

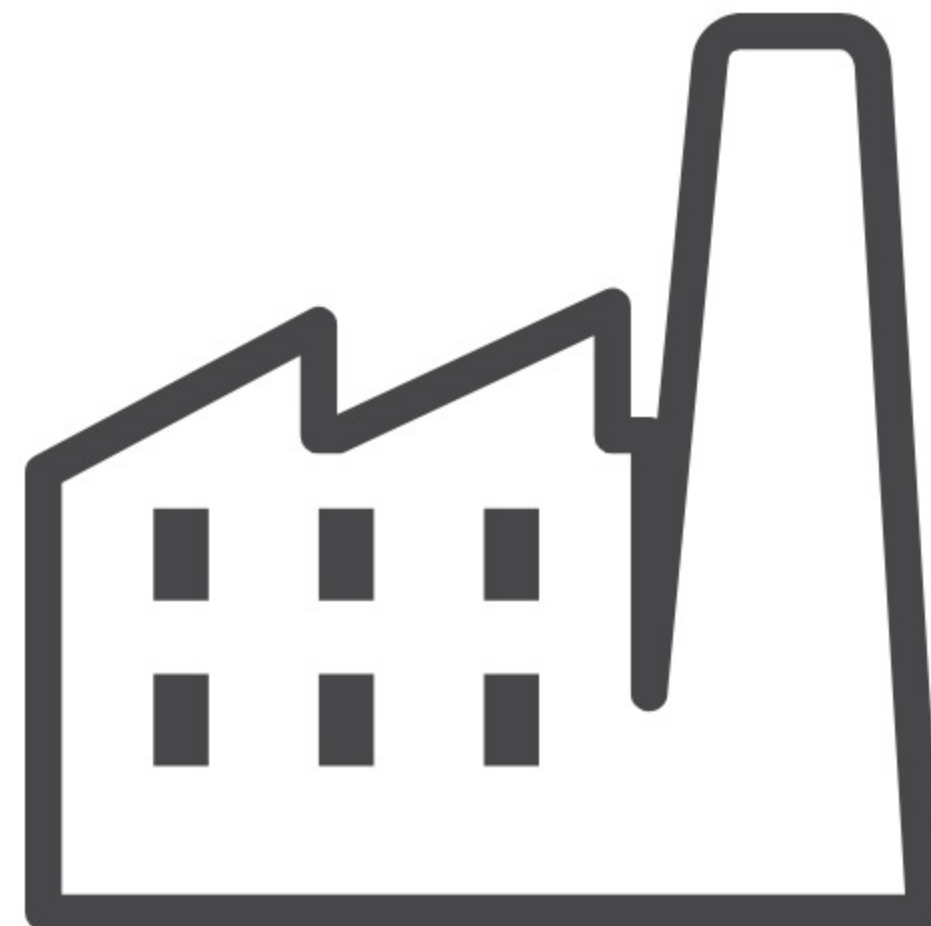
National Advanced Manufacturing Centre

update 2017

Mid-West Region

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.

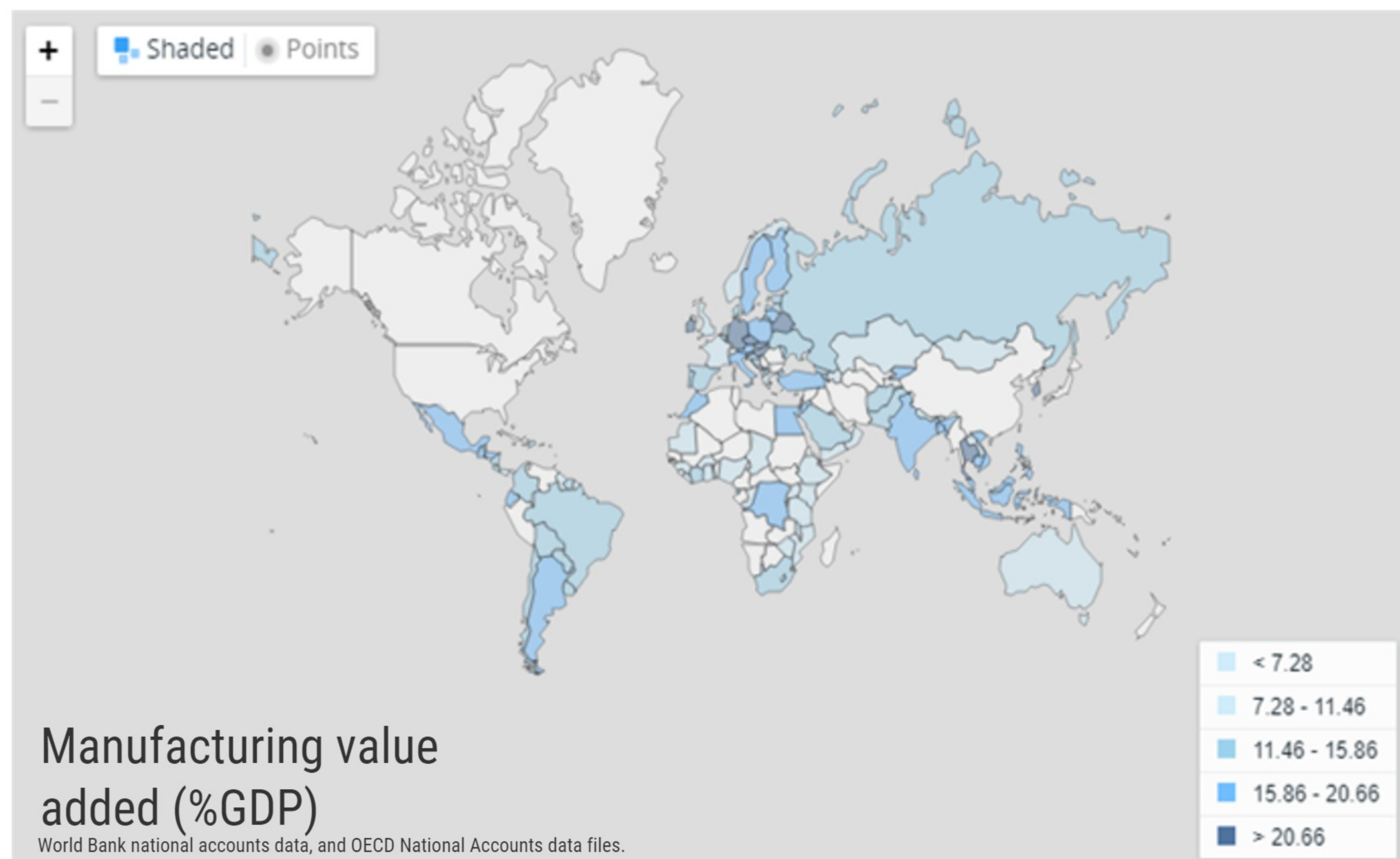
This paper outlines why the Mid-West region delivers the **greatest impact** and global **opportunity** for the Irish government.



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.

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.

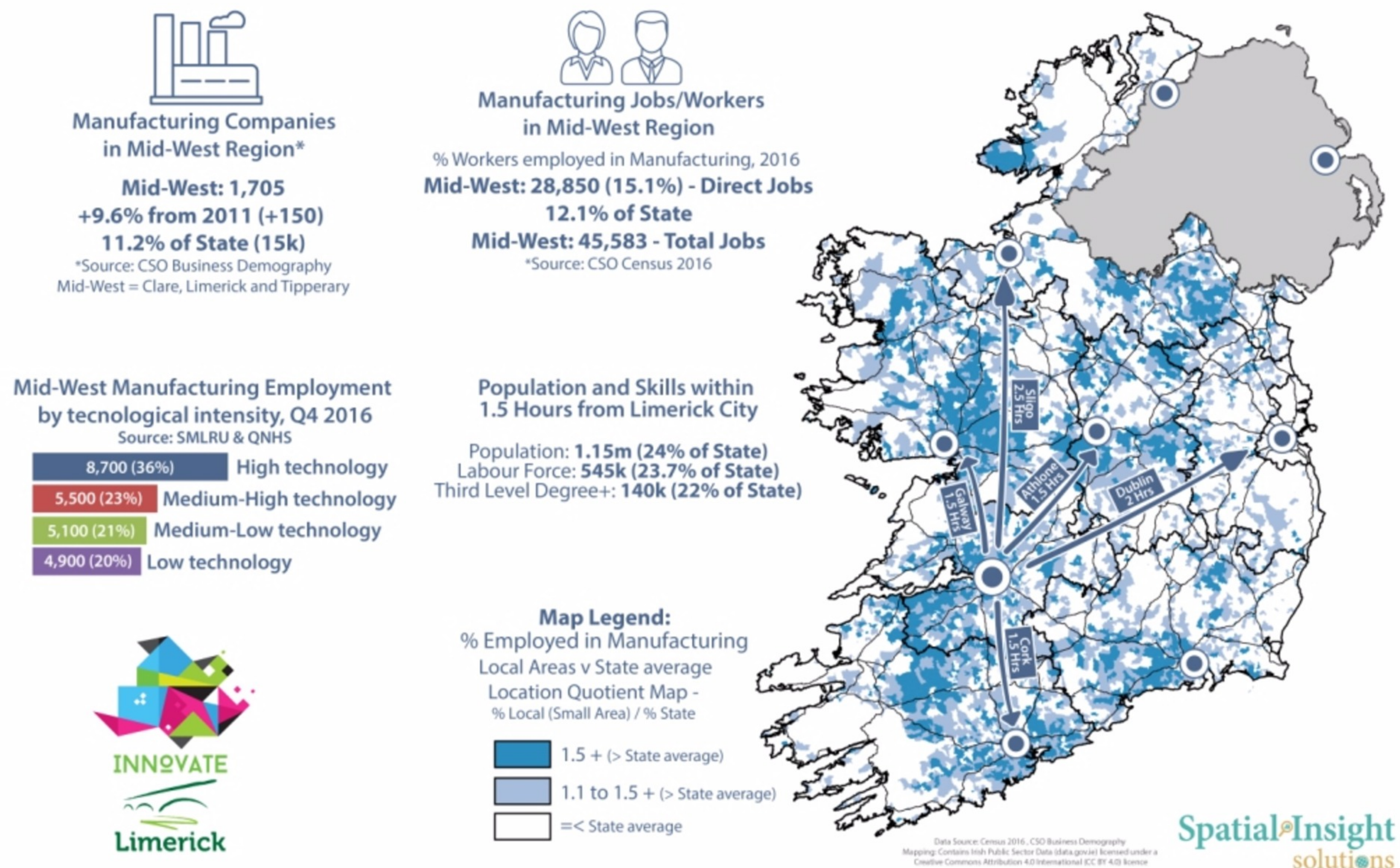
While no comparison figure is available for Ireland, it is clear that the per-capita rate of publically funded investment in manufacturing research is eclipsed by international tier 1 and tier 2 competitors countries.

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



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.

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.

#1

Why Limerick was chosen:

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

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

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*

