



Perspectives on Clustering in Ireland

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Introduction

- Origins of Clustering In Ireland
- Context for Clustering
- Bottom up Clustering – Diversification of Approaches
- Current Situation – and Opportunity
- Cluster Analysis, Mapping, Visualisation and Internationalisation

Definitions

Clusters

Clusters are “geographic concentrations of **interconnected** companies, specialised suppliers, service providers, organisations in related industries, and associated institutions (for example universities, standards agencies, and trade associations) in particular fields that compete but also co-operate” (Porter, 1998).

Cluster Organisation

“Cluster initiatives are increasingly managed by specialised institutions, known as cluster organisations, which take various forms, ranging from non-profit associations, through public agencies to companies” (EC, 2008, p.8).

Cluster Initiative

“Cluster initiative: an organised effort to increase the growth and competitiveness of a cluster within a region, involving cluster organisations, government and/or the research community” (Sölvell et al., 2003).

Origins of Clustering In Ireland



Michael Enright engaged as advisor to the Industrial Policy Review Group, established in 1991 under the chairmanship of Jim Culliton to make recommendations on the future direction Irish industrial policy should take.

The Culliton (1992) report identified a range of areas requiring reform in order to create an environment more conducive to industrial development

- “The budget for assisting indigenous industry will focus particularly on segments or clusters where there is a basis for establishing or increasing a national competitive advantage” (DETE, 1993, p 7).

Origins of Clustering in Ireland

- National Economic and Social Council (NESC)
- The National Economic and Social Council (NESC) reports to the Taoiseach on strategic issues for Ireland's economic and social development. It provides a forum for multilateral dialogue on economic, social and environmental challenges.
- NESC (1993) report "A Strategy for Competitiveness, Growth and Employment," to strengthen Ireland's indigenous industrial base.
 - highlighted the benefits of clusters and advocated the creation of co-operative structures among small firms as a means of achieving some of the economies of scale available to large firms.
- Cooke (1996) titled "Networking for Competitive Advantage," experience of inter-firm cooperation elsewhere in Europe,
- NESC (1997), titled "Clusters in Ireland," **ended up recommending against basing indigenous industrial development on a cluster policy.**
- NESC (1998), titled "Sustaining competitive advantage," concluded that Irish cluster examples cannot be **regarded as part of fully-developed industry clusters of the type and scale described by Porter.**

Origins of Clustering In Ireland

- Whilst the NESC reports differed in their attitudes towards clusters, further support for the concept had come from another authoritative source: the 1995 report of the Science, Technology and Innovation Advisory Council STIAC.
- Strongly recommended network formation and clustering as the most effective means of promoting innovation among Irish firms.
- Meanwhile, in their routine multi-annual strategy statements, industry development agencies make no reference to the cluster concept e.g.
 - Forbairt (1994) “The Forbairt Mission 1995-2000”;
 - Forfas (1996) “Shaping Our Future: A Strategy for Enterprise in Ireland in the 21st Century”;
 - EI (1998) “Enterprise Ireland: Strategy 1999-2001” and
 - Forfas (1996) “A new strategy for the promotion of enterprise in Ireland in the 21st century.”
- Breathnach (2001, p 12) believes that clusters occupy “only a very marginal place in the overall thrust of Irish industrial development policy.”

Origins of Clustering In Ireland

- More than a decade after the NESC studies, and in flat contradiction of Clancy et al.'s (2001) findings, Ireland was said to be home to a number of industry clusters (DETE, 2008).
- A DETE (2008) report entitled: Knowledge and Enterprise Clusters in Ireland, describes three Irish clusters:
 1. Bio Pharma
 2. Internationally traded Services
 3. ICT



However, to date no specific cluster policy developed at a national level.

Context for Clustering In Ireland



Supports Foreign Enterprise in Ireland



Capital & Employment
R&D / Innovation Grants
Tax Credits
Business Asset Grant



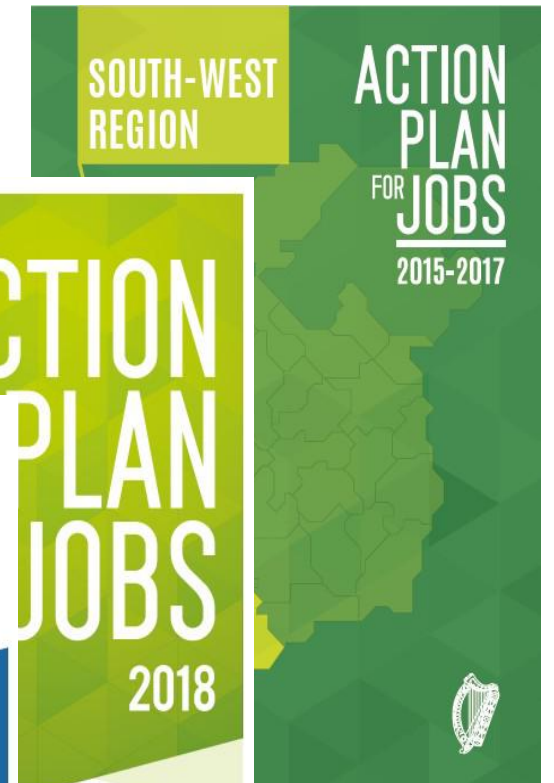
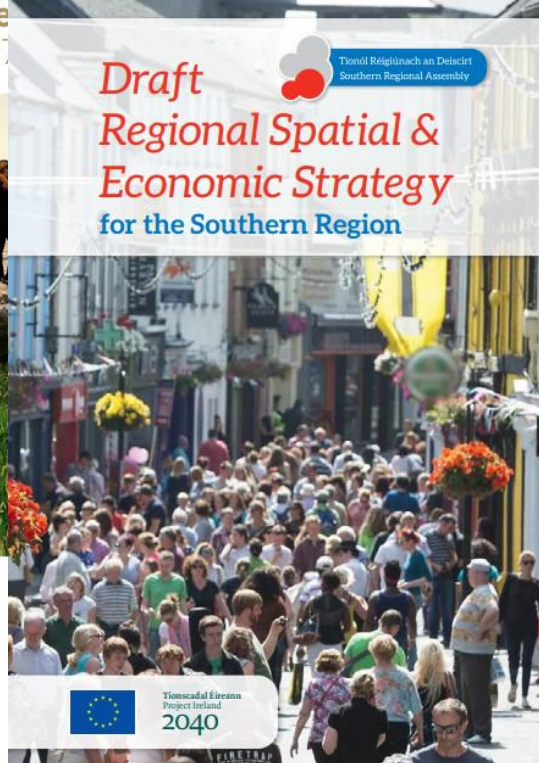
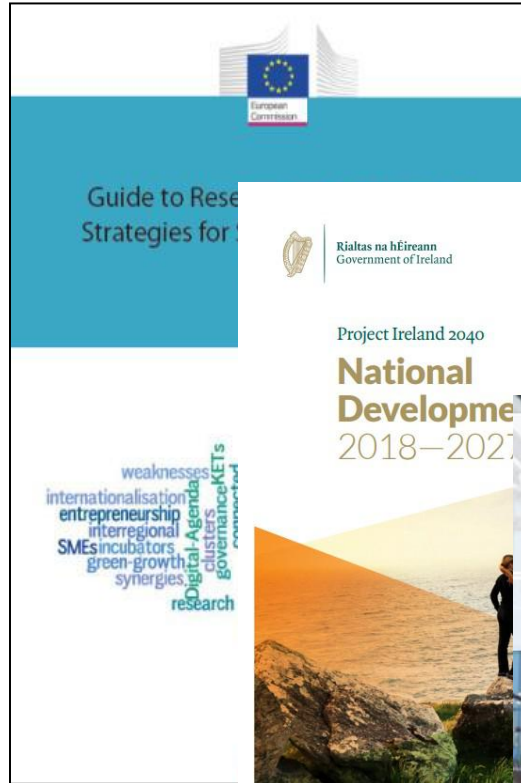
Supports Indigenous Enterprise in Ireland



Innovation Vouchers
Research Commercialisation
Innovation Partnership Programme
Technology Gateways



Context for Clustering In Ireland



Context for Clustering In Ireland

BIOPHARMACEUTICALS

Ireland's Life Sciences sector has grown from very humble beginnings in the 1970s to reach global significance. Collaborative clusters in Pharmaceutical, Biotechnology, Medical Devices and Diagnostics have been a key element behind the remarkable growth of the sector that directly employs 30,000 people.

Specialist Clusters

Even though the activities of firms located in Ireland are wide-ranging, the sector has developed high levels of expertise in an array of specialist areas, such as Telecommunications, Digital Media and E-Learning. This expertise is harnessed and focused through skill-based networks where companies share know-how, and have strong links with academic clusters.

A Strategic Research Cluster focusing on Advanced Biomimetic Materials for Solar Energy Conversion has been established by University College Dublin. The Tyndall Institute at University College Cork and the Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN) also have research projects of key interest to the solar industry. The Irish Maritime and Energy Resource Cluster promotes Ireland as a world-renowned research and development location.



You are here: Home / Policy / HE Reform / The Changing Landscape / Clusters

The Towards a Higher Education Landscape document sets out the rationale for the development of regional clusters of higher education institutions.

GLOBAL LEADER

Ireland's MedTech sector has become one of the leading clusters for medical device products globally. Exports of medical devices and diagnostic products now represent 8% of Ireland's total merchandise exports.

Infrastructure

Dublin boasts one of the densest clusters of data centres in Europe. The area surrounding Ireland's capital city already has as many as 30 large-scale data centres.

Enterprise Ireland @Entirl · 21h
New Irish food tech cluster announced for €26.75m State fund: [siliconrepublic.com/machines/irish...](https://siliconrepublic.com/machines/irish-...)



Perhaps unwittingly, this area of the capital has become an IT cluster, something that has already earned it a range of nicknames including "Dublin's Silicon Square Mile", the "Silicon Dock" and the "Binary Triangle".

IDA chief executive Barry O'Leary said that the "sheer magnitude" of Google - which has around 2,000 employees in Barrow Street - has played a big role in making this part of the capital an area of interest to other technology players.

Perhaps contrary to some people's assumptions, he said that companies have something to gain from being physically close to their rivals and competitors.

"The pull of a cluster is part of the track record of companies in the pool," said O'Leary. "It's part of the reason there are so many companies in the area."

Enterprise Ireland Retweeted
EI Technology Gateway @EITechGateway · May 2
The #new @irishfoodtech #cluster of the #TechnologyGateway network provides near-to-market #innovation, great support for #SME's and an excellent track record! Find out more on our brand new webpage: technologygateway.ie/network/irish-...

7 Technology Gateways
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Great support for SMEs
An excellent track record

Enterprise Ireland Innovation Vouchers
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Connect with researchers in a wide selection of areas like: bioprocessing, food for health, process control and packaging amongst many others.

Access R&D solutions to develop new products or services, optimisation of a process, for business and industry.

We can offer support on projects of all sizes to all types of company (startups, IPSPs, SMEs, large indigenous, multinationals, etc.)

Since 2013, over 1,000 Irish-based companies have used the Technology Gateways to complete more than 2,500 projects.

ENTERPRISE IRELAND
TECHNOLOGY GATEWAYS

Bottom up Clustering – Diversification of Approaches

- Now have a situation where some organisations see the value in a clusters and have tried to develop independent of national policy.



**ENERGY
CORK**



**GEOSCIENCE
IRELAND**
Exploring
Developing
Sustaining



**CRIOS
GROUP**



Emerald Aero Cluster



it@cork



Marine Ireland
Your Blue Edge



KerrySciTech
SCIENCE & TECHNOLOGY JOBS IN KERRY

Current Situation – and Opportunity



- No structured programmes
 - No definition of a cluster / cluster organisation etc.
 - Disjointed approach and this leads to the difficulties already outlined
- CLARITY**
- Ideal situation is that national policy is supportive of national cluster organisations – and provides financial support for same.
 - However, a bottom up solution may be – where a local authority, national agency, university – invested to support a cluster organisation designed on the Catalan / Danish / Swedish model – perhaps hosted by a university / IOT.
 - Were a cluster to be developed in this manner - analysing the benefits, benchmarking success and recording failures over a 24 – 36 month period, would showcase the opportunity of investing in a national clustering policy.

Visualisation of Linkages in Networked Clusters

V-LINC is an expert research group which informs and develops policy recommendations through mapping, visualising and analysing the strength of key relationships within Cluster Ecosystems.

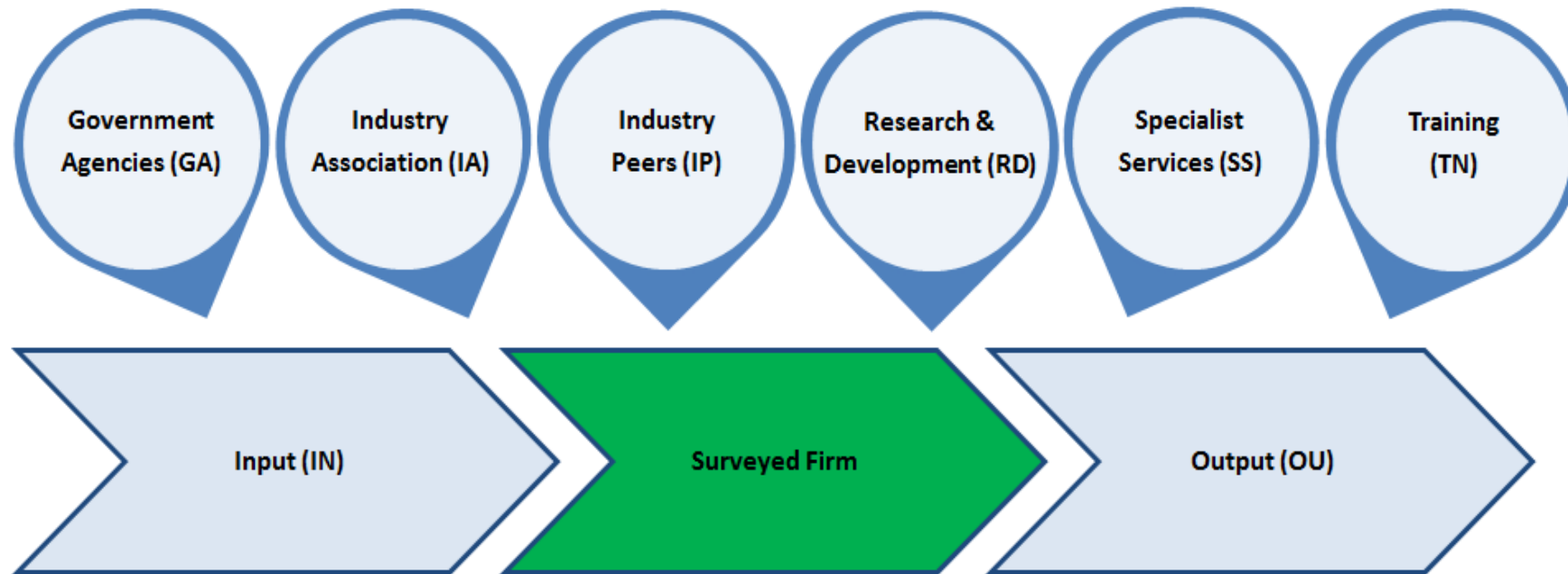


Visualisation of Linkages in Networked Clusters

Linkages between firms and other organisations are at the heart of how clusters function.

The key components of V-LINC data are;

1. Define the linkage category,



These linkage categories are derived from Marshall's (1890) 'Triad of External Economies of Industrial Localisation;' Porter's (1998a) 'Diamond of Local Industrial Clustering,' and Leydesdorff's (2012) 'Triple Helix Cluster configuration' each of which recognise the role of knowledge, innovation, collaboration, administrative supports and specialised inputs.

Visualisation of Linkages in Networked Clusters

- **Government Agency linkages:** includes links to International, national and local agencies e.g. city or county councils, state agencies, Environmental Protection Agency (EPA) etc.
- **Industry Association linkages:** this category includes membership of industry association groups.
- **Industry Peer linkages:** with other companies within the sector; noted to be key drivers of a cluster in regard to innovation and economic growth (Porter, 1998).
- **Input linkages:** included are links with suppliers of raw material, goods and services which have a decisive importance with respect to the final product or on the market performance of the company.
- **Output linkages:** with customers of the firm.
- **Research and Development linkages:** from the work of Porter (1985) we understand the basic rationale for innovation is to improve the long-run competitive position of a firm. These linkages include joint research projects between companies and also research relationships with academic institutes.
- **Specialist Service linkages:** with vendors who supply essential services to the organisation e.g. analytical services, automation, engineering, I.T., legal services, out-sourcing of particular processes and validation etc.
- **Training linkages:** with third parties who provide specific training for employees. The training may take the form of safety courses, training on machinery or software, diploma or degree courses.

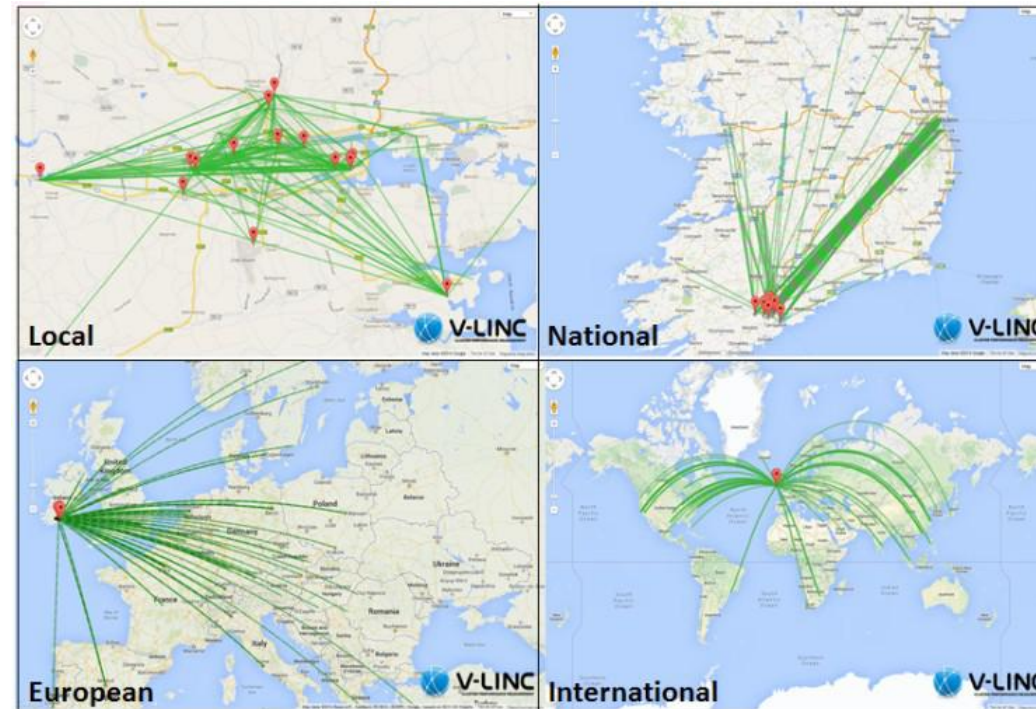
Visualisation of Linkages in Networked Clusters

Linkages between firms and other organisations are at the heart of how clusters function.

The key components of V-LINC data are;

2. Define geographic scope

Markusen (1996) recommends a broader institutional approach which encompasses the degree of embeddedness across district boundaries.



The methodology distinguishes itself from Porter's (1990, 1998) work in that it recognises that clusters are dynamic and have linkages which occur with partner's external to a cluster.

Visualisation of Linkages in Networked Clusters

Linkages between firms and other organisations are at the heart of how clusters function.

The key components of V-LINC data are;

3. Assess the business impact of each linkage as perceived by a respondent firm.

V-LINC provides a consistent method to reveal the significance of business linkages as perceived by company personnel involved in those linkages in a structured and replicable format. The importance of the linkages is collected through a series of Likert scale questions during structured interviews. The Likert scale used converts qualitative judgements into quantitative data which can be compared and subject to further analysis. V-LINC measures the perceived significance of linkages.

Each individual linkage is analysed across four dimensions; Intensity, Importance, Involvement and Investment. As each dimension is scored from 1 - 10, the summation of results, provides the perceived significance score for a linkage, out of 40.

Impact Band	Value
High	>30 to 40
Medium	>20 to 30
Low	>10 to 20
Tenuous	> 1 to 10

Many Thanks for your Attention

Looking forward to a productive few days
and learning from collective experience



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