



## Innovation Management Increasingly Global, Open and Service-Oriented

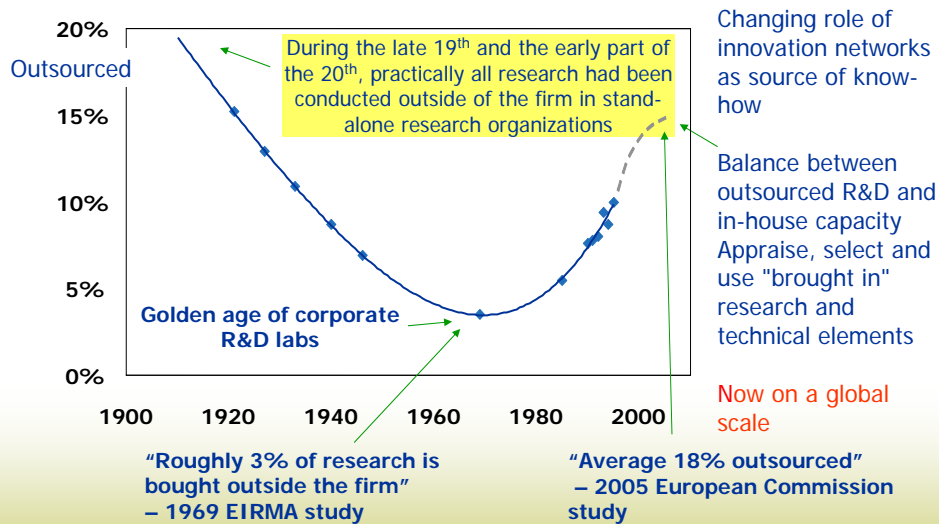
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### Secular Changes in Approach

Basic -> Applied Research -> Development	"Innovation is much more than R&D"
In-house processes	Partnerships essential
Physical products	Growing service content
Proprietary "stuff"	Business process design
Technology as a main driver	What is the innovation driver?
Western brains	Brains are everywhere
Western standards	Whose standards?
Start by selling in the West	Which are our lead markets?

**"Global, Open, Service-Oriented"**

## Trends in R&D Outsourcing



TNO/Roland Berger (2003)

## Key Factors Influencing Decisions about Location of R&D

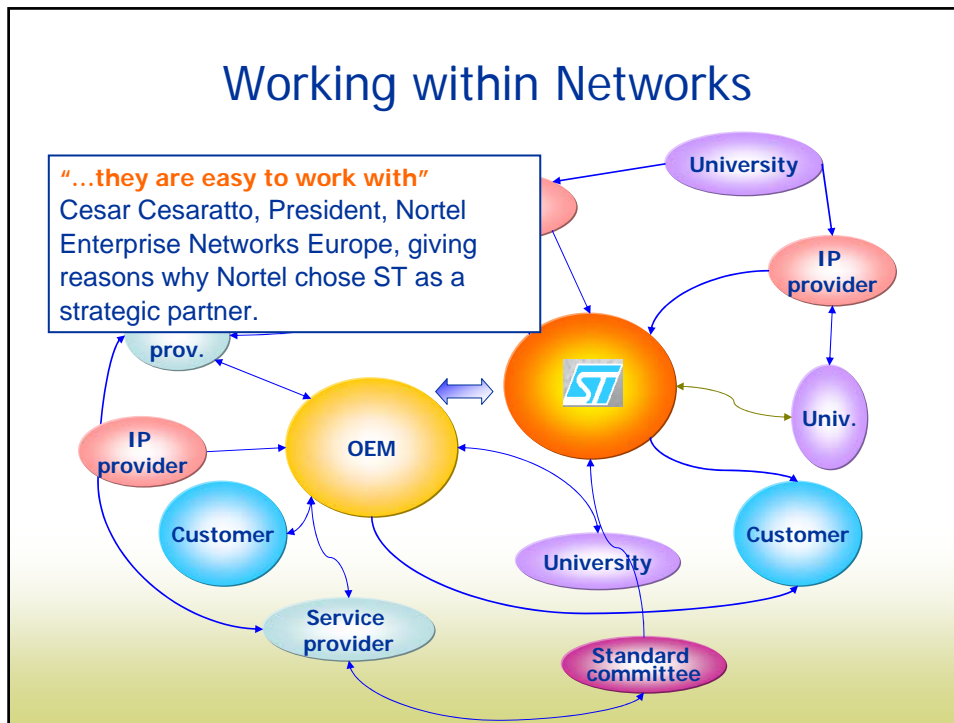
- Potential for market growth
- Availability of environments that foster the development of a high-quality work force
- Opportunities for productive collaboration between corporations and universities

Sources:

Thursby and Thursby (2006)

European Commission (2006)

## Working within Networks



## Healthcare Sector illustrates Challenges for Europe

Global industry seeking solutions globally

- Shift of pharma R&D and product introduction from Europe

Scientific Excellence matters

- US offers quality, mass, diversity and intensity in basic, clinical, pharma and biotech research sectors

Value for Money matters

- India, Singapore and China offer high cost effectiveness in chemistry, IT, and increasingly in biology

Speed matters

- India set to lead in clinical trials through offering access to patient numbers and speed of enrolment at low cost

Public Healthcare offers scale

- European public healthcare systems should be driving innovation. This does not seem to work very well at present.

## Creating an Innovative Europe [interpreting the Aho Report]

Link European values (social, environmental, product sophistication) to innovation

Attract 'brightest and best' [people, firms] to base themselves in Europe

Achieve greater mobility and understanding between public and private R&D [university modernisation agenda]

Make the "Lead Market" concept work

- Technology Platforms, Joint European Technology Initiatives, Eureka, national programmes
- State Aid, IPR, procurement

## Implications for Governance

Enable complex, secular change

- Sufficiently quickly, accommodating interdependencies
- Effective implementation – avoid distractions!!!

Coherent actions across whole pipeline: Education-Science-Industry-Regulation-Market

- Individually; At Interfaces
- Avoiding silos; Focus on demand side (spectre of 'picking winners'??)

Enhance cooperation among players, establish trust, reduce uncertainty

- Pure competition-based policies may not be sufficient; public procurement; attitudes to dominant players

## Implications for Governance

Understand what “global, open, service orientation” means

- e.g. Closer coupling between technical and non-technical skills
- \*Not\* elimination of manufacturing and engineering

Link SET initiatives to economic priorities

- How will this initiative make a difference to employment and growth
- Key role played by large companies - corporate growth matters

Strong public education and research

- Many of Europe's universities are not good enough
- Some of Europe's RTOs are better than we realise