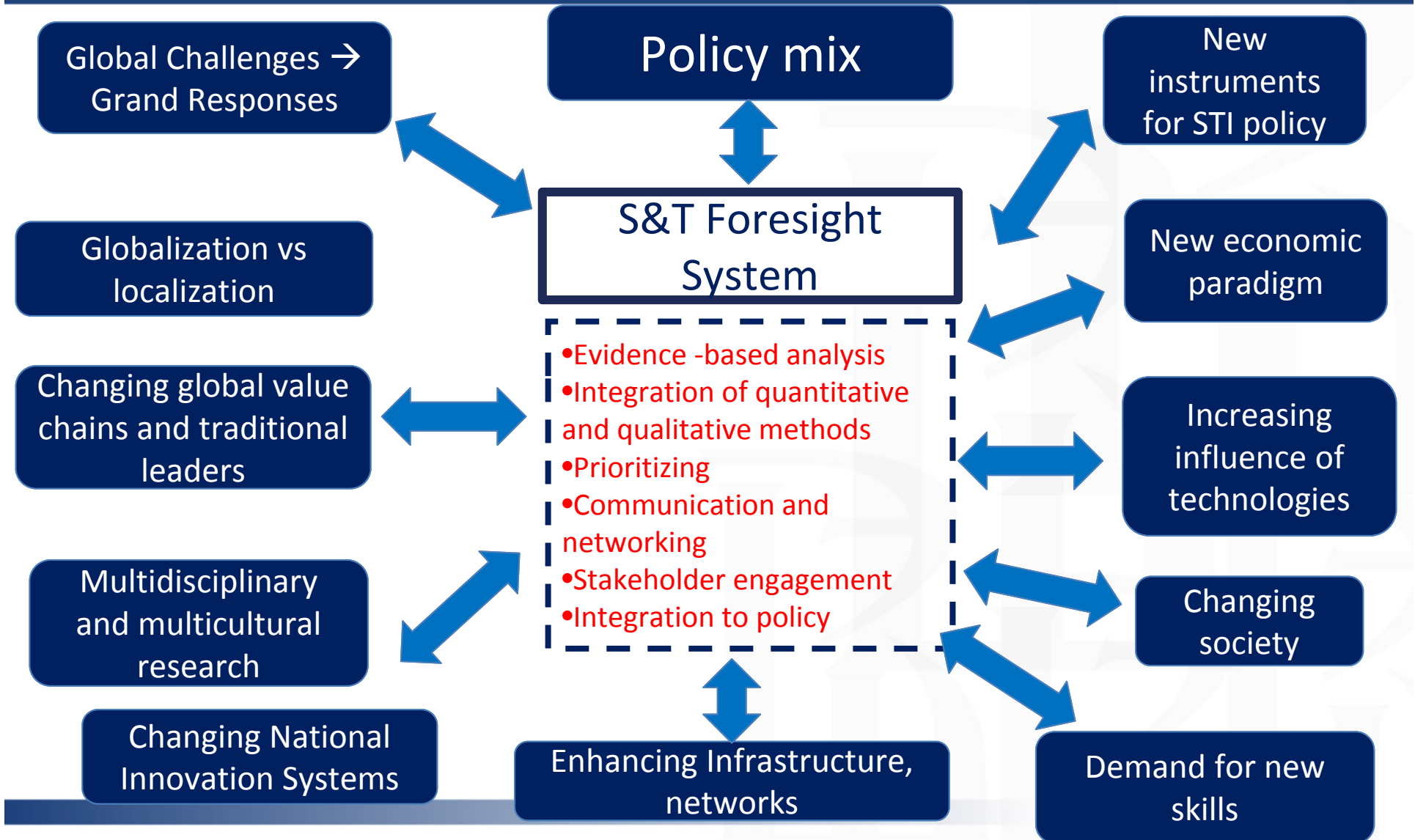
The development of technology foresight: A review
Technological Forecasting & Social Change 77 (2010) 1448–1456
Ian Miles



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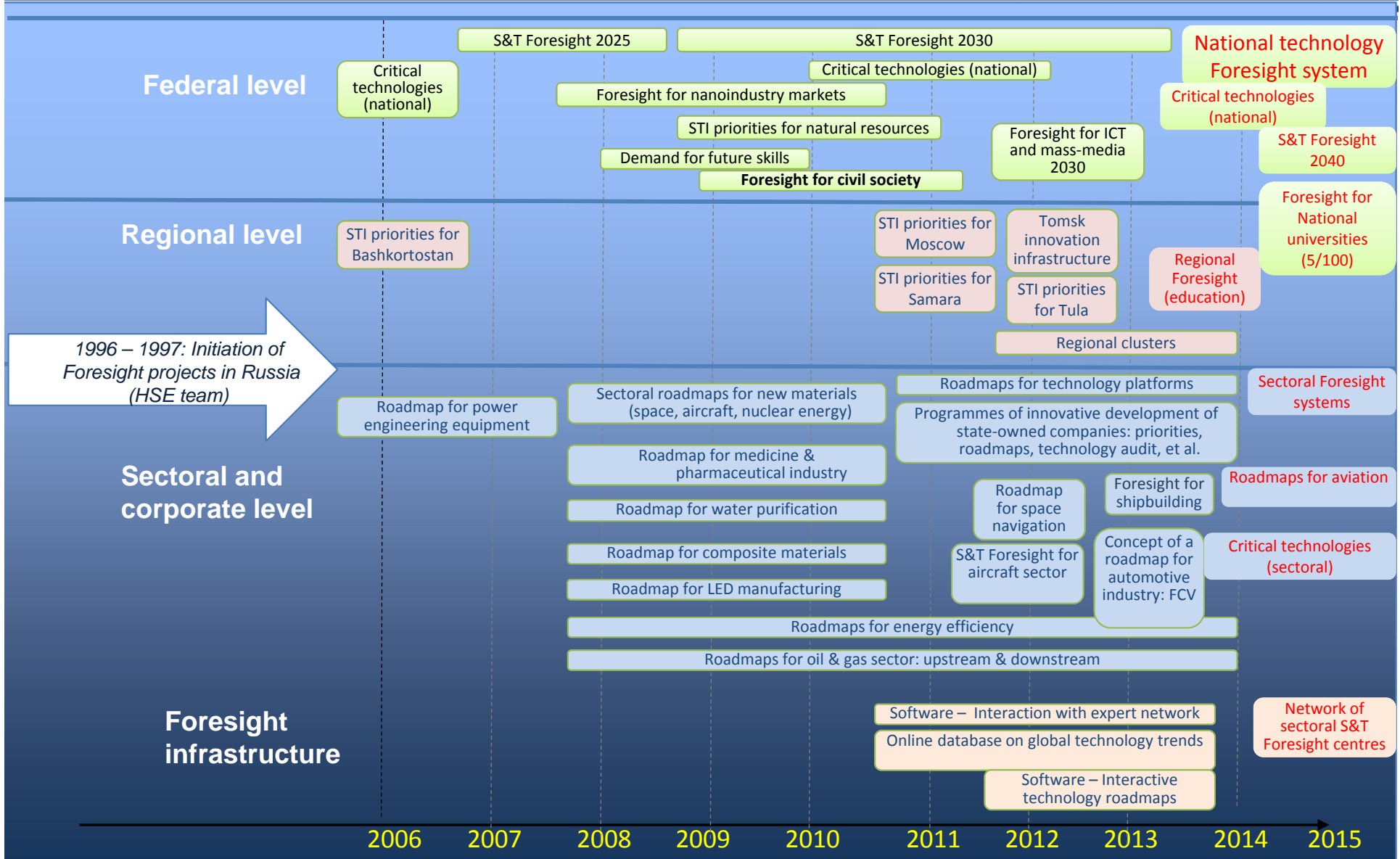
Foresight experience in Russia

A new agenda for the S&T Foresight in Russia

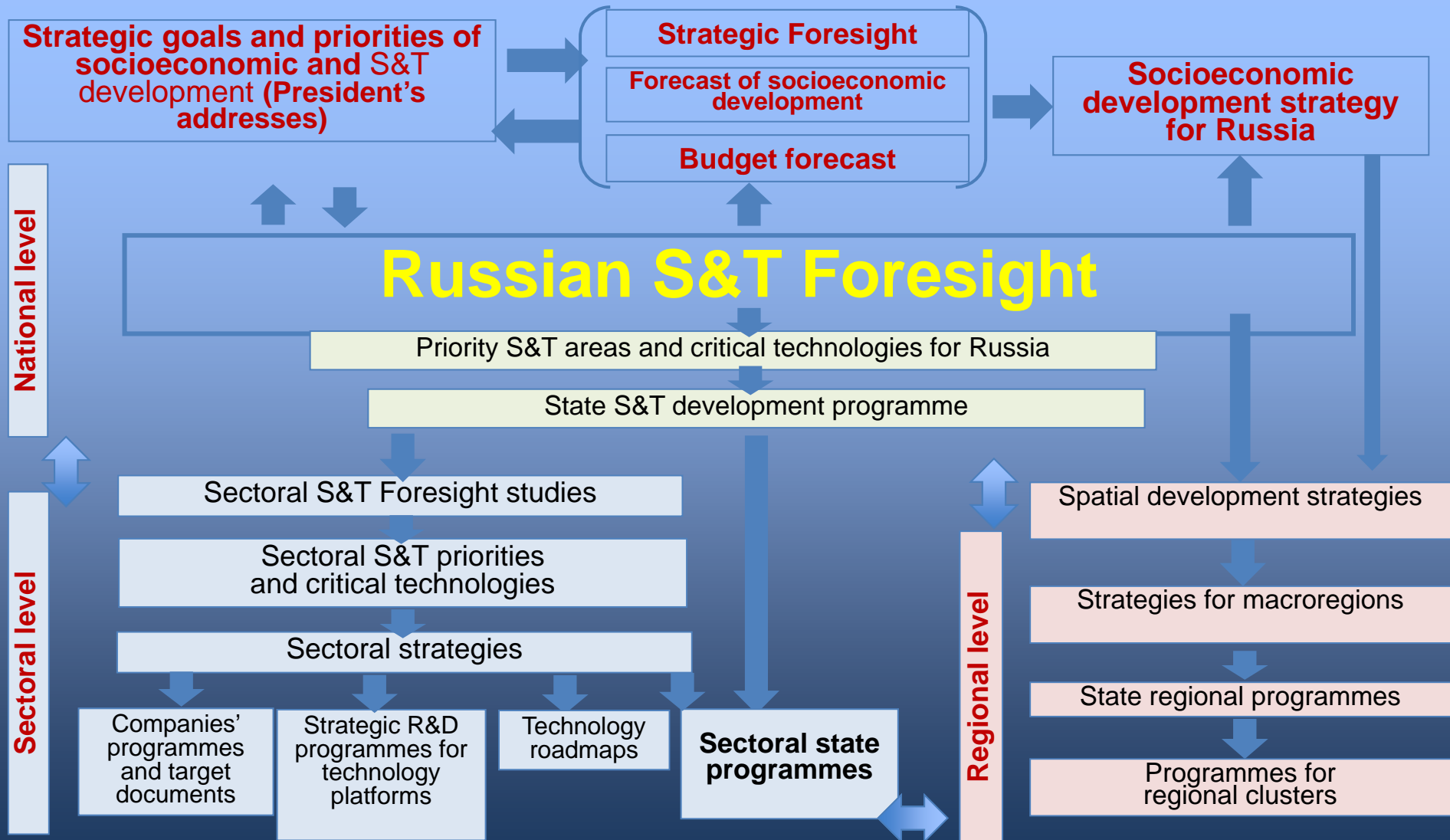




Evolution of Foresight activities in Russia – with a boost



Russian S&T Foresight system



Uses of S&T Foresight results by key NIS stakeholders

Priority S&T areas



More than 150 global trends in the economy, science, politics and society

Key sectors of the economy



Assessments of effects and periods of maximal manifestation of challenges and windows of opportunities

Publications



Characteristics of more than 80 prospective markets and 250 product groups



More than 1000 specific priority R&D tasks



Higher School of Economics: The hub of Foresight

Foresight studies at HSE

- Theory, methods and practices of S&T Foresight
- Long-term Foresight and identification of priorities for S&T, innovation and socio-economic development at the national, regional, sectoral and corporate levels
- Formulation of strategies, programmes and roadmaps for the innovation development of companies, industry sectors and regions
- Monitoring of global trends in the development of the economy, society, science and technology

HSE International Advisory Board on Foresight

- Chairman – Prof. Luke Georghiou (University of Manchester, UK)
- Representatives of the OECD, UNIDO, the Institute for Prospective Technological Studies (EU), the Fraunhofer Institute for Systems and Innovation Research (Germany), University of Ottawa (Canada), Georgia Institute of Technology (USA) et al.

Major publications

- Russian S&T Foresight 2030. Moscow: HSE, 2013
- Long-term Priorities of Applied Research in Russia. Moscow: HSE, 2013
- Composite Materials: Manufacturing Carbon Fibers and Products on their Basis. A Roadmap. Moscow: HSE, 2013
- Sokolov A., Chulok A. Russian Long-term S&T Foresight 2030: Key Features and First Results // Foresight-Russia, 2012. V. 6. N. 1
- Meissner D., Gokhberg L., Sokolov A. (eds.) Science, Technology and Innovation Policy for the Future: Potentials and Limits of Foresight Studies. Heidelberg, New York, Dordrecht, London: Springer, 2013



HSE Institute for Statistical Studies and Economics of Knowledge (HSE ISSEK)



issek.hse.ru



HSE ISSEK International Research and Educational Foresight Centre



foresight.hse.ru



"Foresight-Russia" Journal
(Editor L. Gokhberg, indexed in Scopus)



foresight-journal.hse.ru



Conclusions

- Russian Foresight has been learning continuously from the best global practices
- Systemic approach, stakeholder interaction and expert engagement are two major dimensions for success
- Russian S&T Foresight system covers federal, regional and sectoral levels and facilitate communication and collaboration between them
- Closer cooperation between government agencies and large corporations are considered to be crucial for the development of long term visions, coordinated policies and joint actions
- Using national and international expertise in research areas and sectors of economy is considered to be a success factor
- Strong commitment by the President and the Government are keys to success for Foresight in terms of its visibility, implication, impact and continuity
- Buy-in by the key NIS stakeholders is crucial for successful implementation



Overall conclusions & possible reasons for governments' steering away from Foresight

- “Evidence-based policy” is still asserted - in principle affirming need for such expertise,

but...

- When budgets came under pressure, the process of researching emerging issues look vulnerable
- New ways and actors in organising and undertaking STI activities as public policy systems are challenged by economic and social pressures and considered to be restrictive
- Governments' changing roles towards "governance" – (i.e. move from being champions and initiators to regulators in STI)



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Thank you for your attention!

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