International Trends in the Design and Application of Foresight to Address the Future

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Australian Centre for Innovation

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21st Century focus

Where we work

The Australian Centre for Innovation works with public and private organisations around the world to better address the challenges of the future through innovation...

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Education & Training

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Recent Developments

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A New Future for Cooktown – in July 2008 Ron Johnston ...
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Visiting Fellow to ACIIC from Vienna
Dr Matthias Weber, Head of ...
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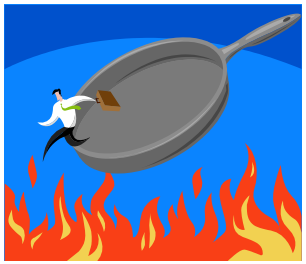
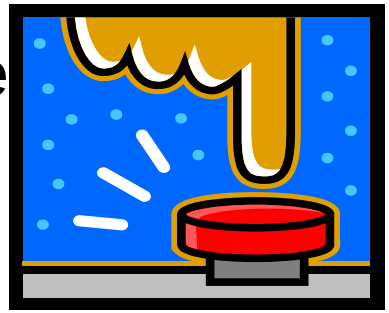
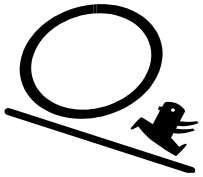
Innovation in a Global Knowledge

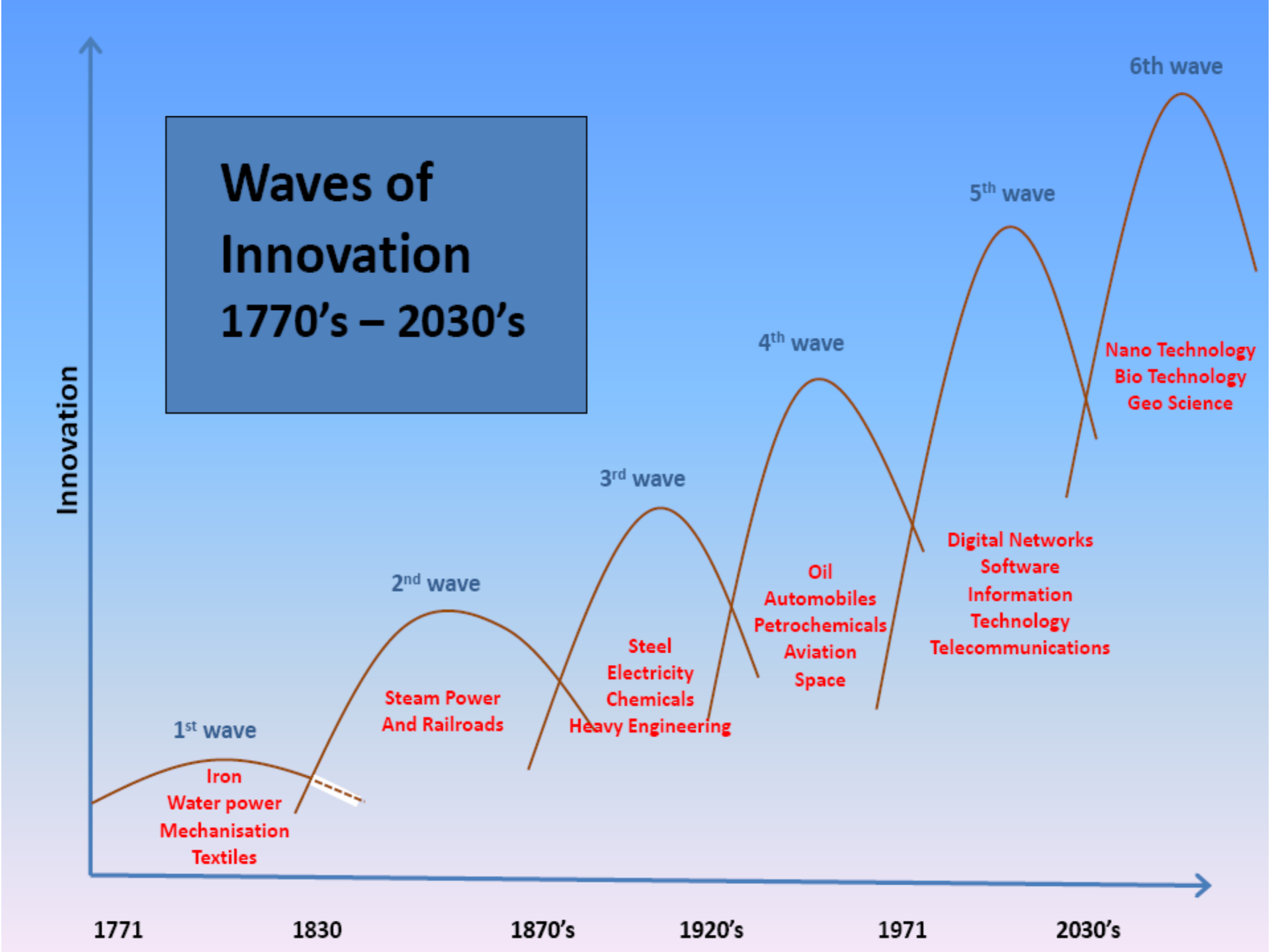
A Time of Turbulence!

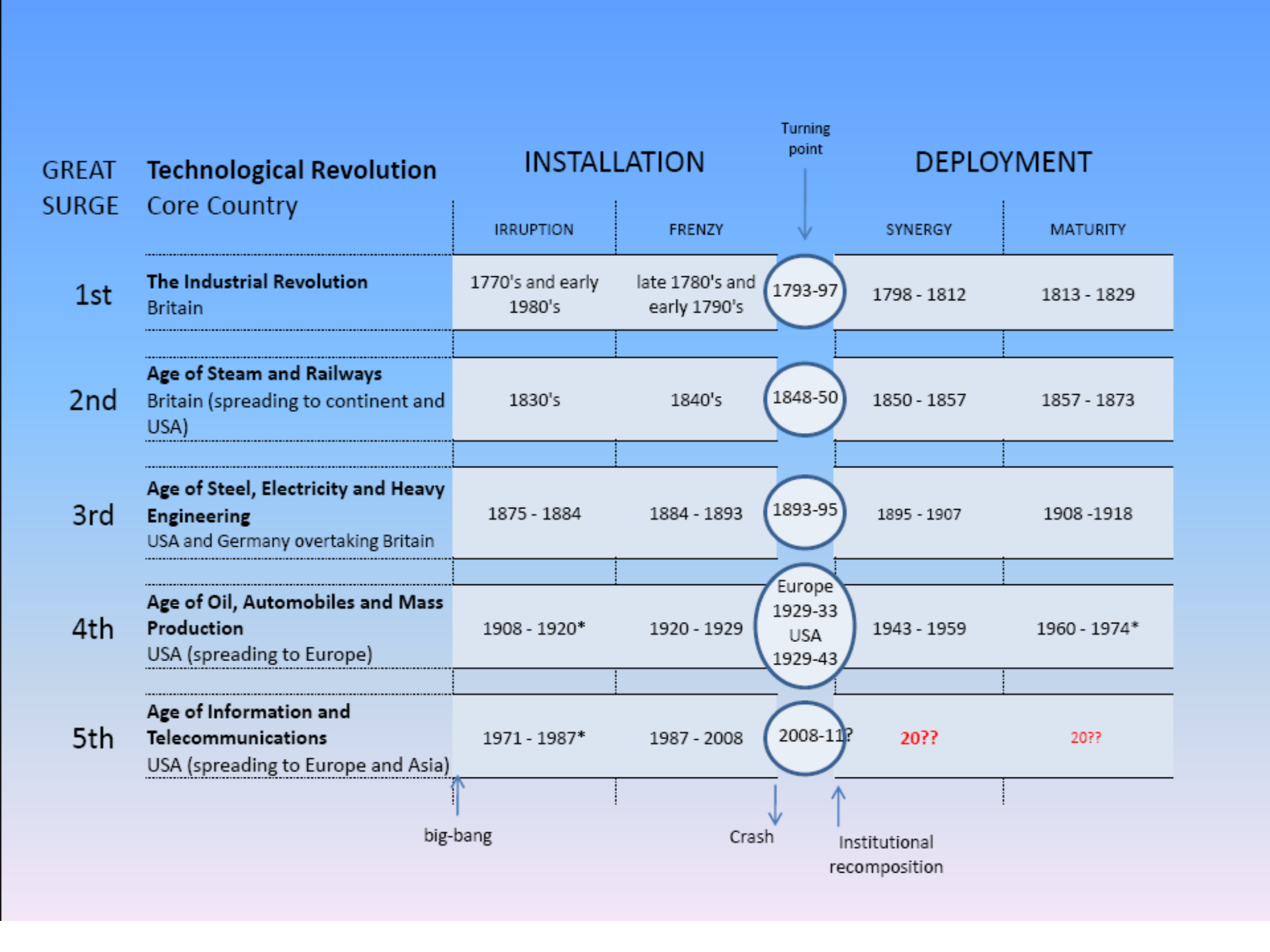
- Global Financial Crisis
- Geo-political transformation
- Instability of Governments
- Growing and visible inequity
- Social breakdown
- Mass migration
- Rogue states with WMD
- Loss of confidence in systems of governance








Waves of Innovation 1770's – 2030's
Innovation
1st wave
Iron
Water power
Mechanisation
Textiles
2nd wave
Steam Power
And Railroads
3rd wave
Steel
Electricity
Chemicals
Heavy Engineering
4th wave
Oil
Automobiles
Petrochemicals
Aviation
Space
5th wave
Digital Networks
Software
Information
Technology
Telecommunications
6th wave
Nano Technology
Bio Technology
Geo Science
1771
1830
1870's
1920's
1971
2030's


GREAT SURGE
Technological Revolution
Core Country
INSTALLATION
Turning point
DEPLOYMENT
IRRUPTION
FRENZY
SYNERGY
MATURITY
1st
The Industrial Revolution
Britain
1770's and early 1980's
late 1780's and early 1790's
1793-97
1798 - 1812
1813 - 1829
2nd
Age of Steam and Railways
Britain (spreading to continent and USA)
1830's
1840's
1848-50
1850 - 1857
1857 - 1873
3rd
Age of Steel, Electricity and Heavy Engineering
USA and Germany overtaking Britain
1875 - 1884
1884 - 1893
1893-95
1895 - 1907
1908 -1918
4th
Age of Oil, Automobiles and Mass Production
USA (spreading to Europe)
1908 - 1920*
1920 - 1929
Europe 1929-33
USA 1929-43
1943 - 1959
1960 - 1974*
5th
Age of Information and Telecommunications
USA (spreading to Europe and Asia)
1971 - 1987*
1987 - 2008
2008-11?
20??
20??
big-bang
Crash
Institutional recomposition

Some Approaches to Thinking about the Future

1. Apply rigorous scientific knowledge
2. Forecasting and modelling
3. Rely on past experience
4. Resist it
5. Resort to some external guidance
6. Develop a capacity, both intellectual and organisational, to address the future – foresight or strategic intelligence

Foresight – an evolving scope

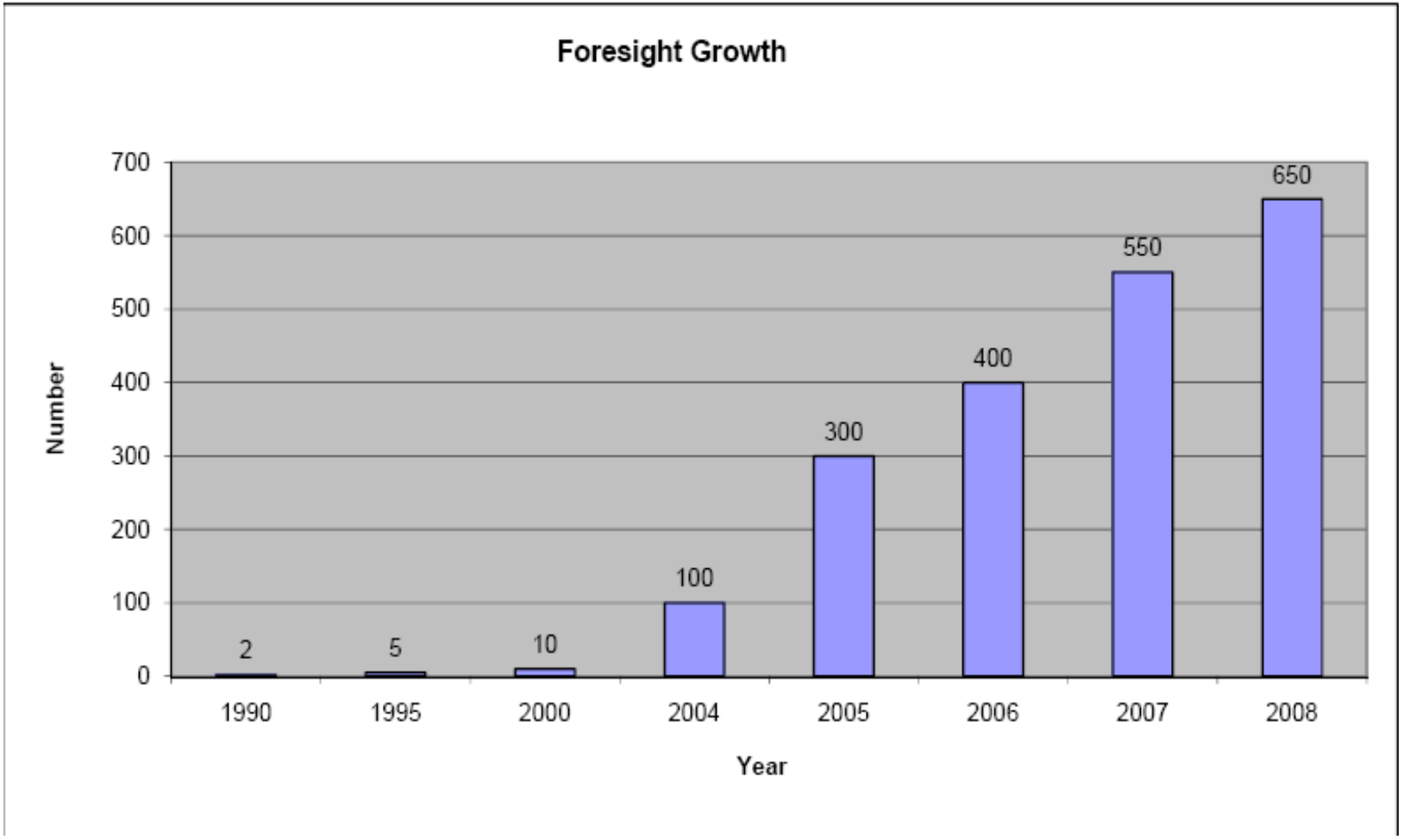
- From

  “a means of assessing those scientific and technological developments which could have a strong impact on industrial competitiveness, wealth creation and quality of life” (Georghiou, 1996)

- To

  “a systematic, participatory, future intelligence gathering and medium-to-long term vision-building process aimed at present-day decisions and mobilising joint action” (Foren Project, 2008)

Growth in the Use of Foresight



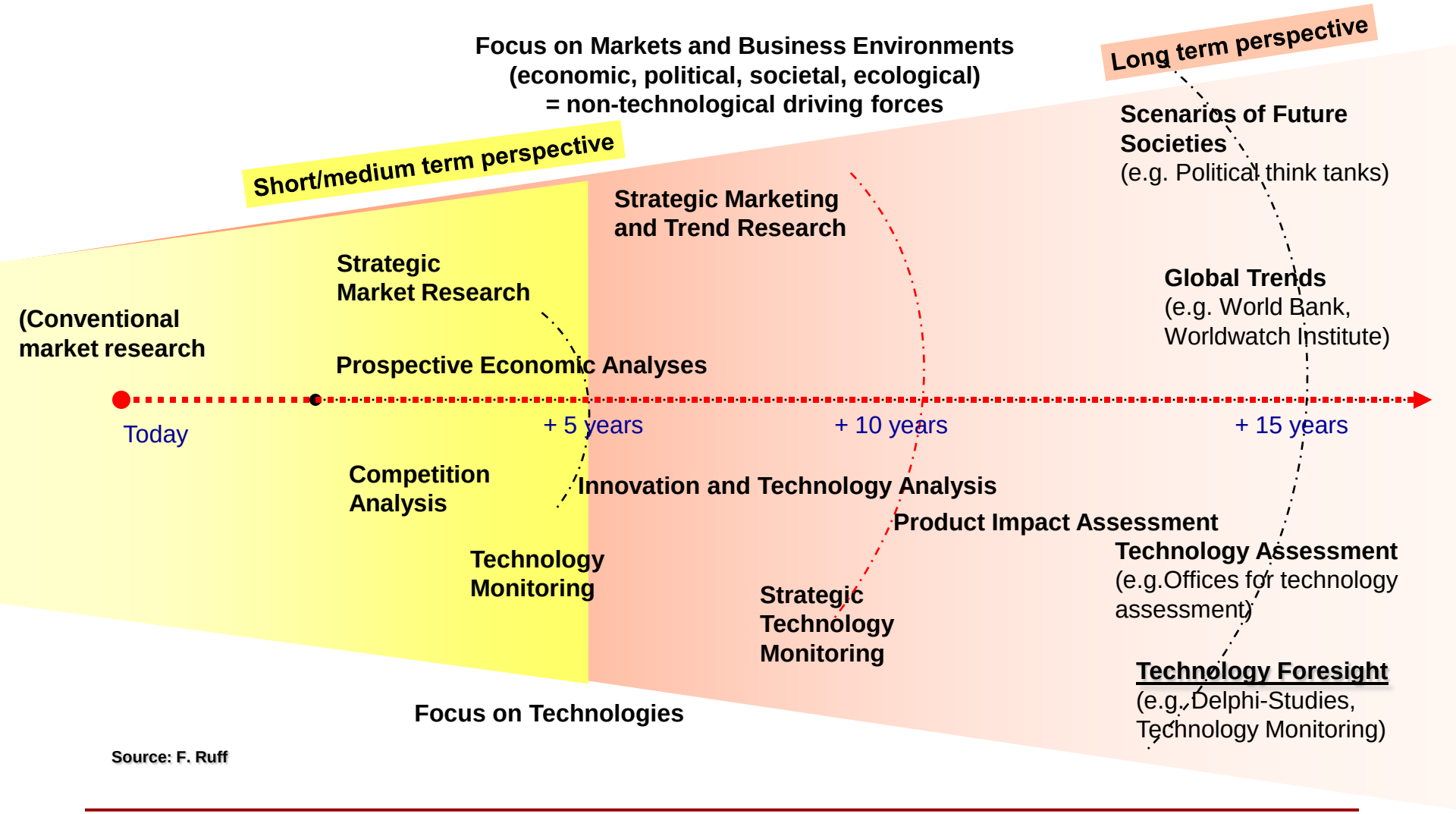
Forecasting – Foresight – Planning
What is the difference?

- Forecasting supposes that there is one possible future, based on extrapolation or projections of past and present trends. Involves only experts. Time horizons commonly 5-10 years.

- Foresight assume that there are many futures, and through the mobilisation of interested stakeholders it is feasible to develop a fuller understanding of the forces shaping the long-term future. It uses time horizons of 10-20 years.

- Planning is based on theories or doctrines on future developments. Involves only policy makers and experts. Time horizons between 1-5 years.

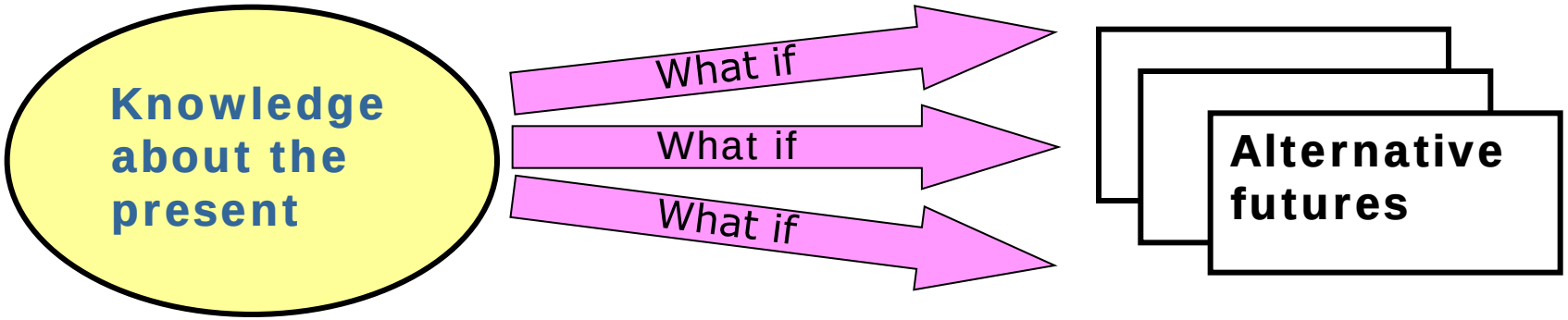
Landscape of Future Studies



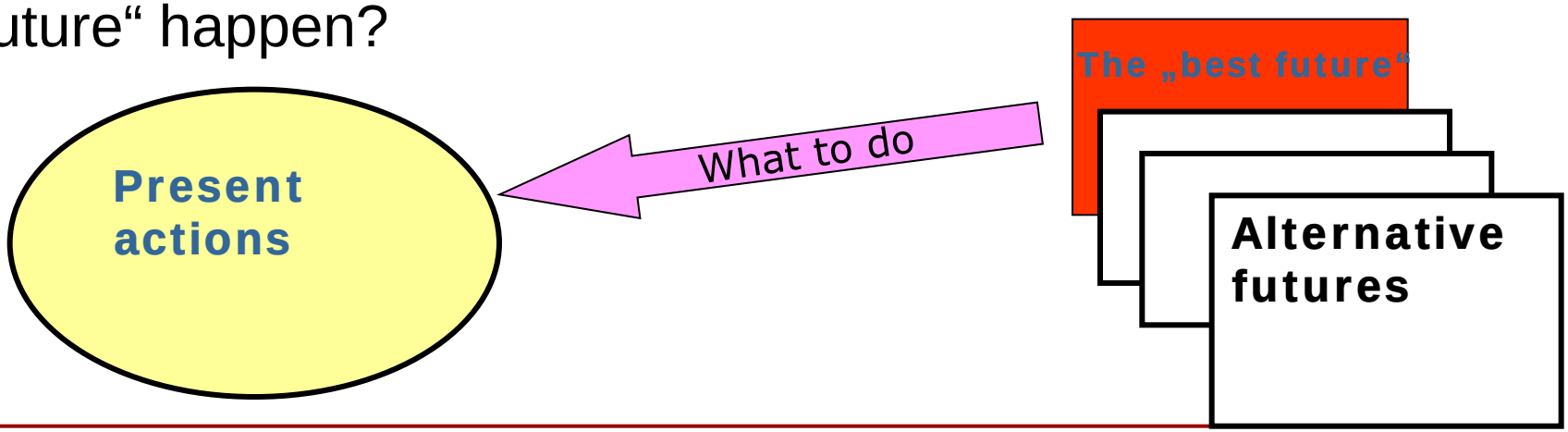
Source: F. Ruff

Two basic approaches to Foresight

Exploratory approach: what would we expect to happen if this event happens or if that trend develops?



Normative approach: what to do now to make the „best future“ happen?



Source: Keenan/PREST

Recent Major Advances in Foresight/Strategic Intelligence

- Widespread use in major companies
- Increasingly embedded in government planning processes
- Development of comprehensive databases of foresight projects eg European Foresight Platform
- Growth in systematic horizon scanning eg UK Horizon Scanning Centre with a web-based database of scan results, Netherlands Horizon Scan
- Systematic development of methods for analysing 'Wild Cards' and 'Weak Signals'- eg ILTD and OLBU
- Application of data mining tools to technology-related data such as patents - major focus in US and China

Different Perspectives on Foresight – Business and Government

- Industry are interested in the extent to which foresight can lead to new business and market opportunities -their driving interest is to increase divergence in order to identify new possible futures.

- Government officials are interested in the extent to which foresight can be applied to reduce uncertainty in their decision-making and provide guidance about possible technological developments and their consequences ie to reduce or remove possible surprises. Their driving interest is in increasing convergence ie moving from having to consider multiple possible futures to a single probable/ preferred future which is more amenable to their analytical skills, and well-tested policy mechanisms.

Take-up of Foresight within Australian Governments?

- Limited, sporadic
- Reliant on occasional champions
- Largely associated with STI agencies
- Short time-horizon
- Reactive rather than anticipatory
- Consumed by the urgent, limited capacity for the strategic

Charter of Good Practice in the Managerial Application of Foresight

- A well-resourced over-the-horizon scanning capacity
- Significant analysis of weak signals of change
- Planning and decision-making conducted within a significant future-oriented environment
- ‘What if ?’ analysis embodied as a regular component of risk analysis and management
- Regular Internet-based engagement of multiple perspectives
- Strategic conversation as a recognised KPI
- Routine roadmapping towards defined objectives
- All staff trained in use of foresight tools

Charter of Good Practice in the Transformative Application of Foresight

- A Strategic Intelligence Unit (SIU) at the level of the Cabinet Office, or equivalent
- SIUs or SI capacity in every major government department and agency
- Mechanisms for collaboration, coordination and exchange of information between all SIUs
- Regular production and communication of SIU analysis and findings
- Establishment of an appropriate community of practice around each SIU
- Open communication models with all information routinely available to the public
- Engagement with all forms of media to promote a reflective future orientation

Three Implications for Innovation Policy

- Importance of developing a Strategic Intelligence Capacity–through over-the-horizon scanning, roadmapping, scenario planning, web-based engagement of multiple insights
- Fostering of ‘Intentional Innovation Communities’–specific internal (+ external) organisational capacities to generate innovations continuously
- Establish spaces for experimentation in policy, combining the private sector approach of ‘fast failure’ in innovation with active processes of review and learning eg the Cochrane and Campbell Collaborations