



European Union  
European Regional  
Development Fund

## **Smart Chemistry Specialisation Strategy**

**“Report on recommendations for the Involvement of Stakeholders  
and Governance of Regional Innovation Strategies in  
Wallonia”**

February 2017



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## 1. Description of RIS governance

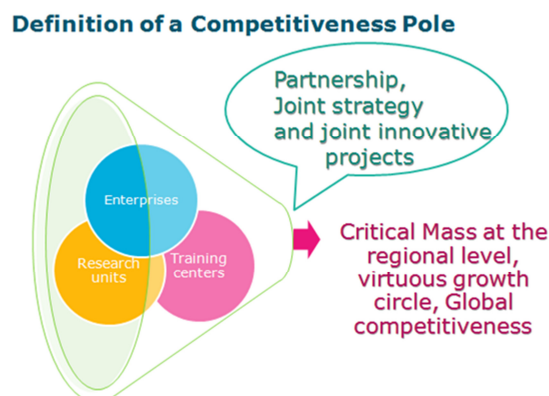
### 1.1 General Description

Clusters and competitiveness clusters are at the heart of industrial and innovation policies developed by Wallonia. The process of building the intelligent specialization strategy is a dynamic and continuous process developed over the past 15 years.

Since 1999, the Walloon Government has decided to stimulate economic redeployment of the Region on the basis of an integrated strategy and in line with the European Strategies. This resulted in the adoption of the "Future Contract for Wallonia". This contract gave birth to the first generation of clustering policy in Wallonia, in 2001. In August 2005, the Walloon Government went further in this step, adopting the "Marshall Plan" (2005-2009)<sup>1</sup>. This was aimed at boosting the regional economy by making a substantial budget (€ 1.6 billion) for a priority action plan. It has initiated structural reforms in five priority areas:

- Creation of competitiveness clusters
- Stimulating the creation of activities
- Tax relief on companies
- Promotion of research and innovation in close connection with business
- Improving skills in response to skill shortages in selected sectors

Since the launch of the Marshall Plan in 2005, Wallonia has significantly modified its Economic development policy, based on an integrated approach to Innovation, which aims in particular to stimulate the creation of high value-added activities via the support for innovation and knowledge transfer. The Walloon approach to smart specialization is based on its clusters policies (clusters and competitiveness clusters), which aim to stimulate the development of niches of activity in areas of regional specialization on the basis of the dynamics of collaboration and innovation. These are supplemented by more horizontal approaches to stimulate research and innovation, creativity and entrepreneurship within the Walloon economic fabric.



The objective of the region was indeed to develop a critical mass of stakeholders around key fields of competitiveness for the regional economy, and to drive growth at the regional level,

<sup>1</sup> [http://economie.wallonie.be/sites/default/files/PlanMarshall\\_ConcentrerNosForces.pdf](http://economie.wallonie.be/sites/default/files/PlanMarshall_ConcentrerNosForces.pdf)

building on our existing potential, reinforcing interactions between stakeholders. The aim was to develop our potentials in those fields with a view to be competitive at a global scale. A Competitiveness Pole, or cluster is a partnership between enterprises, research units and training centers, putting their forces together to develop a joint strategy and implement it through joint innovative projects.

The selection of the areas of competitiveness clusters was based on an external analysis, its main objective was to identify the key economic areas of Wallonia, in which it had assets both in terms of industrial potential and bringing Walloon industry to the forefront at the international and even the global level. Identifying priority areas was done on the basis of a university study using a complete set of indicators regarding the economic base, the technological base, the knowledge base in Wallonia, their evolution and perspective in a global context. 5 broad fields were selected. On this basis, the government launched a call for interest to the attention of the stakeholders, with the objective to create competitiveness clusters. The expectations of the government, the definition of a competitiveness cluster and of the policy were described in detailed terms of reference. At this stage, it was up to the stakeholders to get together, and to build partnerships, to define a strategy around specialisation niches mixing industrial and technological potentials, and to identify projects for implementing this strategy. It's important to note that the approach is not NACE driven or technology driven. The focus is on a mix of sectors and technologies. The proposals were analysed by an independent jury, and the final approbation of the competitiveness clusters and their projects was made by the government on that basis.

This resulted in the selection of 5 areas of activity: life sciences (BIOWIN), logistics (logistics in Wallonia), mechanical engineering (MECATECH), aeronautics and space (SKYWIN) and agroindustry (WAGRALIM).

On the basis of this experience, orientations of the Marshall Plan were confirmed by the Government. These were set up in 2009 as part of a Plan Marshall 2.vert (2009-2014)<sup>2</sup>. With a budget of 2.75 billion €, it is articulated through 6 main lines:

- Human capital, an asset to be valued
- Competitive clusters and business networks, a success to be amplified
- Making scientific research a driving force for the future
- Creating an environment conducive to the creation of quality jobs
- Emploi-Environnement Alliances, a strategy for the future
- Combining employment and social well-being

This plan has anchored regional industrial policy with a view to sustainable development. The Plan Marshall 2.vert concentrates most of the resources devoted to the smart specialization strategy, and is part of a multi-annual programming approach.

A sixth field of activity was added in 2011 on the basis of the same approach, namely green chemistry (GREENWIN). The bioeconomy in Wallonia is developing itself through the 3 innovation clusters linked to the bioeconomy value chain (Wagralim, Biowin and Greenwin) together with the Valbiom Association who works on biomass valorization.

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<sup>2</sup> <http://economie.wallonie.be/sites/default/files/Plan%20Marshall%202-vert.pdf>

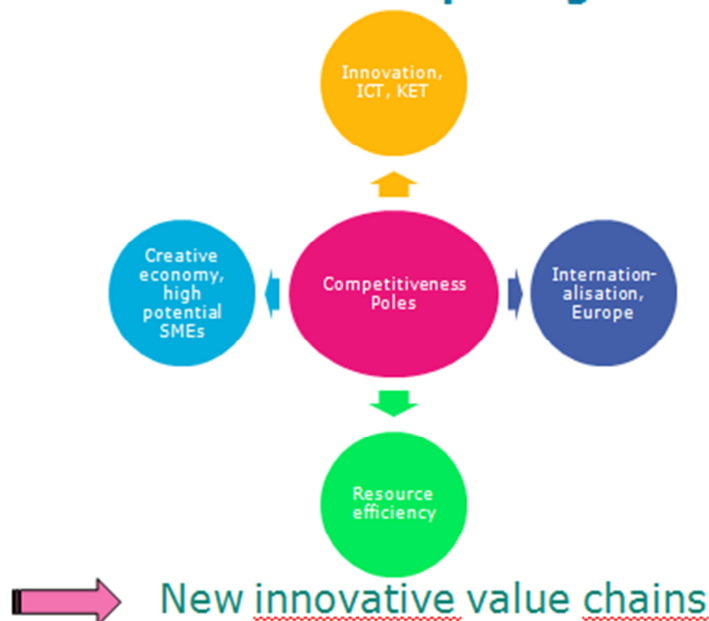
In 2013, the Walloon Government initiated a strategic analysis with 2022 on the horizon, which led to the adoption the Marschall 4.0 plan. The Group confirmed that it would remain at the heart of the regional redeployment strategy, and Reinforced the Competitiveness Cluster Policy as a central focus of its intelligent specialization strategy.

The process of building the Walloon smart specialization strategy has its roots in the regional development strategies developed over the past 15 years. It is a dynamic process still in progress. The objective is to change both the tools and the way regional innovation system operates, by driving new dynamics of collaboration and interaction between stakeholders. Clustering policies are at the heart of this smart specialization strategy (clusters and competitiveness clusters), which aim to stimulate the development of niches of activity in areas of regional specialization, based on the dynamics of collaboration and of innovation. These are complemented by more horizontal approaches to stimulate research and innovation, creativity and entrepreneurship within the Walloon economic fabric.

Within the framework of the dynamics of the Competitiveness Clusters, different axes emerge in order to encourage the processes of innovation and entrepreneurial discovery and the emergence of niches with added value within the Clusters.

- Stimulation of the dynamics of innovation within the clusters, taking into account the whole cycle of innovation and creativity, innovation in the broad sense and potentialities to be drawn from cross-fertilization between sectors and clusters. In order to strengthen the impact of the clusters on the regional economy, a stronger focus will also be placed on the industrial exploitation of research, the deployment of key enabling technologies, commercialization and links to markets;
- Involvement of SMEs in the dynamics of the clusters and stimulation of innovative entrepreneurship;
- Internationalization of the Poles through increased coordination with European financing programs, increased involvement in European networks and targeting of bilateral and interregional cooperation;
- Strengthening the sustainable development dimension and stimulating resource-efficiency.

## Consolidation and deepening of our Strategy



### Marshall Plan 4.0 - Budgets 2015-2019

	<i>Millions €</i>
Axis I - Human capital as an asset	304,56
Axis II - Supporting the development of industry through a policy of innovation and business growth	850,48
<b>II.1 Innovation (Competitiveness Poles + valorization)</b>	<b>642,06</b>
II.2 Growth of SMEs	208,42
Axis III - Mobilizing the territory for economic development	374,00
Axis IV - Efficiency, energy transition and circular economy	1 096,17
Axis V - Support to digital innovation	244,78
<b>Total</b>	<b>2 869,98</b>

We can synthesize the main priority areas of specialization of Wallonia as they result from the process of entrepreneurial discovery at work within Clusters and competitiveness Clusters. They regularly update their strategic priorities in line with European priorities. The smart specialization strategy of Wallonia will also be deepened on the basis of a value chains based approach. Specific analyzes in this area are developed in collaboration with the clusters, either at the level of the main structuring value chains of the Walloon economic fabric or at emerging niches level.

In addition to the specialization areas of the clusters, the creative and cultural industries, as well as high-intensity knowledge services, are essential points of support to stimulate the innovation dynamics and added creation value within the clusters. This will be a cross-cutting issue, linked to the Creative Wallonia Program and the work of the Agency for Enterprise and Innovation AEI).

Regarding the governance<sup>3</sup>, Belgium is a federal country with a highly decentralised research and innovation system, where the main responsibility for innovation policy and funding lies with the regions.

## 2. Involvement of Regional Stakeholders

The Walloon Parliament voted for the creation of the Agency for Enterprise and Innovation (AEI)<sup>4</sup> at the end of 2013. The AEI provides support services and assistance for the economic, technological and digital development of Wallonia. The Parliament of the Wallonia-Brussels Federation has adopted in 2013 a Decree redefining the landscape of higher education, which has been phased in from September 2014. It establishes a common organisation for all higher education institutions (universities, colleges and art schools) and creates a unique Academy of Research and Education (ARES), a structure created on 1 January 2014 as the steering body of higher education in the Wallonia-Brussels Federation.

As far as the project selection process is concerned, it is outsourced and entrusted to an international jury. Then, the management of the clusters, the definition of their strategy and their niches of specialization are ensured by the private sector, in close consultation with the academic world.

The Competitiveness Clusters policy is monitored on a regular basis by the Walloon Government, through the administration in charge of coordination (SPW - Department of Competitiveness and Innovation - Enterprise Networks Directorate) and the Selection Board of the competitiveness clusters. It was also the subject of an independent evaluation made by Technopolis Group as part of the evaluation of the Plan Marshall 2.Vert.

On the basis of European guidelines, the Walloon approach to the concept has been gradually defined. The Smart Specialization Strategy is at the heart of the Marshall 4.0 Plan adopted by the Government on 29 May 2015 and officially adopted on 3 September 2015.

Ajouter un paragraphe concernant un résumé du travail réalisé à la DPE

- **The Vanguard Initiative**



Wallonia has been actively participating since the end of 2013 in the Vanguard Initiative, an interregional collaboration network bringing together 30 regions whose aim is to support the creation of new sources of growth in line with European industrial policy priorities. The objective is to support industrial collaboration and inter-clusters in a value chain approach, based on the principles of smart specialization. The aim is also is for the

<sup>3</sup> The focus of the regional policy in Wallonia on key thematic areas of growth, <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/news/focus-regional-policy-wallonia-key-thematic-areas-growth>

<sup>4</sup> <https://www.aei.be/en/home-page/>



competitiveness clusters to deepen the regional position in the value chains of the S3 domains via transregional partnerships. The year 2016 was particularly successful for the member regions of the Vanguard Initiative. Indeed, the first matchmaking event was organized with the support of the European Commission. Political representatives from 26 of the 30 participating regions exchanged views on the current and future operation of the Initiative. Representatives of the European Commission were also present (DG GROW, DG RTD and DG REGIO, led by Vice-President Jyrki Katainen). This was an opportunity for the member regions to draw up an inventory of the five ongoing pilot projects (in areas such as 3D printing, nanotechnology and the bioeconomy) and their opportunities for companies, to present the first "matchmaking" event stamped "Vanguard", organized in Brussels And to send strong political messages to the Commission. More than 400 people from research centers, companies (SMEs and large companies), clusters or other intermediary organizations from the regions participating in the Initiative took part in this event. Several Walloon actors took part, led by the Mecatech and Greenwin clusters, the SIRRIS research center and the Valbiom association.

- **Creative Wallonia**



The Walloon government completed its range of policies in 2010 by launching the Creative Wallonia program, which aims to foster the emergence of a widespread culture of innovation and creativity in Wallonia, primarily targeting enterprises, especially SMEs. The Creative Wallonia program is part of the Walloon process of recovery and revitalization, or, more precisely, the transformation of its economy by enhancing its creative and innovative potential.

The Creative Wallonia program is structured in 3 axes:

Axis 1: the promotion of the society of creativity;

Axis 2: the fertilization of innovative practices;

Axis 3: support for innovative production.

This program is now integrated into a European dynamic with the recognition in 2012 of Wallonia as a European Creative District; the ambition is to place Creative Wallonia as a reference plan at European level and therefore to serve as a "large scale demonstrator" for other regions.

The action program is based on an operational strategy integrated into four thematic axes (Mutual Transnational Policy Learning, Better Business Support, Better Access to Finance, Facilitating clusters and networking activities) and encompasses some 15 concrete actions.

## Walloon Small Business Act



La Wallonie soutient ses PME

The Walloon Small Business Act<sup>5</sup> is based on the European model which recognizes the essential role played by SMEs in the economy. It establishes, for the first time in 2008, a comprehensive policy framework for the European Union and the Member States for SMEs.

As early as 2011, the Walloon Government initiated a "Small Business Act Wallon", which echoed to an explicit request from the Walloon Economic and Social Council. The aim is to strengthen the implementation of the "Small Business Act" in Wallonia in line with the competences of the Region.

Concretely, several priority projects are launched to propose new advances for Walloon SMEs. These projects are grouped into five themes: entrepreneurship, internationalization, funding, innovation and administrative simplification.

Building on the good results stemming from 4 years of implementation of the Walloon SBA, the Walloon Government decides to accentuate its implementation in order to support more SMEs. In conjunction with this Marshall 4.0 plan, the Small Business Act 2015-2019 aims to meet the challenge of the growth of Walloon SMEs, by strengthen the growth potential of Walloon companies; or encouraging the emergence of new champions within the Walloon economic fabric, in particular to reinforce the presence of mid-sized enterprises which exert a ripple effect on the economy as well as large companies.

- **Demonstrating model region - "The bio-economy in Wallonia: developing sustainable chemical production"**

Wallonia responded to a European COSME call launched by DG GROW and was selected from the six "model demonstrator regions" to benefit from support and follow-up by the European Commission for 3-4 years.

For the period 2016-2017, the Region received the support and advisory services from the European Sustainable Chemicals Support Service (ESCS). This project should enable the Region to develop an ambitious strategy for sustainable chemical production and biobased economy, mobilizing all stakeholders (including industry) from a value chain perspective. The result should be the establishment of a Regional roadmap identifying the concrete steps to be developed, following a systemic approach. The objective is notably that the roadmap would be piloted by the "Green Roaster" initiative, which would act as a bio-economical platform at the Walloon level.

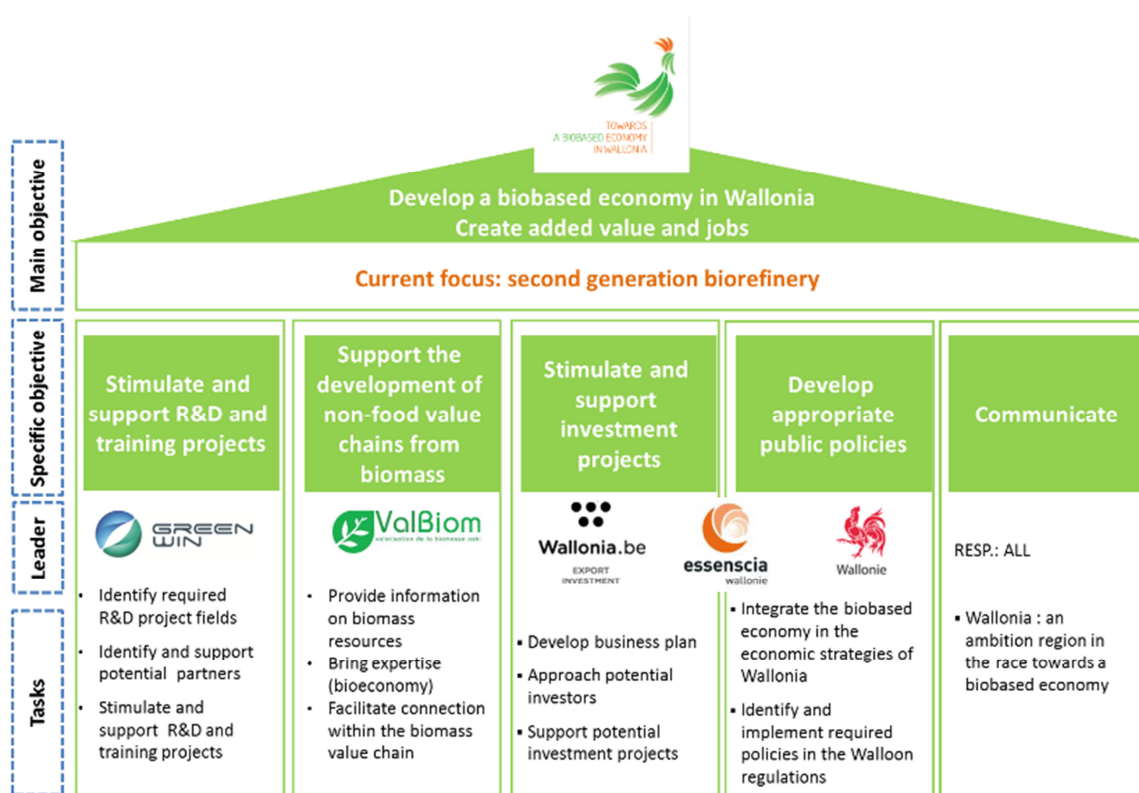
The project is supported by the Political Economic Directory of the Public Service of Wallonia, in close collaboration with its partners: Greenwin, Valbiom, NEXT, Essenscia and Wagraim. The other regions selected are Scotland, Asturias, Groningen and Drenthe (Netherlands), Košice (Slovakia) and Tipperary (Ireland).

<sup>5</sup> <https://www.parlementdespme.be/le-small-business-act/https://www.parlementdespme.be/le-small-business-act/>

• **The Coq Vert Initiative**



The "Coq vert"<sup>6</sup> initiative or "Green Rooster" is an initiative launched in 2013 by a public-private partnership between the GreenWin cluster, the AWEX-Foreign Investments and ValBiom, in association with the Essenscia-Wallonie Federation. Through this project, the partners intend to make a significant contribution to the development of a strong and competitive bio-based economy in Wallonia, by stimulating new projects essential to the deployment of the biosourced chemistry sector and in particular plant chemistry.



The "Coq vert" initiative focuses on biomass and material recovery from non-food resources (co-products, residues, waste, etc.) and places the second-generation bio-refineries at the heart of the sustainable development of these resources In Wallonia. Opportunities that can lead to research and innovation projects as well as investment or training projects are analyzed. A medium-term strategy is also being studied to identify the contextual elements likely to favor the deployment of bio-refineries in Wallonia.

<sup>6</sup> <http://www.coqvert.be/en>

- **The European Chemical Regions Network (ECRN)**



The network is specialized in the chemical industry and has great recognition by the European Commission. Initially, the activities of the ECRN were focused on representation and lobbying with European bodies, carried out jointly with Cefic for the benefit of maintaining a strong and competitive chemical industry in Europe. The association consists of 20 Regions, including a majority of German Landers for 7 countries represented (D, UK, I, CZ, B, NL, P).

It is in this context and following a decision of the Walloon Government of 15 October 2008 and at the request of the Minister of the Economy that the Political economic Directory ensured regular representation of Wallonia within the ECRN network.

The objective of the Economic Policy Directorate is to create links between the ECRN, the Vanguard Initiative, the 6 Model Demonstrator Regions and the S3Chem project by ensuring a continuous flow of information between these four projects / platforms in order to create partnerships between the stakeholders, deepen the S3 and value-chain strategic positioning.

### 3. Participation Challenges

In 2011-2012, at the request of the Walloon Government, the OECD conducted a comprehensive review of the Walloon regional innovation system<sup>7</sup>. Governance issues, and in particular the use of a robust strategic monitoring and evaluation system, received special attention because they are the conditions for the success of a future innovation policy For Wallonia.

First, the competitiveness clusters must not be multiplied but densified and interconnected. Their role is to focus public-private efforts on the strongest segments of the Walloon economy. Their areas of action should be able to be revised as necessary, but the main task is to strengthen them, give them the necessary critical size, to evolve their image towards niches of intelligent specialization which allow a true differentiation, and have a better connexion internationally.

Secondly, by establishing the clusters and giving them responsibility for the first evaluation of projects - a responsibility traditionally born by the administration - the Walloon government decentralizes a part of the decision-making process to the cluster actors (even if this process still includes the intervention of the administration and a final decision by the Walloon government). This change in practice is likely to stimulate the players in the clusters to invest in innovative projects and to define niches of intelligent specialization based on real market prospects. But it also creates strong requirements for the management of the poles. It is crucial to avoid a capture effect by a few actors who are not sufficiently representative of the

<sup>7</sup>

[http://www.oecd-ilibrary.org/urban-rural-and-regional-development/examens-de-l-ocde-sur-l-innovationregionale-wallonie-belgique-2012\\_9789264179523-fr](http://www.oecd-ilibrary.org/urban-rural-and-regional-development/examens-de-l-ocde-sur-l-innovationregionale-wallonie-belgique-2012_9789264179523-fr)

full potential of the cluster. This entails a sustained attention to the following elements, which must be part of the evaluation criteria related to the funding of the clusters:

- Transparency: cluster management must be transparent to its members, so that decisions, particularly on project selection, are understood and accepted as legitimate;
- opening: the clusters must not be closed clubs, an access to projects for all companies and innovative actors who wish to do so. Moreover, the interregional and international opening of the poles is a prerequisite for their success.
- Strategic vision: the selected R & D projects must be innovative, involve a degree of risk while providing added value and vectors for transforming the productive fabric.

In conclusion, the main difficulty is that the governance process is complex and interrelated, diffuse and multidimensional. The challenge are therefore to bring the different instruments together in a coherent and effective system, under a more focused and integrated policy.

There's also a need to:

- put in place some indicators and be able to measure the effectiveness of this policy;
- be able to better underline our domains of smart specialization;

It is important to design this process in a European context in order to draw on good practices and tools from other European regions. Then clusters must become the prototypes of an integrated innovation policy and not be limited to technological innovation. Moreover there is still a need to develop synergies between clusters, agencies and instruments to ensure their collective effectiveness.

The OECD underlines that they are pockets of innovation which are very dynamic but insufficient to create a general training effect on the socio-economic fabric, still marked by traditional specializations. The OECD also stresses the need to facilitate links between actors, sectors and territories in order to create innovative synergies and critical masses and defragment the productive fabric. This movement must be conceived beyond the territorial borders and cover in particular the Brussels-Capital Region.

Then the economic fabric is characterized by a large number of small innovating SMEs threatened by international competition and by a significant presence of innovative multinationals. Spin-offs development is also too limited. The OECD also said that Wallonia is well positioned in terms of human capital, with a good level of education of the workforce, which presents a high level of productivity, quality universities, the presence of creativity and cultural audacity. Nevertheless, these assets are fragile and are accompanied by certain weaknesses, notably the deficit of scientists and technicians or the necessary adaptation of university training to the skills required by the market.

All the Walloon stakeholders that we interrogated seem to agree on the following point: they ask for a strong political message that states clear ambition and supports the dynamization of the chemical sector. Moreover, the S3 is developing itself mainly through the cluster strategy. Nevertheless, there is also a demand to integrate other Walloon structures and

stakeholders (universities, research centers, companies, etc.) into this strategy and to create synergies between them.

Regarding the Belgian Federation for Chemistry and Life Sciences industries, Essenscia, it participates in several ways to regional governance:

- Through its own advocacy activities : Essenscia has set up a consultation procedure with the Walloon Government in 2016 to suggest concrete actions in the five following themes: R & D, Training, Environment, Energy and Infrastructure)
- Through the factional organizations and working groups: UWE<sup>8</sup>, Coq vert<sup>9</sup>, Walloon science policy council

According to Essenscia, Improvements could probably be made on the involvement of industry in the development of regional strategies. But for this they must clearly perceive the added value of their involvement. The establishment of some sort of "bonus" for participating companies would probably be a tool to mobilize companies.

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<sup>8</sup> Professional network of Walloon companies, [www.uwe.be](http://www.uwe.be)

<sup>9</sup> Towards a biobased economy in Wallonia, <http://www.coqvert.be/en/objectifs>

## 4. Networks and Clusters

### 4.1 Greenwin



GreenWin, one of Wallonia's 6 competitiveness clusters, is dedicated to the green chemistry and sustainable materials. The Cluster's vocation is to support innovation and stimulate the development of collaborative R&D projects, with the objective to develop the Walloon industrial infrastructure and create jobs in dynamic markets. Working towards the marketing of more efficient environmental technologies, GreenWin focuses its action around three strategic orientations concentrating on improving product life cycles by saving materials and energy, recycling and using renewable resources.

In 2015, the cluster reinforced its operational strategy around objectives that focused on the needs of their members: developing 9 priority areas for innovation, defining a range of services aimed at integrating cluster members into collaborative projects with potential spin-offs, The dynamics of the working groups, and the promotion and exploitation of knowledge.

The priority themes are listed below. In a transversal way, GreenWin addresses these 9 areas by integrating life cycle approaches.

Strategic axes	Main innovation Thematic Area
Axis 1 - chemistry	Bio-sourced chemistry
	CO2 transformation
	Biotechnologies
Axis 2 - construction	Sustainable materials
	Storage and energy efficiency
	Construction system
Axis 3 - environnement	Recycling
	Soil remediation and sediment transformation
	Water, sludges, air sanitation

The objective of the cluster is to be attentive to the evolution of the market, either by analyzing the needs of members or by monitoring the stakeholders (federations, private and public operators). In particular, in the field of construction, GreenWin is seeing an increasing demand for "connected" materials and equipment. In addition, the recycling unit was able to identify potentially recoverable deposits (for example, on tires, ash and hard plastics) in Wallonia, which the cluster would like to analyze in the near future.

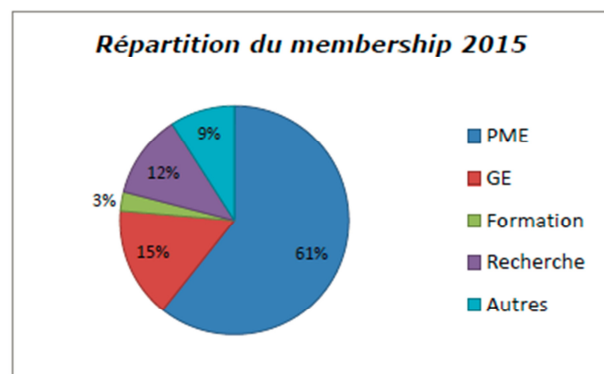
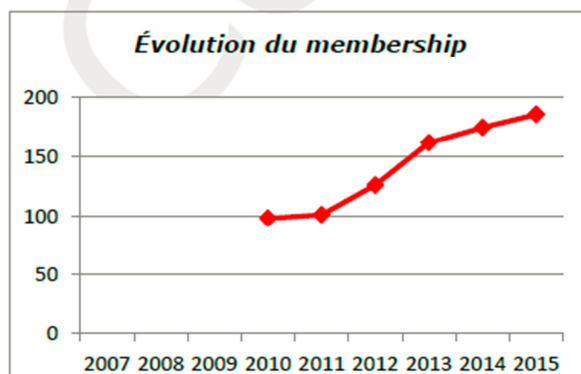
By 2015, the GreenWin cluster has been involved in the follow-up of corporate training projects around four themes: sustainable management in companies, green and sustainable chemistry, renewable materials and energies in industries, construction and sustainable renovation in the building.

The cluster's international activities are mainly linked to the two European projects (SCOT, Smart CO2 Transformation and LCiP, Life Cycle in Practice) and, on the other hand, to the networks in which GreenWin is involved.

Membres GreenWin									
	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grandes entreprises	-	-	-	18	18	20	26	34	29
PME	-	-	-	53	55	71	97	96	113*
Acteurs de la recherche	-	-	-	15	15	19	19	17	22
Acteurs de la formation	-	-	-	4	4	4	5	10	5
Autres	-	-	-	8	9	12	15	18	17
Membres effectifs	-	-	-	92	94	115	147	158	164
Membres adhérents	-	-	-	6	7	11	15	17	22
<b>Totaux</b>	-	-	-	<b>98</b>	<b>101</b>	<b>126</b>	<b>162</b>	<b>175</b>	<b>186</b>

\*dont 1 étrangère

Source : Rapports annuels du pôle et calculs DRE



## 4.2 Biowin



THE HEALTH CLUSTER OF WALLONIA

Created in July 2006, BioWin is the reference player in the field of health biotechnology and medical technologies in Wallonia. The cluster federates all the Walloon stakeholders (companies, research centers and universities) involved in innovative R&D projects and/or trainings for the development of new products and services:

- 130 companies (which 5 global leaders: Baxter, Eurogentec-Kaneka, GSK, IBA and UCB).
- 400 research units (gathering more than 11.000 researchers).
- 5 universities (Université Catholique de Louvain - UCL, Université Libre de Bruxelles - ULB, Université de Liège - ULg, Université de Mons - UMons and Université de Namur - Namur).
- Several prestigious research institutes such as the Duve Institute, the Ludwig Institute for Cancer Research, the GIGA, IMI, CCMI, ICP, etc.



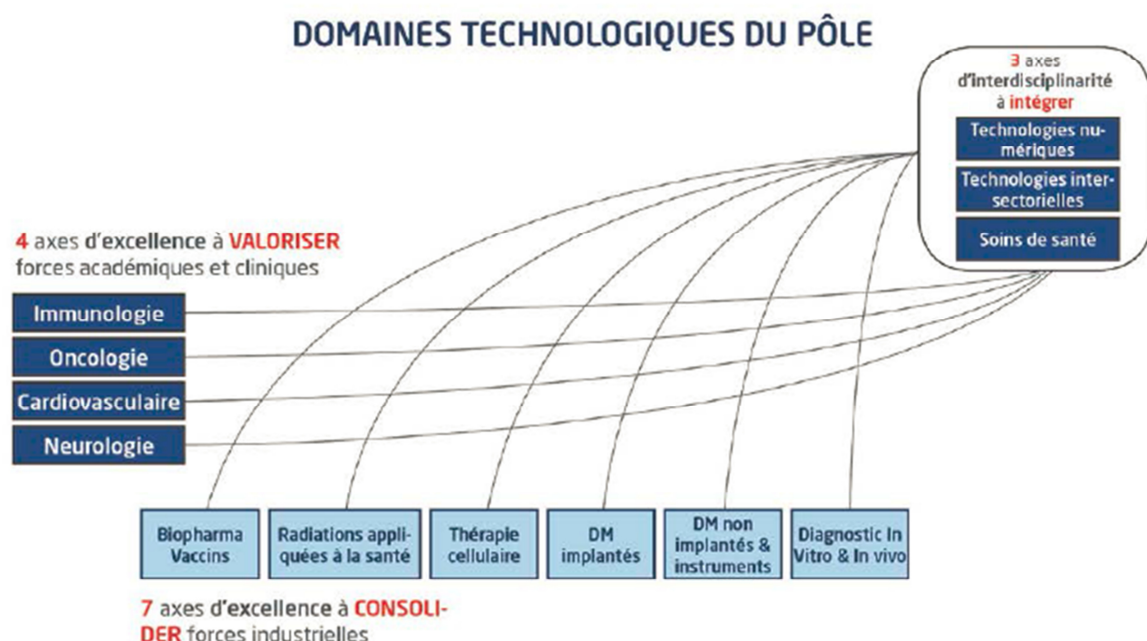
BioWin has defined 4 strategic development axis aimed to support Wallonia's academic and industrial excellence in the health sector but also to take upon the challenges raised by an emerging industry with:

- Calls for R&D projects.
- International visibility and partnering/networking activities
- Tailor-made training programs which are specific to the needs of bioindustry.
- The support to the creation of collective infrastructures and technological platforms.

In addition to deploying activities around these 4 strategic axes, the cluster plans to involve itself in the setting up of major structuring projects. For example :

- Development of a structuring program on bioproduction
- Project to create a network of pet shops
- Creation of a platform for the pooling and processing of genomic, metabolomic and microbiomic data
- ...

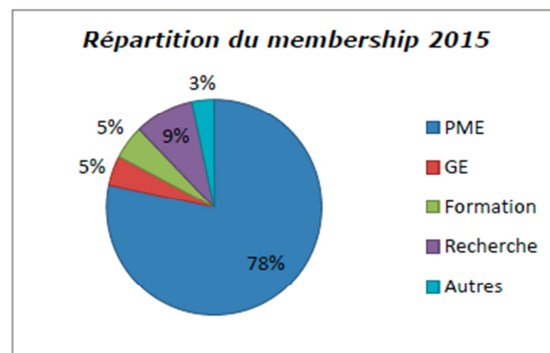
The pole matrix has also recently been redefined as such:



The cluster's international strategy is intensifying, aiming to help strengthen the international development of SMEs and encourage the attractiveness of industrial and financial investors in Wallonia.

Membres BioWin									
	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grandes entreprises	5	6	6	8	8	9	11	9	8
PME	42	59	64	68	96	116	113	131	141*
Acteurs de la recherche	7	8	11	10	9	7	16	16	16
Acteurs de la formation	9	10	14	36	40	31	18	12	9
Autres	10	16	26	24	9	8	8	6	6
Membres effectifs	63	78	80	110	115	163			
Membres adhérents	10	21	41	36	47	8			
<b>Totaux</b>	<b>73</b>	<b>99</b>	<b>121</b>	<b>146</b>	<b>162</b>	<b>171</b>	<b>166</b>	<b>174</b>	<b>180</b>
Unités de rech. univ.	124	127	140	402	400	400	400	400	400

\*dont 1 étrangère



### 4.3 Mecatech



The competitiveness cluster Mecatech unites enterprises and research and training units around an economically promising field. The aim is to increase these enterprises' innovation, production, and service capacities so as to raise their profiles on the European and world market.

Mechanical engineering encompasses a set of technology firms, almost all fields of activity are concerned: from consumer products (cars, household appliances, etc.), to health, with machines and industrial processes in between.

The cluster's overall strategy focuses on two main objectives:

- create activities and jobs in Wallonia;
- be a driving force on the entire mechanical engineering sector with an important focus on SMEs.

To achieve its objectives, the cluster focuses its actions on the emergence and development of innovative collaborative projects with an international vocation, bringing together a diversity of actors, managed by companies. In addition, they develop training programs, the setting up of innovation platforms (Reverse Metallurgy, Industrial Modernization, Protontherapy, Symbiosis and Verdir), assistance in the creation of ERDF project portfolios and the development of non-technological innovation projects

The projects developed are based on:

- builders / integrators focusing on a few stages of the value chain;
- state-of-the-art technology companies that value their technologies in different application fields;
- pure subcontractors who can only survive by relying on proximity, speed, automation, ...;
- an important scientific and technical foundation in the fields concerned, whether in universities, universities or research centers.

MecaTech Cluster projects revolve around four strategic orientations:

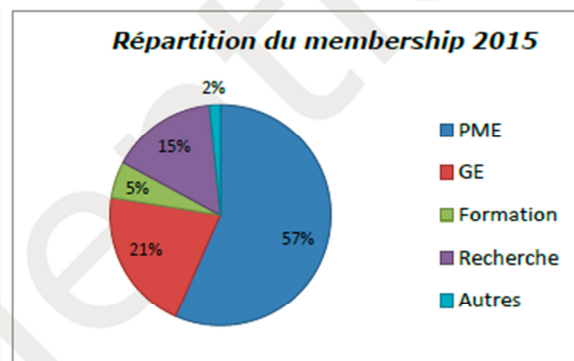
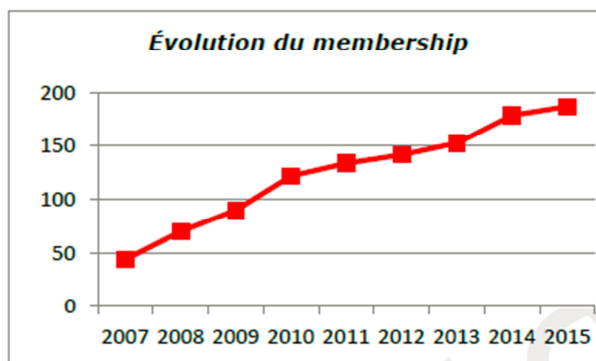
- materials and surfaces of the future,
- comprehensive forming technologies,
- microtechnologies and mechatronics, and
- intelligent maintenance.

As the business network's ultimate objective is to create jobs and activity, the priority is on promoting projects with an international dimension. This approach must also facilitate contacts with foreign business networks, develop industrial cooperation, and to put together international projects (including their financial engineering). Consequently, the business network concentrates most of its resources on project promotion.

In 2015 and 2016, the division's priority was to develop the following two transversal axes: digital and factory 4.0 (with a focus on automation), but also the circular economy.

Membres MecaTech									
	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grandes entreprises	12	12	15	20	26	28	33	37	39
PME	22	36	52	75	78	83	86	104	106
Acteurs de la recherche	5	16	16	19	21	22	25	29	29
Acteurs de la formation	2	2	2	3	3	3	3	3	10
Autres	3	4	5	5	6	6	6	6	3
<b>Totaux</b>	<b>44</b>	<b>70</b>	<b>90</b>	<b>122</b>	<b>134</b>	<b>142</b>	<b>153</b>	<b>179</b>	<b>187</b>

Source : Rapports annuels du pôle et calculs DRE



## 4.4 Wagralim



Wagralim is the pole of competitiveness of the Walloon agro-industry. Created in 2006 in the form of an ASBL by a group of entrepreneurs and academics, wagralim was labeled by Wallonia during its launch, this within the framework of the Marshall Plan. Wagralim is an innovation network centered on the agri-food value chain.

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The cluster now counts 130 companies and 50 laboratories active in projects. They represent around 10,000 jobs in Wallonia. The partnership extends in Europe with the European Food Alliance (EFA) food cluster network, and outside Europe through targeted partnerships in Brazil (FIEP), Canada (Technopole St-Hyacinthe, INAF) and Korea South (Korea Food Research Institute). International action allows members to access research, industrial or commercial partnerships. Wagralim also brings together universities around a "Keyfood" technology platform dedicated to SMEs, with the aim of increasing the university-company interaction around technological services. Wagralim is coordinating the Future project, bringing together the federations FWA (agriculture), APFACA (animal feeding), FEVIA Wallonia (food industry) and COMEOS Wallonie (distribution) with the objective of implementing a sustainable development strategy at Through the agri-food system.

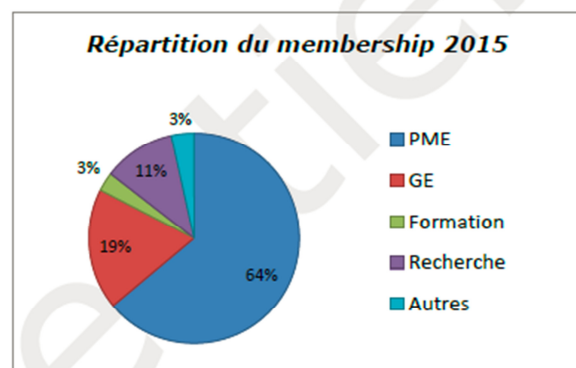
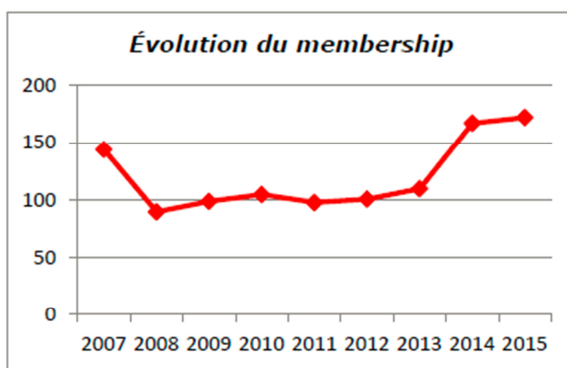
There are many innovation themes in the agro-industrial sector. However, the main issues are transverse to the various industries that make up the Cluster. These challenges constitute the strategic axes of wagralim.

- AXIS 1: Health food and nutritional quality. Support and stimulate companies in the development and development of products or ingredients with demonstrated health benefits and / or improved nutritional quality. Create powerful scientific tools to evaluate the nutritional benefits of these products
- AXIS 2: Industrial efficiency. Strengthen the competitive position of enterprises by improving manufacturing processes and food preservation methods. Prepare tomorrow's packaging. Introduce and promote organizational innovation by working on industrial management methods (production, quality, safety, skills, management).
- AXIS 3: Sustainable agro-industrial sectors. To optimize the production process and by-products, to increase added value, reduce costs or increase the sustainability of an activity. Promote sustainable and responsible management of the production chain. Position itself in the growing markets of organic and ethical products.

Membres Wagralim									
	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grandes entreprises	32	15	16	20	21	19	21	36	32
PME	95	60	57	68	65	68	67	85	110*
Acteurs recherche	5	5	13	5	5	6	7	30	19
Acteurs formation	11	5	6	7	3	3	4	9	5
Autres	1	5	7	5	4	5	11	7	6
Membres effectifs	20	n. c.	60	64	51	58	54	-	-
Membres adhérents	124		39	41	47	43	56	-	-
<b>Totaux</b>	<b>144</b>	<b>90</b>	<b>99</b>	<b>105</b>	<b>98</b>	<b>101</b>	<b>110</b>	<b>167</b>	<b>172</b>

\*Dont 1 étrangère

Source : Rapports annuels du pôle et calculs DRE



## 4.5 Valbiom



Active in the field of renewable energies and biobased materials and products, ValBiom is committed to supporting the sustainable and harmonious development of non-food biomass value chains. Sensitization, information and monitoring of the sector are at the heart of ValBiom's activities. ValBiom supports the sustainable and harmonious development of non-food biomass value chains and has different roles regarding the regional innovation strategy.

First, they aim to popularize science by structuring and disseminating scientific, neutral and objective information to various private and public audiences, notably via its website, the electronic distribution of its monthly magazine "ValBiomag", articles published by third parties or via the various events organized by Valbium.

They also have a catalyst role by encouraging and organizing meetings between all stakeholders.

They have a window role by providing direct support to promoters of new projects and established players and by answering the questions of farmers, foresters, companies, other economic actors, administration or political power (in particular parliamentary questions) and raising their awareness of the stakes of the sectors. They also play a role of facilitator for industrialists, distribution actors and / or consumers of certain sectors (wood-energy, bio-fuels).

Then they act as an interface between the actors on the ground and those involved in research. They maintain relations with other Belgian or international institutions pursuing identical or complementary objectives and following some European channels.

The added value, both economic and environmental, targeted by ValBiom rests essentially on its independent positioning, its scientific rigor and on its integrated approach of sectors, from production to non-food valorization in the form of energy or biobased products.

## 4.6 Plastiwin



Plastiwin is the Walloon business cluster for plastic. It is a sectorial network devoted to industry, focusing on the development of high added value products and solutions, by the use of methodologies based on value chain, open innovation and networking.

Its scope is covering polymers and biopolymers, rubbers, composites and synthetic textiles. Their mission is to contribute to the regional economy through the development of our sector. Their core business is to strengthen the economical, technological and commercial activities of their members favoring a value chain and a networking approach.

Their activities covers collaborative projects regarding research, innovation and industrialization. But also business development, process improvement and dissemination.

The mission of Plastiwin for Wallonia is to serve the regional industrial policy and contribute to the development of its economy, and more specifically:

- Focusing on the creation of added value and jobs
- Communicate the potential of our members & communicate their needs
- Propose sectoral expertise to institutional actors
- Acting as an interface between institutions and industry

As for the Plastiwin members, the cluster aims to strengthen the economic, technological and commercial potential of its members through a value chain approach and networking, and more particularly:

- Fostering Business Development and Innovation
- Meeting current market requirements
- Facilitating access to contractors
- Preparing for the future and positioning itself in promising markets

## 4.7 Essenscia



Essenscia vzw/asbl, the Belgian Federation for Chemistry and Life Sciences industries, is a multisectoral umbrella organisation that represents the numerous sectors of activities in the field of chemicals and the life sciences. The structure of essenscia is modelled on the reality of the Belgian institutions, with federal, regional and community areas of competence in order to provide state of the art services.

Essenscia bruxelles, essenscia vlaanderen and essenscia wallonie, the three regional sections of essenscia, act as spokesmen for companies to the Brussels, Flemish and Walloon authorities on regional and community matters.

Essenscia is dedicated to chemical and life sciences. It includes a wide range of thematics, from basic organic and inorganic products to pharmaceuticals, biotechnology, products for agriculture, paints, glues, detergents, cosmetics, rubber and plastics processing and many other specialty products such as chemicals for the photographic industry.

Essenscia wallonie, the regional division of essenscia for Wallonia, offers its members information, advice and cutting-edge services in the regional Walloon and community sectors. Essenscia wallonie brings together more than 200 companies. It provides advice and services in many regional subjects such as environment, safety, training, education, R & D, employment, energy ... while also defending their interests .

## 5. Identification of thematic priorities

The selection of the domains of competitiveness clusters was based on an external analysis, the main objective of which was to identify the key economic domains of Wallonia, in which it had assets both in terms of industrial potential and Bringing Walloon industry to the forefront at the international and even the global level. Several times a year, meetings of general coordination of the clusters between presidents and / or directors take place in order to deal with areas of collaboration. These meetings enable both the strengthening of a common vision and the exchange of good practices and the development of collaborations. The subjects dealt with by these bodies include the evaluation and strategic orientations of the competitiveness clusters.

The identification of these priorities was achieved by putting around the table the key players in the chemicals sector (clusters, clusters, federations, administrations, etc.). It should be noted that the circular economy is a transversal dimension to these priorities.

General Innovation Priority	Specific innovation/ research field
Health and nutrition	Biopharmacy/Vaccines, Cell therapy, Biomanufacturing, Diagnostics (in vitro and in vivo), Radiation applications in healthcare, Implanted medical devices, Non-implanted medical devices, Therapies (Cellular therapy, proton therapy), bio pharma, immunothérapie  Nutrition : phytotherapy, food supplement
New industrial processes	waste management / recycling, life cycle, eco design (no more end of life, waste minimization, better recyclability), treatment and reuse of Waste and effluent, wastewater management, sustainable materials  Micro production unities , biotechnologies, air and water quality  Recycling composite plastics, phosphorus recovery, industry 4.0 (robotization, augmented reality, localized production)
Bioeconomy	biobased and green chemistry, biomethanisation, wood and hardwood, biofuel, dedicated crops, biobased products, bio-packaging  eco bio économie (bilan environnemental complet et faisabilité)  chimie/bio tech blanche
New materials	polymers and biopolymers, rubbers, composites and



	synthetic textiles, innovative production and conservation technology, composite materials, Bio composites
CO2 economy	Use and transformation of CO2 Energy storage

## 6. Conclusions and Recommendations

According to Essenscia, the strength of the RIS process is to be focused on growing sectors, with an objectivation via an international jury. However, it's a very long and heavy process with a lack of reactivity, lack of quick wins directly linked to business involvement, still too scattered at the level of the actors. There's also a lack of global strategy and links between departments: economy, training, education and research.

Another weakness of regional policy and its governance so far is that it cannot be translated into economic results. This is due in part to the fact that the different Walloon players have their own objectives, and that these are sometimes difficult to articulate with those of the S3. In addition, Walloon actors straddle a S3 and structural funds, with specific objectives, reporting and governance.

Then, Wallonia's strengths contribute to the attractiveness of the region to international companies and talents: the Walloon Export Agency (AWEX) and foreign investment capitalize on these assets for the external promotion of the region and its Companies. However, this attractiveness is undermined by intra-regional competition. Indeed, subregional identities sometimes play to the detriment of initiatives that can only be deployed at the regional level as a whole. The region's flagship areas (universities, companies and competitive sectors) are too little perceived as part of the region. Consequently, breakthroughs in environmental technologies and the sustainable management of resources are insufficiently visible in a Wallonia.

A policy of innovation relevant to Wallonia is a policy which aims to activate the process of transformation of the economy towards innovative activities with higher added value. In view of the strengths and weaknesses of the Walloon innovation system mentioned above, the development of a policy for innovation in Wallonia must take account of the following elements:

- The Walloon government must support the actors in identifying niches of "intelligent specialization" and ensure the best conditions for the deployment of competitive activities on the international. To do this, actors need to be clear about the government's vision.
- The aim is to ensure the synergy between technological advances and market development prospects: it is necessary to promote not only technological innovation targeted at large enterprises but also to support innovation in SMEs and where innovation depends less on the use of new technologies. This calls for a policy that is more demand-driven.

- The system must be equipped with the tools necessary to achieve the best match between human capital and the needs of the productive fabric. This is achieved through scientific and technical skills, but also by the broader skills needed to manage innovation.
- Catalysing flows and synergies in the system: facilitating linkages between actors, between sectors and between territories in order to create innovative synergies and critical masses and to defragment the productive fabric.
- Finally, it is a matter of acting on the culture of innovation and entrepreneurship with all types of public and incorporating innovation at the heart of the region.

In order to connect industry members to local stakeholders and value chains, the Region could use the innovation clusters to foster cross-sectorial projects between enterprises, universities and research at a regional and international scale.

The cluster networks could help to:

- Find Walloon partners (linked to sustainable chemistry as well others value chains such as agro-industry; life-sciences)
- Build up international consortia
- Identify funding opportunities at regional or international scale

## Building an efficient Policy Mix



It is important to ensure the establishment and deployment of a policy mix through a clear policy, led by all responsible ministers at the regional level, in a coherent manner. This implies a coordinated management of the different types, grouped by broad objectives. It is also a question of taking decisions at the political level on a better knowledge of the regional innovation system and the impact of the policy mix through an evaluation system covering all areas of innovation. In this context, it is essential to make the poles a major instrument of the policy mix for innovation.

As the RIS is a diffuse process, the actors at different levels can improve the strategy. While discussing the matter with some of our Walloon stakeholders, they presented to us their recent projects in order to improve the RIS.

- The cluster Greenwin is involved in the BuD program (Business Development) for potential SMEs (called Pepite in the framework of the project). It's about following and supporting companies in order to help them set priorities and find the best ways of innovation. Greenwin is also currently developing inter-pole collaboration, is increasing synergy in project set-up, in particular between Greenwin, Wagraim and Biowin, which are now on the same plate at the Maison de l'Industrie (Aeropole de Gosselies). On the international level, Greenwin is encouraging companies to go abroad, is building synergy between Walloon and foreign partners and participate in international networks to serve as a "go between" and aims to facilitate the search for partners for European projects (in collaboration with the NCP).
- The DGO6 administration is planning to be even more involved in the Vanguard Initiative, KETs initiatives, etc. to open up opportunities for partnerships, while adopting a "bottom-up" approach, depending on the demand for aid, research and funding
- Regarding the Agency for Enterprise and Innovation, the objective is to support more approaches that exploit value chains to detect opportunities for companies (bridging a gap in a chain, delaying the exit of the regional territory, etc.).

## **6.1 Expectations to interregional learning**

The policy mix resulting from the Marshall Plan raises questions about implementation effectiveness: there is an abundance of support measures and a certain institutional inertia. Today, innovation actors in Wallonia face a set of instruments and actors governed by different visions and objectives and different policies; they accumulated around time without their overall synergy being assured. The compartmentalization between policies, in particular research policy and economic policy, which are still driven by their own logic, explains that synergies are still hardly visible in practice in the analysis of the policy mix. The question to the other regions would be: how your region has succeeded in giving a clear course of action to this strategy?

As far as universities are concerned, their role is important in the Walloon research landscape. Nevertheless, in practice, collaborations between universities remain marginal.

Thus, the question of the valorization of research remains within the scope of individual initiatives of the individual universities. How can we put more exchange into the world of research and strengthen partnerships between universities?

The level of qualification of the Walloon workforce must improve, since the main resource of Wallonia is the quality of its workforce. The number of graduates and engineers is too low for the needs of the Walloon economy. The share of low-skilled people is still too high for an economy like Wallonia that is moving towards knowledge-intensive activities. Training throughout the life of the population remains limited. The large proportion of low-skilled people among the unemployed indicates that these profiles are inadequate for the Walloon economy. It would therefore be interesting to see how the other regions of the consortium ensure a sufficiently qualified workforce.

## 7. Annex: Regional Stakeholders

### 7.1 Public Authorities

<b>DGO6: Economy, jobs and research</b>
<p><b>Description of Main Competencies and Responsibilities / Role in RIS Implementation</b> (in headwords):</p> <ul style="list-style-type: none"> <li>- Encourages and supports the creation of economic activities and employment with a view to sustainable growth by mobilizing the levers of economic policy, vocational training, employment support and RDI (Research and Development and Innovation) ;</li> <li>- Provides a relay, strategic and administrative support in relation to the policies, actions and programs of the European Union;</li> <li>- Represents Wallonia in various regional, federal, European and international bodies, participates in the implementation of European programs and manages projects co-financed by the European Union;</li> <li>- Carries out inspection and control missions within the framework of the aid granted and the decisions taken by the Walloon Government.</li> </ul>
<p><b>Contact Details:</b></p> <p>Name: <b>Isabelle QUOILIN</b></p> <p>Position: general director</p> <p>Address: Place de la Wallonie 1 - 5100 Namur (Jambes)</p> <p>Phone: +32 (0)81 33 37 00 or 33 37 03</p> <p>Email: <a href="mailto:isabelle.quoilin@spw.wallonie.be">isabelle.quoilin@spw.wallonie.be</a></p> <p>Website: <a href="http://www.wallonie.be">http://www.wallonie.be</a></p>

<b>DGO3: Operational Branch of Agriculture, Natural Resources and Environment</b>
<p><b>Description of Main Competencies and Responsibilities / Role in RIS Implementation</b> (in headwords):</p> <ul style="list-style-type: none"> <li>- Develops and proposes development axes in line with governmental declarations in the agricultural, forestry and environmental sectors, including natural resources;</li> <li>- Ensures the environmental, agricultural and forestry-related tasks set out in the legislation;</li> <li>- Influences the decisions of regional, national and international policies by favoring the integration of environmental, agricultural and forestry concerns</li> <li>- Participates in the sustainable development of the economic (industrial and service) sectors of the Region by ensuring respect for environmental regulations both in their production and in processes and encouraging them to control their ecological footprint while aiming for quality competitive production.</li> </ul>
<p><b>Contact Details:</b></p> <p>Name: <b>Brieuc QUÉVY</b></p> <p>Position: general director</p>

Address: Avenue Prince de Liège 15 - 5100 Namur (Jambes)

Phone: +32 (0)81 33 61 60

Email: [brieuc.quevy@spw.wallonie.be](mailto:brieuc.quevy@spw.wallonie.be)

Website: <http://www.wallonie.be>

### **Agency pour l'Entreprise & l'Innovation (AEI)**

**Description of Main Competencies and Responsibilities / Role in RIS Implementation** (in headwords):

- supports the creation and development of enterprises, innovation and the development of new economic activities;
- manage, structure, lead and evaluate a network of advisers which offers project leaders and enterprises a coordinated set of services, and which thus promotes the creation, development and transmission of enterprises, as well as all aspects of innovation;
- support the development of a culture of entrepreneurship and new economic models such as short supply chains, the circular economy and the cooperation economy;
- provide easy access for enterprises and project leaders to any useful information (aid forms, aid and support available in Wallonia, tracking their files, etc.) through a single entry point: the Infos-Entreprises portal;
- manage specific aid for enterprises and project leaders (pre-seed grants, innovation grants, technology vouchers);
- optimise the transfer of technology and knowledge about research;
- help make Wallonia a region of digital excellence through the Agence du Numérique (AdN).
- The AEI works for Walloon enterprises and provides suitable solutions to their needs. It is part of a participatory dynamic and operates with creativity and agility.

#### **Contact Details:**

Name: **Véronique CABIAUX**

Position: general director

Address: rue du Vertbois, 13b - B-4000 Liège

Phone: +32 (0) 4/220.16.00

Email: [veronique.cabiaux@aei.be](mailto:veronique.cabiaux@aei.be)

Website: [www.aei.be](http://www.aei.be)

## 7.2 Networks and Clusters

<b>(1) Name of the Organization:</b>	Biowin										
<b>(2) Type of Organization:</b>  What is the role of the cluster in the implementation of the regional innovation strategy?	<input type="checkbox"/> Informal network without legal personality <input type="checkbox"/> Project-funded network / cluster without legal personality <input checked="" type="checkbox"/> Member-funded network / cluster with its own legal personality										
<b>(3) Stakeholder / Structure / Members of the Organization</b>	<p><i>Who are the participants / members (companies, science, public authorities, etc.) of the network? How is the relationship?</i></p> <p><i>(cfr charts)</i></p>										
<b>(4) Presentation of the Company/ Main Competences/ Fields of Performances (in headwords):</b>	Biopharmacy/Vaccines, Cell therapy, Biomanufacturing, Diagnostics ( <i>in vitro</i> and <i>in vivo</i> ), Radiation applications in healthcare, Implanted medical devices, Non-implanted medical devices.										
<b>(5) Assigned Thematic Area:</b>	<p>Immunology, oncology, cardiovascular</p> <p>Neurology, Biopharma, vaccines, Radiation applied to health, Cell therapy</p> <p>DM implants, DM not implanted and instruments, In vivo and in vitro diagnostics, Digital technologies, Intersectoral technologies, Health care</p>										
<b>(6) Contact Person:</b>	<table border="1" data-bbox="609 1657 1238 2051"> <tr> <td><b>Name</b></td> <td><b>Sylvie Ponchaut</b></td> </tr> <tr> <td><b>Position</b></td> <td><b>Director General and Scientific Director of the R &amp; D department</b></td> </tr> <tr> <td><b>Address</b></td> <td><b>Maison de l'Industrie - Rue Auguste Piccard 20 - 6041 Gosselies</b></td> </tr> <tr> <td><b>Number</b></td> <td><b>Mobile : +32 (0)474/83.47.58</b></td> </tr> <tr> <td><b>E-Mail</b></td> <td><b>sylvie.ponchaut@biowin.org</b></td> </tr> </table>	<b>Name</b>	<b>Sylvie Ponchaut</b>	<b>Position</b>	<b>Director General and Scientific Director of the R &amp; D department</b>	<b>Address</b>	<b>Maison de l'Industrie - Rue Auguste Piccard 20 - 6041 Gosselies</b>	<b>Number</b>	<b>Mobile : +32 (0)474/83.47.58</b>	<b>E-Mail</b>	<b>sylvie.ponchaut@biowin.org</b>
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		-	
	<b>Website</b>		<a href="http://www.biowin.org">http://www.biowin.org</a>

<b>(7) Name of the Organization:</b>	<b>Essenscia (wallonie)</b>						
<b>(8) Type of Organization:</b>	<input type="checkbox"/> Informal network without legal personality <input type="checkbox"/> Project-funded network / cluster without legal personality <input checked="" type="checkbox"/> Member-funded network / cluster with its own legal personality						
<b>What is the role of the cluster in the implementation of the regional innovation strategy?</b>	<p>The world is facing important challenges in the use of energy, natural resources, and the provision of food, water and health for its population. Chemistry and Life Sciences are essential to making the world's development sustainable. The Walloon innovative research is crucial to the development of new products, applications and services. The industry is central to a successful future and to improving everyone's quality of life.</p>						
<b>(9) Stakeholder / Structure / Members of the Organization</b>	<p><i>Who are the participants / members (companies, science, public authorities, etc.) of the network? How is the relationship?</i></p> <p><i>Essenscia brings together &amp; represent nearly 800 companies, which represent more than 95% of the overall turnover of the sector. For the Walloon region, it represents more than 200 companies. Half of the people employed works in the (bio)-pharmaceutical industry.</i></p>						
<b>(10) Presentation of the Company/ Main Competences/ Fields of Performances (in headwords):</b>	<p>Essenscia has two main activities :</p> <ul style="list-style-type: none"> <li>- Advocacy to bring to our membres the best environnement for doing their business. It means contact with many stakeholders : politics, education, research centers, NGO,...</li> <li>- Direct services in social law, R&amp;D, HR, Training, security, environment,...</li> </ul> <p>Sustainable development, training, Innovation, Energy &amp; climate, REACH, product policy, Social policy, International Trade and Business Development, Health, Safety and Environment, Transport and logistics, Food Safety, Sustainable construction</p>						
<b>(11) Assigned Thematic Area:</b>	chemical and life sciences						
<b>(12) Contact Person:</b>	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%;"><b>Name</b></td> <td><b>Bernard Broze</b></td> </tr> <tr> <td><b>Position</b></td> <td><b>General manager essenscia wallonie</b></td> </tr> <tr> <td><b>Address</b></td> <td><b>BluePoint</b></td> </tr> </table>	<b>Name</b>	<b>Bernard Broze</b>	<b>Position</b>	<b>General manager essenscia wallonie</b>	<b>Address</b>	<b>BluePoint</b>
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<b>Position</b>	<b>General manager essenscia wallonie</b>						
<b>Address</b>	<b>BluePoint</b>						



		<b>Boulevard Auguste Reyers 80 1030 Bruxelles</b>
	<b>Number</b>	<b>+32 2 238 98 58</b>
	<b>E-Mail</b>	<u><a href="mailto:bbroze@essenscia.be">bbroze@essenscia.be</a></u>
	<b>Website</b>	<u><a href="http://www.essenscia.be">http://www.essenscia.be</a></u>

<b>(1) Name of the Organization:</b>	<b>Greenwin Innovation Cluster</b>
<b>(2) Type of Organization:</b>  <b>What is the role of the cluster in the implementation of the regional innovation strategy?</b>	<input type="checkbox"/> Informal network without legal personality <input type="checkbox"/> Project-funded network / cluster without legal personality <input checked="" type="checkbox"/> Member-funded network / cluster with its own legal personality
<b>(3) Stakeholder / Structure / Members of the Organization</b>	<p><i>Who are the participants / members (companies, science, public authorities, etc.) of the network? How is the relationship?</i></p> <p>More than 200 Members:  <a href="http://www.greenwin.be/fr/membres/entreprises/type/pme">http://www.greenwin.be/fr/membres/entreprises/type/pme</a>  <i>(cfr charts)</i></p>
<b>(4) Presentation of the Company/ Main Competences/ Fields of Performances (in headwords):</b>	Advanced Materials, Biotechnology, Industry, Green chemistry, Sustainable materials, environment technologies, recycling, circular economy, Bioeconomy
<b>(5) Assigned Thematic Area:</b>	<ul style="list-style-type: none"> <li>- Green chemistry: biobased chemistry; CO2 processing biotechnology &amp; process intensification;</li> <li>- Sustainable construction: storage of energy; Energy efficiency; building systems</li> <li>- Environmental Technologies: treatment and recovery of waste and effluents; Sanitation (water, air, soil)</li> </ul>

<b>(6) Contact Person:</b>	<b>Name</b>	<b>Véronique Graff</b>
	<b>Position</b>	<b><i>Managing Director</i></b>
	<b>Address</b>	<b>Maison de l'Industrie - Rue Auguste Piccard 20 - 6041 Gosselies</b>
	<b>Number</b>	<b>Mobile : +32 495 16 38 00</b>
	<b>E-Mail</b>	<b><u>veronique.graff@greenwin.be</u></b>
	<b>Website</b>	<b><u>http://www.greenwin.be/</u></b>

<b>(1) Name of the Organization:</b>	<b>Mecatech</b>		
<b>(2) Type of Organization:</b>	<input type="checkbox"/> Informal network without legal personality <input type="checkbox"/> Project-funded network / cluster without legal personality <input checked="" type="checkbox"/> Member-funded network / cluster with its own legal personality		
<b>What is the role of the cluster in the implementation of the regional innovation strategy?</b>			
<b>(3) Stakeholder / Structure / Members of the Organization</b>	<i>Who are the participants / members (companies, science, public authorities, etc.) of the network? How is the relationship?</i>  (cfr charts)		
<b>(4) Presentation of the Company/ Main Competences/ Fields of Performances (in headwords):</b>			
<b>(5) Assigned Thematic Area:</b>	<ul style="list-style-type: none"> <li>• materials and surfaces of the future,</li> <li>• comprehensive forming technologies,</li> <li>• microtechnologies and mechatronics, and</li> <li>• intelligent maintenance.</li> </ul>		
<b>(6) Contact Person:</b>	<table border="1"> <tr> <td><b>Name</b></td> <td><b>Anthony Van Putte</b></td> </tr> </table>	<b>Name</b>	<b>Anthony Van Putte</b>
<b>Name</b>	<b>Anthony Van Putte</b>		

	<b>Position</b>	<b>Director General</b>
	<b>Address</b>	<b>Route de Hannut 40 5004 Bouge Belgique</b>
	<b>Number</b>	<b>Mobile : +32 476 97 26 09</b>
	<b>E-Mail</b>	<a href="mailto:anthony.vanputte@polemecatech.be">anthony.vanputte@polemecatech.be</a>
	<b>Website</b>	<a href="http://www.polemecatech.be/">www.polemecatech.be/</a>

<b>(1) Name of the Organization:</b>	<b>Plastiwin</b>				
<b>(2) Type of Organization:</b>  What is the role of the cluster in the implementation of the regional innovation strategy?	<input type="checkbox"/> Informal network without legal personality <input type="checkbox"/> Project-funded network / cluster without legal personality <input checked="" type="checkbox"/> Member-funded network / cluster with its own legal personality				
<b>(3) Stakeholder / Structure / Members of the Organization</b>	<i>Who are the participants / members (companies, science, public authorities, etc.) of the network? How is the relationship?</i>  <i>(cfr charts)</i>				
<b>(4) Presentation of the Company/ Main Competences/ Fields of Performances (in headwords):</b>	Polymers & Biopolymers, Elastomers, Composites, Synthetic textiles				
<b>(5) Assigned Thematic Area:</b>	Packaging, Health, Environment, Construction & Habitat, Transport, Applications, Electrical engineering				
<b>(6) Contact Person:</b>	<table border="1"> <tr> <td><b>Name</b></td> <td><b>Elias Njeim</b></td> </tr> <tr> <td><b>Position</b></td> <td><b>General manager</b></td> </tr> </table>	<b>Name</b>	<b>Elias Njeim</b>	<b>Position</b>	<b>General manager</b>
<b>Name</b>	<b>Elias Njeim</b>				
<b>Position</b>	<b>General manager</b>				

	<b>Address</b>	<b>Bd de Colonster, 4, P 56 4000 Liège (Belgium)</b>
	<b>Number</b>	<b>Mobile : +32.4.361.59.09</b>
	<b>E-Mail</b>	<a href="mailto:enjeim@plastiwin.be">enjeim@plastiwin.be</a>
	<b>Website</b>	<a href="http://www.plastiwin.be">www.plastiwin.be</a>

<b>(1) Name of the Organization:</b>	<b>Valbium</b>		
<b>(2) Type of Organization:</b>	<input type="checkbox"/> Informal network without legal personality <input type="checkbox"/> Project-funded network / cluster without legal personality <input checked="" type="checkbox"/> Member-funded network / cluster with its own legal personality		
<b>What is the role of the cluster in the implementation of the regional innovation strategy?</b>	Popularize science, catalyst and window role and act as an interface between the actors on the ground and those involved in research		
<b>(3) Stakeholder / Structure / Members of the Organization</b>	<i>Who are the participants / members (companies, science, public authorities, etc.) of the network? How is the relationship?</i>  <i>140 members: biomass producers, enterprises, universities, research centers</i>		
<b>(4) Presentation of the Company/ Main Competences/ Fields of Performances (in headwords):</b>	Responding to requests from the industry, farmers and administration, direct support to new projects carriers, technology watch.		
<b>(5) Assigned Thematic Area:</b>	Ago-combustibles, life cycle analysis, Biofuels, Biolubricants, Biomass, Biomethanisation, Biopolymers, Biorefinery, Wood / energy, hemp, sustainability, Energy on the farm, Miscanthus, Biobased products, Very short rotation coppice, Bioenergy facilitator		
<b>(6) Contact Person:</b>	<table border="1"> <tr> <td><b>Name</b></td> <td><b>Bertrand Auquièrè</b></td> </tr> </table>	<b>Name</b>	<b>Bertrand Auquièrè</b>
<b>Name</b>	<b>Bertrand Auquièrè</b>		

	<b>Position</b>	<b>General manager</b>
	<b>Address</b>	<b>ValBiom</b> <b>Bâtiment Francini</b> <b>146, chaussée de Namur</b> <b>5030 Gembloux</b> <b>Belgique</b>
	<b>Number</b>	<b>Mobile : +32 81 627 190</b>
	<b>E-Mail</b>	<a href="mailto:b.auquiere@valbiom.be">b.auquiere@valbiom.be</a>
	<b>Website</b>	<a href="http://www.valbiom.be">www.valbiom.be</a>

<b>(1) Name of the Organization:</b>	<b>Wagralim</b>
<b>(2) Type of Organization:</b>  <b>What is the role of the cluster in the implementation of the regional innovation strategy?</b>	<input type="checkbox"/> Informal network without legal personality <input type="checkbox"/> Project-funded network / cluster without legal personality <input checked="" type="checkbox"/> Member-funded network / cluster with its own legal personality
<b>(3) Stakeholder / Structure / Members of the Organization</b>	<i>Who are the participants / members (companies, science, public authorities, etc.) of the network? How is the relationship?</i>  <i>(cfr charts)</i>
<b>(4) Presentation of the Company/ Main Competences/ Fields of Performances (in headwords):</b>	Stabilization processes for special beers destined for export Food for aquaculture in substitution of fishmeal Natural solutions for preserving meat products Formulations of healthy ingredients and food supplements PLA-type polymers from fermentation processes Ferments applied in bread making Vegetable oils rich in omega-3 and stabilized by natural antioxidants A dairy sector with regional anchorage (Herve region) Methods of preserving dishes prepared by microorganisms The creation of a food training center in Mouscron Investment in a mobile training workshop in the meat sector
<b>(5) Assigned Thematic Area:</b>	Health food and nutritional quality, industrial efficiency, packaging and Sustainable agro-industry
<b>(6) Contact Person:</b>	

	<b>Name</b>	<b>François Heroufosse</b>
	<b>Position</b>	<b>General manager</b>
	<b>Address</b>	<b>Maison de l'Industrie Technologique Rue Auguste Piccard, 20 6041 Gosselies Belgique</b>
	<b>Number</b>	<b>Mobile : +32 476 884 286</b>
	<b>E-Mail</b>	<a href="mailto:francois.heroufosse@wagralim.be">francois.heroufosse@wagralim.be</a>
	<b>Website</b>	<a href="http://www.wagralim.be">www.wagralim.be</a>

### 7.3 Industry

<b>Name of the Company: Prayon (fine chemicals)</b>	
<b>Indicators Employment / Turnover:</b>	
Number of Employees: .....1,097 jobs worldwide /	<u>Relevant Category:</u> <input type="checkbox"/> < 10 <input type="checkbox"/> 10 to 49 <input type="checkbox"/> 50 to 249 <input checked="" type="checkbox"/> > 250
Turnover €/a: .....709 million euros turnover	<u>Relevant Category:</u> <input type="checkbox"/> max. 2 Mio. € <input type="checkbox"/> max. 10 Mio. € <input type="checkbox"/> max. 50 Mio. € <input checked="" type="checkbox"/> more than 50 Mio. €
<b>Description of Main Competencies / Fields of Activities (in headwords):</b> Extensive range of phosphate and fluorine products.	
<b>Relevant Thematic Innovation Priority / Research Field:</b> phosphoric acid production (fertilizer grade) using various processes, concentrating phosphoric acid, fluorine recovery, purification of gypsum gas scrubbing	
<b>Contact Details:</b> Name: <b>Headquarters - Prayon S.A.</b> Position: Address: Rue J. Wauters 144 - 4480 Engis Belgium	

Phone: +32 4 273 92 11  
Email: [contact@prayon.com](mailto:contact@prayon.com)  
Website: <http://www.prayon.com>

**Name of the Company: Galactic (chemicals and materials)**

**Indicators Employment / Turnover:**

Number of Employees: .....

Relevant Category:

- < 10  
 10 to 49  
 50 to 249  
 > 250

Turnover €/a: .....

Relevant Category:

- max. 2 Mio. €  
 max. 10 Mio. €  
 max. 50 Mio. €  
 more than 50 Mio. €

**Description of Main Competencies / Fields of Activities** (in headwords):

World's leaders in biotechnology serving the food, feed, personal & health care, and industrial markets.

**Relevant Thematic Innovation Priority / Research Field:**

Food, Feed, natural personal and health care solutions, natural industrial solutions, nutraceuticals and functional foods

**Contact Details:**

Name: [Mr. Frederic Van Gansberghe](#)

Position: general director

Address: Place d'Escanaffles 23 Escanaffles, 7760 - Belgium

Phone: +32 6 945 49 21

Email:

Website: [www.lactic.com](http://www.lactic.com)

**Name of the Company: Artechno**

**Indicators Employment / Turnover:**

Number of Employees: .....

Relevant Category:

- < 10  
 10 to 49

	<input type="checkbox"/> 50 to 249 <input type="checkbox"/> > 250
Turnover €/a: .....	<b>Relevant Category:</b> <input type="checkbox"/> max. 2 Mio. € <input type="checkbox"/> max. 10 Mio. € <input type="checkbox"/> max. 50 Mio. € <input type="checkbox"/> more than 50 Mio. €
<b>Description of Main Competencies / Fields of Activities (in headwords):</b> Artechno, whose core business is the production of microbes pure cultures, was created in 1999 as a spin-off company stemming from research at the Walloon Center for Industrial Biology (CWBI – Belgium). This research institute on industrial biology is managed by Professor Philippe Thonart and was created in 1988 by: <ul style="list-style-type: none"> <li>• The Agricultural University of Gembloux (Fsagx – Gembloux, Belgium) – Bioindustries Unit</li> <li>• The Liege University (ULg – Liege, Belgium) – Microbial Technology Unit</li> </ul>	
<b>Relevant Thematic Innovation Priority / Research Field:</b> <ul style="list-style-type: none"> <li>• Microorganisms</li> <li>• cultures for environmental applications, nutraceuticals, bioremediation</li> <li>• Knowledge of natural raw material: plants, yeasts, moulds, bacteria, enzymes and other microbial metabolites</li> <li>• Environmental applications for the above</li> </ul>	
<b>Contact Details:</b> Name: F. Weekers Position: general director Address: Rue Herman Méganck, 21 Crealys Science Park - B-5032 Isnes – Gembloux Phone: +32 81 713.400 Email: <a href="mailto:info@artecho.be">info@artecho.be</a> Website: <a href="http://www.lactic.com">www.lactic.com</a>	



## 7.4 Science

<b>Name of the Research Institution:</b> ULg - Gembloux Agro-Bio Tech, Unit “ Industrial Biological Chemistry »	
<b>Number of Researchers:</b> .....	
<b>Type of Institution</b>	<b>Research Category</b>
<input checked="" type="checkbox"/> University <input type="checkbox"/> Research Institute <input type="checkbox"/> Research and Centers for Development, that are operated by industrial enterprises	<input checked="" type="checkbox"/> Basic Research <input type="checkbox"/> Industrial Research <input type="checkbox"/> Experimental Research
<b>Description of Main Competencies / Research Areas (in headwords):</b>	
<ul style="list-style-type: none"> <li>▪ Optimized use of biomass for food, chemicals and fuels.</li> <li>▪ Pretreatments and cracking of lignocellulosic biomass, cellulose hydrolysis, hemicellulose and lignin extraction and characterization.</li> <li>▪ Green chemistry and development of new methodologies with low environmental footprints.</li> <li>▪ Study of structure-function relationships of biomolecules : oligo- and polysaccharides, sugars derivatives, lipopeptides, surfactants, ...</li> <li>▪ Functional analyses of industrial processes.</li> </ul>	
<b>Relevant Thematic Innovation Priority / Research Field:</b>	
Biobased chemistry Biorefinery industrial technologies Convert (post-) industrial zones biomass in urban zone innovation platform	
<b>Contact Details:</b>	
Name: Biomass and Green Technologies University of Liege - Gembloux Agro Bio Tech Position: Address: Passage des déportés, 2 - 5030 Gembloux Phone: +32 81 62 22 31 Email: <a href="mailto:biomass@ulg.ac.be">biomass@ulg.ac.be</a> Website: <a href="http://www.gembloux.ulg.ac.be/chimie-biologique-industrielle/">http://www.gembloux.ulg.ac.be/chimie-biologique-industrielle/</a>	

<b>Name of the Research Institution:</b> Research Centre Certech
<b>Number of Researchers:</b> .....

Type of Institution	Research Category
<input type="checkbox"/> University <input checked="" type="checkbox"/> Research Institute <input type="checkbox"/> Research and Centers for Development, that are operated by industrial enterprises	<input type="checkbox"/> Basic Research <input checked="" type="checkbox"/> Industrial Research <input type="checkbox"/> Experimental Research
<b>Description of Main Competencies / Research Areas</b> (in headwords): <ul style="list-style-type: none"> <li>▪ Certech mission is to provide help, support and services to small and large industrial enterprises by offering analysis and measurements, problem-solving, contract research, product and process development capabilities.</li> <li>▪ Certech vision is to deliver innovative solutions for product and process improvement or development, by exploiting sustainable chemistry, in order to meet future societal and industrial needs.</li> <li>▪ Certech strategy focused mainly on three axes, namely environment, material science and process intensification.</li> </ul>	
<b>Relevant Thematic Innovation Priority / Research Field:</b> chemical industry, automotive, construction, packaging, food, agriculture, personal care, pharmaceutical, energy, environment...	
<b>Contact Details:</b> Name: CERTECH Position: Address: Rue Jules Bordet, Zone industrielle C - B-7180 Seneffe, Belgique Phone: +32 (0)64 520 211 Email: <a href="mailto:info@certech.be">info@certech.be</a> Website: <a href="http://www.certech.be">http://www.certech.be</a>	

<b>Name of the Research Institution:</b> Materia Nova	
<b>Number of Researchers:</b> .....	
Type of Institution	Research Category
<input type="checkbox"/> University <input checked="" type="checkbox"/> Research Institute <input type="checkbox"/> Research and Centers for Development, that are operated by industrial enterprises	<input type="checkbox"/> Basic Research <input checked="" type="checkbox"/> Industrial Research <input type="checkbox"/> Experimental Research
<b>Description of Main Competencies / Research Areas</b> (in headwords): <ul style="list-style-type: none"> <li>▪ To ensure their growth, businesses develop new products, directly brought about by technological innovations, on an ongoing basis. These innovations are the fruit of long years of research led by the university sphere. Strengthened by its internationally-</li> </ul>	

recognised expertise, the University of Mons has created MateriaNova, a unique-in-Europe research and development centre.

- Materia Nova is offering Transfer of Technologies services, particularly through its operational entities: [IONICS](#), specialising in the treatment of surfaces, and [NANO4](#), expert in nano materials.

**Relevant Thematic Innovation Priority / Research Field:**  
Multifunctional surfaces, advanced materials and solutions for energy applications, innovative and sustainable polymeric materials, cells for materials and materials for cells, life cycle thinking

**Contact Details:**  
Name: Materia Nova  
Position:  
Address: Rue des Foudriers 1, 7822 Ghislenghien  
Phone: +32 65 55 49 02  
Email: [info@materianova.be](mailto:info@materianova.be)  
Website: <http://www.materianova.be>

**Name of the Research Institution:** SIRRIS

**Number of Researchers:** .....

Type of Institution	Research Category
<input type="checkbox"/> University	<input type="checkbox"/> Basic Research
<input checked="" type="checkbox"/> Research Institute	<input checked="" type="checkbox"/> Industrial Research
<input type="checkbox"/> Research and Centers for Development, that are operated by industrial enterprises	<input type="checkbox"/> Experimental Research

**Description of Main Competencies / Research Areas (in headwords):**

- Sirris helps companies develop, test and effectively implement technological innovations.
- Customised technological support
- High-tech infrastructure and network of partners
- Inspiration for technology and innovation

**Relevant Thematic Innovation Priority / Research Field:**  
ICT, advanced manufacturing, materials, mecatronics

**Contact Details:**  
Name: SIRRIS  
Position:  
Address: Liège Science Park Rue Bois Saint-Jean 12 – 4102 Seraing  
Phone: +32 4 361 87 00

Email:

Website: <http://www.sirris.be>