OECD ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

Innovation partnerships in the Grenoble micro-nano cluster, France

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Why Grenoble?

- One of 6 government-designated 'world-class clusters' (pôles de compétitivité mondiaux)
- Public-private partnerships have been at the centre of the cluster's development
- Involves support from governments and public agencies at national, regional and local levels
- Possible lessons on
  - The role the public sector can play
  - Getting the balance right between public and private
  - Emerging policy challenges
- Subject of a recent OECD local innovation study

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Characterising the cluster

- 600,000 population. 40,000 employees micro-electronics and ICT
- *Education*: 4 Universities, 60,000 students (3,500 cluster-related graduates p.a.)
- *Research*: Universities, CEA, CNRS, INRIA . . . (4,500 cluster-related researchers)
- *Industry*:
  - Core and large: Schneider, STMicro, NXP (ex-Philips), Freescale (ex-Motorola) . . .
  - Starts and highly-innovative SMEs: Polyspace, Tronics, Scalagent . . . (approx. 50 members of the 'pôle')
  - Base SMEs: approx. 3,000

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Major structural projects

1. Alliance-Crolles 2

Laboratory for pre-competitive research projects, mixing STMicro, NXP and Freescale staff

2. Minatec

Training, research and research exploitation centre

3. Minalogic (the pôle de compétitivité)

Structure for stimulating collaborative research projects

These are all *public-private* partnerships with strong *public-public* and *private-private* elements

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Alliance-Crolles 2

- Collaboration agreement for common capital investment estimated at 2b EUR and R&D spend of 1.5b EUR. 'Largest recent industrial investment in France'
- Major 'technology park' space from 2002, clean rooms, engraving machines etc, 1100 researchers
- Core use by STMicro, NXP and Freescale (competitors) for joint nano research projects
- Common financial and human resources for pre-competitive projects. Mixed teams on each project, but employed by own enterprise and not a formal joint venture
- Partnerships with public research (CEA, Universities) and 20 other firms

Alliance-Crolles 2

Public role

- National: Contribution to capital of 200m EUR, collaborative research grants approx 300m EUR, Min of Finance negotiated the agreement with the 3 firms and territorial authorities
- Regional (Rhone-Alpes): 29m EUR 2000-2006 for capital and research project costs
- Local (Isère département): 50m EUR 2000-2006 for capital and operating (research project) costs
- Local (Commune of Crolles): planning permission, 50m EUR to site development. City and Metro region 18m EUR

Private role

- Private: Staff costs, site and premises and equipment costs, participation in external collaborations, positive attitude to spin-outs

Minatec

- To maintain and enhance the international competitive position of Grenoble in mico-nano technologies, by
  - Increasing *attractiveness* to world-class teachers, researchers, students
  - Developing science and technology *creativity* through multidisciplinary projects
  - *Accelerating innovation*
- Common investment of nearly 1b EUR over 5 years. Central building 10,000 sq m
  - *Teaching platform*: 1,000 engineering students, 120 teachers, doctoral departments, 500 external students
  - *Research platform*: 40 labs, 1,200 researchers, specialist equipment
  - *Exploitation platform*: Incubator for start-ups, mixed private-public development teams

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Minatec

Public role

- Conceived and initiated by public research and education (CEA and INP Grenoble).
- Investment 2000-6 of 12m EUR by Rhone-Alpes region, and 175m EUR by Isere region
- National government R&D and education finance
- J. Therme from CEA-LETI played a critical promotion role

Private role

- Participation in course and research design
- Send and take students and researchers
- Take research on to exploitation

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Minalogic

- A 'pôle de compétivité' is a 'local concentration of enterprises, training centres and research facilities *engaged in partnerships*'
- 52 founding organisations in 2005 – 28 industry, 18 government and public agencies, 6 public research and education.
- Cluster management/animation unit. 4-5 staff, ex-industry
  - Bring forward collaborative research proposals
  - Approve selected proposals for funding bids to State
  - Support the funded projects
- Inter-ministerial research fund, scientific committee

Minalogic

Public role

- In 2006, 80m EUR grants for 50 projects
- Joint definition of strategic areas for cluster development (micro-nano, systems on a chip)
- Final say on selection of projects for funding
- Encouragement of SME involvement

Private role

- Expected total project spend approx. 1000m
- Propose and implement the projects
- Chairs the governing board

Some issues for partnerships

- What is the optimal *scale of public investment?* 'Institutional capture', escalating costs, relocation threats
- Do we have to manage *international public competition?*
- Is this *picking winners?* Specialisation and diversity
- *Who leads?* Private companies, public research, government?
- How do we secured the *social benefits?* The job creation link, the social divide, congestion costs
- Key role of *impact evaluation* – although a difficult area.

Conclusion

- Potential lessons:
  - An *entrepreneurial public sector and leaders*
  - *Collaboration* (among competitors, government levels, research-education-industry)
  - Substantial *scale of investment* and leverage
  - *Private-led* pre-competitive research agenda
  - The issue of local *social divisions* needs to be addressed
- But recognise *local diversity* – variations in assets and drivers, no one model
- Regions and localities are *sites of experimentation and insights*