



European Union  
European Regional  
Development Fund

## **Smart Chemistry Specialisation Strategy**

**“Report on current status of implementation of Regional Innovation Strategies in Limburg”**

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# 1. Description of Partner Region

## 1.1 General Description

The Province of Limburg is one of 12 Dutch Provinces and of its borders around 65% is a border with neighbouring countries. Limburg is the southernmost of the twelve provinces of the Netherlands. It is located in the southeastern part of the country and is bordered by the Dutch provinces of Gelderland to the north and North Brabant to the north and northwest, Germany (state of Northrhine-Westphalia) to the east and Belgium (the Dutch-speaking province of Limburg and French-speaking province of Liège) to the south and part of the west. Limburg's capital city is Maastricht.



*Figure 1: Map of the Netherlands in Europe*  
Source: [www.freeworldmaps.net](http://www.freeworldmaps.net)

Limburg has a highly distinct character. The social and economic trends which affected the province in recent decades generated a process of change and renewal which has enabled Limburg to transform its national peripheral location into a highly globalized regional nexus, linking the Netherlands to the Ruhr metro area and the southern part of the Benelux region. A less appreciated consequence of this international gateway location is rising international crime, often drugs-related, especially in the southernmost part of the province.

Limburg's name derives from the fortified castle town known as Limbourg, situated on the river Vesdre near the High Fens, currently in the Belgian province of Liège. It was the seat of the medieval Duchy of Limburg which extended into the Meuse region north of the city of Liège.

However, most the area of the current Dutch Limburg was not part of this polity but was divided among several states including the Duchy of Brabant, the Duchy of Jülich, the Duchy of Guelders, and the Bishopric of Liège, as well as the Duchy of Limburg. A result of this division is still evident in the plethora of distinct varieties of the Limburgish language spoken in Limburg municipalities.

Anyone who lives on the border is quite used to it. They know the neighbours' habits and their culture. To them borders don't mean obstacles but opportunities.

Opportunities to create something together. To work together cross border. That's exactly what Limburgers do. Limburgers make connections; they're bridge-builders who dare to think in possibilities. Not only are they good at lots of things but they're swift to adapt. They're just as likely to bump into someone they know in Aachen as in Amsterdam. Limburgers are Europeans, but with their own strong identity. They have something special to contribute to Europe and to the Netherlands as a trading nation.



Figure 2: Map Limburg as part as several Euroregions  
Source: [www.limburg.nl](http://www.limburg.nl)

Limburg is the Dutch front line with Europe. That makes Limburgers powerful partners in cross border cooperation from which all parties can reap the benefits. They can open doors which remain closed for others. This international way of thinking and trading and playing with borders is part of Limburg's DNA. It is inherent to the history of the province and Limburg's place on the map. Limburgers know that this inbuilt ability to identify with other languages and cultures, in combination with their inborn flexibility and insight into the fact that borders offer opportunities, gives them the advantage in both knowledge and expertise. And Limburg wants to retain this advantage.

## 1.2 Economic indicators

This paragraph highlights several social-economic indicators for Limburg: population, regional economy and income, labour market and employment.

<b>Indicator</b>	<b>Limburg</b>	<b>Netherlands</b>
<i>Population 1-1-2014</i>	1,120,015	16,826,225
<i>Total labour force</i>	508,000	7,894,000
<i>Unemployment rate January 2014</i>	8.6%	8.6%
<i>GDP growth 2013*</i>	-1.0%	-1.0%
<i>Average spendable household income</i>	€ 32,400	€ 34,300

*Table 1: Social-economic indicators for Limburg*

*Source: Central Bureau for Statistics (CBS), Central Planning Bureau (CPB)*

Limburg has more than 1 million inhabitants: 55% live in the southern part of the province, where several cities form a densely populated urban area. The population in the central and northern part is more scattered with 21% and 25% of the total population respectively. The Limburg population has a multicultural composition: 45 different nationalities live in our province. 57,000 people or 5% are of foreign origin. European citizens make up the majority of foreigners in Limburg with people from neighbouring Germany and Belgium being the front runners. Other major foreign communities are Polish, Turks and Moroccan. The multicultural compilation of Limburg is of significant advantage for companies doing business in the global economy.

The Limburg economy used to have an industrial profile: industrialization in the Netherlands started in the 19th century in Maastricht. The end of the 20th century showed a rapid change towards a service oriented economy with logistics, commercial services and health care being the main drivers. Today, Limburg (having focussed on the development of Research & Business campuses) houses four campuses under the umbrella of the 'Brightlands'-mark: Brightlands Health Campus in Maastricht, Brightlands Chemelot Campus in Sittard-Geleen, Brightlands Smart Services Campus in Heerlen and Brightlands Greenport Campus in Venlo with profiles as shown below.



Figure 3: Focus areas campuses in Limburg  
Source: [www.brightlands.com](http://www.brightlands.com)

However, Limburg's industry cluster is still an important sector of employment in the region. Because of its strong export orientation, Limburg's economy is influenced by global trade and investment developments, and was severely hit by the world economic downturn since 2008. Limburg is the most export oriented Dutch province (25 % of GDP; 40 % of all companies).

### 1.3 Challenges for the region

The regional economic challenges/ambitions for the near future are formulated as follows:

- Further reinforcement of the regional knowledge infrastructure (research institutes and education programs) as well as valorisation of knowledge;
- More industry and open innovation (business development and support of start-ups);
- Optimisation of high value infrastructure: the four campuses and their facilities (opening towards regional SME's).



## 2. Description of chemical / bioeconomy industry

### 2.1 General Description

Chemical industry in the Netherlands: For several decades now, the chemical industry and the Netherlands have been a profitable combination. Due in part to the Rotterdam harbour, the infrastructure, top universities and the availability of qualified personnel, the chemical industry has found a good home base in the Netherlands. Many of the world's largest chemical industries have opened production facilities in the Netherlands - to the benefit of both the companies and to the Dutch economy. Sector turnover in 2012 was a respectable € 60 billion, including € 7 billion of turnover from the pharmaceutical industry. With this, the Netherlands is the third largest chemical producer in Europe after Germany and France. It provides work for 64,000 people (including 14,000 in the pharmaceutical industry), distributed among more than 400 companies (excluding pharmacies and sole proprietorships). With the exception of the food, beverages and tobacco industry, the chemical industry is the largest business sector in the Netherlands.

The Dutch chemical industry is a player at the global scale as well. In areas such as basic chemistry, biotechnology, food ingredients, coatings and high performance materials, the Netherlands is among the world's top players. This can also be seen in its share of exports. The chemical industry accounts for nearly 20% of all Dutch exports. The Netherlands exports more chemical products than countries such as Japan. In the areas of research, knowledge development and innovation, the Netherlands is among the best countries in the world. One fourth of the country's efforts in the area of industrial R&D is accounted for by the chemical industry.

Innovation is essential to the Dutch chemical industry. This is evident from the sector's investments in research and development, among other things. Each year, the chemical industry in the Netherlands spends more than € 1 billion on research and development. Together with the Dutch culture and mindset, this ensures a powerful chemical industry that forms an engine for the economy and acts as a leader in sustainable development and entrepreneurship.

The government endorses the Dutch chemical industry's important role. The first cabinet under Prime Minister Rutte (October 2010 to April 2012) developed the top sector policy aimed at strengthening business sectors in which the Netherlands excels globally. To achieve this, the government, business community, universities and research centres work together in the area of knowledge and innovation, among others.

This collaboration comprises the entire chain of innovation - from fundamental research to application - and is expressed in such forms as public-private collaboration, innovation labs and centres for open chemical innovation. The second Rutte cabinet (October 2012 to date) continued the top sector policy. The chemical industry is one of those top sectors.

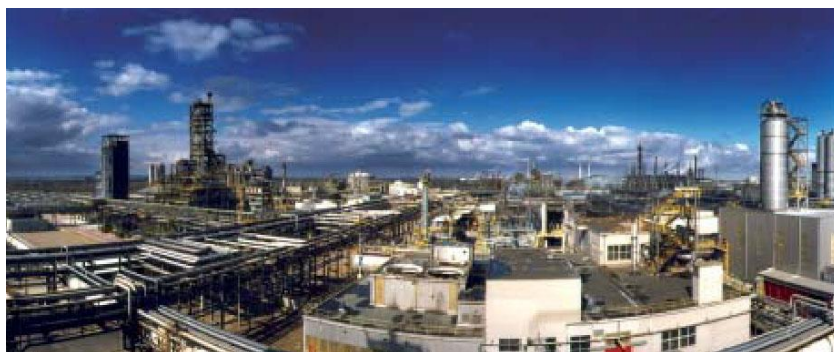


Figure 4: Sites of Koninklijke DSM  
Source: [www.ecrn.net](http://www.ecrn.net)

(South) **Limburg** is the birthplace of Koninklijke DSM, known for its innovative products and services in the areas of life sciences and materials. In 2013, 6,000 people work at this innovative company. About one in every four DSM-ers in the Netherlands is working on research, development and innovation. So the Netherlands is an important incubator for DSM for innovation that takes shape in many places around the globe. Significant innovative activity has arisen around DSM and Maastricht University in the so-called life sciences area. A portion of these activities is clustered at the large chemical industrial complex Chemelot. Its total area comprises some 800 hectares. Large "site users" include DSM and SABIC Europe; they operate the largest installations. In addition, more than 60 smaller, innovative companies are established on the grounds.

The other tenants include such companies as the Japanese Sekisui S-lec, Lanxess and OCI Nitrogen. Chemelot includes a Research and Business Campus (Brightlands Chemelot Campus) where many companies perform research and develop new products.



Figure 5: Sign of Chemelot Campus  
Source: [www.limburg.nl](http://www.limburg.nl)

## 2.2 Indicators (NACE Code 20 Chemical Industry and 22 Plastics Industry)

The importance and the development of the chemical industry and the plastics industry in Limburg over the recent years can be illustrated by a few indicators as shown in following table. These reflect the number of firms and employees as well as turnovers, both domestic and foreign. It shows that, however numbers are quite steady, turnovers seem to increase slightly and also the already fairly high export rate has an upward tendency.

Categories	Unit	2009	2010	2011	2012	2013	2014
<b>Limburg (NL)</b>							
<b>C20 - Manufacture of chemicals and chemical product</b>							
Firms	Number	92	94	88	85	108	..
Employees	Number	7.295	6.369	6.244	6.242	6.213	..
Turnovers	Thou. EUR	..	9.497	11.073	12.128	12.075	14.096
Domestic turnovers	Thou. EUR	..	3.183	2.672	2.926	2.683	3.776
Foreign turnovers	Thou. EUR	..	6.314	8.401	9.202	9.392	10.320
Productivity*	EUR/L		1.491,1	1.773,4	1.943,0	1.943,5	
Export rate**	in %		66,48	75,87	75,87	77,78	
<b>C22 - Manufacture of rubber and plastic products</b>							
Firms	Number	11	14	16	17	22	..
Employees	Number	88	218	276	252	156	..
Turnovers	Thou. EUR	..	982	1.050	1.077	1.094	1.197
Domestic turnovers	Thou. EUR	..	250	250	245	232	251
Foreign turnovers	Thou. EUR	..	732	800	832	862	946
Productivity*	EUR/L		4.504,6	3.804,3	4.273,8	7.012,8	
Export rate**	in %		74,54	76,19	77,25	78,79	
<b>Sum of chemical Production and rubber and plastic products</b>							
Firms	Number	103	108	104	102	130	..
Employees	Number	7.383	6.587	6.520	6.494	6.369	..
Turnovers	Thou. EUR	0	10.479	12.123	13.205	13.169	15.293
Domestic turnovers	Thou. EUR	0	3.433	2.922	3.171	2.915	4.027
Foreign turnovers	Thou. EUR	0	7.046	9.201	10.034	10.254	11.266
Productivity*	EUR/L		1.590,9	1.859,4	2.033,4	2.067,7	
Export rate**	in %		67,24	75,90	75,99	77,86	

Table 2: Indicators chemical and plastics industry for Limburg  
Source: Central Bureau for Statistics (CBS)

## 2.3 Challenges for the industry

In January 2012, VNCI (employers' association chemical industry) and business consultancy Deloitte published a study of future opportunities for the chemical industry in the Netherlands and Northwest Europe. The results of that study were positive. Until 2030/2050, the sector should experience substantial growth regardless of global, social, political and economic developments. This all depends on the sector's continued building on its strengths. The existing collaboration with the cross-border chemical industry played an important role in this growth prognosis.

The VNCI has since ordered an update of this study. The researchers believe that the chemical industry will undergo large transformations. Raw materials will be used more efficiently and a shift will take place from fossil resources to biomass, (bio)waste and other resources that are less burdensome to the environment or which even result in a positive CO2 balance.

Increasingly, the chemical sector will be seen as innovative, clean and safe and as an

essential industry producing clever products that limit the negative impacts of economic activities on health and the environment.

To achieve this vision of the future, the investment climate in the Netherlands must remain attractive. The encouragement of free trade remains important. To produce more energy efficiently and to achieve diversification in raw materials, focused R&D, sustainable innovation and facilitating legislation are important.

## 3. Description of Regional Innovation Strategy

### 3.1 General Description, Challenges and Objectives

The region of Zuid-Nederland (South Netherlands: which comprises Noord-Brabant, Limburg and Zeeland) is unique in that it accommodates an innovative, knowledge-based, dynamic economy and, furthermore, provides a good living environment. The region has a broad industrial base, research capacity and a matchless network manufacturers and designers. This network comprises small and medium-sized enterprises (SMEs), including startups, and research, knowledge and educational institutions. Zuid-Nederland is therefore in a position to be able to make a substantial contribution to the realisation of European objectives. Global players, multinationals and SMEs with strong export positions are established here. These companies provide significant employment and make a large contribution to the region's R&D efforts, exports and added value. The area is an important link between the ports of Antwerp and Rotterdam and the knowledge institutes and production sites in the adjoining regions of Flanders (Belgium) and North Rhine-Westphalia (Germany). In a word, it has a strategic location with regard to the important economic core areas in the Netherlands, Belgium and Germany and the European hinterland.

Instead of starting a new strategic planning process for the drawing up of the RIS3, the process was geared towards building and capitalising on the deep-rooted, time-tested tradition of triple helix cooperation and the resulting strategies, strategic networks and implementation programs. This process entailed the collaboration of companies, knowledge and research institutes, regions and cities. It was a process that also clearly took into account the scale of the region: large enough for focus, critical mass and cohesion but open and diversification-oriented at the same time.

Most of the programs on which the RIS3 are based have a time horizon up to 2020. The strategic pillars for the **RIS3 Zuid-Nederland** are:

- the Brainport 2020 strategy;
- the Strategic Board Zuidwest-Nederland Agenda;
- provincial economic agendas and programs;
- the implementation programs of the triple helix organisations in the southern sub regions of the Netherlands;
- roadmaps and innovation contracts of the relevant top sectors;
- various studies and benchmark reports.

These strategic pillars form an integral part of the RIS3. The aforementioned strategies, policy and implementation programs were realised by means of a bottom-up process of 'entrepreneurial discovery'. The available strategies have a high degree of complementarity and jointly cover the entire region of Zuid-Nederland.

The following parties are involved in the development and implementation of the RIS3 Zuid-Nederland:

- the three provinces in Zuid-Nederland (Zeeland, North Brabant and Limburg);
- the management authority (MA) for the operational program OP Zuid;
- the triple helix network organisations in de subregions of Zuid-Nederland (Strategic Board Zuidwest-Nederland, Midpoint Brabant, 5-Sterrenregio Noordoost Brabant, Brainport Development, Greenport Venlo, Limburg Economic Development and Keyport 2020).

### Context

Zuid-Nederland is the Dutch hotspot when it comes to innovation. More than 40% of Dutch R&D investments (largely private expenditure) are made in Zuid-Nederland and six of the ten Dutch global R&D players are located in Zuid-Nederland (ASML [1], PHILIPS [2], DSM [5], NXP [6], Océ [8] and DAF [10]). The High-tech, Chemistry and Agriculture & Food clusters are particularly important for Zuid-Nederland. The definitions of the top sectors correspond with the definitions used in the central government's top sector policy, with the exception of Agro & Food (Agriculture & Food).

Around 68% of private R&D expenditure in the Netherlands is spent on the three most important sectors (Hightech, Chemistry and Agriculture & Food) and they jointly account for almost half of Dutch exports; that is, they form the motor of economic growth. These sectors are strongly represented in Zuid-Nederland, provide a considerable number of jobs and contribute greatly to R&D efforts, exports and added value. Logistics and Life Sciences & Health are also relatively strongly represented in the region. The location of the region means that it is an important link between the ports of Rotterdam and Antwerp and the European hinterland.



The degree of specialisation in Zuid-Nederland is considerable, both in terms of academic publications and in economic orientation. A great deal of intellectual property is also developed in this region, as shown by the recently published Draft synthesis report on innovation driven-growth in regions: the role of smart specialisation, by the Organisation for Economic Cooperation and Development (OECD)'s Working Party on Innovation and Technology Policy (TIP) December 2012.

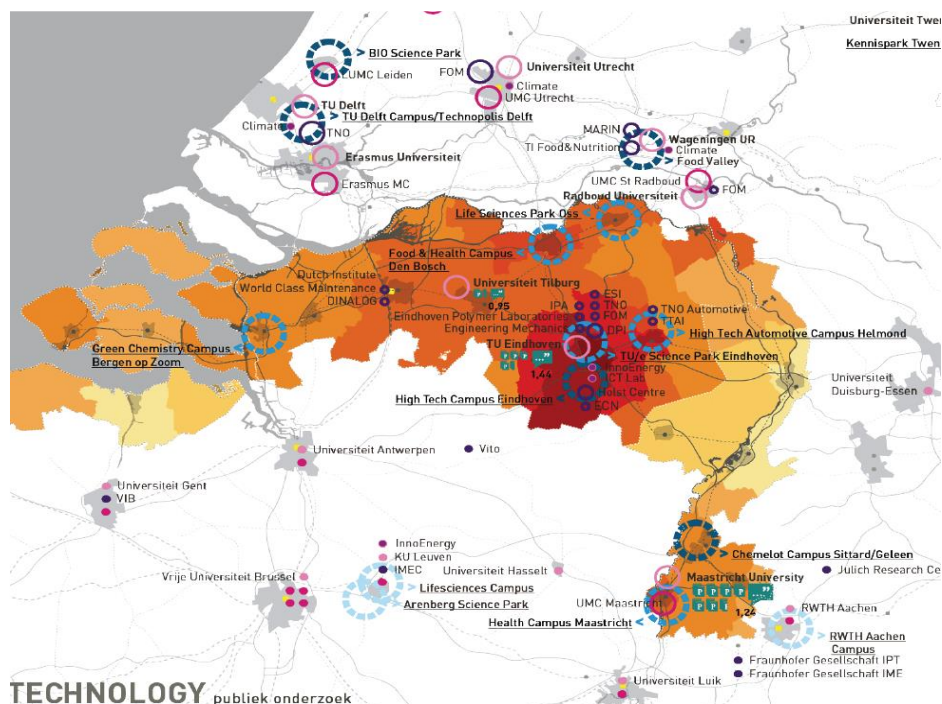


Figure 6: Map of technology spearheads Zuid-Nederland  
Source: RIS3 South Netherlands, 2013

The patent output is, moreover, relatively high in comparison with other countries in Europe. And these patents (that is, patents registered with the European Patent Office EPO) are also highly specialised, having been classified in 35 domains according to the Fraunhofer classification. A striking point is that, in the course of time, the portfolio of specialisations has widened, indicating enhancement in a number of areas of technology and application.

In addition to specialisation, organisation also forms an important aspect. This is expressed in the various strong triple helix cooperative organisational structures that have been recognised in an international comparison carried out by the OECD. Companies and knowledge institutes are organised in clusters and networks. Universities are well embedded. Their strategic research programs perform services for the region's business sector, among other things. This is expressed in various ways, including in the fact that two Knowledge and Innovation Communities (KICs) of the European Institute of Innovation and Technology [EIT] are located in the region. The EIT's objective is to enhance economic growth and competitiveness by increasing innovative capacity, which it accomplishes by means of the aforementioned KICs. In KICs, higher educational and research institutes and the business

sector organise themselves around a theme that is highly relevant or essential for society.

The universities of applied sciences and Regional Training Centres (ROCs) play a supporting role in the field of education and, via Centres of Expertise and Centra voor Innovatief Vakmanschap (Centres for Innovative Craftsmanship) in particular, they create a direct link with the labour market needs of the top economic sectors that are relevant for the region.

Finally, Campuses play a major role in the innovation ecosystem:

- as actual locations with good possibilities and facilities for establishing businesses; especially availability of infrastructure (labs, pilotplants) highly contributes to innovation;
- with the focus on R&D and knowledge-intensive activities;
- with the presence of manifest knowledge carriers;
- and as an environment for active open innovation.

### Clusters

In addition to the efforts to be made on existing clusters, the region's strategy is to further develop a number of new or emerging clusters and promote cross-overs between clusters. It will aim at areas where the combined forces of the business and knowledge community can result in achieving or maintaining technological or market leadership. This may be in a B2B market, B2C market or in very specific niche markets. The foundations on which we will be building are sturdy ones. And there is a great deal of growth potential in the HTSM, Chemistry & Materials and Agriculture & Food, Life Sciences & Health, Biobased, Logistics and Maintenance clusters. Various cooperative ventures are working on the development and, just as important, the roll out of new technologies, products and related services.

The areas with growth potential are those that deliver innovative solutions to societal challenges (including health care, mobility, food security and safety, sustainable energy and sustainability in general [circular economy, raw materials efficiency], ...).

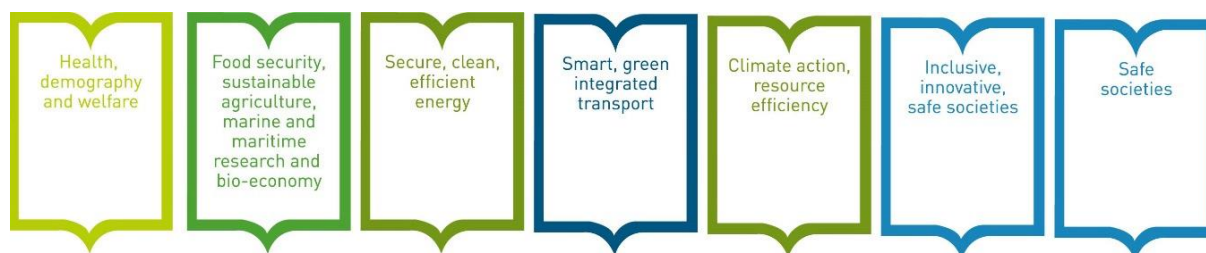


Figure 7: Identified areas with growth potential  
Source: RIS3 South Netherlands, 2013

### 3.2 Focus on chemistry / bioeconomy, etc. – highlight thematic priorities

The RIS3 Zuid-Nederland does not merely focus on (a number of) economic sectors and within these on thematic priorities per sector. It contains a more generic approach towards the identified priority sectors/cluster and the cross-overs between these sectors.



The focus on sectors and clusters entails various aspects, including the processes by which they develop and enhance their competitiveness. R&D and innovation increasingly take

place in innovation networks, open or otherwise. Innovation in ecosystems is an essential distinguishing principle in achieving a position at the forefront, particularly when cooperation-based innovation (that is, open innovation) is involved.

Businesses are becoming increasingly dependent on their suppliers, knowledge institutes and other companies when it comes to innovation and technology development. The close proximity of suppliers reinforces the flexibility of OEMs, a point that is becoming more and more important, not only in the field of R&D, but also with regard to production. The availability of a broad range of SMEs increases flexibility and possibilities for specialisation. Regional embedding and innovation ecosystems play a crucial role here. This is expressed by, among other things, the phenomenon of proximity in networks and clusters, the creation of conditions for (pre-competitive) cooperation in the fields of R&D and innovation, the sharing of facilities, mechanisms for technology and knowledge transfer, support for the valorisation of research and business start-ups, IP management and colocation on campuses. These are the elements that need to be enhanced.

The character of innovation is also changing. There is increasing interest in the integration of the following processes in innovation itself:

- social innovation;
- design disciplines as enablers of innovation;
- co-creation;
- living labs and
- testing grounds; there is the ambition to set up large-scale testing grounds in the fields of, among other things, smart care, smart mobility and sustainable energy.

The use of these processes is an integral part of the strategy. The implementation will be based on shared, supported roadmaps. Mechanisms will thus be set in motion which, in time, will further reinforce, enrich and diversify the economic structure.

This is why the focus will be placed on:

- the existing clusters in top sectors, including the top sector Chemistry & Materials;
- social challenges as the point of departure for cluster development;
- strong chains, bases and tops;
- more added value and higher productivity;
- a committed, enterprising, open and cooperation-oriented culture.

All of the above is visualised in the figure below.



Figure 8: Smart Specialisation Strategy RIS3 Zuid-Nederland  
Source: RIS3 South Netherlands, 2013

Further activities to specify innovation topics (e.g. roadmaps)

The strategy has been further specified in roadmaps for some sectors/clusters within the framework of the Operational Program 2014-2020. Related to the Chemistry & Materials cluster, following roadmaps have been drawn up:

- Innovation Program Biobased South Netherlands;
- Innovation Program Performance Materials South Netherlands;
- Innovation Program Life Sciences & Health South Netherlands (underlying Roadmap Biomedical Materials).

## 4. Description of ERDF Operational Program

### 4.1 General Structure

Main objectives of the Operational Program OP South Netherlands ERDF 2014-2020: The region of Southern-Netherlands, consisting of the provinces Zeeland, North-Brabant and Limburg, has been allocated an amount of EUR 113,627,056 from the European Regional Development Fund (ERDF) for the period 2014-2020. With this allocation, and in combination with additional public and private co-financing, the region aims to strengthen its potential for Research and Innovation while at the same time supporting the shift to a resource-efficient, low-carbon economy. With these clear and focused objectives, the region contributes to the overarching EU2020 strategy for smart, sustainable and inclusive growth and to the Dutch targets set in this regard.



*Figure 9: Logo Operational Program South-Netherlands*  
Source: [www.stimulus.nl/opzuid/](http://www.stimulus.nl/opzuid/)

The region recognizes the need for targeted investments and takes into account its socio-economic profile, as well as the European Council's country specific recommendations. It also bears in mind the overarching European and national strategies and in particular the Regional Innovation Strategy (RIS3) South-Netherlands.

The operational program will therefore:

- promote business investment in Research and Innovation, develop links and synergies between enterprises, research and development centres, knowledge institutions and the higher education sector, and open innovation through smart specialisation;
- promote the adoption of innovative low-carbon technologies in the region through demonstrations and pilot projects.

With respect to funding priorities the Program will focus on two main priorities:

- Increase the research and innovation intensity in SMEs and improve their uptake of innovation;
- Support the development and first application of innovative low-carbon technologies to enable larger-scale roll-outs.

Expected impacts of the OP Zuid are:

- Support to a target of 1,000 SMEs is expected to trigger an additional EUR 50 million in private investments for innovation in the clusters identified in the RIS3 (Agro & Food, High Tech Systems and Materials, Chemistry, Life Sciences and Health, Biobased and Logistics).
- An increase of the share of innovative SMEs which cooperate with other enterprises and knowledge institutions from 30% to 35%;
- An increase in the share of SME revenue generated by new products (from 5,4% to 6%);
- Successful business cases of first application of innovative low-carbon technologies to enable larger-scale roll-outs.

The total budget for the OP is set at € 321,591,238.00 with a total EU contribution of € 113,627,056.00.

## 4.2 Responsible Bodies

The Province of North-Brabant has been designated as Management Authority for the Operational Program OP Zuid and bears as such final responsibility for the implementation of the Program (content and finance). She is accountable to the European Commission. Stimulus Programmamanagement is a department of the Province of North-Brabant which, in close cooperation with points of support in Zeeland and Limburg, is responsible for the execution of the OP Zuid, i.e. the program management.

The qualitative assessment of project proposals lies in the hands of an Expert Commission, composed of independent experts with expertise and experience in sectors and knowledge areas that are important for the OP. The triple helix organisations in the region offer support in the development of qualitatively good projects that are connected to the RIS3 South-Netherlands.

A Steering Group, which consists of representatives from industry, knowledge and research institutes, the Member State and provincial as well as municipal authorities, monitors the implementation of the Program and gives advice to the Monitoring Committee with respect to strategy and content.

The Monitoring Committee, chaired by the King's Commissioner for the Province of Limburg, makes sure that the Program is executed in the right way: it evaluates the execution and the progress that is made in the accomplishment of the goals set. This Monitoring Committee comprises representatives of the three Provinces, the Member State, The European Commission, knowledge institutes, environmental organisations, employers and trade organisations as well as other societal organisations.

## 4.3 Priority Axes and Available Funding

The OP Zuid has two Priority Axes as mentioned in section 4.1 above:

- Increase the research and innovation intensity in SMEs and improve their uptake of innovation;

- Support the development and first application of innovative low-carbon technologies to enable larger-scale roll-outs.

The first Axis is subdivided into 3 sections (Strengthening the innovation system, Valorisation and Human Capital).

Additionally, a certain amount of money is dedicated to Technical Assistance (costs of execution of the OP). The available funding is shown in the figure below.

## Priorities OP Zuid 2014-2020

<b>→ Increase the research and innovation intensity in SMEs and improve their uptake of innovation</b>	<b>€ 75,0 mln</b>
– <b>Strengthening the system</b> (ca 45 mln)	
– <b>Valorisation</b> (ca 20 mln)	
– <b>Human Capital</b> (ca 10 mln)	
<b>→ Support the development and first application of innovative low-carbon technologies</b>	<b>€ 34,0 mln</b>
• <b>Technical Assistance</b>	<b>€ 4,5 mln</b>
<b>Total ERDF</b>	<b>€ 113,5 mln</b>
<b>Total investment</b>	<b>€ 322,0 mln</b>

Figure 10: Available funding OP Zuid  
Source: Internal presentation Province of Limburg

## 5. Description of Funding programs

Within the area of the Province of Limburg there are many funding schemes that can contribute to the costs of new and innovative projects, among which research, innovation and education. These subsidy schemes refer to various areas among which the Chemistry and Materials cluster. The most important are:

- a) The Operational Program South Netherlands 2014-2020 (OPZuid)
- b) The Subsidy SME innovation stimulating Top Sectors South - Netherlands 2015 (MIT Southern)
- c) INTERREG

### 5.1 OP Zuid

The Operational Program South Netherlands 2014-2020 (OP Zuid) is a European funding program for the provinces of Zeeland, Limburg and North Brabant promoting innovation and the transition to a low carbon economy. The program is focused on innovative SMEs and strengthening collaboration between industry, universities and governments. OP Zuid stimulates innovation by supporting crossovers between international top clusters (high-tech systems, chemicals, agro-food) and between national top clusters with international potential (life sciences & health, bio-based, logistics and maintenance). Carbon energy focuses on smart deployment in the built environment.

See for more details section 4 above.

The OP Zuid was launched early 2015. The program uses thematic calls for proposals for the selection of projects to be funded. A part of the total ERDF amount is allocated to each call. (Consortia of) Organisations such as knowledge institutes, intermediary organisations, governmental organisations as well as larger and small and medium sized companies can submit their proposals under a dedicated call by using the OP Zuid web portal.

From April 2015 on, 4 calls have been opened for the respective themes *System innovation* (2x), *Human Capital* and *Low Carbon Economy*. The OP Zuid strives for qualitatively strong projects. Everyone who wants to submit a proposal can ask the Program Secretariat (Stimulus) for assistance and guidance and a technical examination with respect to admissibility, completeness and clarity of the project. Also, the triple helix organisations in the distinct parts of the program area South Netherlands can offer help.

Once the deadline for submitting proposals has passed, the Program Secretariat checks the submitted proposals on completeness and subsequently the complete proposals are assessed by an independent Panel of Experts who at the end rank all the proposals submitted under the specific call. Upon this ranking the Management Authority (the Province of North-Brabant) bases its grant decision. The lead time from closing of the call to the grant decision is approximately 3 months.



## 5.2 MIT Southern

The subsidy program 'SME innovation stimulating Top Sectors South - Netherlands 2015 (MIT Southern)' streamlines the financial instruments aimed at stimulating innovation in SME's. National government and the Provinces for the first time jointly provided more than € 50 million for this scheme in 2015.

For the year 2016 the budget has been increased to € 55 million. One of the goals of the MIT-scheme is to stimulate innovation in SME's beyond provincial borders. MIT is separated into four subregional schemes of which MIT South is the one applicable for SME's in the three southern provinces (amongst whom Limburg).

The MIT-scheme consists of following instruments: consultation projects, feasibility projects, R&D cooperation projects, knowledge vouchers, innovation brokers and network activities. Knowledge vouchers and the innovation brokers and network activities are only at national level available.

## 5.3 INTERREG

European Territorial Cooperation (ETC), better known as Interreg, provides a framework for the implementation of joint actions and policy exchanges between national, regional and local actors from different EU Member States. Interreg addresses many target groups among which: national, regional and local governmental bodies, knowledge organisations, companies, development agencies, non-profit organisations.

For the area of the Province of Limburg three Interreg A programs are relevant:

### Interreg Flanders-the Netherlands

The Interreg V-program between the Netherlands and Flanders (Belgium) is carried out on the territory of (parts of) the five Flemish provinces and the three southern provinces of The Netherlands. In Flanders these are the provinces Antwerp, East-Flanders, Flemish-Brabant, Limburg and West-Flanders. For the Netherlands this includes the provinces of Limburg, North-Brabant and Zeeland.

These partners, together with the Flanders Innovation & Entrepreneurship Agency and the Dutch ministry of Economic Affairs drew up the 'Cooperation Program Interreg V A Flanders-The Netherlands' for the 2014-2020 program period which received € 152 million from the European Regional Development Fund (ERDF) to invest between 2014 and 2020 in valuable cross-border projects.

Within the Interreg-program, cross-border projects are subsidized. This cross-border nature of projects is obviously essential: in each project, partners should be involved from both sides of the border. In general, these partners are localized in the program area.

Flanders, the Netherlands and the eight provinces have chosen four themes - or also called priority axes - accompanied by nine different specific goals to achieve in the coming years, with the Cooperation Program Interreg V Flanders – The Netherlands:

- **Innovation:** strengthening research, technological development and innovation
- **Sustainable energy:** support for energy efficiency and renewable energy
- **Environment and resources:** protecting the environment and promoting resource efficiency
- **Labour:** promoting employment and supporting labour mobility

To strengthen the competitiveness, it is necessary to continue to invest in research and development. Innovation is therefore the main priority of the program. Companies, especially SME's, as well as knowledge institutes play an important role.



Figure 11: Logo Interreg Flanders – the Netherlands  
Source: [www.grensregio.eu/](http://www.grensregio.eu/)

### Interreg Germany-the Netherlands

Financial support for cross-border projects: an amount of approximately 440 million euro has been reserved for the Dutch-German borderland for 2014-2020. The goals to be achieved with these resources are outlined in the INTERREG Germany-Netherlands collaboration program. The program's most important goals are increasing the borderland's innovation potential and reducing the border's barrier effect.

Project requests can be submitted by a public or private legal entity, organisation or company. Only projects in which Dutch and German partners work together will be subsidised. Project financing always consists of a contribution from the partners, EU subsidy funds (usually up to 50%), and often supplemented by national and regional subsidy funds as well (from ministries or provinces, for example).



Figure 12: Logo Interreg Germany – the Netherlands  
Source: [www.euregio.eu/nl/subsidies/interreg](http://www.euregio.eu/nl/subsidies/interreg)

### Interreg Euregio Meuse-Rhine

The program area of the Euregion Meuse - Rhine has remained unchanged relative to the Interreg IV A EMR program. Partners have to be located in one of the areas below in order to be eligible for participation in an Interreg EMR project. Projects have to consist of a partnership that transcends country borders. The program area consists of the following regions:

- Belgium  
Province of Limburg
- Province of Liege
- German speaking community
- District of Leuven (only for the innovation domain)



### The Netherlands

- Regions of South and Middle Limburg
- Region South-east North-Brabant (only for the innovation domain)

### Germany

- District Aachen
- District Düren
- District Euskirchen
- District Heinsberg
- Eifeldistrict Bitburg-Prüm
- District Vulkaneifel

The program has an ERDF budget of 96 million Euro. Projects can be funded for max. 50% with ERDF funds from the Interreg program.

The Cooperation program exists of the following four priority domains:

- **Innovation:** technological innovation, tech transfer, synergy corporate world and knowledge institutions
- **Economy:** strengthening the competitiveness of small businesses (generally): i.a. supporting starters, implementing new business models with the intention to export, intrapreneurship and extrapreneurship, also the innovation of processes and applications aimed at more efficient use of resources within the small business domain.
- **Social inclusion and education:** poverty reduction, community development, cross-border education and coaching programs, eliminating mismatch between the labour market and education.
- **Territorial development:** eliminating physical and judicial border boundaries: themes tourism, culture, security, mobility, health care, border information for frontier workers.



Figure 13: Logo Interreg Euregio Meuse-Rhine  
Source: [www.interregemr.eu](http://www.interregemr.eu)

The Interreg Programs use a similar structure for project selection (tender calls for proposals) as described for the OP Zuid Program under section 5.1 above.

## 6. Governance

### 6.1 Description of involvement of innovation stakeholders in development and implementation of RIS with focus on chemical related topics.

There are different approaches to the implementation of funding schemes. They all need to have a clear focus on the S3 priority areas and guarantee concentration of policy interventions consistent with strategic objectives.

With the S3, a new role is given to universities in the Dutch region of Limburg; previously, universities were not strongly involved in the regional policy-making process. While the resources concentration is not new to the region, S3 has brought about a more fine-grained definition of top clusters. The strategy provides greater support to university campuses through the “Brightlands” program. This scheme facilitates the creation of science and industry clusters, e.g. by financing R&D infrastructure and equipment, and promoting HEIs' activities (education programs, new research departments).

Three Limburg campuses specialise in bio-based, biomedical and health activities. The fourth campus provides knowledge related to supporting technologies. The respective universities signed a ten-year-contract with the region. During the S3 process, regional knowledge-production institutions presented their joint plan “Knowledge Axis Limburg” with the aim of creating synergies between the various Brightlands campuses.



Figure 14: Logo Brightlands  
Source: [www.brightlands.com](http://www.brightlands.com)

Brightlands also fosters the establishment of links with neighbouring knowledge-production institutions and firms from Germany and Belgium. Moreover, the campuses articulate strategies and funding sources from various levels: (i) regional (Province), (ii) supra-regional (South-East Netherlands (Brainport strategy) and South Netherlands (the territory for ERDF and S3), (iii) national, (iv) as well as transnational (TTR-Elat, cross-border INTERREG projects).

### 6.2 Description of established structures and stakeholders.

The South-Netherlands agenda has provided important input for the OP Zuid program 2014-2020. The members of the OP Zuid steering group have been recommended by the triple helix regions. Interregional and supraregional projects that may be eligible for funding by OP Zuid can be aligned with the agenda of the executive board, with an explicit focus on exploring the possible deployment of Interreg.

The alignment of possible projects in the context of funds for Human Capital Agendas within OP Zuid will be investigated by the Employment Market committee.

The success of open chemical innovation relies on the cooperation between the triple helix partners: private (DSM, Chemelot, the companies), knowledge (Maastricht University, Aachen University, Fraunhofer) and public authority (Province).

The role of open innovation in the chemical sector is reflected in the shaping of future innovation and cluster policies and instruments. Representatives of afore mentioned triple helix partners have been involved in working groups that have designed road maps on various chemical related components.

Currently, these roadmaps have been completed:

- Innovation Program Biobased South Netherlands;
- Innovation Program Performance Materials South Netherlands;
- Innovation Program Life Sciences & Health South Netherlands (underlying Roadmap Biomedical Materials).

These roadmaps are implemented through projects, funded by the Operational Program Zuid, in which most of the organisations participate.

One example of such a project in the field of Performance Materials is the project “Proeftuin thermoplastische composieten (Testing bench thermoplastic composites)”. In this project (total volume € 6 million) about fifteen SME’s, larger companies and a number of knowledge institutes work together in the area of composite materials and polymers. This cooperation will physically land on the Brightlands Chemelot Campus where also the Brightlands Materials Center is settled. At this location a testing bench will be established, where these parties together will work on innovations and where fundamental and applied knowledge will be translated into praxis. Large companies as well as SME’s expect to develop new lightweight composites that are very valuable e.g. for the automotive as well as the aeronautical industry.

## 7. Current Challenges for implementation of RIS and expectations to interregional learning

The expectations can be defined in threefold:

- We expect interregional learning to provide a contribution to a sound implementation of RIS3 Zuid, especially with respect to the Chemistry & Materials Cluster by supporting the process of identifying, initiating and developing new projects in the fields of Chemistry & Materials to be funded under the Operational Program ERDF as well as the Operational Programs Interreg for the euroregions in which the Province of Limburg participates.
- Also, interregional learning should give support to the cooperation between the relevant stakeholders from science, industry and government within the Chemistry & Materials Cluster in developing joint innovation projects, with a special role for the Chemelot Campus.
- Finally, we will be using the project and its results in the constant adaptation of innovation support measures. Good experiences from other regions will be considered in the drafting and implementation of support schemes, especially aiming at the participation of SME's in relevant (Campus) activities which needs to be improved.

