

## **Expert workshop**

Policies supporting efficiency  
and effectiveness of R&I systems

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# **The way forward: a researcher's view**

## **Different horses, different courses: so, different policy challenges**

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A study on behalf of the  
European Commission



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# Outline

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- Different business/innovation systems in Europe
- Different types of medium-high and high-tech industry
- Different specialisations, different challenges
- What is needed from government?

# 1. Types of business/innovation systems

	<b>Shareholder (UK)</b>	<b>Shareholder, Ventured (UK, N.)</b>	<b>Collaborative/ Stakeholder (North &amp; Central E.)</b>	<b>Southern European</b>
<b>Ownership control</b>	Market	Market	Committed – Family etc.	Direct – Family, State
<b>Alliance-based vert. integration</b>	Low	Low	Limited	Low
<b>Competitor collaboration</b>	Low	Low	High	Low
<b>Employer-employee interdependence</b>	Low	Low	Considerable	Considerable (falling)
<b>Worker discretion, influence</b>	Low	High	High (Co-determination)	Low but for union power in big firms

# Different business/innovation systems in Europe: 1, Stakeholder/collaborative (Germany, Austria, Denmark, Netherlands; Sweden and Switzerland marginal)

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<b>Ownership control</b>	Mainly committed, largely family (particularly Mittelstand), also other firms and (now fading) banks
<b>Alliance-based vert. integration</b>	Close relationships between suppliers and customers – cf. motor industry in Baden-Wuerttemberg
<b>Competitor collaboration</b>	Strong, cohesive relationships within sectors – e.g. employers' associations
<b>Employer-employee interdependence</b>	Considerable: tendency for long-term employment
<b>Worker discretion, influence</b>	High discretion - high standard of manual worker training; high influence - due mainly to co-determination

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## Different business/innovation systems in Europe: 2 and 3: Shareholder and Ventured (UK, Ireland; elements in Switzerland; Sweden moving this way, partic. ventured)

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<b>Ownership control</b>	Market: arm's length, except for VC in Ventured, and family in Switzerland and Sweden.
<b>Alliance-based vert. integration</b>	Low in UK
<b>Competitor collaboration</b>	Low in UK
<b>Employer-employee interdependence</b>	Low in UK
<b>Worker discretion, influence</b>	Discretion quite low in UK, except for ventured firms, where discretion is high; influence low in UK (no codetermination, unions now weak)

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# Different business/innovation systems in Europe: 4: Southern European

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<b>Ownership control</b>	Direct owner control by families (low trust societies) except for state firms (waning)
<b>Alliance-based vert. integration</b>	Low except for ‘co-ordinated industrial districts’ as in Third Italy
<b>Competitor collaboration</b>	Low in matters relevant to innovation (high for lobbying)
<b>Employer-employee interdependence</b>	Low in UK
<b>Worker discretion, influence</b>	Discretion generally low, except for SMEs in N Italy, N. Spain; influence high in large firms, through confrontational trade unions (no codetermination)

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# Different business/innovation systems in Europe: 5: MNC production platforms (Ireland, Flanders, CEE and SEE)

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<b>Ownership control</b>	Key production and development facilities are owned by foreign firms
<b>Alliance-based vert. integration</b>	Low except to the extent that native SMEs cluster round local subsidiaries of foreign firms
<b>Competitor collaboration</b>	Low since key firms are foreign – and mostly foreign to each other
<b>Employer-employee interdependence</b>	MNCs insist on freedom to hire and fire
<b>Worker discretion, influence</b>	Discretion and influence low given MNCs' freedom.

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## 2. The system requirements of different sectors: high and medium-high

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- High-tech (by OECD definition) has higher R&D intensity than medium-high. Therefore higher requirement for risk capital – VC for start-ups, equity for established firms.
- In general (but with exceptions) high-tech innovation is more **disruptive** than medium-high.
- In general M-H-T innovation requires input from skilled manual workers, and H-T doesn't. H-T's key labour requirements are of graduates and post-graduates.

### 3. Two typical sectors: (a) H-T, bio-pharma

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- Disruptive: advantage to start-up firms, often university spin-outs.
- Very high education level of key workforce
- Very high risk and need for large amounts of capital.
- So: need for VC capital (partic. for governance) and public sector funding too. **UK and Sweden top on VC.**
- Established firms need freedom to hire and fire and change business relationships radically. **UK, Nordics, Switzerland have this.**
- Very high quality supply of (e.g) molecular biologists needed – and also techno-preneurs; both require strong research base. **UK, Nordics, Switzerland, have this in biopharma areas.**

### 3. Two typical sectors: (b) M-H-T, motor components

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- Established industry with mature basic product
- Key role for skilled manual workers
- Steady but not huge requirement for R&D and other capital spend – modest risk
- So: engaged, committed family shareholders can oversee and finance the R&D spend; engaged banks can finance fixed capital investment. **Germany has all this (Austria too).**
- Slow change in requirement for labour and in supply chain: so co-determination and strong alliance-based vertical integration are no problem there. **Perfect for Germany again, then, with its high discretion and influence for skilled manual workers.**

## 4. Reflections on situation of systems 4 and 5.

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- System 4 – Southern Europe – has no obvious basis for competitive advantage in H-T or M-H-T.
- System 5 – Ireland, Flanders, Central and Eastern and South-Eastern Europe – has the basis for competitive advantage in getting ‘branch plants’ of M-H-T and (perhaps) H-T sectors. (East Asia’s dominance in ICT parts of H-T.)
- Challenge for System 5 is to ‘embed’ branch plants and upgrade them, and attract R&D facilities too. See Flanders.....

## 4. Reflections on role for government

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- Quantitative aggregate measures and criteria for labels ('innovation leader', 'innovation follower') do not take us far. UK is 'innovation follower' – so what? It leads in many areas of research and some high-tech industry.
- UK is severely inhibited by its financial and corporate governance system, which is dominated by the 'arm's length' asset managers of the City of London.
- S.Europe is held back by broad range of institutional weaknesses – rent-protection alliances, education systems, confrontational trade unions.
- Germany and other stakeholder capitalist countries are strong in M-H-T but not well adapted to the disruptive areas of H-T. They have big advantage in facilitating clusters and demand side innovation policies through competitor collaboration.