



mKETs-Pilot lines project

The goal of the mKETs-PL project is to prepare and foster a common understanding and consensus for future actions in Europe focusing on multi-KETs pilot lines



mKETs-PL working document

Long list of pilot production examples

Date: 16/9/2013
Authors: Full Consortium
Number of pages: 48
Number of Annexes: 0

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The project partners of the mKETs-PL consortium are:

- Netherlands organisation for Applied Scientific Research TNO
- Fraunhofer-Gesellschaft
- Commissariat à l'énergie atomique et aux énergies alternatives (CEA)
- Cambridge University-Cambridge enterprise
- VTT
- Tecnia
- Technology Partners Foundation
- Joanneum Research Austria
- D'Appolonia S.p.A
- Strauss & Partners
- Spark
- Noblestreet

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1. Preface

This document contains a long list of pilot production examples as identified in the EU country studies as collected by the respective consortium partners.

It is very important to mention, that this list does neither reflect typical or best practice pilot productions, nor claims to be in any way complete or representative for the countries. The pilot activities mentioned here, are an excerpt of those cases where information is publically available. This is typically not the case for pilot productions in companies due to non-disclosure of competitive knowledge and strategies. Therefore, this list is strongly biased towards shared and open facilities and publically funded initiatives and the typical single-company owned pilot production is hugely underrepresented.

Keeping this in mind it still is a valuable list of interesting pilot activities. The list is composed of the name of the pilot activity, the country and location it is situated, a short description and, if available, an internet address. It is sorted alphabetically by country. The following share of countries is represented:

Country	amount
Austria	5
Belgium	4
Finland	18
France	8
Germany	14
Ireland	24
Italy	7
Netherlands	5
Poland	3
Portugal	5
Slovenia	0
Spain	11
Sweden	11
Switzerland	4
UK	9
TOTAL	128

2. Long list of pilot production examples

Pilot Production	Country	Location	Description	Internet
Sensor Dynamics, MEMS (micro-electromechanical system) SD755	Austria		The Sensor Dynamics SD755 is a combination of a gyroscope and accelerometer in one package. According to SensorDynamics, the SD755 inertial sensor is the first MEMS (micro-electromechanical system) product combining a gyroscope and accelerometer on a single chip. The patented encapsulation technology used for SD755 is a solution which allows a high level of integration within inertial sensors. This technology forms the basis of the 6 Degree of Freedom Inertial Measurement Unit single MEMS chip solution (6DoF IMU) which is in high demand by the marketplace. SensorDynamics today announced the launch of the micromechanical combisensor SD755 for the automotive integrating gyrometer and accelerometer in one single package.	

<p>Infineon EPT300 - Enabling power technologies on 300mm wafers</p>	<p>Austria</p>	<p>Villach</p>	<p>ETP300 aims to realise demonstrators on a pilot production line and to prove the readiness for large-scale manufacture in a fabrication environment based on selected products and technologies. EPT300 aims to develop and implement technology to achieve full-scale production of power devices on 300 mm wafers. The volume manufacturing benefits of 300 mm silicon wafer fabrication are well-established with regard to digital integrated circuits, but the ability to use them in the production of power semiconductor devices has so far eluded large-scale producers. This will place European fabs at the forefront of power semiconductor manufacturing worldwide and open up further employment opportunities both in the fabs and across the entire European electronics industry. The project will address challenges on process technologies, production technologies and the handling and automation of advanced power technologies based on 300 mm wafers. EPT300 is a project funded by the ENIAC JU.</p>	<p>www.ept300.eu/</p>
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<p>JR MATERIALS Roll-to-roll nanopatterning pilot facility (NanoR2R)</p>	<p>Austria</p>	<p>Weiz</p>	<p>The Roll-to-Roll nanopatterning pilot facility (NanoR2R) for large-area fabrication of nanostructured surfaces, nanomaterials and nanoscale devices is Europe's first and unique address for rapid, low-cost and user-oriented prototyping of flexible multifunctional surfaces and large-area electronic, photonic, and bionic applications by combining extraordinary and industry-driven expertise in multiple Key Enabling Technologies. NanoR2R, a coordinated PPP action, aims for bringing the powerful world of nanotechnology to many existing technologies by exploiting radically innovative but industry-proven processes in a R2R concept thus creating the next level of disruptive demonstrators (TRL 5 to TRL 8). Based on a one-stop-shop approach NanoR2R's all-in-one technology platform provides broad support along the industrial fabrication value chain ranging from idea creation, simulation, design, over material development, process development and lab prototyping to large-area fabrication, tests and analysis and finally provides technology transfer to the industry.</p>	
<p>NTCW The Printed Electronics Prototyping Lab (PEPL)</p>	<p>Austria</p>	<p>Weiz</p>	<p>Printed Electronics Prototyping Lab for smart integrated systems is a one-stop solution for rapidly prototyping printed electronic and photonic applications with the aim to advance existing technologies and demonstrators from TRL 4-5 up to TRL 8, by a coordinated Public Private Partnership action along the industrial value chain combining multiple Key Enabling Technologies.</p>	

<p>AVL CRYSTAL- Critical Systems Engineering (Acceleration)</p>	<p>Austria</p>	<p>Graz</p>	<p>CRYSTAL deals with the problem of constantly growing complexity of embedded safety-critical systems and increasing regulatory and economic constraints that have to be met at the same time. This requires adequate processes, methods and tools which are currently facing significant deficiencies. Hence, the target of the project is to foster Europe's leading edge position in the design, development and deployment of interoperable safety-critical embedded systems. This is done by increasing the maturity, reusability and the ease of integration of technology bricks (which are defined as building blocks of integrated tool chains), and by establishing the Interoperability Specification (IOS) and the Reference Technology Platform (RTP) as a relevant "de facto" standard for future embedded.</p> <p>CRYSTAL is an ARTEMIS Innovation Pilot Project (AIPP). General targets of AIPPs are to</p> <ul style="list-style-type: none"> -realize seamless interoperability and cross-domain connectivity between "Ambient Intelligent Environments", -establish interoperable tool platforms and integrated chains to support embedded systems development, -enable cross-sectorial technology development, multiple use and reuse of embedded systems technology and devices, and -address issues of significant social impact like efficient energy use, safety and privacy, health-care cost or urbanization. 	
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B-PHOT	Belgium	Brussels	<p>Photonics</p> <p>Main objective is to shorten the time to market by developing photonics based components up to preproduction levels. Covering the complete value chain from modeling&design, metrology, component fabrication up to proof of concept demonstrations. B-Phot can support companies in developments either by offering consulting or customized trainings or by offering complete development services. It can offer the complete value chain from design to ultra-fast prototyping and pre-production. Next to industrial research, B-phot is active in various national and European projects focused on fundamental research and it offers various education related services.</p> <p>B-Phot is an independent facility which is open to companies and research institutes throughout the world.</p>	http://www.b-phot.org/
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IMEC	Belgium	Leuven	<p>Micro-electronics</p> <p>Aims to bridge the gap between fundamental research at universities and technology development in the industry. IMEC is headquartered in Leuven, Belgium, but has additional R&D teams in The Netherlands (Holst Centre in Eindhoven), China, Taiwan, and India, and offices in Japan and the USA.</p> <p>Like B-Phot and BBEU, IMEC is an independent R&D organization, yet it receives funding from the Flemish Government to cover operational costs.</p> <p>IMEC is a program oriented organization which focus on assisting the realization of industry roadmaps on micro-nanoelectronics. IMEC research broadly divides into two different approaches : 1) Programs related to scaled CMOS, the "Core CMOS Program". These programs are associated with efforts to continue the doubling of scale ("More Moore" programs); 2) Programs related to 'Heterogeneous Integration' Application Oriented Programs. These CMORE programs go beyond Moore scaling ("More than Moore") by adding functions other than logics and memory on the chips of CMOS micro- and nanodevices . The CMORE solutions are implemented in IMECs 200 & 300mm pilot lines.</p>	<p>http://www2.imec.be/be_nl/home.html</p>
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Bio Base Europe Pilot Plant	Belgium	Ghent	<p>Industrial biotechnology and green chemistry</p> <p>BBEU provides the facilities and equipment to develop and scale up biobased products and processes up to production scale. It positions itself as a one-stop-shop: BBEU can perform the complete bioprocesses, from biomass raw material to the pure and refined bioproduct. In other words, the pilot plant is capable of performing the entire value chain in a single plant: from the green resources up to the final product. The Bio Base Europe Pilot Plant focuses mainly on second generation technologies to convert agricultural waste products and non-food crops such as wheat straw, corn cobs, wood chips, Jatropha and algae oils into bio-fuels, bio-plastics and other bioproducts. Next to the pilot plant, Bio Base Europe covers a training center in Terneuzen to address an industry-wide shortage of skilled process operators and technical maintenance specialists for biobased and sustainable energy processes.</p> <p>Open and independent innovation centre, for commercial companies and research institutes worldwide.</p>	http://www.bbeu.org/
Henkel Flexo-fab	Belgium	Westerlo	<p>Henkel participates in the Flexo-fab project. The overall objective of this project is the demonstration of a reliable manufacturing process for OLED lighting foils, enabling market introduction within 3 years after the end of the project.</p>	http://www.flexofab.eu/
Urban mining pilot plant	Finland	Rajamäki	<p>The purpose of the pilot plant is to develop selective, clean and affordable technologies for waste processing and cooperative research with SMEs. The plant will increase the recycling rate of critical and valuable metals through a) selective pre-treatment methods and b) a hybrid combination of biological and chemical leaching and other recovery technologies. External actors will be SMEs and Universities.</p>	http://www.vtt.fi/index.jsp and http://www.aalto.fi/en/

Hydro-Copper (Outotec Oyj)	Finland	Harjavalta	Analysis of different metals leaching processes; Objective: reduction of raw materials to metal.	http://www.outotec.com/en/
Heap leaching (Talvivaara Oyj)	Finland	Sotkamo	Examination and measurement of a number of phenomena related to the heap leaching of metals.	http://www.talvivaara.com/
Enrichment pilot (Oulu University)	Finland	Oulu	The study of different aspects of pre-treatment flotation, including grindings, flotation processes and automation development. Objective: Research cooperation of Schindler Electrics, Outotec and Metso minerals, training the next generation.	http://www.oulu.fi/pyoen/services
ULCOS, blast furnace pilot application (EU pilot)	Finland		A blast furnace is envisaged from which the majority of the formation of CO ₂ is recovered (CCS). Finland is represented by Rautaruukki.	
bio leaching pilot (GTK)	Finland		EU application	
PrintoCent	Finland	Oulu	PrintoCent is printed intelligence and optical measurements world class innovation centre, whose customers are globally leading companies. PrintoCent Innovation Centre commercializes research results of Printed Intelligence and Optical Measurement. It is jointly operated by VTT, University of Oulu and Oulu University of Applied Sciences and BusinessThe goal is to get 1% of the forecast 250 billion € printed electronics market in 2030 to Finland and to Oulu, creating jobs for more than 10 000 employees. Majority of funding comes from public sources, including EU and regional funding. The project portfolio is 15 Million Euro, with company funding of 2 Million Euro for joint projects and 9 start-ups. PrintoCent Community has over 180 person working years per annum and five installed manufacturing lines.	http://www.printocent.net/

Bio-economy pilot line (VTT and Aalto University)	Finland	Rajamäki and Otaniemi	Biomanufacturing and chemistry: bio-based solutions. The pilot aims to develop and demonstrate processes and process concepts for industry based on renewable raw materials. The pilot plant infrastructure for bioeconomy is built around the existing biomanufacturing and chemistry pilot facilities of VTT and Aalto University which today offer excellent tools for development and demonstration of novel bio-based solutions. The bioeconomy pilots are supported by several other pilot units of VTT targeted for application development and demonstration, such as (bio) plastic converting and testing, fibre web manufacturing, and roll-to-roll coating.	http://www.vtt.fi/research/technology/process_chemistry_pilot_plants.jsp?lang=en
KCL pilot	Finland	Otaniemi	KCL offers unique pilot services located in a centralized site for the paper- and packing value chain.	http://www.kcl.fi/
Waste gasification plant	Finland			http://www.metso.com/
Biomass gasifier	Finland			http://www.metso.com/

<p>TESTAA concept for SME's (Jyväskylä Innovation Ltd. and VTT)</p>	<p>Finland</p>	<p>Jyväskylä</p>	<p>VTT's research environments for paper making (Jyväskylä Innovation Ltd. and VTT). First phase in 2010-2011, second phase as from 2011. VTT offers its papermaking research environment for SMEs to develop papermaking processes potentially together with research institutes and large-sized enterprises (TESTAA-concept). SME's can cover their testing costs partly with TEKES funding. New ideas can be evaluated for their industrial potential in an early stage and developed further. This co-operation between research centres, universities, large-sized enterprises and small and medium-sized enterprises will increase business opportunities in the forest industry. The research environments are free of cost for the participating SMEs, so they will only have to cover their own costs. Each company can independently decide how much of the project results they want to publish or share with the other companies. The project will help SMEs in their business by sharing some of their R&D risks.</p>	<p>http://www.jklinnovation.fi/en</p>
<p>BioVerno biodiesel UPM</p>	<p>Finland</p>	<p>Lappeenranta</p>	<p>150 million Euro. Completed in 2014.</p>	<p>http://www.upm.com/en/Pages/default.aspx</p>

<p>NSE Biofuels Biomass to Liquid Demonstration Plant (stopped projects)</p>	<p>Finland</p>	<p>Varkaus, Provo or Imatra</p>	<p>NSE Biofuels Oy - a joint venture between Neste Oil and Stora Enso operated a BTL demonstration plant at Stora Enso's Varkaus Mill in Finland. The output was 656 t/a from a 12 MW gasifier. As well as providing test data and operating experience, the plant also reduced greenhouse gas emissions as wood-based gas from the plant replaced oil in the pulp mill's lime kiln, making the Varkaus integrate virtually fossil fuel free. NSE Biofuels (in partnership with Foster Wheeler and VTT) planned to develop a commercial production plant at one of Stora Enso's mills (Porvoo or Imatra) with a projected output capacity of 100000 t/a and a potential launch date of 2016. However, in August 2012 Neste Oil and Stora Enso announced that they had decided not to progress with their plans to build a biodiesel plant, for which the two companies had applied for funding under the EC's NER 300 programme. Although the technology has worked well at the demonstration plant (above), the project was not among those listed [in the NER300 interim report] as scheduled to receive funding. Even with public funding, significant investment would also have been required for the commercial plant (Neste Oil).</p>	<p>http://www.biofuelstp.eu/btl.html</p>
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Ajos Biomass to Liquid	Finland	Kemi	It was also announced that the AJos BtL project, Finland, has been selected to receive counterpart funding of €88.5m under the first call for proposals of the NER300 funding programme for innovative low-carbon technologies. The Project concerns the design, construction and operation of a biofuel-to-liquid (BtL) plant in northern Finland, with a gasification capacity of 320 MW and an annual output of 115000 t/y of biofuel using close to 950000 t/y of woody feedstock and 31000 t/y of tall oil. The technical solution is based on the following main components: biomass pre-treatment, gasification island (comprising two gasification lines of 160 MW each and an air separation unit), gas cleaning and compression, gas-to-liquid conversion (Fischer-Tropsch) including refining, processing and storage of products. The Project will produce and sell biodiesel and bio-naphta in the Baltic Sea area, with a focus on Finland and Sweden. Principal off-takers are expected to be diesel and petrol retailers. [Source: SWD(2012) 224 final: NER300 - Moving towards a low carbon economy and boosting innovation, growth and employment across the EU]. The preparation work in the project has been carried out by the Forest BtL Project established by Metsäliitto and Vapo.	http://www.biofuelstp.eu/btl.html
Chempolis Ltd	Finland	Oulu	Chempolis Ltd uses non-wood and non-food lignocellulosic biomass such as straw, reed, empty fruit bunch, bagasse, corn stalks, as well as wood residues to produce ethanol and various chemicals with an output of 5000 megawatt (operational).	http://www.chempolis.com
Neste Oil	Finland	Porvoo	Chemical technologies; Uses palm oil, rapeseed oil and animal fat to produce diesel-type hydrocarbons with an output of 190000 megawatt	http://www.nestoil.com/

Neste Oil	Finland	Porvoo	Chemical technologies; uses oils and fats to produce diesel-type hydrocarbons with an output of 190000 megawatt (operational)	http://www.nesteoil.com/
Tronic's Microsystems	France	Crolles	Start-up company dedicated to microsystems prototyping and small series production. Full scale production in the US.	Email: info@tronicsgroup.com Tel: +33 (0)4 76 97 29 50 98 rue du Pré de l'Horme 38926 CROLLES Cedex, FRANCE http://www.tronicsgroup.com/
St Microelectronics	France	Crolles	Pilot line for FDSOI technology, recognized and funded by first Eniac call for pilotlines.	www.st.com contact: Gerard Matheron
Arkema	France		To be completed	
Wysips	France	Aix-en-Provence	Wysips® uses the optical effect generated by the lenticular network to mask the power-producing photovoltaic cells and capture energy from artificial light or the sun.	http://wysips.fr/
Bic	France		To be completed	
MPO	France		To be completed	
Soitec	France	Bernin	Pilot lines for - concentrated solar photovoltaics - advanced GaN substrates	http://www.soitec.com/en/
Microphy	France		To be completed	
Fraunhofer pilot plant center (PAZ) for polymer synthesis and polymer processing	Germany	Schkopau	polymers: new products and technologies along value chain, monomers, polymer synthesis and polymer processing, to testing made-to-measure components	http://www.iap.fraunhofer.de/de/Forschungsbereiche/Pilotanlagenzentrum_Schkopau.html#tabpanel-1
Fraunhofer Center for Chemical-Biotechnological Processes CBP	Germany	Leuna	bio refinery for lignocellulose: The aim is to establish an economical and sustainably integrated process for the complete usage of all the components of lignocellulose on a large industrial scale and to produce bio-based synthesized building blocks and polymers	
INVITE	Germany	Cologne	open innovation platform for new production technologies and innovative processes for the chemical/pharmaceutical and biotechnology industries	

Clariant Biotech & Renewables Center	Germany	Munich	pilot and demo facility for the synthesis of bio-ethanol on basis of cellulose from eg. wheat straw; process development (bio catalysis and bio refinery) for higher volume synthesis of second generation of bio fuels and bio based chemicals	
Application Center for Innovative Polymer Technologies	Germany	Potsdam-Golm	pilot plant for organic light-emitting diodes (OLEDs) and organic solar cells in an industry-oriented scale (on solid and flexible substrates)	
Fraunhofer Research Institution for Organics Materials and Electronic Devices COMEDD	Germany	Dresden	pilot production of devices and fabrication technology based on semiconducting organic materials, so-called small molecules	
All Silicon System Integration Dresden (ASSID)	Germany	Dresden	organic semiconductors with a thematic focus on organic light emitting diodes and vacuum technologies: advanced wafer level packaging and system integration technologies, especially with respect to 3D wafer level system integration using Through Silicon Vias (Cu-TSC); leading edge 300 mm wafer process line for TSV formation, 3D device stacking and assembly	
InnovationLab	Germany	Heidelberg	organic electronics; 2 pilot lines: printing competence center materials, manufacturing technology and components for printed organic electronics; ultra high vacuum equipment (the Cluster Tool) in which film systems with vapor deposited organic thin films can be studied without problematic vacuum interruptions and critical sample transfers	
Heliatek Gmbh	Germany	Dresden	organic photovoltaics (OPV) Goal: mass-produce organic solar films using a rapidly deployable and efficient roll-to-roll process	

PLIANT - Process Line Implementation for Applied Surface Nanotechnologies	Germany	Dresden	1. pilot line for the fabrication of aligned carbon nanotubes on electrode surfaces in a roll-to-roll process; 2. pilot line: nanostructured functional coatings for thin film solar cells will be generated by applying thin film technologies at atmospheric pressure; 3. pilot line (planned) for surface pre-treatment processes of lightweight-construction components in aircrafts through atmospheric plasma sources	
Advanced Mask Technology Center (AMTC)	Germany	Dresden	development of mask materials, processes, equipment, and IT methods for both conventional and next-generation lithographies	
ALD Lab Dresden	Germany	Dresden	Thermal Atomic Layer Deposition (ALD), plasma enhanced ALD, thermal flash ALD and molecular layer deposition (MLD); large batch, shower head and cross flow ALD reactors; solid and liquid precursor vapourisation and injection systems	
Nanoelectronics Materials Laboratory GmbH (NaMLab)	Germany	Dresden	materials for electronic devices (target electron device): re-configurable devices; re-programmable silicon-nanowire transistors	
Laboratory for Battery Technology (eLaB)	Germany	Ulm	share used pilot production facility for Li-ion batteries in automotive applications; development of close to serial production;	
Arran Chemical Company	Ireland	Athlone	Arran has an excellent record of achievement in the process development and scale up of new molecules, particularly in chiral chemistry, but also in other fields. This strong technological capability is supported by an integrated system of labs, kilo lab and pilot plant with full supporting services.	http://www.arranchemical.ie/company/

Avenue Mould Solutions	Ireland	Sligo	The company specializes in the manufacture of moulds for components for pen injectors, inhalers and syringe components, as well as tracheotomy devices and IV components. Based in Sligo, Ireland, Avenue's state of the art manufacturing facility is equipped with a 300m2, ISO 13485:2003 accredited, Class 8 clean room for mould test and process optimisation and for pilot production.	http://www.avenuemouldsolutions.ie/
Bristol Myers Squibb	Ireland	Dublin	This facility is a flexible, multifunctional, automated bulk pharmaceutical manufacturing plant. Construction of the facility commenced in 2000 and manufacturing started in 2004.	http://www.bms.com/sustainability/worldwide_facilities/europe/Pages/cruiserath_ireland.aspx
Collaborative Centre for Applied Nanotechnology	Ireland	Cork, Dublin	CCAN is an industry-led, collaborative, applied research centre enabling our member companies and research providers to work together to develop nanotechnology-enabled products and solutions for the ICT and biomedical industries.	http://www.ccan.ie/
Creganna Tactx-Medical	Ireland	Galway	Creganna-Tactx Medical provides specialist manufacturing support during the development stage of the product lifecycle, from concept prototypes to full product builds for pre-clinical and clinical requirements.	http://www.cregannatactx.com/products-services/production-ramp/
DePuy	Ireland	Cork	In early 2008 DePuy announced its intention to develop next generation orthopaedic products and processes for a global market at its Irish operation with the establishment of an innovation centre. The Centre is an important part of DePuy Ireland's future global strategy and the work of the Cork Centre will support the development of next generation orthopaedic products and operations.	http://www.idaireland.com/depuyl/

Eli Lilly	Ireland	Cork	State-of-the biopharmaceutical facilities over the last three years, and key commercialisation partner for the Lilly Product Research and Development group. The site is now the first choice location for pre-validation scale-up activities	-
Genzyme	Ireland	Waterford	The facility is capable of handling batch sizes up to 100kg (depending on product characteristics) for solid dose formulations. Process technologies include wetting/granulation, drying, milling, blending, compression and film coating, sachet powder blending and filling, encapsulation. The facility is designed and operated in full compliance with safety and cGMP requirements appropriate to EU Grade D/Fed. Std. 209E Class 100,000.	http://www.genzyme.ie/corp/iegenz/ie_p_ci_iegenz-devlab.asp
Georgia Tech Ireland	Ireland	Athlone	One of the main areas of expertise in GTI involves wireless and sensors, specifically in the areas of RFID, and wireless sensor networks. GTI has access to some of the leading research in the area of RFID, encompassing a whole range; from fundamental materials and nanotechnology research, to full scale enterprise wide system integration of hardware, middleware, and ERP systems/databases.	http://www.georgiatech.ie/?page_id=16
Glanbia	Ireland	Kilkenny	A hub for exploring, identifying and acting on new product concepts, our state-of-the-art collaboration center features applications pilot plant equipment and processing labs, where we can work side-by-side with customers in product development and optimization.	http://glanbianutritionals.com/how-we-do-it/collaboration-focus

GlaxoSmithKline	Ireland	Cork	The Cork facility is a strategic global new product introduction site within GSK's manufacturing network. We have a highly automated manufacturing facility, as well as an R&D pilot plant with pilot plant laboratories on site. We are currently the primary production site for a number of GSK's top selling drugs which treat illnesses such as depression, Type 2 diabetes, congestive heart failure, HIV, ovarian cancer, breast cancer, Parkinson's disease and arthritis.	http://www.gsk.ie/gsk_at_a_glance/gsk_cork.html
Hovione	Ireland	Cork	Specialising in complex chemistry and in particle engineering, Hovione offers all services related to the development, manufacture and pre-formulation of both new chemical entities (NCEs) and existing APIs for off-patent products.	http://www.idaireland.com/news-media/press-releases/idaireland-welcomes-hovi/
Intel	Ireland	Leixlip	The core of advanced manufacturing capability at the Leixlip site is a key enabler for numerous research and development initiatives that are carried out at the campus. There is a dedicated team of employees involved in Silicon Nanoelectronics Research who collaborate extensively with research institutes such as the CRANN Nanoscience Research Centre in Trinity College Dublin and the Tyndall National Research Institute in Cork.	http://www.idaireland.com/intel/

Irish Centre for Composites Research	Ireland	Limerick	The University of Limerick, through the Composites Research Centre (CRC) and Materials and Surface Science Institute (MSSI), has the most comprehensive suite of modern equipment and facilities for composite materials research in Ireland. IComp hosts an extensive analytical laboratory, micro fabrication facilities, clean rooms, a polymer processing hall, physical and mechanical testing laboratory, surface analysis laboratory (AFM and microTA), thermal analysis and support infrastructure. This extensive range of equipment facilitates private and publicly funded collaborative research as well as a comprehensive range of analytical services for industry.	http://www.icomp.ie/index.php/facilities/
Irish Centre for Manufacturing Research	Ireland	Leixlip	ICMR is a consortium of leading Irish manufacturers collaborating to conduct embedded research and innovation. Our industry-led research agenda is designed to deliver the breakthrough solutions required to maintain our partners' competitive edge. By addressing these needs, we will encourage continued investment in Ireland, ensuring that this remains the location of choice for advanced manufacturing in Europe.	http://www.icmr.ie/

ITT Dublin Pharmaceutical Pilot Plant	Ireland	Dublin	The complete system is integrated with CIP (clean in place) and SIP (steam in place) systems. The necessary utilities such as a boiler, an industrial grade DI water system, an air compressor and a clean steam generator are also available. The plant is connected to a waste storage and management facility. This whole plant is automated through PLC and SCADA using Intellution iFix and iBatch process management software.	http://www.it-tallaght.ie/pharmaceuticalpilotplant
Merck & Co.	Ireland	Cork	Ireland is a strategic location for Merck's global pharmaceuticals and biologics supply chain. Ireland manufactures many biotechnology and pharmaceutical products for global markets, and provides strategic services such as formulation R&D, scale up process development, clinical drug trials and global business services support. MDS continues to invest in Ireland and will manufacture and support many of Merck's new product launches in the medium term, including vaccines and new therapeutic areas.	http://www.idaireland.com/merck/
Moorepark Technology	Ireland	Cork	Moorepark Technology Limited (MTL) is a joint venture company established by Teagasc with shareholders from the Irish Dairy Industry. It provides commercial pilot plant & research services for food industry customers and is a key constituent of Teagasc Food Research Centre Moorepark in the process of knowledge and technology transfer.	http://www.moorepark.ie/contact

NIBRT	Ireland	Dublin	The NIBRT facility is a purpose-built, multi-functional building which replicates the most modern industrial bioprocessing facility. The total building area is approximately 6,500 m ² over two floors. At the heart of the NIBRT building is the bioprocessing pilot plant, consisting of extensive upstream, downstream, fill-finish and the associated analytical facilities. These facilities are all operated in a realistic GMP simulated, operational manufacturing environment.	http://www.nibrt.ie/aboutnibrt
Pfizer	Ireland	Cork, Dublin	To maximise new opportunities in biomedical research, and bring more innovative medicines to more patients more quickly, Pfizer has created two distinct research organisations. The PharmaTherapeutics Research & Development Group focuses on the discovery of small molecules and related modalities; and The BioTherapeutics Research & Development Group focuses on large-molecule research, including vaccines.	http://www.pfizer.ie/operations.cfm
SAFC	Ireland	Arklow	The Arklow Manufacturing Site is located in Arklow Ireland and encompasses 93,000 m ² . There are four production plants within this cGMP FDA and IMB inspected site that are responsible for the commercial scale production of custom and generic API's.	http://www.safcglob.com/safc-global/en-us/home/quality-management-systems/cgmp-manufacturing/safc-arklow.html
Tech Group	Ireland	Dublin	Since 1998 Tech Group Europe has been a leading manufacturer of medical device products, supporting the device requirements of our pharma and medtech customers. Tech Group Europe also offers Development and Engineering support from the concept phase of development through high volume manufacturing.	http://www.techgroup.com/locations/Pages/Dublin,-Ireland.aspx

TopChem Pharmaceutic als	Ireland	Sligo	The evolution of the chemical synthesis of an API from laboratory to plant scale is a complex process, which is both specialised and intensive. Our experience and expertise in this area means that TopChem can offer our customers the option of outsourcing the development and optimisation of their process technology.	http://www.topchempharma.com/chemical-services.html
Tyndall	Ireland	Cork	Tyndall provides a wide range of services to industry and academia helping. The services available include wafer fabrication, test and measurement, intellectual property investigation, microscopy analysis, temperature and environmental characterisation, integration and packaging and many more.	http://www.tyndall.ie/
MBN Nanomateriali a	Italy	Vascon di Carbonera (TV)	The Pilot line should lead to a cost efficient production of surfaces with improved wear resistance both in abrasion (WC-Co) and in fretting (FAC-Al) conditions compared to current commercial solutions. Up to 3 times increased wear duration has been measured against best performing hard facing benchmark for WC-Co variants by thermal spray. In the same wear conditions it has been shown that metal composite FAC-Al is performing at the 60-70% (wear depths) of WC-Co while having an improved toughness.	
Colorobbia	Italy	Montelupo Fiorentino (FI)	The pilot line has a current TRL equal to 7, although the production rate is 1000 kg/ton. The main feature of this line is the use of microwave for the extraction of the nano-powders for the synthesis of nano-materials. The process is in continuous operation. The equipment developed for the main operation (microwave) is patented by the company.	

System Photonics	Italy	Fiorano Modenese (MO)	The pilot line, established in 2009, produces photovoltaic panels by directly applying cells to ultra-thin large ceramics produced by another of the group's units, Laminam, which require less than a third of the energy input of a standard ceramic. The technical properties of the encapsulant ensure the panel is entirely recyclable at the end of its life. Currently, System Photonics directly employs 17 workers, five of whom were transferred from Laminam where they have been replaced.	http://www.eurofound.europa.eu/emcc/labourmarket/greening/cases/systemphotonicsitaly.htm
Ziplast	Italy	Locate Triulzi (MI)	The pilot line concerns fabrication of high strength and watertight zip fasteners and the following assembly of flexible, modular waterbags based on coated textile and sensorized with a fibre optic monitoring system. Waterbags are used to transport bulk quantities of fresh water across the sea to supply islands and coastal municipalities through the use of tugboats.	
Prima Industrie	Italy	Collegno (TO)	Prima Power is currently planning a pilot line regarding laser diode assembly with particular interest on diode laser packaging. The process regards different Key Enabling technologies aspects, as advanced manufacturing system, new material, photonics and micro/nano electronics. Diode laser today has a market price of about 20 \$ per watt, and despite the huge market perspectives, this device is very expensive in terms of manufacturing costs.	
Novamont	Italy	Novara	The pilot plant investment of around 50 million euro was dedicated to the build up of a first of a kind flagship plant for the production of bio BDO in the framework of a Joint Venture with Genomatica. The project started in 2012 and demonstration test are ongoing. The expected capacity will be of around 20.000 kt/y, foreseen for 2014. Product extracted is the Bio BDO, obtained through fermentation.	

R2 Pilot line Micron Semiconductors Italia	Italy	Agrate (MI)	The pilot line is developed in collaboration with ST Microelectronics and it is related to the production of embedded memories, mems materials, smart power tools. Weekly production of 1000 wafer of 200mm. Built for pre-production and manufacturing of prototypes.	
Bio Process Facility	Netherlands	Delft	Multi-purpose facility for bioprocesses where universities, companies and knowledge institutions from all over the world can investigate how production processes respond to large scales and how they can be scaled up.	http://www.basic.org/pilot-facility.html
Avantium	Netherlands	Geleen	YXY pilot plant for green materials and fuels	http://avantium.com/news/2011-2/Avantium-announces-opening-and-start-up-of-its-YXY-Pilot-Plant.html
DSM Geleen	Netherlands	Geleen	Pilot plant focusing on the transfer of bio mass into raw materials	http://www.dsm.com/en_US/html/dep/news_items/2012-22-5-DSM-invests-knowledge-in-Netherlands.htm
DSM Geleen	Netherlands	Geleen	Pilot plant focusing on the upscaling of high-performance materials	http://www.dsm.com/en_US/html/dep/news_items/2012-22-5-DSM-invests-knowledge-in-Netherlands.htm
Polyvation	Netherlands	Groningen	Pilot line focused on developing polymers for bio-medical applications	http://www.polyvation.com/solutions/development

<p>Green Chemistry Campus</p>	<p>Netherlands</p>	<p>Bergen op Zoom</p>	<p>The Green Chemistry Campus, on the premises of SABIC Innovative Plastics in Bergen op Zoom, is a business accelerator for biobased innovations. B2B entrepreneurs – both large companies and SMEs, knowledge institutions, and the government work closely together in an open innovation environment to develop new biobased technologies and products with a focus on performance materials, chemicals and coatings. Through the valorisation of residual flows from the agricultural and food sector, the Campus actively contributes to a sustainable and profitable biobased economy with less dependence on fossil fuels, without competing with food supplies.</p>	<p>http://www.greenchemistrycampus.com/</p>
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<p>Prototype jet engine part / advanced manufacturing</p>	<p>Poland</p>	<p>Rzeszów</p>	<p>WSK, as a member of United Technology Group co-operates closely with passenger jet engine manufacturers. In one of their projects an opportunity arises to develop the prototype engine part to test its physical parameters. Such test on a physical object provides much more reliable and trustworthy data than the theoretically obtained results from the simulation software. Having such opportunity to construct a prototype gives WSK a head start position in a tender for the development project co-ordinated by Pratt & Whitney. The key argument to get an order from P&W for WSK is that such prototype would save total project cost by one billion Euro! However, the R&D cost is significant for WSK and the positive decision to risk 25 million Eur in the prototype before getting the order from P&W would be largely influenced by the availability of public funds.</p>	<p>http://www.wskrz.com</p>
<p>Nanotechnology/advanced manufacturing</p>	<p>Poland</p>	<p>Warsaw/ Świebodzin</p>	<p>A good example of co-operation between industry (Seco/Warwick) and science (Institute Of Electronic Materials Technology) on the development of low cost grafen manufacturing technology.</p>	<p>http://www.ekonomia.rp.pl/artykul/996190.html</p>

Advanced materials	Poland	Gliwice	<p>In 2012 the representatives of KGHM Polska Miedź S.A. and National Research and Development Centre (NCBiR) signed an agreement regarding the execution of a joint project concerning the support for scientific studies and development works for the non-ferrous metals industry. Total budget of the Programme: 200 000 000.00 PLN KGHM's share: 50%; NCBiR's share: 50%; Term of the Agreement: 10 years</p>	<p>http://www.kghm.pl/index.dhtml?category_id=21&lang=en</p>
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<p>PRODUTECH-PSI – New Products and services for the manufacturing industry</p>	<p>Portugal</p>		<p>Mobilizing project for Technological Development under the COMPETE OP. 40 partners and 7,5 M€ Investment (5 M€ Public Funding). The project (2011-2014) aims the development of a new generation of production technology systems, solutions, products and services. One of the WPs is devoted to Advanced Manufacturing Systems, where they are developing new functionalities to put in the controllers of the equipment, with a special focus on (1) eco-design and eco-efficiency, (2) engineering design, modelling and simulation of production systems, (3) methodologies and support tools for the development of “all-in-one” systems. They are working for machine manufacturers that will install and demonstrate this technology in one of their customers, which means that these developments will be demonstrated in different applications, such as metalworking, textile, etc. Another WP is focused on Energy and environmental efficiency of production systems. One of the R&D goals of this work package is the introduction of renewable energy sources into production systems (e.g. use solar panels, instead of gas, to heat a significant part of the production process). This technology will be demonstrated in two different sectors.</p>	<p>http://www.pofc.gren.pt/resourcesuser/2011_documentos/noticias/idt/13849_produtech_psi_ficha_resumo_de_projecto.pdf</p>
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Iberian Nanotechnology Laboratory	Portugal	Braga	<p>Intergovernmental organisation created to foster interdisciplinary research in Nanotechnology and Nanoscience. INL provides a high-tech research environment addressing major challenges in nanomedicine, nanotechnology applied to environmental & food control nanoelectronics, and nanomachines and molecular manipulation at nanoscale. INL offers multiple cooperation mechanisms with the industry to jointly generate knowledge and disruptive technologies. Cooperation is usually tailored-made to industry demands and includes services that vary from individual R&D projects to multisponsored/consortia joint ventures</p> <ul style="list-style-type: none"> • Joint R&D projects; • Consultancy tailored-made services; • Outright Licensing of technology; • INL internships • Use of facilities • Start-up ventures. • Promotion of Partners professional competences training activities • Intelligence technology service and solutions. 	http://inl.int/
Fablab	Portugal	Sacavém	<p>EDP, through Labelec and EDP Inovação, implemented the Fablab concept in Portugal for the first time. Its aim is to encourage learning in the community, providing unique resources that can be used for developing projects and exploiting new ideas, which can lead into business opportunities. Fablab EDP is a project mainly directed to EDP employees, EDP University, the scientific community, inventors, students, start-up companies, and the wider community, offering a chance to turn their ideas into real products.</p>	http://www.fablab.edp.edp.pt/

<p>Évora InovCity</p>	<p>Portugal</p>	<p>Évora</p>	<p>This World Heritage City is the first urban area in Portugal to hook up to the intelligent energy grid. By promoting energy efficiency, microgeneration and electrical mobility, this is expected to be an example of sustainability for the whole country. A pilot of 31,300 houses with plans to extend nationwide in the future Developed by EDP in association with several companies (EFACEC, etc.I) and universities</p>	<p>http://www.inovcity.pt/en/Pages/homepage.aspx</p>
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<p>Windfloat project</p>	<p>Portugal</p>	<p>Aguçadoura</p>	<p>Demonstration phase (2MW windfloat prototype, 23 million euro), in operation since December 2011. Preparing the pre-commercial project (27MW, 5 windfloat units, 100 million euro). Support from EIB and NER300.</p> <p>The project is structured as a Joint Venture, Windplus (Vestas Wind Systems A/S, EDP, Repsol, Principle Power, ASM, InovCapital and Repsol, including a subsidy from the Innovation Support Fund (Fundo de Apoio à Inovação – FAI).) WindFloat is a floating support structure for offshore wind turbines with a simple, economic and patented design (Vestas) that was awarded in Feb 2012 the prize for Excellence in Innovation by Renewable Energy World.com. The innovative features of the WindFloat dampen wave and turbine induced motion, enabling wind turbines to be sited in previously inaccessible locations where water depth exceeds 50m and wind resources are superior. There are three advantages to the WindFloat foundation: first, its static and dynamic stability provides sufficiently low pitch performance enabling use of commercial offshore wind turbines; second, its design and size allow for onshore assembly (economic efficiency); third, its shallow draft allows for depth independent siting and wet tow (fully assembled and commissioned) to sites not visible from shore. Monitored remotely 24 hours a day. Survivability and performance proved in normal and extreme conditions. High stability even in rough seas.</p>	<p>http://ec.europa.eu/maritimeaffairs/policy/sea_basins/atlantic_ocean/atlanticforum/events/brest/presentations/forum_brest_maiel_en.pdf</p>
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<p>Singular Scientific and Technical Infrastructure – Clean Room of National Microelectronics Centre for CNM (Catalonia)</p>	<p>Spain</p>	<p>Catalonia</p>	<p>The CNM manages and operates an integrated micro and nanofabrication clean room. It is an open access facility for any R&D institution or SME needing its processing and technological capabilities for R&D purposes or small series production of prototypes. The Clean Room is under operation since 1989 with a surface of 1500 m2. The Clean Room facility of IMB-CNM includes equipment for micro and nanofabrication processes based on silicon technology. The Clean Room technologies are well established and not mere processes linked together. It also includes a number of nanofabrication tools. The Microsystems Laboratory is specifically designed to include the silicon micromachining processes and characterization tools.</p>	<p>http://www.imb-cnm.csic.es/index.php?option=com_content&view=article&id=25&Itemid=70&lang=es</p>
<p>Flexible LED-display system using roll to roll technology</p>	<p>Spain</p>	<p>Asturias</p>	<p>Output of a European Project (Light-Rolls, FP7-NMP, 2009-2012, approx.. 5.5M€) lead by PRODINTEC. 5 tones, 7 meters. Works in continuous (10 mm/minute) with roll-to-roll technology. A roll of flexible polymer that goes through different manufacturing modules that results in a ready to work (lighten) flexible system that incorporates electronics, integrated and encapsulated led, etc. Useful for any item that incorporates electronics (photovoltaic cell, mobile phone, tablet screen).</p>	<p>http://www.prodintec.es/prodintec/es/g_noticias?accion=detalleNoticia&id=142</p>

Photovoltaic Solar Energy Lab by the TiM	Spain	Basque Country	<p>(Institute of Microelectronic Technologies) at the University of the Basque Country (UPV/EHU). It is a laboratory that is fully equipped for the manufacturing, characterization and simulation of photovoltaic devices. Building Integrated Photovoltaic Systems (BIPV) still show average Performance Ratio (PR) values in the range of 0.75–0.80. There are mismatching losses that can be decreased by means of electronics. Tests that could be performed are divided into two great categories: tests on the electronic performance of the DC–DC converter and tests on grid-connected PV systems with multiple DC–DC converters. These tests are carried out taking advantage of the PV System Test Platform.</p>	http://www.sc.ehu.es/sbweb/energia/renovables/enlaces/enlaces_1-e.html
INGRID Smart Grids Lab	Spain	Basque Country	<p>Advanced power system architectures, microgrids for buildings and districts, new power converters for grid connection, smart metering and grid automation, electric mobility (infrastructure, V2G), demand side management and demand response are the main research and testing activity of the recently inaugurated Smart Grids. The Laboratory consists basically on a set of interconnected demonstration platforms:</p> <ul style="list-style-type: none"> • Electrical equipment platform (includes high power and MV&LV labs) • Microgrid and Distributed Energy Resources (DER) platform • Energy storage platform • Smart grids communication platform • Renewable energy platform • Electric Vehicle testing platform • Power electronics and energy conversion platform <p>Participants: Iberdrola, EVE, and Tecnalia</p>	

Use of optics technologies in the field of current and voltage measurement transformers in power stations	Spain	Grupo Artech, Bizkaia	Grupo Artech (Basque Country) is in charge of pilot line, which is aimed at replacing current technologies (induction technologies, resistive dividers, etc.), which would mean a major technological change in this sector. This technology is being tested all over the world in pilot installations as many utilities across the world are considering the possibility of using sub-stations with this kind of equipment, working in parallel to traditional installations. This technology is intrinsically digital, which is considered as one of its major advantages, as it responds to a generalised digitalisation trend in sub-stations, promoted by a new standard (IEC 61850).	http://www.artech.e.com
G10X 4.5 MW Wind Turbine Blade Manufacturing	Spain	Navarra	for off-shore farms by Gamesa (Navarra). Blades are manufactured in segments for transport, and assembled at the off-shore farm. Gamesa InnoBlade®: modular blade design composed of two sections with new aerodynamic features minimizes noise and maximizes output. Gamesa's segmented blades at the maximum individual length of a blade section (inboard & outboard modules) is less than 37 metres, in contrast to the 128 metres rotor diameter, which represents a wind industry record. Advanced manufacturing workstations: <ul style="list-style-type: none"> • Robotised joint process for insert fillers; • Semiautomated assembly of inboard module • Robotised painting cabin Composite fabric for inboard, roots and shell manufacturing	http://www.gamesacorp.com/en/products-and-services/q128-45-mw-en.html
UDEX - Demonstration and Experimentation Unit	Spain	Basque Country	electrical network testing in a safe and controlled environment, a facility in the world with a short-circuit power of 2,500 MW. Velatia Research and Innovation Centre (Basque Country) is in charge of this pilot line	

Biscay Marine Energy Platform (BIMEP)	Spain	Lemoiz	Open sea test infrastructure for research and demonstration of offshore Wave Energy Converters (WEC). Test of full-scale prototype devices, single devices or arrays in order to assess and monitor performance.	http://www.eve.es/Promocion-de-inversiones/bimep.aspx
KUBIK – Experimental Infrastructure for the Configuration of Zero Energy Buildings	Spain	Zamudio	Experimental R&D&I installation for Zero energy buildings. Solutions address the building envelope, the intelligent management of climate control and lighting system, as well as the supply of energy from renewable and conventional sources. Main goal: Developing new products and transforming a mature sector through: -Sustainability: boosting energy efficiency in the sector -Industrialization of the sector	http://edificacionindustrializada.com/multimedia/

<p>Advanced Manufacturing Pilot Facility</p>	<p>Spain</p>	<p>Basque Country</p>	<p>Regional initiative under the Basque Advanced Manufacturing strategy (marBasque) involving many players, including mainly SMEs, RTOs, and public administration. Led by Cooperative Research Centre CIC marGUNE, completely dedicated to high performance manufacturing.</p> <p>Centred in machine-tool, a complex product that involves many technologies that must be mastered to build it.</p> <p>The upstream value chain includes advanced materials technologies and many other KETs involved, such as nanotechnologies and electronics to perform a tight control of furnaces, melting, cooling, rolling lines. Downstream, manufacturing facilities use Machine-Tools and nanotechnologies and nanomaterials are more and more used for final products.</p> <p>This manufacturing process must include automation, flexibility, productivity, and be ecological and human friendly. Integration complexity of all the required technologies is addressed in the pilot, where the purpose is to adopt and adapt previously demonstrated technologies in order to accomplish a real manufacturing process. Many Basque SMEs are at the leading edge of R&D results such as: electronics for control, plasma, robotics application... but, they need one step forward for a huge industrial use of them.</p>	
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<p>Repsol Technology Centre</p>	<p>Spain</p>	<p>Madrid</p>	<p>Several Pilot Lines included:</p> <ul style="list-style-type: none"> • Refining pilot plants: researchs on the entire value chain: from rae materials to the transformation processes. • Rubber pilot plant: . new products to be designed, but also the implementation of new and more efficient processes, such as hydrogenated rubbers. • Fuel Lab: Development of technology to offer the best fuel. Also reseach on Fuels of the future. • Engine Lab: Use of engines and cars as a testing tool and also research into the energy supply for future transport. • Lubricants Lab: Research into products that give the best performance and are biodegradable and more environmentally friendly. • Asphalt Lab: . to obtain innovative products to build safer, more efficient and more environmentally-friendly roads, with proprietary technology. • Specialised Products: Development of products using secondary streams. Development of compounds using more complex technology, and compounds to enable reductions in energy use in the manufacture of polymers and rubber. • Plastics Pilot Plant: plastics that provide major energy savings and are eco-efficient and some of their applications. • Foams Lab: Development and research on polyurethane foams for insulation that contribute to the efficient consumption of energy. • Polyols Lab: Development of new products or applications of high added value. • Bioenergy Area: Research on second and third generation biofuels. . Studies are also carried out on CO2 capture and new agricultural plastics, 	<p>http://www.repsol.com/es_en/corporacion/empleo/conocenos/donde-estamos/centro-tecnologico-repsol/</p>
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FEX Papermaking Pilot Plant (operator: Innventia)	Sweden	Stockholm	A complete pilot-scale paper technology centre. The pilot plant includes other important resources on a pilot scale: a TMP refiner, a fractionation and screening system, a system for low consistency refining, StratEx: a semi-pilot sheet former, LINDA: a pilot scale machine designed to study and convert moving paper webs; External actors are big industrial players and their suppliers; Objectives: Serving the pulp and paper industry and its suppliers with process studies, product development and the evaluation of new technology and raw materials	http://www.innventia.com/en/Our-Ways-of-Working/Demonstration-and-pilot/FEX/
Nanocellulose pilot plant production (operator: Innventia)	Sweden	Stockholm	World's first pilot facility (since 2011) for large-scale production of the promising material nanocellulose; External actors are big industrial players and their suppliers; Objectives: The facility makes it possible to produce nanocellulose on a large scale for the first time and is an important step towards the industrialisation of this technology/ the commercialisation of client's nanocellulose applications.	http://www.innventia.com/en/Our-Ways-of-Working/Demonstration-and-pilot/Pilot-plant-for-nanocellulose/
GoBiGas (Gotheborg Energi)	Sweden	Gothenburg	The GoBiGas biogas project is about producing biomethane (Bio-SNG) by thermal gasification of forest residues as branches, roots and tops. The biomass is converted to a flammable gas in the gasification pilot plant. Objectives: In the choice of technology and plant design the project aims to get as high efficiency as possible. The goal is to reach 65 percent of the biomass into biogas, and that the overall energy efficiency will be over 90 percent. Since biogas is produced from renewable sources this does not contribute to increasing emissions of carbon dioxide as fossil fuels do.	http://www.gotborgenergi.se/English/Projects/GoBiGas_Gothenburg_Biomass_Gasification_Project See also: http://www.metso.com/News/newsdocuments.nsf/web3newsdoc/B65B268F41AAE9C0C22578310031B265?OpenDocument&ch=ChMetsoWebEng&#.Uc1v9dj4WSo

IBP: Integrated printed bio-sensor platform (Acreo and Linköping University)	Sweden	Norrköping	Printed manufacturing of electronics from organic materials. Roll to roll printable technology platform consisting of electrolyte-based components. Objectives: To meet the need for robust disposable sensor systems that are easy to use and manufacture. Application areas could be point of care, food safety, environmental monitoring and agriculture.	http://english.printedelectronicsarena.com/about.aspx https://www.acreo.se/projects/integrated-disposable-printed-biosensor
Nano electronics pilot lines (Acreo and the Royal Institute of Technology (KTH))	Sweden	Kista	Clean-room with complete process lines for the production of sensors; Facilities for SMEs, cooperation with IR-NOVA (http://www.ir-nova.se/) and Ascatron (Acreo spin-off for fabrication of silicon carbide semiconductors (SIC) electronics) Target customers are suppliers of power devices and modules to the power electronic industry (power electronics)	https://www.acreo.se/groups/electrum-laboratory-nano-and-micro-technology-fab
Fiber-production pilot line (Acreo)	Sweden	Hudiksvall	Fiberlab is a uniquely equipped laboratory for research, development, manufacture, and characterization of advanced optical fibers and preforms.	https://www.acreo.se/groups/fiberlab
PLAN for a new pilot line for SIC components	Sweden	Kista	Upgrade existing pilot line for SIC components to 6 inch pilot line from a 2 inch pilot line due to the demand for components with higher energy efficiency, applications for electrical vehicles	https://www.acreo.se/expertise/power-electronics
Blast furnace for iron production (LKAB(owner) and Swerea Kimab (operator))	Sweden	Luleå	Big pilot globally unique pilot for the production of iron. Pilot attracts European and International producers of steel. Japanese clients come to obtain solutions for reduced carbon emission.	http://www.lkab.com/en/Future/RD/EBF/
Pilot plant Swerea Kimab	Sweden	Gothenburg	Pilot plant to develop production techniques for new materials.	
Pilot line for fibres (Swerea)	Sweden		Pilot lines for melt spinning (bi-component fibers, 1-3 kg/h), wet spinning (0.2 kg/h) and electro spinning (0.1 kg/h)	http://www.swerea.se/en/Start2/Working-Areas/Textiles/Fibre-Technology/

Pilot plant for raw materials (Swerea Mefos)	Sweden	Luleå	Pilot facilities with equipment suitable for certain types of materials development. Such development includes blank production in vacuum induction furnace, heating in furnaces, rolling and forging in rolling mills and forging press as well as testing of grinding discs in our grinding machine. Performance of tests on a small scale and on small quantities.	http://www.swerea.se/Global/Swerea_MEFOS/Dokument/Pilot%20Plant%20Equipment_web.pdf
Sigatec SA	Switzerland	Sion, Canton of Vallois	SIGATEC is a prototyping and small scale manufacturer of silicon micro-parts, offering services in the watchmaking, microfluidics and medical field. Technical skills: the manufacture of flat or multi-level parts, textured copping and micromoulds for fluidics. ACTIVITIES: - Very high precision micromechanical engineering - Micromanufacturing through chemical or plasma etching: silicon, quartz, etc.	Marc-André GLASSEY (CEO) Route des Iles, 20 1950 SION Suisse Tel.: +41 27 329 09 04 Fax: +41 27 329 09 05 E-mail: info@sigatec.ch Website: www.sigatec.ch
Mimotec SA	Switzerland	Sion, Canton of Vallois	Active in the manufacture of micro-components and mould inserts via UV-LIGA technology, the process opens up new perspectives in component miniaturization thanks to the utmost precision and great freedom of design, the technology is widely used in the luxury watchmaking sector	Hubert LORENZ Route des Iles, 20 1950 SION Suisse Tel.: +41 27 329 09 09 Fax: +41 27 329 09 00 E-mail: info@mimotec.ch Website: www.mimotec.ch
Oerlikon Solar	Switzerland	Trübbach	Thin film solar panel pilot facility started in 2009. Currently owned by TEL.	http://www.solar.tel.com/
Flisom	Switzerland	Duebendorf	Flexible solar panel pilot line, start-up from ETHZ.	http://www.flisom.ch/

Factory 2050	UK	Sheffield	The University of Sheffield Advanced Manufacturing Research Centre (AMRC) with Boeing has secured funding for a new £43 million state-of-the-art research factory, to meet the future needs of aerospace and other high-value manufacturing industries. The AMRC Factory 2050 will be the UK's first fully reconfigurable assembly and component manufacturing facility for collaborative research, capable of rapidly switching production between different high-value components and one-off parts.	http://www.sheffield.ac.uk/news/nr/amrc-factory-2050-1.278634
Tata Proving Factory	UK	Rotherham	The Proving Factory, a £22 million manufacturing initiative in the UK's South Yorkshire and Midlands regions, will take low-carbon vehicle technologies designed by small high-tech British companies and university research departments and prove their viability in production to increase their chances of being adopted by major motor manufacturers.	http://www.tatasteurope.com/en/news/news/2013_proving_green_automotive_tech_future
National Composites Centre	UK	Bristol	The NCC's mission is 'To be an independent, open-access national centre that delivers world-class innovation in the design and rapid manufacture of composites and facilitates their widespread industrial exploitation. - See more at: http://nccuk.com/about-ncc#sthash.YX8k8Uuu.dpuf	http://nccuk.com/

Centre for Process Innovation	UK	Redcar	The Centre for Process Innovation is a UK-based technology innovation centre and part of the High Value Manufacturing Catapult. We use applied knowledge in science and engineering combined with state of the art facilities to enable our clients to develop, prove, prototype and scale up the next generation of products and processes.	http://www.uk-cpi.com/services/pilot-production/
Manufacturing Technology Centre	UK	Coventry	We provide a high quality environment for the development of cutting edge technologies into manufacturing processes with the aim of delivering truly innovative solutions to UK industry.	http://www.themtc.org/
Advanced Forming Research Centre	UK	Glasgow	The Advanced Forming Research Centre (AFRC) is a collaborative venture between the University of Strathclyde, Scottish Enterprise, the Scottish Government, and leading multinational engineering firms including Aubert & Duval, Barnes Aerospace, Boeing, Rolls-Royce and TIMET. A £30M investment in plant and equipment in a bespoke building near Glasgow International Airport enables the development of forming and forging technologies to support the design and manufacture of new products for many sectors.	http://www.strath.ac.uk/afrc/
SPECIFIC	UK	Swansea	The pilot production lines will enable the demonstration of full scale manufacture of 1.2m ² sheet steel, glass and polymer substrate based technologies. The installation of the coil line for continuous processing of flexible (steel and polymer) materials over 300 mm will begin in May 2013. Additional laboratory and office space is to be added in mid 2013 in order to accommodate maturing technologies which are approaching pilot manufacture.	http://www.specific.eu.com/

CIM in Continuous Manufacturing and Crystallisation	UK	Strathclyde	Our Vision: to accelerate the adoption of continuous manufacturing processes, systems and plants for the production of high-value chemical products to higher quality, at lower cost and more sustainably.	http://www.cmac.ac.uk/index.php
CIM in Liquid Metal Engineering	UK	Brunel	The EPSRC Centre - LiME aims to be an international leader in liquid metal engineering to underpin solidification research, strategic technology developments and user-led industrial applications. We will conduct fundamental research to generate world-class knowledge in solidification science. We will develop and exploit innovative and sustainable technologies and enable the UK metal casting industry and its customers to improve their competitiveness in global markets.	http://www.lime.ac.uk/

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