

# Collaborating to compete: the emergence of the subsea technology cluster in the North East of England

Presentation to Boosting Innovation: A Cluster Workshop

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# Objectives

- To examine the emergence of the recognition of a regional cluster in the North East of England;
- To conceptualise the cluster in terms of its organisational structure
- To conclude that there are practical and theoretical imperatives to understand leadership of clusters
- To provide a comparative example against which to consider the machine tools and production systems 'cluster' of Emilia Romagna and associated policy experience.

# Outline

- Introductions and definitions
  - Cluster concept
  - Subsea technology
- Methodology
- Origins and emergence of the cluster organisation
- Objectives and activities of the cluster organisation
- Challenges and conclusions

# The Cluster Concept

- ‘a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities’ (Porter, 1998);
- ‘...groups of interacting firms and agencies that collectively enhance innovation performance through acting as a system’ (Charles, 2006);
- Asheim (1999) points to a distinction between national clusters concentrated in a particular region; regional branches of a national cluster and regional clusters;
- Overall, clusters are ambiguous, complex, messy contexts, operating at many territorial scales, but provide both a lens and a mechanism for understanding how firms can collaborate to compete.

# Subsea Technology

- Siedlok & Andriani (2005) define subsea activities as “operations and processes that take place under the surface of the sea as well as sectors operating at the interface with the sub-sea technologies” (p.29).
- Firms in the subsea sector design, engineer, build and operate complex systems, including valves, pipelines and controls, often operating in extremely hostile environments serving the sectors of oil and gas, defence, telecommunications, oceanology and renewable energy.
- Global industry, technologically challenging with growing markets.



# Methodology

- Action research methodology;
- Researchers involved have always intended to try to influence the context that they have studied;
- Interviews with stakeholders, examination of original documentation;
- The authors' direct observation and participation in clustering activities .

# The recognition of the cluster

- How clusters emerge and whether they can arise from conscious policy interventions is a highly contested area (Wolfe and Gertler, 2004; Fromhold-Eisebith and Eisebith, 2005).
- Often start with a mapping exercise - traditional approaches to mapping industrial clusters often ineffective in identifying emerging clusters/sectors based on new (often undefined and unrecognised) sets of technologies and/or markets.
- NEKS project (Networks, Knowledge Sharing and Cluster Development), a part of the Regions of Knowledge Pilot Action funded by the Research Directorate-General of the EC and delivered by Durham University Business School;
  - Interviews with experts in the region
  - Focus groups, workshops, conferences and other events, often serving as networking forums for companies, regional agencies and other organisations

# Top down vs. Bottom up

- Fromhold-Eisebith and Eisebith (2005) distinguish between “explicit top down initiatives” and “implicit bottom up initiatives”.
- ET “designated policy schemes officially drawing on the cluster idea and imposed upon (potential) cluster members by government bodies”
- IB “private coordinated efforts that are mainly instigated, funded and governed by companies” (2005: 1252).
- The subsea cluster’s recognition and emergence of the cluster organisation (Subsea NE) was influenced by the activities of researchers, but very much IB

# The recognition of the cluster

- NEKS research estimated that there are 100 companies in the region, each employing between one and 1500 employees.
- There were over 10,000 employees in the 47 companies interviewed, although it was not possible to identify the workforce relating to subsea technology only.
- The estimated turnover for 2005 exceeded £0.9 billion.
- Very high gross value added per employee
- However, no previous or subsequent study or data is available in any form known to us.

## Genesis and Composition of the cluster organisation, Subsea NE

Aspect	Qualities of Privately Led Clusters	Qualities of Subsea NE
Genesis of the initiative	<ul style="list-style-type: none"> <li>• Emergence from perceived real industrial needs of a group of firms</li> <li>• Formal set up independent of official cluster policies</li> </ul>	<ul style="list-style-type: none"> <li>• Emerged from the NEKS project</li> <li>• No formal organisation, linked to both Subsea UK and NOF Energy (both formal membership based cluster organisations)</li> </ul>
Composition of the actor group	<ul style="list-style-type: none"> <li>• selective inclusion of a smaller range of 'useful' actors based on pre-existing contacts</li> </ul>	<ul style="list-style-type: none"> <li>• Membership of the executive committee is based on personal invitation and closely controlled to maintain a manageable size</li> </ul>
Geographical reach	<ul style="list-style-type: none"> <li>• can cross regional administrative boundaries</li> <li>• logic of inclusion is based on functional, not geographical factors</li> </ul>	<ul style="list-style-type: none"> <li>• Executive committee includes a firm based outside One North East's (the Regional Development Agency for the North East of England) territory</li> </ul>
Sectoral reach	<ul style="list-style-type: none"> <li>• flexible evolution</li> <li>• membership evolves according to common interests</li> </ul>	<ul style="list-style-type: none"> <li>• Executive committee has changed composition as ownership of firms has changed, commercial pressures have intervened and individuals have changed role</li> </ul>

# Cluster objectives

- Effective networking between key actors has led to the development of a shared understanding of the significance of the cluster and problems facing the actors therein
- Formed Subsea NE (very informal grouping)
- Objectives
  - Subsea to be a recognised and prominent sector in the region
  - NE England to be recognised as a global centre for subsea excellence
  - To be a sector effectively share business opportunities and knowledge
  - To be a sector rich in subsea skills and knowledge

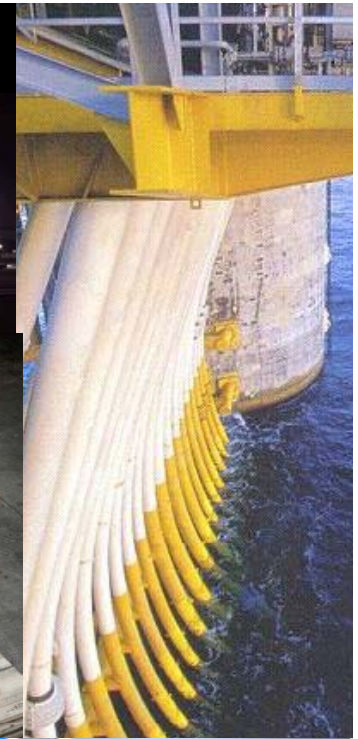
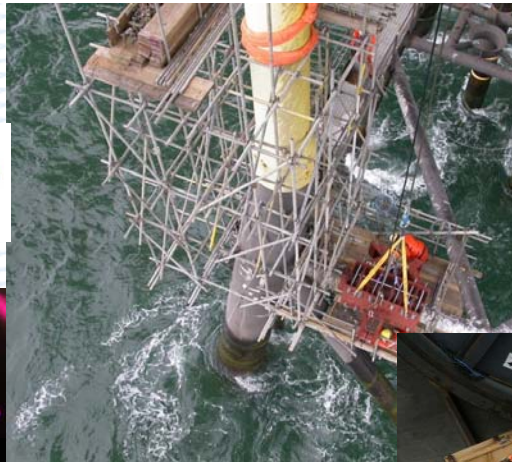
# Cluster Activities

- ▀ Regional events, meetings with policy makers, link to regional 'brand'
- ▀ Participate in inward missions, promote statistics about the sector, share opportunities, establish directory
- ▀ Technical seminars to showcase technology
- ▀ Supply chain/procurement events
- ▀ New degree programmes at Newcastle University and College
- ▀ Closer links to Newcastle University and College
- ▀ Activities to promote subsea engineering to children
- ▀ Participation in the National Subsea Research Institute

# Cluster organisation operation

- Fromhold-Eisebith and Eisebith (2005) acknowledge that while implied bottom up initiatives may “suffer from a rather spontaneous, less well-reflected start, top-down large-scale statistical efforts do not always identify real cluster potential, as people’s intuition does” (p.1258).
- Subsea NE has a ‘club’ character
- Membership of the organising committee is based on existing contacts and self-selection according to commitment to the overall objectives.
- Subsea NE can also avoid being bound by regional administrative territorial boundaries and follows the functional nature of the cluster and the interests of the leading subsea firms

# SUBSEA NE



# Challenges

- Legitimacy/representativeness;
  - Who chooses the Exec Comm?
  - How much is the role of Subsea NE understood?
- Leadership and Power;
  - Challenging role for an individual to lead fellow Chief Executives;
  - Desire to have everyone at the table;
  - Some feel less powerful/significant
- Time and resources;
  - This is nobody's 'day job'
  - Tension between the need for bureaucracy and the loathing of it
  - Don't want to be 'captured by the bureaucracies that they create' (Enright, 2003, p. 121)
  - No dedicated financial resources (some project funding)
- Contradictory priorities of regional agencies

“...we know little about the processes of regional economic adaptation, or about why some regions seem to be more adaptive than others...An evolutionary perspective...would place...emphasis on a region’s propensity to innovate, both within and amongst firms, and within and amongst its institutions” (Martin, 2005: 30)

**Is the ability to cluster a territorially specific skill?**

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