

Automation

3D PRINTING

Prototyping

Spare parts

Additive manufacturing

# Life and Health Sciences Industry Survey Report: The highlights

March 2020

**NW**CAM

North West Centre for Advanced Manufacturing

**Catalyst**  
Fuelling  
Opportunity

# Executive Summary of the Survey Report 2020

## Introduction

The North West Centre for Advanced Manufacturing, NWCAM funded through EU's Interreg VA program was developed to link research capability to industrial challenges using Advanced Manufacturing within the Life and Health Science (LHS) sector within Northern Ireland, the Border Region of Ireland and Western Scotland (the "Region"). Led by Catalyst and delivered through four academic and nine industrial partners, the consortium facilitates and co-ordinates collaborative research and innovation to develop LHS companies, developing local capabilities that are critical to become more competitive in order to grow the regional economy to compete globally.

To support the growth of the LHS innovation ecosystem, NWCAM conducted a survey of LHS-focused companies across the Region, the purpose is to obtain an understanding of current and future industry R&D interests, needs and challenges, and to gauge awareness of Advanced Manufacturing and highlight its potential as an enabling technology to enhance industry competitiveness, efficiency and productivity.

## Survey Respondent Profile

Companies were predominantly microbusinesses or SMEs with over 50% generating a turnover of less than £5 million per annum and almost a quarter with a turnover of £5-50 million per annum. Medtech-core, contract research & manufacturing; and medtech-services and supply were noted as the top three most popular descriptions of the respondents' businesses.

## Participating companies from the LHS sector



# Key Themes

Despite the challenges ahead, which include Brexit and global trading issues, the survey indicated an optimistic outlook. Below are the key themes emerging from the results:

## Regional Awareness of Advanced Manufacturing as an Enabling Technology

There is a growing awareness and understanding of the opportunities that Advanced Manufacturing can offer; there is a significant appetite to engage or further engage in related R&D among respondents.

## Regional Levels of R&D

Regional businesses are clearly investing in R&D and innovation activities to provide a competitive edge. However, they require more support and investment to do so, especially microbusiness and SMEs.

There is clear evidence of a collaborative culture within the LHS sector, and a willingness for more. It also signifies a greater appetite for cross-border and trans-regional strategic industry-academia and industry-industry partnering, along with a rise of interest in joint venture formation.

## Regional Commercialisation Levels

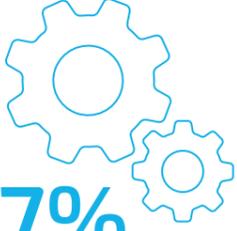
Many businesses are protecting their intellectual assets but a significant proportion are not. To incentivize investment in innovative R&D and intellectual property protection, governments and industry alike need to understand the barriers to participation and support businesses to overcome them.

## Regional Engineering Skills Levels

Engineering skills and recruitment is a fundamental concern for most regional companies. Businesses are beginning to take measures to retrain and reskill their existing employees but more support is required from governments and education leaders. Sector leaders and champions should continue to better showcase what the profession has to offer.

# Results

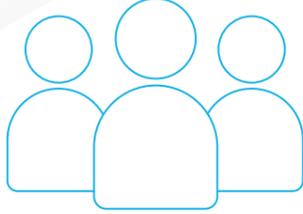
The survey identified a number of key findings including:



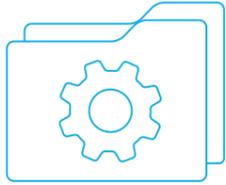
**77%** reported an awareness of Advanced Manufacturing as an enabling technology with potential to improve commercial performance.



**66%** of respondents said that the most beneficial R&D support was for collaborative R&D with research institutions and/or other industry partners.



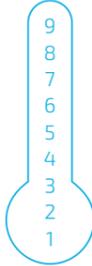
**Respondent engagement in the past three years:**  
Post-doctoral researchers (22%)  
Engineering PhD students (24%)  
Apprenticeships (27%)  
Engineering interns/placement students (51%)  
Engineering graduates (73%)



**61%** stated that the adoption of Advanced Manufacturing was very or extremely important to their company.



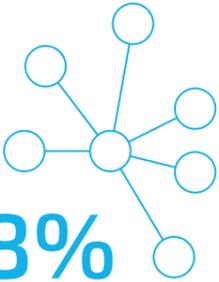
**66%** respondents reported that government investment in manufacturing and innovation was of paramount importance to their success.



For the majority of respondents, R&D development could be categorised within the early to mid-range of TRL2-6 levels; with TRL3 being the most prevalent.



**20%** of respondents had availed of UK Government Patent Box tax relief scheme and a further 29% said that they were not aware of the scheme.



**78%** confirmed they would be interested in engaging in cross-border collaborative Advanced Manufacturing R&D.



**97%** of respondents agreed that there is an engineering skills shortage in the region.



**34%** of respondents had not registered any intellectual property relating to patents, trademarks and design rights in the past five years.



**32%** of respondents either did not avail and/or were not aware of the government R&D tax credit schemes available.

# Recommendations

There is now a unique opportunity to build on the solid foundation of the regional LHS sector and proactively drive momentum to create a sustainable, high performing, agile and innovative ecosystem to help the regional economy to thrive in a global market. In the context of NWCAM, the survey has highlighted that regional sector collaborations can make a significant difference to participating companies. More regional concentration of R&D funding and more connectedness should be encouraged through the converging of new enabling technologies such as Advanced Manufacturing to the LHS and to other industry sectors.

A list of related recommendations are offered from the results of the survey which include:

## 1. Continue to prioritise the LHS sector as a successful growth sector.

All stakeholders should come together with one voice and increase dialogue in relation to enhancing sustainable growth and productivity in the LHS with the support of Advanced Manufacturing and other Industry 4.0 technologies.

## 2. Champion the power and adoption of Advanced Manufacturing as an enabling technology to boost the LHS sector performance alongside other emerging technologies and global trends.

Create a clear strategy, strong leadership and better communication from government/ key stakeholders in order for adoption to occur. Adoption will encourage the LHS sector to futureproof the regional healthcare and wider LHS sector.

## 3. Optimise opportunities for sector networking and building trusted cross-border and trans-regional relationships.

Identify more opportunities for key stakeholders to engage in developing and supporting innovation, form new relationships and continue partnership building.

## 4. Develop stronger linkages with other UK, Irish and European Advanced Manufacturing and related LHS research and innovation centres to support and provide opportunities for more collaborative cross-disciplinary research and cluster development.

Build strong collaborative links with local and regionally aligned research centres such as UKRI's Catapults, Ireland's SFI research centres and Scotland's government backed Innovation Centres.

More collaboration with other EU INTERREG cross-border programmes with cross cutting themes to support cluster development.

Champion exemplary models of LHS ecosystems and clusters in the Region;

Stakeholder alignment of strategies and policies, where appropriate, with major regional government initiatives to leverage their value.

## 5. Continue to increase the level of collaborative cross-border and trans-regional RDI Funding.

Market different funding opportunities in the Region to ensure industry takes full advantage of opportunities.

NWCAM should continue to build upon the INTERREG VA model of applied R&D funding.

Local regional agencies should support business to navigate to the appropriate R&D funding routes.

## 6. Provide greater support for microbusiness and SMEs to scale and realise their R&D ambition.

Greater support by regional government agencies for companies especially SMEs with outsourcing R&D, supporting innovation strategies and infrastructure/equipment investment.

Engagement with accelerator programmes and collaboration with relevant Innovation centres may be highly beneficial to their growth strategy and new business models.

## 7. Increase Intellectual Property (IP) Awareness.

Regional government agencies should manage initiatives to improve the regional IP scores, increase IPR awareness and support.

Greater financial and IP protection support should be made available by regional government agencies.

## 8. Rebranding of engineering as a rewarding career and champion industry-led PhD and post-doctoral researcher careers.

NWCAM, regional governments, academia, industry and other relevant stakeholders must work together to change the perception of engineering and manufacturing careers.

All stakeholders can help to identify key areas where industry-academia collaboration could support PhD and post-doctoral positions within Advanced Manufacturing and other related technologies.

Endorse the Apprenticeship Levy with industry working closer together with further education college.

## 9. Increase awareness of R&D Tax Credits.

Further government support should be given to increase awareness and/or engagement of regional R&D tax credit schemes with business.

Further support for specialist advice from trusted tax accountants to ensure that companies are familiar with the qualifying criteria for R&D tax credits.



**We would like to thank all of the respondents for taking part in the NWCAM LHS Industry Survey and to everyone who supported the survey preparation, dissemination, data collation and final report preparation.**

The full report is available on request, please email [NWCAM@wearecatalyst.org](mailto:NWCAM@wearecatalyst.org)

Complex  
geometry

Technology



Special EU Programmes Body  
Foras Um Chláir Speisialta An AE  
Boord O Owre Ocht UE Projects

Funded by the EU's INTERREG VA Programme which is managed by the SEUPB.  
Catalyst is the lead partner in the delivery of the project.

**Catalyst**  
Fuelling  
Opportunity

#NWCAM  
@CatalystNI\_

[wearecatalyst.org](http://wearecatalyst.org)