

# S34Growth – Regional Action Plan

## PP8: Scotland

The following document is a key output of the S34Growth Interreg Europe projects and sets out the main actions of Scotland's Regional Action Plan. The overarching objective of the S34Growth project was to "*To develop and improve existing regional policy mechanisms and instruments to facilitate interregional collaboration which in turn will support the renewal of Europe's industry and competitiveness.*"

The project focuses on industrial innovation-related interregional collaboration to support the advanced manufacturing sector, reflecting Scotland's *Smart Specialisation* priorities.

The Scottish participation in the S34Growth programme is led by Scottish Enterprise, Scotland's leading innovation and investment agency, but has also engaged Scottish Government, and though Scotland Europa, other public agencies such as Highlands & Islands Enterprise, the Scottish Funding Council and Scotland's leading universities.

This Action Plan aims to support the Scottish Government's key goal on Innovation, to help improve Scotland's innovation performance to equal the best-performing economies.

Scotland's emerging Smart Specialisation focus is based on realising major niche opportunities in global markets, that can generate significant growth, in key areas clusters and sub-sectors where Scotland has clear competitive advantage. This includes Energy, Food & Drink, Financial Services, Education/Knowledge Creation and Engineering.

This includes exploiting cross-sectoral and cross-technological synergies, building new industries and new companies, creating new jobs over the longer-term., with exciting developments in relation to

- Informatics and Digital Industries, in areas like Games, 'Fintech', medical technologies, 'Big Data' and Analytics, and sensors.
- Environmental Services such as heat and water, energy transmission, subsea engineering, resource efficiency and the 'circular economy'.
- Advanced Manufacturing, building on Scotland's deep-rooted competitive capabilities in *engineering*, addressing emerging opportunities in areas like *Industrial Biotechnology* and the *Circular Economy*

The programme also contributes to other aspects of Scotland's Smart Specialisation focus:

- As part of the priority given in Scotland to *Inclusive Growth*, targeting industry growth in local economies.
- Building on the research strengths of Scotland's universities, improving links with industry and SMEs, both within Scotland and across the EU.

- Stimulating innovation, supply chain development and productivity improvements in mature, domestically-focused sectors with large numbers of employees.

## Inter-regional Action 1 - Creating EU Network of Innovation Infrastructures

Background: Most, if not all, of the Off-Site Deep Dive visits during S34Growth took the opportunity to showcase regional investments in innovation infrastructures. A common purpose existed to use academic strengths to solve industry challenges at the regional level to capture a share of new international market opportunities.

As EU regions attempt to progress their S3 strategies an opportunity exists to position regional specialisms as international specialisms. To achieve this requires significant investments at the regional, national and EU levels. The Skane OSDD provided a clear example of this with €2 billion of investment currently underway in the European Spallation Source (ESS) and MAX IV Laboratory in Lund. When completed it is predicted to position Skane as the world leader in nano-technology. Partners in Bilbao highlighted their investment in the Advanced Manufacturing Centre for Aeronautics and Advanced Manufacturing Centre for Wind Energy each with a focus on Industry 4.0 concepts. In Scotland, the visit to the Advanced Forming Research Centre and a presentation on the European Marine Energy Centre indicated similar approaches for different regional specialisms. Further investment is also planned in Scotland to establish a new National Manufacturing Institute for Scotland.

Increasingly, EU policy is turning to new approaches to industry-led EU engagement to provide a 'foothold' for EU businesses to work collaboratively across borders, regions and Member States. However, there are few EU funding opportunities which directly support and facilitate this activity. Scotland's approach to European Structural and Investment Funds (2014-20) has specifically noted the need for investment in this area, as a means to accelerate Scottish business innovation and internationalisation.

As growth markets become internationally focused so to should innovation infrastructures. An acknowledgement therefore exists that regions should not look to replicate infrastructure already available in a partner region. Instead partners could support inter-regional collaboration by formalising a network for EU Innovation Infrastructures.

Strategically, the main areas of focus for SE in EU Engagement are Innovation, Energy and Investment, closely aligned with emerging SE (and Scottish Government) priorities. This is part of a major effort underway in Scotland to strengthen direct industry involvement, in key areas like co-financing collaborative R&D, building on our key strategic assets and clusters – not least the research strengths of our universities. There is scope to use this to develop business-to-business and industry-to-industry collaboration across EU regions

Action: Creation of an international network of leading innovation infrastructure to bring forward best practice use at regional and EU levels.

The network will look to share knowledge of what works well, challenges being faced and how these are being overcome, funding models in place, success metrics being used to track performance and ways to maximise industry engagement. Over the long-term this could

lead to an Innovation Infrastructure equivalent of EU performance benchmarking of Cluster Management Organisations (CMO).

This action aims to create the right conditions for EU businesses to collaborate in areas with evidenced European competitive advantages in international markets. This approach seeks to overcome market failures of scale which perpetuate the proliferation of single approaches at regional or Member State level – seen as the main impediment to securing the EU's dominance in international markets where the EU has clear advantage.

By facilitating Scottish business engagement in existing or new EU value chains, new internationalisation opportunities can be explored which would otherwise remain under the radar for SMEs. This requires greater industry-led inter-regional collaboration, with effective 'matching' of business needs across EU regions, e.g. by matching-up regional Smart Specialisation priorities and facilitating the collaboration of regional clusters across the EU.

The aim is to optimise usage and return on investment by increasing the visibility of facilities in other regions and providing mechanisms to support SMEs to investigate and make use of them. Analysis may also reveal gaps in facilities' current capabilities/services where joint ventures and agreements on co-investment at interregional level may be the optimal solutions.

From a Scottish perspective, this will tie in with the launch of the National Manufacturing Institute for Scotland (NMIS) as well as the Vanguard Initiative ADMA Energy Pilot's desire to move towards clustering in the subsea sector (through the related Marine Renewables Energy Partnership and an intention for the Pilot to become a recognised European Cluster Partnership in the field of Advanced Manufacturing for Energy Related Applications in Harsh Environments).

Exploring the opportunity to share good practice for innovation infrastructures will assist each region maximise benefits from local assets by drawing on international insights.

Scottish Partners: Scottish Government, Scottish Enterprise (SE); Scottish Funding Council (SFC); Scottish Universities.

Potential Interregional Partners: Skåne, Basque Country, South Netherlands, Tampere

Expected Impacts:

This project will contribute directly to industrial innovation-related interregional collaboration with regional investments supporting the renewal of Europe's industry and competitiveness. From a Scottish perspective, the action affords the opportunity for continued presence of Scotland in a European S3 context in, and after, a period of political change and in sectors which already possess a large degree of expertise and competitive advantage at an EU and global level.

Impacts flowing from innovation infrastructures are expected to share common impacts:

- Increased investment in Business Expenditure in Research & Development
- Improved productivity
- Infrastructures positioned well to attract EU Capital Investment Funds
- Enhanced prestige of regional innovation infrastructures

Timeframe: 2018 -2020 and beyond.

## Inter-regional Action 2 - Manufacturing Industry 4.0. Service

Background – The S34Growth OSDDs in the Basque Country and Catalonia expressed confidence in supporting their industries (particularly SMEs) capitalise on current and future Industry 4.0 concepts. In Bilbao Industry 4.0 is actively being promoted as a journey rather than a pre-defined destination that companies should strive towards. The region exuded real confidence in engaging companies around industry 4.0 concepts and providing suitable support services.

Inspired by the OSDD Scottish Enterprise is bringing forward its own Manufacturing 4.0 Service. The service is delivered through two interactions.

Firstly, a Manufacturing 4.0 diagnostic to identify current state of Manufacturing 4.0 readiness and future ambition. The diagnostic covers 37 Industry 4.0 opportunities across the following six themes:

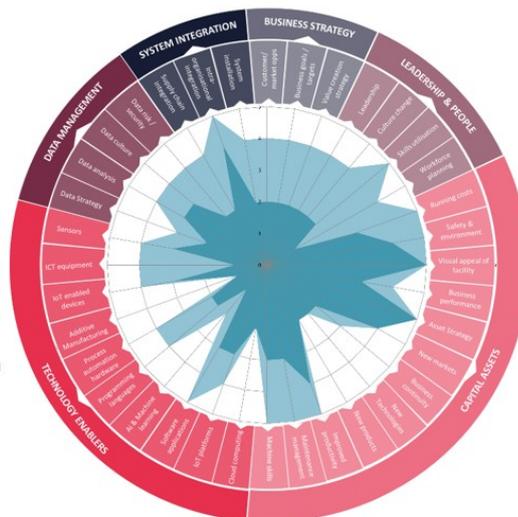
### ▼ The draft tool

#### Current vs ambition radar chart

As part of the exercise, for each of the thematic areas and subthemes, participants will identify where is the company today in terms of their current level of maturity, and where do they desire to be?

This is done by aligning to a series of statements along the maturity scale in the diagnostic matrix

These answers will then automatically generate a 'Current state vs desired future state' radar chart



The second part of the service is to set forward the individual company 'journey' that will get companies from current position toward their future ambitions.

## I4.0 pathways roadmapping session

Each completed sheet will be patched together into a full A0 version



Action – Continue to share learning across S34Growth regions on good practice Industry 4.0 concepts and activities. Scottish Enterprise will share with interested partners the methods being used in its Manufacturing 4.0 Service.

Scottish Partners: Scottish Government, SMAS, SE digital specialists. With linkages to Scotland’s innovation centres and catapult network.

Potential Interregional Partners: Tampere and South Netherlands both interested in learning more

Timeframe: 2018/19 roll out

Costs: TBC

Likely funding sources: Scottish Enterprise will fund roll-out of Manufacturing 4.0 service in Scotland.

Expected impact: Successful delivery of the service is expected to result in a number of quantitative and qualitative impacts including

- 200 Manufacturing 4.0 company engagements/pathways
- New investments in innovations from manufacturing companies in Scotland.
- Increased collaboration with companies elsewhere in the EU
- Mainstreaming of high end manufacturing across Scotland’s S3 Programmes
- Increased confidence around Manufacturing 4.0 concepts and opportunities

## Inter-regional Action 3 - Open Innovation Network

Background – Companies that innovate successfully do not limit their search for new ideas and insights to their R&D teams, which can be typically small even within the largest of firms. Instead they engage all employees to bring forward ideas, they encourage suppliers to suggest new ways of working and they engage with customers to identify what they value. They also seek solutions to challenges from outwith existing relationships by adopting an Open Innovation culture. Adopting Open Innovation methods extends the capabilities of companies and can be used to address societal challenges.

The OSDDs to Skane (Launch Nordic) and Barcelona identified the importance of seeking innovate solutions from outwith the company. A strong interest in this activity also exists in Scotland with Open Innovation programmes now in place to encourage our large public and private organisations to publicise their open innovation challenges. <https://www.scottish-enterprise.com/services/new-opportunities/solve-a-challenge/apply-for-a-challenge>

Action – Continued roll-out of SE-led Open Innovation programmes and participation in EU Open Innovation networks to share good practice Open Innovation methods. The potential also exists to bring forward and jointly publicise EU level societal challenges.

Partners: Scottish Enterprise; Scottish Government;

Potential International Partners: Skane (Launch Nordic), Barcelona (Accio), Basque Country.

Timeframe – 2018-2020.

Impacts –

- Using large public and private organisational innovation challenges to stimulate investments in new products, processes and services.
- Investment in Business Expenditure in Research & Development