

The Interreg IVB North Sea Region Programme

*Investing in the future by working together
for a sustainable and competitive region*



European Regions for Innovative Productivity

ERIP Deliverable

Report Work Package 3:

Establishment of Transnational Network of Innovative Productivity Centres (IPCs)

Contents:

- Structure of Innovative Productivity Centres
- The transnational network
- Business Plan
- Transnational Activity Schedule
- Detailed description of 6 regional IPCs

Document legend	
Version	4.0
Date:	12.12.2011
Responsible partner:	SINTEF, Norway
Authors:	Ottar Bakås, Torbjørn Netland, Daryl Powell

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1 Introduction

1.1 Background

There is a clear recognition in the EU that manufacturing globally is undergoing rapid changes. As low cost economies extend their manufacturing capacity, European manufacturers need to become more lean and agile to remain globally competitive.

The future success lies in moving up the value chain. The manufacturing sector in Europe needs:

- To be made up of highly skilled, knowledge intensive, highly productive and innovative manufacturing businesses.
- To deliver high quality, cost competitive goods and services into the global market place.
- To introduce new products and processes to create new markets.

Although Small and Medium-sized Enterprises (SMEs) are the backbone of the EU economy, few are fulfilling their potential in terms of productivity and innovation. There is:

- No widespread successful adoption of lean/agile manufacturing
- Limited understanding of lean/agile processes at every level within an organisation, resulting in a failure to embed these concepts

1.2 ERIP

ERIP is a network of European Regions supported by the Interreg IVB North Sea Region Programme. Designed and developed by a transnational team, the overall vision of ERIP is to increase the innovative capacity and competitiveness of the manufacturing industry in the North Sea Region. This is to be driven through a network of 6 European Regions working together to improve the productivity of SMEs.



The project aims to build upon the success of the existing NEPA project developed in the North East of England; to create a robust network structure involving industry, public sector business support agencies, centres of excellence, universities and 6 new IPCs to deliver long-term sustainable changes to the North Sea Regional economy.

ERIP has 7 main work packages to identify and engage with regional exemplars, SMEs and other stakeholders, establish a network of Innovative Productivity centres (IPC), develop a Lean Change Methodology for SMEs, evaluate and further develop after testing, and communicate and disseminate the results throughout the regions. Partners will be working with a broad range of stakeholders to ensure maximum benefits.

ERIP is designed and developed by a team of economic policy development professionals, production engineers and academics specializing in manufacturing processes/operation management.

One North East, the Regional Development Agency for the North East of England, is the Lead Partner. The project has a total budget of Euro 3,281,246 of which Euro 1,640,623 is provided through ERDF funds. Work starts in January 2008 and lasts until June 2011.¹

1.3 Partners

There have been nine partners involved in the ERIP project from six different regions:

- Newcastle University Business School, UK
- One North East, UK
- University of Applied Science Osnabruck, Lingen (UAS Lingen), Germany
- Municipality of Ammerland, Germany
- Hanseatic Parliament, Germany
- N.V.NOM, Netherlands
- Ghent University, Belgium
- Swerea IVF AB, Sweden
- SINTEF (Foundation for Scientific & Industrial Research), Norway

2 Innovative Productivity Centres (IPCs)

2.1 Purpose of the Innovative Productivity Centres (IPCs)

The ERIP project has established Innovative Productivity Centres in six countries across Europe. The IPCs act as a hub for technology transfer between companies, regions and universities. Knowledge transfer and learning has been achieved through the involvement of experienced academics and practitioners within Lean and other methods for improving productivity and innovation skills in SMEs. IPCs have the potential to play a critical knowledge bank role for lean tools to help companies increase their competitiveness.

The objectives of the IPCs are to:

- Provide a transnational platform for the transfer of knowledge on Lean production, including intermediary bodies focused on building capacity of SMEs to engage in innovation.
- Encourage and facilitate joint transnational collaboration and the implementation of world-class manufacturing methods.
- Act as a focal point for the development of integrated transnational policies and initiatives to cascade and embed lean manufacturing knowledge across the North Sea Region.

The IPCs act as internal regional collaboration platforms, and provide an interface between manufacturing businesses and competence partners to support knowledge transfer of best practices. This is essential to SMEs in the North Sea Region. The IPC facilitates process innovation and the implementation of world-class manufacturing methods in a series of test SMEs.

¹ Due to a change in the political landscape in the UK, One North East, the regional development agency, had to withdraw from the ERIP project in March 2011. Newcastle University became the new Lead Beneficiary for the project and negotiated a new project deadline of December 2011.

2.2 Structure of the Innovative Productivity Centres (IPCs)

The overall structure of the IPC has been similar in each of the six ERIP countries. The overall IPC structure is described in Figure 1.

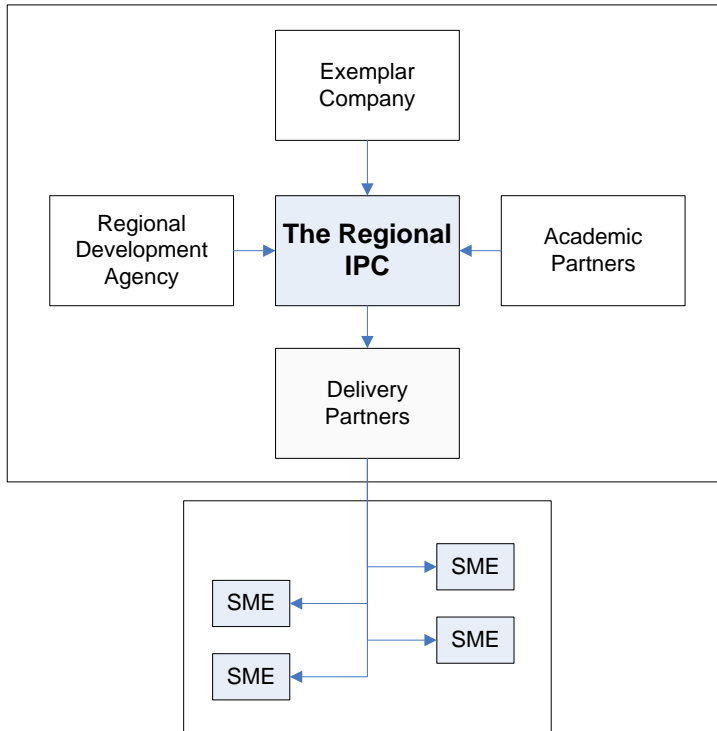


Figure 1: The Regional IPC with SMEs

The regional IPCs consist of the following roles:

- **Exemplar companies** have an existing successful track record in implementing and cascading lean manufacturing. Access to invited exemplars is critical to the project as they will be used as reference points for knowledge.
- **Regional Development Agencies** play an important role for knowledge transfer and economic development of the region.
- **Academic partners** are universities and research institutes with competence in the education and research of lean philosophy, tools and techniques and approaches to innovation in industry.
- **Delivery partners** are organisations with practical experience of guiding companies through improvement initiatives.
- **Manufacturing SMEs** are organisations with the capacity, need and will to participate in piloting the ERIP methodology.

The fulfilment of these roles is done differently in the six regions, with some organisations covering several roles. However, despite differences in delivery and implementation, by one of more organisations, the same overall functions are carried out within each regional IPC.

2.3 Summary of facts and figures

- IPCs in all six countries established

- 31 SMEs recruited
- More than 15 transnational workshops and knowledge exchange activities hosted, including 5 transnational showcase events with SMEs

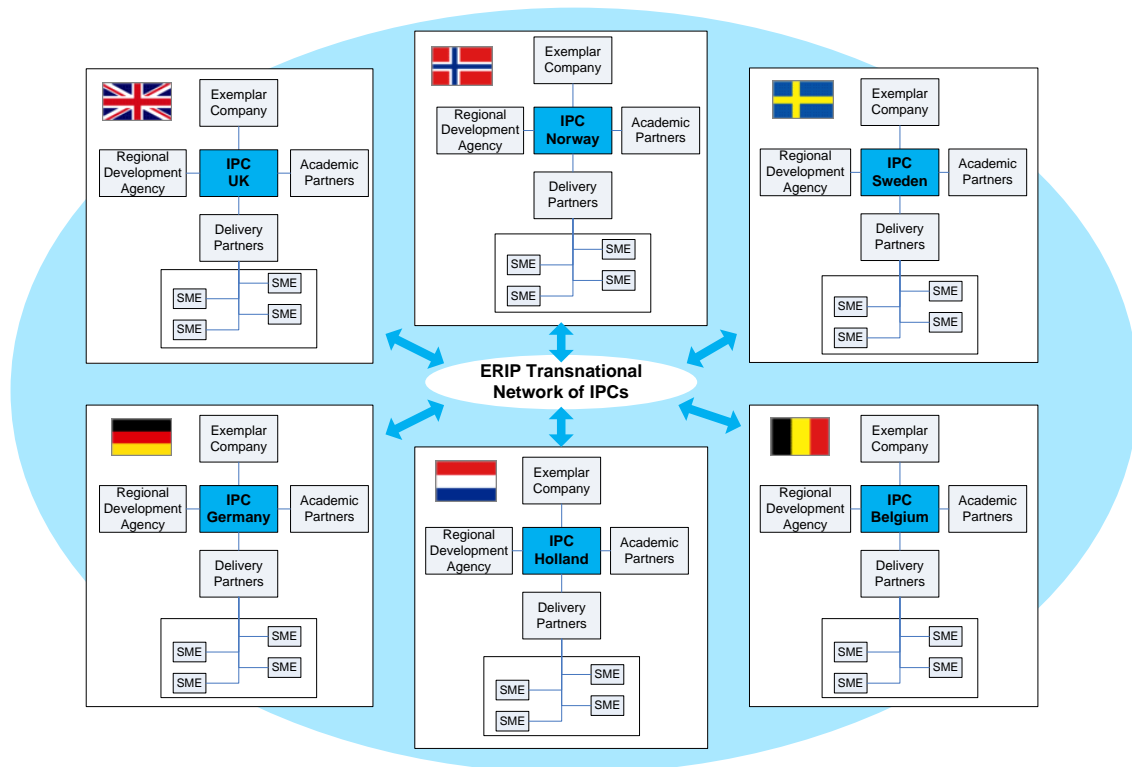
3 The Transnational IPC Network

3.1 Structure

ERIP has established a transnational network of regional Innovative Productivity Centres (IPCs). The goal of this network is to develop and test lean production techniques in SMEs to be able to devise a new SME focused lean change methodology which will be transferable across the North Sea Region.

There are six different regions included in the ERIP transnational IPC network:

- UK (North East England)
- Norway (Mid-Norway)
- Sweden (Västra Götaland)
- Germany (Ammerland)
- Netherlands (Holland)
- Belgium (Flanders)



3.2 Business Plan

The business plan for the IPCs and the transnational network consists of four key elements: 1) market possibilities; 2) knowledge-building and training; 3) dissemination; and 4) exploitation.

1. Market possibilities

- **The importance of SMEs in Europe and in the North Sea Region**

SMEs are a critical component of the European economy. These companies employ a large percentage of the total workforce and therefore, contribute a significant proportion towards the value creation in our economy. Statistics show that of the 20 million companies operating in Europe, 99.8% are SMEs, and provide approximately 67% of all jobs (Schmiemann, 2008)². The "footprint" of SMEs is larger than may be seen at a first glance. Many SMEs are suppliers to larger organisations. They form a network of small and often specialized businesses, and serve as a foundation for a well-functioning economy. Larger firms require their SME suppliers to provide high quality products or services at low cost.
- **A need for knowledge and competence of lean in SMEs**

Although SMEs are always looking for improvements, new and innovative products and improved production processes, they have been hesitant in the introduction of lean management (Von Axelson, 2009)³. According to Achanga *et al* (2006)⁴ and Yang & Yuju (2010)⁵, many SMEs are unfamiliar with Lean Manufacturing. Further, they have identified several challenges of SMEs implementing lean, such as a lack of resource, misunderstanding of the lean concept, and implementation initiatives that do not succeed due to a lack of adaption of the concept to specific company settings. Therefore, there is a gap in the knowledge and in the exploitation potential for Lean practices in SMEs.

2. Knowledge building and training

- **Showcase events**

A showcase event draws together experts in lean change management with SME tester companies and is used to demonstrate a best practice approach to project participants. The competence within each IPC is strengthened by executing transnational showcase events with SMEs. Here, experts from one region lead showcase workshops in SMEs where other SMEs and researchers from other countries participate and work together with a specific test case company. Real world challenges are used to learn how to apply lean practices and thereby strengthening competence building and knowledge transfer in the North Sea Region.
- **Industrial seminars and conferences**

The experiences accumulated throughout the project will be used to attract companies within each region to participate in various seminars. Learning from the practical experiences of tester SMEs is highly valuable for other companies and will attract other SMEs that have not been directly involved in ERIP. The network organisations in each IPC will be further used to arrange such seminars and conferences.

² Schmiemann, M. (2008). "Unternehmen nach Größenklassen - Überblick über KMU in der EU", in Eurostat – Statistik kurz gefasst: 1-8

³ Von Axelson, J. (2009). "Developing Lean Production implementation methodology for SME learning networks", in EurOMA 2009 Conference Proceedings, Göteborg, Sweden.

⁴ Achanga, P., Shehab, E., Roy, R., Nelder, G. (2006). "Critical success factors for Lean implementation within SMEs", in Journal of Manufacturing Technology Management, Vol. 17, No. 4: pp. 460-471.

⁵ Yang & Yuyu (2010), "The Barriers to SMEs' Implementation of Lean Production and Countermeasures - Based on SMEs in Wenzhou", International Journal of Innovation, Management and Technology, Vol. 1, No. 2, pp. 220-225.

3. Dissemination

- **Journal articles**
Results from the ERIP project will be valuable as material for developing journal articles describing the results of the project in the different regions. Multiple conference papers will be written and several journal articles are currently being planned.
- **Media relations – pieces in popular media and industry magazines**
Each participant in the different IPCs will use the ERIP project for developing material for popular media and industry magazines. This will increase the visibility of participating organisations, promote the goals and results of ERIP and publicise the support the Interreg IVB North Sea Region Programme provides European SMEs.
- **Web strategy**
The project will have a web site, explaining goals, objectives and results of the project. In addition, several of the IPCs will set up regional websites describing results and upcoming events. This will also continue after the project ends.

4. Exploitation

- **The SME Lean Change Methodology**
Throughout the ERIP project, a Lean Change Methodology for SMEs will be developed, tested, modified and documented. This methodology will be of great value for all participating organisations in the regional IPCs and will be used in future projects to help European SMEs create continuous improvement within the North Sea Region.
- **Using results in education and training programmes of the project participants**
Results from ERIP, such as exemplar and tester SME case studies, will be used by the project's academics to inform teaching and research within and between higher education institutions.⁶
- **Developing regional projects in SMEs based on experiences from ERIP**
The partners intend to use the project results to spread the lean production philosophy beyond ERIP participants, throughout their large regional networks of industrial SMEs and large companies in each country. Partners will use the knowledge built throughout the project to solve customers' problems through applied research and future innovation projects.
- **Developing a continuation initiative for the transnational network**
The ERIP team will design and develop a continuation of the project. The value of the networks and partnerships, built among the different organisations in the regional IPCs, will be tremendous. The legacy of the project will be built by:
 - Deciding on the right **format** for a continuation initiative, such as a research project, a collaborative network, coordinated innovation projects etc.
 - Selecting appropriate **topics** that are naturally linked with lean manufacturing, innovation and continuous improvement.
 - Identifying sources for **funding** of a continuation initiative.
- **Continuing with specific spin-off companies⁷**

⁶ A result of the project has been the launch of a joint Masters programme between Newcastle University and the University of Groningen in Operations Management, due to launch in September 2012.

⁷ In one of the regions (Flanders, Belgium), key staff members from the IPC team will continue the IPC cluster through a specific university spin-off company, Veltion. For more information, please see: <http://www.veltion.be/en/#>

3.3 Schedule of Transnational Activity

The following schedule lists planned key transnational activities in the ERIP project.

Date	Place	Purpose
19 Jun 2008	Newcastle, UK	Project planning
06 Dec 2008	Stavanger, Norway	Interreg – training – project administration and economy
18-20 Mar 2009	Trondheim, Norway	Transnational workshop on WP 3 Innovative Productivity Centres
01-03 Dec 2009	Göteborg, Sweden	Partner meeting and workshop on lean change methodology
24 Feb 2010	Göteborg, Sweden	Showcase event: pre-diagnostic, Kraftelektronik SME
09-11 Mar 2010	Göteborg, Sweden	Showcase event: diagnostic, Kraftelektronik SME
23-24 Mar 2010	Ammerland, Germany	Partner meeting and workshop
14 Jun 2010	Newcastle, UK	Transnational academic seminar
07 Sep 2010	Schiphol, Netherlands	Partner meeting and project status
13-14 Dec 2010	Newcastle, UK	Mid-way project conference. SME testers attended, with poster exhibition for each region. Visits to SMEs and UK exemplar, Nissan.
07-08 Feb 2011	Oslo, Norway	ERIP dissemination seminar for organisations in the Baltic Sea Region.
21-22 Mar 2011	Ghent, Belgium	Partner meeting and workshop on lean change methodology
08-09 Sep 2011	Groningen, Netherlands	Partner meeting and workshop on evaluation of SME test cases
23-24 Nov 2011	Newcastle, UK	Final project conference, final SME visit, partner mee
13 Dec 2011	Amsterdam, Netherlands	Final project steering group.

Table 1: Schedule of Transnational Activity ERIP

4 The Regional Innovative Productivity Centres (IPCs)

4.1 Regional IPC NORWAY (Mid-Norway)

Type of partner in IPC	Organisations / team / companies
Delivery partner & Regional development partner:	<p>SINTEF The SINTEF Group is the largest independent research organization in Scandinavia. Every year, SINTEF supports the development of 2000 or so Norwegian and overseas companies via our research and development activity.</p> <p>Team:</p> <ul style="list-style-type: none"> - Ottar Bakås - Daryl Powell - Jan Ola Strandhagen - Ragnhild Bjartnes - Torbjørn Netland - Jorunn Auth
Academic partner:	<p>NTNU Norwegian University of Science and Technology The Department of Production and Quality Engineering (IPK) at NTNU works on the point of intersection between technology and management, with issues tied to operations, industrialization and production, along with quality and safety. The department has three primary research groups covering Production Systems, Production Management and Reliability, Availability, Maintainability and Safety (RAMS).</p>
Exemplar companies:	<p>2 exemplar companies:</p> <ul style="list-style-type: none"> ✓ Teeness Sandvik Coromant (Ranheim) Teeness AS is a producer of anti-vibration tools located in Trondheim, Norway, and is the Competence Centre for anti-vibration tools in the Sandvik Coromant Group. They produce damped tools for applications such as milling, turning and deep hole drilling. ✓ Benteler Automotive (Raufoss) Benteler is a supplier of aluminium products for the automotive industry. The focus in Raufoss is Aluminium crash management systems.
Case companies	<p>5 SMEs recruited, whereof 4 test case reports completed</p> <ul style="list-style-type: none"> ✓ Norplasta (Stjørdal) ✓ Hagen Treindustri (Stryn) ✓ ASTI (Selbu) ✓ Noca (Trondheim) - CTM Lyng (Vanvikan)
Cluster collaborators:	<ul style="list-style-type: none"> ✓ SMARTLOG Industrial Network ✓ Lean Forum Norway ✓ NCEI Norwegian Centre of Expertise Instrumentation ✓ Centre for Research-based Innovation NORMAN - "Norwegian Manufacturing Future"

4.2 Regional IPC SWEDEN (Västra Götaland)

Type of partner in IPC	Organisations / team / companies
Delivery partner & Academic partner:	<p>Swerea IVF</p> <p>Swerea IVF is a leading supplier of applied research and development services to industry. Swerea IVF carries out industry-relevant R&D in collaboration with industry and academia. Its aim is to strengthen its customers' competitiveness by offering expertise in product, process and production development. They supply expert knowledge of properties, processes and applications for a wide range of materials. Swerea IVF has a highly qualified staff of 140, located in Mölndal and Stockholm. Swerea IVF has ongoing national and international R&D collaboration with the leading players in academia and industry.</p> <p>Team</p> <ul style="list-style-type: none"> - Björn Westling (Coordinator) - Peter Lundin (SME coach) - Birgitta Öjmertz ("Produktionslyftet" liaison) - Per-Åke Sigbrandt (SME coach)
Regional development partner:	<p>Region Västra Götaland</p> <p>1.5 million people of some 130 nationalities live in Västra Götaland's 49 municipalities representing 17% of the overall Swedish population. Geographically, Västra Götaland is one of the largest regions in Sweden. Göteborg is the largest city and the centre of growth in the region. The council is responsible for healthcare, conditions for development of business, infrastructure, culture, tourism and environmental issues.</p>
Exemplar company:	<p>1 exemplar company:</p> <ul style="list-style-type: none"> ✓ Atlet AB (Gothenburg) <p>Atlet is a global company in the material handling business, present in 47 countries world wide through subsidiaries and distributors. They focus on reducing their customers' costs for material handling, ranging from analyses of inventory and goods flow to service, training and safety inspections. Atlet's main manufacturing plant is located in Mölnlycke outside Gothenburg. Atlet manufactures a range of products for material handling, mainly trucks. The trucks range from hand pallet trucks through low and high level pickers to electric and diesel powered counterbalance trucks. Since 2007, Atlet is a fully-owned subsidiary of Nissan Motor Co. Ltd.</p>
Case companies:	<p>4 SMEs recruited, whereof 3 test case reports completed:</p> <ul style="list-style-type: none"> ✓ Falkenberg Graphic Media AB (Falkenberg) ✓ Kraftelektronik AB (Surte) ✓ Westcoast Windows (Trollhättan) - AB Furhoffs Rostfria (Skövde)
Cluster collaborators:	<p>Through the research programme "Produktionslyftet":</p> <p>KTH Royal Institute of Technology, Chalmers University of Technology, Jönköping University, Mälardalen University, Mid Sweden University, Blekinge Institute of Technology, Luleå University of Technology</p>

4.3 Regional IPC UNITED KINGDOM (North-East)

Type of partner in IPC	Organisations / team / companies
<p>Regional development partner & Delivery partner:</p>	<p>One North East One North East is the Regional Development Agency (RDA) covering North East England. One of nine RDAs in England, they were established to transform the English regions through sustainable economic development.⁸</p> <p>NEPA / PA Consulting⁹ NEPA (North East Productivity Alliance) was set up in 2001 to help improve the productivity and competitiveness of North East England manufacturing by providing coherent and effective support. The aim is to make North East England not just one of the most productive manufacturing regions in the UK, but an exemplar region from which other areas of the UK can learn and benefit. To meet these goals NEPA focuses on three key areas - people and skills, new technologies and developing best practice.</p> <p>Team</p> <ul style="list-style-type: none"> - Colin Herron, Emma Lindsay, Helen Armstrong and Jo Morrissey, One North East - Barry Rogerson and Paul Dobson, NEPA/ PA Consulting (Delivery)
<p>Academic partner:</p>	<p>Newcastle University Business School With around 2,000 students, Newcastle University Business School is one of the largest schools in Newcastle University. They currently have around 100 staff, including many leading academics recruited from both inside and outside the UK as experts in their fields. They have excellent links with industry and professional bodies. They run a wide range of activities to support businesses in the North East region and beyond and also offer customised management development programmes.</p> <p>Academic team</p> <ul style="list-style-type: none"> - Tom McGovern - Chris Hicks - Adrian Small <p>Project management team</p> <ul style="list-style-type: none"> - Kate Morris (Project management) - Sinead Devlin (Project management/ final activity report writer) - Heidi Thompson (Financial management)
<p>Exemplar company:</p>	<p>1 exemplar company: ✓ Nissan Motor Manufacturing UK Ltd (NMUK) Nissan Motor Manufacturing UK Ltd (NMUK) is the largest car plant in the United Kingdom, and is located in Sunderland. It is owned and operated by the European division of Japanese car manufacturer</p>

⁸ One North East, along with all the English regional development agencies (RDAs), will close at the end of March 2012. The Government announced in their 2010 summer budget a new policy for regional economic development which means the role of RDAs will be replaced by local enterprise partnerships.

⁹ In the NE of England, the government funded a manufacturing advisory service for local SMEs. At the start of the ERIP project, the advisory service was run by NEPA engineers who worked for One North East. However, during the project lifetime, this functionality was outsourced from One North East to an external consultancy company, PA Consulting.

Case companies:

Nissan. NMUK relies heavily on Information Technology to function. Computer-controlled robots and other machinery, particularly in the Body Shop, are vital to production. NMUK is one of the most productive car plants in Europe, producing more 'cars per man' than any other factory. Staff at NMUK uses a number of methods to ensure productivity remains high. Three of the main ones are Kaizen, Just in Time and Job Rotation.

5 SMEs recruited, whereof 2 test case reports completed:

- ✓ Comesys Europe Limited (Cramlington)
- ✓ Peacocks Medical Group Ltd (Newcastle upon Tyne)
- AVID Vehicles Limited (Cramlington)
- Electroscoot Limited (Consett)
- Seaward (Peterlee, County Durham)

**Cluster
collaborators:**

4.4 Regional IPC GERMANY (Ammerland)

Type of partner in IPC	Organisations / team / companies
<p>Academic partner & Delivery partner:</p>	<p>University of Applied Science Osnabrück.</p> <p>The institute of Management and Technology in Lingen is part of the faculty of Management, Culture and Technology of the University of Applied Sciences Osnabrueck. The faculty brings together under one roof four institutes that offers together a variety of very different courses. The spectrum ranges from classical mechanical engineering and business administration through to communication management and theater education. The students come from all over Germany and from neighbouring countries. Currently there are about 1500 students on campus.</p> <p>The university is also strongly linked through a variety of cross-sectoral networks with the regional economy. Numerous students are engaged in business companies during their final studies and courses to solve practical problems with an academic approach.</p> <p>Team:</p> <ul style="list-style-type: none"> - Thorsten Litfin, UAS - Jens Mehmman, UAS - Michael Strebels, Municipality of Ammerland - Rainer Henking, Municipality of Ammerland
<p>Regional development partner:</p>	<p>Municipality of Ammerland</p> <p>The Municipality (Landkreis) of Ammerland is situated in the northwest of Lower Saxony, with around 120,000 inhabitants. The backbone of a strong and successful economy is the SMEs within the municipality. They build up a broad variety of branches and are the guarantors for a stable economy. The Regional Development Agency of the District of Ammerland offers services in the field of settling companies, mentoring registered companies, acquiring new business members, advising business start-ups, transfer of technology, public financial aid, project management and helping with public institutions.</p>
<p>Exemplar companies:</p>	<p>Network of exemplar companies in different branches.</p>
<p>Case companies:</p>	<p>6 SMEs recruited, whereof 4 case companies completed:</p> <ul style="list-style-type: none"> ✓ Bley Fleisch- und Wurstwaren (Edewecht) ✓ Duo Collection Import (Bad Zwischenahn) ✓ Grimm Maschinenbau (Nordloh) ✓ L-Druck (Rastede) ✓ Siems Fenster + Türen (Wiefelstede) ✓ Sport Import (Edewecht)
<p>Cluster collaborators:</p>	<p>Business Development Agency Ammerland</p>

4.5 Regional IPC NETHERLANDS (Holland)

Type of partner in IPC	Organisations / team / companies
Regional development partner & Delivery partner	<p>N.V. NOM</p> <p>NOM is the foreign direct investment agency for the Northern Netherlands. Their goal is to assist companies looking to set up their business in their region in the best possible way. NOM was established for the purpose of advising companies by providing them with access to a broad network of business partners and government institutions, information and practical assistance quickly, free of charge and on a confidential basis.</p> <p>The N.V. NOM invests in the economic growth of the Northern Netherlands through innovative developments, cooperation and stimulation of the exchange of knowledge, and by attracting new companies to the region. They do so by deploying know-how, capital and contacts of an independent nature.</p> <p>Team:</p> <ul style="list-style-type: none"> - Eric Micklinghoff - Folkert van der Meulen
Academic partner	<p>University of Groningen</p> <p>The interaction between the Faculty of Economics and Business and trade and industry is of vital importance. Supply and demand come together in inspiring collaboration. On the one hand, the Faculty functions as a major source of knowledge for organizations that wish to tackle their problems and issues in a responsible, scientific manner. On the other hand, an academic Faculty engaged in processes of management and decision-making in organizations benefits from constant nourishment from companies and other institutions.</p>
Exemplar companies	<p>2 exemplar companies:</p> <ul style="list-style-type: none"> ✓ Scania (Zwolle) Scania's production unit in Zwolle is the largest of the European production sites for Scania heavy trucks. Since 1964, the unit has produced more than 500.000 trucks. Scania Zwolle produces only on order, and there is a large Logistics Centre in the area. The site employs more than 1400 people today. ✓ Philips (Drachten)
Case companies:	<p>4 SMEs recruited, whereof 4 test case reports completed:</p> <ul style="list-style-type: none"> ✓ Hilmar (Hoogeveen) ✓ Mark (Veendam) ✓ Miedema (Winsum) ✓ Royal Hoitsema (Groningen)
Cluster collaborators:	<ul style="list-style-type: none"> ✓ LO-RC (Lean operations centre) ✓ Syntens (technical support SMEs) ✓ Chamber of commerce

4.6 Regional IPC BELGIUM (Flanders)

Type of partner	Organisations / team / companies
Delivery partner & Academic partner:	<p>University of Ghent</p> <p>The University of Ghent is one of the leading Belgian research institutions. The department of Industrial Management (faculty of Engineering and Architecture) has amongst its core competence areas the operational organization of companies based on Lean and Six Sigma (Lean Enterprise Research Centre). Research in this area is aimed at improving methods regarding production organization, design of manufacturing facilities and internal material handling. Upcoming /contemporary methodologies such as Lean and Six Sigma are tested for their applicability in practice. Hence, department of Industrial Management is one of the most industry-minded among all engineering departments within the University of Ghent. Other core research activities focus on Supply Chain Management and In-Plant Logistics. In its quest to support local companies, the department also founded the Lean Forum, which gathers together companies that have engaged in Lean Practice.</p> <p>Team:</p> <ul style="list-style-type: none"> - Hendrik Van Landeghem - Joris April - Tim Govaert (*) - Thomas Van Landeghem (*) - Paul Busschaert (*) - Frank van den Broecke - Karel Bauters - El-Houssaine Aghezzaf - Kurt De Cock - Veerle Van Beversluys <p>(*) Members will continue the IPC in Flanders as University spinoff company Veltion</p>
Regional development partner:	<p>AO (Agentschap Ondernemen), Official government agency that deals with economic development and industry support.</p> <p>POM West-Vlaanderen (Provenciale Ontwikkelingsmaatschappij) Regional development agency in the province West-Flanders that deals with socioeconomic development.</p>
Exemplar company:	<p>1 exemplar company:</p> <ul style="list-style-type: none"> ✓ Daikin Europe (Ostend) Daikin Europe N.V. is the sales and manufacturing head quarter responsible for the air conditioner sales in Europe, some parts of Africa and the Middle East. Daikin Europe N.V. was formed in 1973 in Ostend, Belgium. The intervening years have seen this facility progressively transformed into over 150,000m² and the most advanced air conditioning plant in Europe. Daikin produces a comprehensive range of air conditioning and refrigeration products and systems for commercial, residential and industrial applications.

Case companies:	7 SMEs recruited, whereof 4 test case reports completed: <ul style="list-style-type: none">✓ Dierenkliniek Causus (Oudenburg)✓ JORI (Wervik)✓ Metalinc (Sint-Michiels)✓ Ninix Technologies (Brugge)✓ ORAC NV (Oostende)✓ Parts & Components (Roeselare)✓ Unic Design (Meulebeke)
Cluster collaborators:	<ul style="list-style-type: none">✓ Voka Flanders - Chambers of Commerce and industry✓ Fedustria (textile, wood and furniture industry)✓ Agoria (employers' organisation and trade association)
