



Why Locate a National Advanced Manufacturing Centre in Limerick?

We in Innovate Limerick are convinced that the Mid-West is the most logical and obvious location for the proposed National Advanced Manufacturing Centre and we outline in the attached document our arguments in support of our claim. This document is an enhancement of the 2015 document we published supporting our original claim.

What has changed since our first publication two years ago?

- 1) Science Foundation Ireland awarded (2017) over 50 Million Euro to support Research into Advanced Manufacturing to Confirm a research Consortium headed by the University of Limerick.
- 2) UNESCO (2017) designated Limerick as the UNESCO City of Lifelong Learning. This award is in recognition of the outstanding work of Limerick for Engineering and Limerick for IT
- 3) IBM (2016) integrated Limerick into its Global Smart City Programme and senior executives from IBM have spent several weeks assisting the City articulate and formulate its Smart Aging Strategy
- 4) In 2016 and 2017 Innovate Limerick accepted two national awards . One 2016 was in recognition by Chambers of Commerce Ireland as the most innovative Local Authority in Ireland. The second was awarded by the Irish Local Authority Management Association for the Troy Film Studio and regeneration of the former Anderson Plant in Rathkeale.
- 5) The 2016 census identified that 10 Of the 27 worst employment blackspots in Ireland are in Limerick and at 60% the worst unemployment black spot in Ireland is in Limerick.

We in Innovate Limerick have a coherent strategy and vision for the future of Manufacturing in Ireland. Our vision is to adapt the DMDII (Chicago) Model for Ireland. Chicago the leading Advanced Manufacturing Location in the US has integrated Basic Manufacturing Research, Urban regeneration and Advanced Manufacturing into coherent and cost effective programmes. We in Innovate Limerick have strong links in Chicago through the J&J Automation Centre of Excellence.

Currently we have two elements of the Chicago model in Limerick; the SFI Research Centre (Confirm) and the Digital City (Smart Aging) urban renewal programme all we are missing is the Advanced Manufacturing Centre.

As outlined in the attached document, economic rational, cost effectiveness, density of manufacturing activity, need for economic regeneration, geography and common sense, dictate that Limerick is the only location suitable for the proposed Advanced Manufacturing Centre.

Yours sincerely,

Eamonn Murphy
Chairman Innovate Limerick

Innovate Limerick
Cecil Street Upper
Limerick
V94 TN32
(061) 221414
www.innovatelimerick.ie

Mid-West Region

National Advanced Manufacturing Centre

Advanced Manufacturing, the 4th Industrial revolution, Factory 4.0, Smart Manufacturing ...however one wishes to refer to the pace of disruption and technological change manufacturing is currently experiencing, it is clear that government investment is required to ensure the future sustainability and viability of the Irish manufacturing sector.

This paper outlines why the Mid-West region delivers the **greatest impact** and global **opportunity** for the Irish government.



Mid-West Vision

Create a National Advanced Manufacturing Centre (NAMC), acting as an anchor for global corporate research, housing collaborative partnerships, supported by national and international research excellence, delivering impactful innovations, securing a vibrant future for Irish manufacturing.

SUMMARY

Mid-West for NAMC

UNIQUE GLOBAL LEADERSHIP OPPORTUNITY

Only location in Ireland which gives government the opportunity to **showcase** their **global vision, ambitions and abilities** by delivering an early-adaptor model of innovation co-location.



Co-location provides the opportunity to leverage partnerships and equipment resulting in increased **commercial impact and value for money**.

SCALABLE

Existing **national and global partnerships** deliver market ready **opportunities** for NAMC. These include the **DMDII, Chicago; Fraunhofer, Germany;** and **45 industry partners** supporting the national Centre for **Smart Manufacturing** research.



COLLABORATIVE

National **leader** in delivering **impactful collaborations** between industry - academia - stakeholders. These existing networks provide an **additionality** to the NAMC that **cannot be found or replicated elsewhere** in the county.



CONNECTED

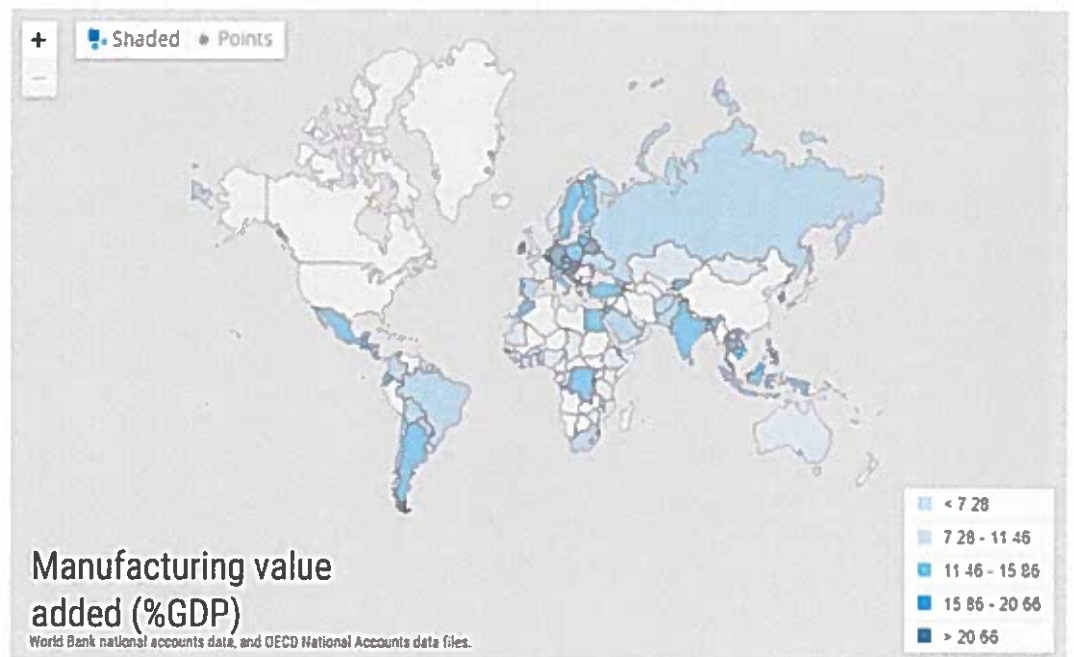
International daily air connectivity at Shannon airport.



50% of Irish regional manufacturing Enterprises are within 90 min radius*

Industry partners supporting this bid include: Analog, Cook, Stryker, J&J Visioncare, J&J ACE, Zimmer, Design Pro, Takumi Precision, Boldgers, Thormac, Et Electronics, Flextronics, Smithstown, Kostal.

Why Ireland needs to Invest in a NAMC



At 37%, **manufacturing** in Ireland has the **highest value add** (as % GDP) in the **World***

It is followed by South Korea at 29%, who excluding company contributions, invest over \$12bn annually into manufacturing research. With a manufacturing value add of 23%, Germany invest approximately \$1.9bn per annum, including into their world exemplar Fraunhofer system.

And while the value add of manufacturing in the UK is 10%, more than £1bn of funding (public and private) is being invested across their Catapult networks alone, one of the most high profile developments in the UK's innovation landscape that provides people and a physical and/or digital infrastructure to support late-stage research and development to take innovative ideas from concept to reality.

While no comparison figure is available for Ireland, it is clear that the per-capita rate of publically funded investment in manufacturing research is eclipsed by international tier 1 and tier 2 competitor countries.

There are 4,000 manufacturing enterprises in Ireland; the sector employs 440,000 people and is the 2nd largest employer in the state. Manufacturing firms pay €6.5bn in wages and invest over €3.4bn in the Irish economy.

To secure the future viability of this critical sector the Irish government needs to invest in facilities which foster collaborations across MNC's and SME's, as well as linking industry with third level institutes, to protect the future sustainability of existing jobs as well as ensuring that Ireland remains an innovative globally competitive location in which to invest. Investment in such facilities is a global trend in which Ireland is currently lagging.

* Source: <http://data.worldbank.org/indicator/NV.IND.MANF.ZS?view=map>

Importance of the Mid-West to Irish Manufacturing, 2016



Manufacturing Companies in Mid West Region*

Mid-West: 1,705
+9.6% from 2011 (+150)
11.2% of State (15k)

*Source: CSO Business Demography
Mid West = Clare, Limerick and Tipperary



Manufacturing Jobs/Workers in Mid-West Region

% Workers employed in Manufacturing, 2016
Mid-West: 28,850 (15.1%) - Direct Jobs
12.1% of State

Mid-West: 45,583 - Total Jobs
*Source: CSO Census 2016

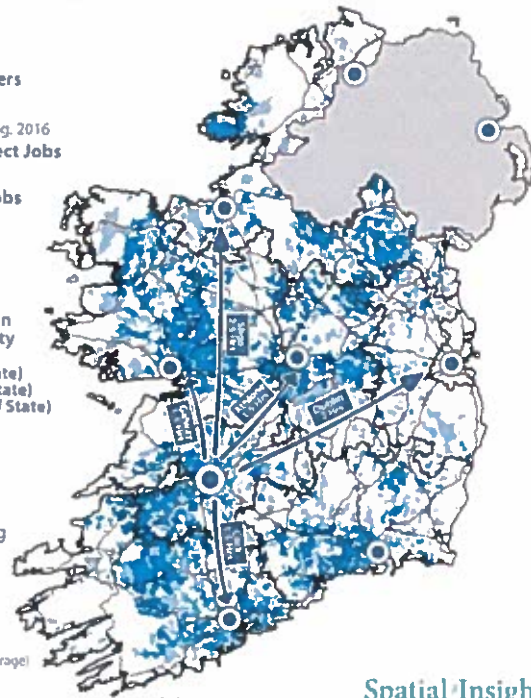
Mid-West Manufacturing Employment by technological Intensity, Q4 2016

Source: SMLRU & QNH5



Population and Skills within 1.5 Hours from Limerick City

Population: 1.15m (24% of State)
Labour Force: 545k (23.7% of State)
Third Level Degree+: 140k (22% of State)



Spatial Insight
solutions

Ireland's Smart Manufacturing capital

Limerick was recently chosen by a panel of international experts, as the location of choice for Science Foundation Ireland's Centre for Smart Manufacturing - CONFIRM, at the University of Limerick.

Limerick is the only location in Ireland which can offer government the opportunity to showcase its early-adaptor global ambition and vision by co-locating the NAMC with the national centre Smart Manufacturing in early and middle Technology Readiness Level (TRL) research and innovation activity.

Internationally governments and research institutes are recognising the unique advantages derived from co-location of such facilities; from the delivery of greater commercial impact, arising from the opportunities to leverage shared partnerships and equipment, to reaping the value for money benefits arising from naturally occurring economies of scale.

The DMDII in Chicago experiments and tests manufacturing problems, creating a network of researchers (from both academia and industry) to collaboratively deliver solutions. As a recognised global leader, the co-location of technological innovations across the TRL spectrum embedded with a digital vision for social inclusion is what differentiates DMDII, and it is this model around which this Mid-West vision is based.

#1

Why Limerick was chosen:

*Strength of industry partners
Depth of research expertise
Global vision & reach*

Linkages are already in existence between enterprises in the Mid-West and the DMDII which will accelerate the delivery of global partnership opportunities for the NAMC. Similarly partnership arrangements are place between the Smart Manufacturing research centre and several global innovators including Fraunhofer in Germany and the University of Twente, again providing a market ready global delivery opportunity for the NAMC.

Collaboration

In a recent review for the UK government on Business-University research impacts* Professor Dame Ann Dowling concludes that the key success factor in collaborative innovations are strong and trusting personal relationships between partners, based on mutual understanding and a shared vision for what the collaboration could achieve.

People are central to making any collaboration work, and collaborations cannot be created, they evolve.

The Mid-West Region has a recognised and proven track record, both nationally and internationally**, in delivering impactful and successful collaborations.

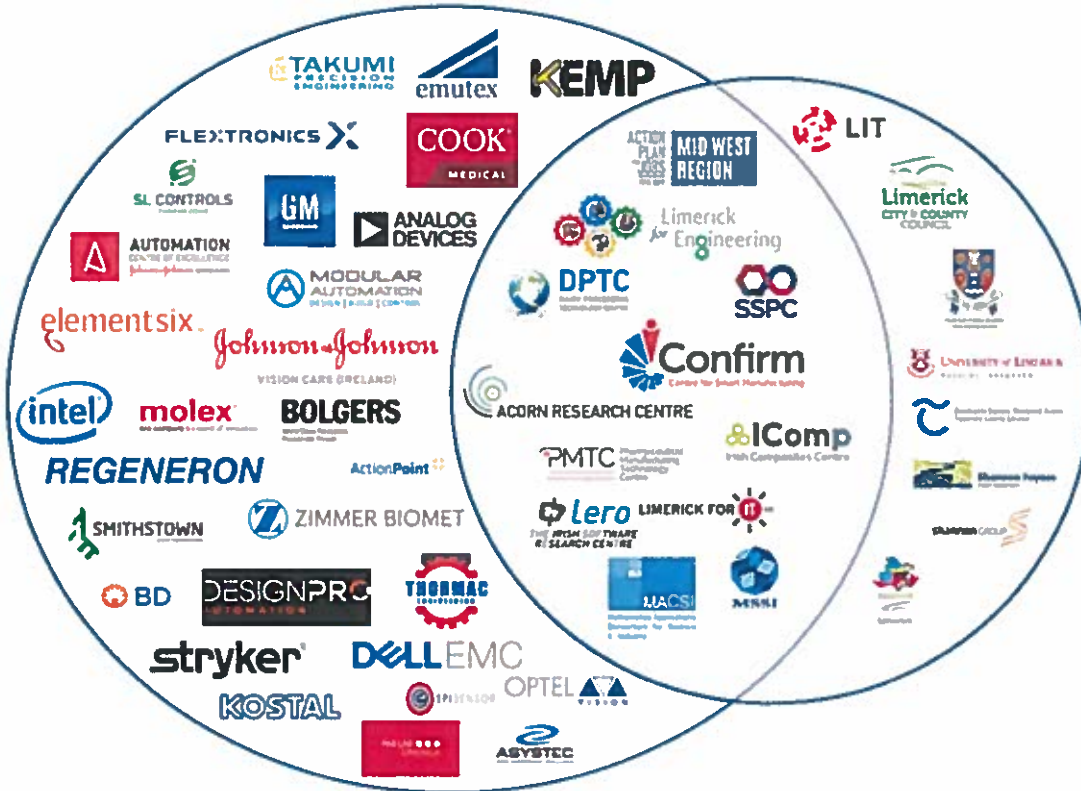
Limerick for IT and Limerick for Engineering are the exemplars in Ireland of industry-academia-stakeholder partnerships delivering innovative solutions to meet industry needs.

National Research & Technology Centres of Excellence

The illustration below gives a snapshot into the the depth of global MNC's and innovative indigenous SMEs that exist across the region.

It also shows the strength of the national research and technology centres of excellence which the region offers.

It highlights the number of strategic stakeholders who support the importance of Advanced Manufacturing for the future economic growth of the region.



Illustrative snapshot of the depth of existing regional strengths

Source: *<http://www.raeng.org.uk/policy/dowling-review/the-dowling-review-of-business-university-research>

** 'Shared Governance, Leadership and Regional Development – A Case Study' prepared by Richard Thorn for the OECD https://heinnovate.eu/sites/default/files/shared_governance_leadership_and_regional_development_-_a_case_study.pdf