European Commission

European Observatory for Clusters and Industrial Change

Policy Briefing – Wallonia

This policy briefing report was carried out for the European Commission by

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Selection as one of 10 regions in industrial transition

The customised advice on modern cluster policy in support of industrial modernisation provided to the 10 regions in industrial transition is funded by the Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (DG GROW), as part of the European Observatory for Clusters and Industrial Change (EOCIC). The regions were selected as a result of an open call for expression of interest, published and assessed by the Commission services. The Commission launched a first call for expression of interest on 29 September 2017 and, as a result of demand from regions, a second call was launched on 14 December 2017.[1]

The following regions were selected[2]:

- Cantabria (Spain)
- Centre Val de Loire (France)
- East & North Finland
- Hauts-de-France (France)
- Lithuania
- North-Middle Sweden
- Piemonte (Italy)
- Saxony (Germany)
- Slovenia
- **Wallonia (Belgium)**

The aim of the work being provided by the EOCIC to 10 regions in industrial transition is to define a set of actions in the form of a comprehensive strategy to foster regional economic transformation, identify collaboration and funding opportunities and connect with other regions in regional and cluster partnerships.

This pilot will help test new approaches to industrial transition and provide the European Commission with evidence to strengthen post-2020 policies and programmes.

The output of the first phase of the EOCIC advisory services was an assessment report, which summarises the key challenges of industrial modernisation for the region and the potential policy directions. The second phase of the EOCIC advisory services will build on this report to develop concrete policy proposals for each industrial transition region. DG GROW and the EOCIC are working closely with the Directorate-General for Regional and Urban Policy (DG REGIO) and the OECD to provide advice services for the pilot regions.

More information on the activities carried out by the EOCIC is available at the end of this report.

[1] Details on the selection procedure are available at: https://ec.europa.eu/regional_policy/en/policy/themes/industrial-transition/

[2] 12 regions were initially selected for the overall process of the project on pilot regions in industrial transition, of which 10 then engaged with the project through to the final stages of the work carried out by the EOCIC.

1. Introduction

1.1. Aims and objectives of the exercise

The aim of the work in Wallonia is to support the regional authorities and stakeholders in defining a strategy that facilitates the industrial transformation of the region. The EOCIC work was carried out in close cooperation with the AMI expert[3] and the work of the OECD on Regions in Industrial Transition.

This document builds on the assessment report[4] to summarise the challenges and barriers to and drivers of industrial modernisation in Wallonia, before outlining a regional strategy for industrial transformation and a set of specific policy actions together with a roadmap and an action plan.

The report is based on extensive desk research, a large number of interviews, a working session with the Public Service of Wallonia and representatives from the clusters (27 April 2018), and a Policy Review meeting (7 December 2018). Meetings, research and outputs were closely coordinated between the EOCIC team and the AMI expert. Over 80 regional stakeholders were reached directly via the working session, the Policy Review meeting and interviews.

The work process has led to inputs into a regional strategy, based on a "**managed industrial transition**" approach[5]. The EOCIC adopted a tailored approach building on existing resources and placed considerable emphasis on generating and maintaining political commitment for the proposed activities.

This document includes the main challenges for the region through a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis and a PEST (Political, Economic, Socio-cultural and Technological) analysis. Both are described in Chapter 2. Based on these challenges, Chapter 3 provides a customised strategy designed to address the needs and challenges identified. Chapter 4 presents two specific recommendations for policy intervention. Their respective action plans are in Chapter 5.

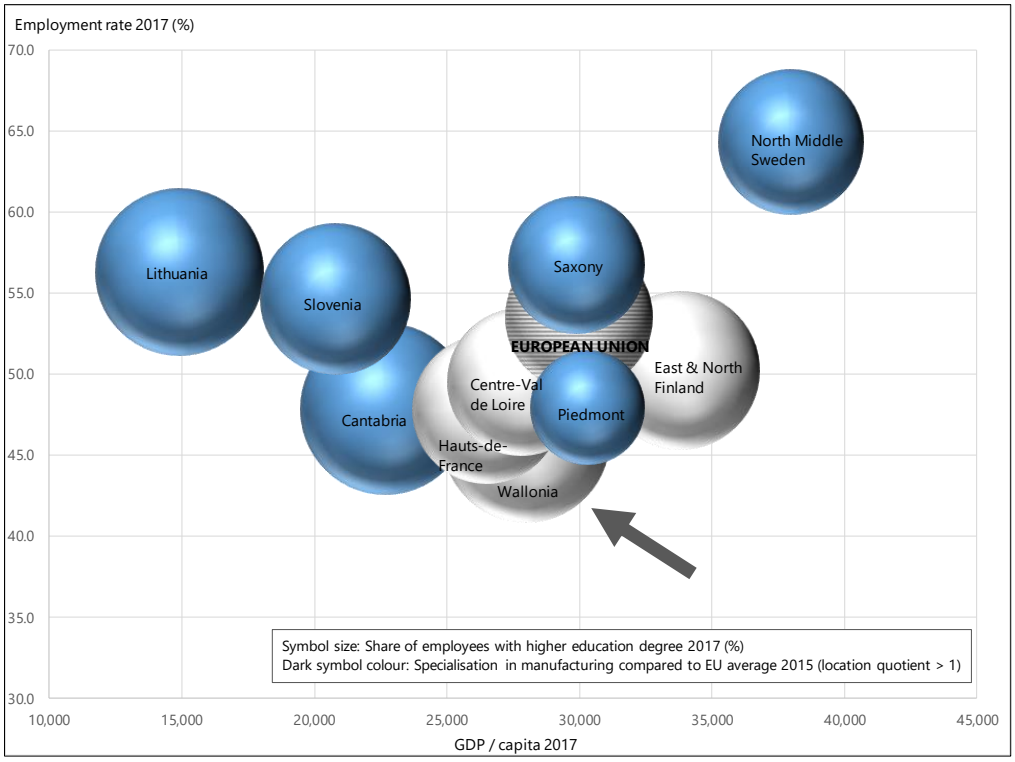
[3] External experts contracted by DG REGIO to provide support to the pilot regions in industrial transition.
[4] EOCIC, Regional Assessment report – Wallonia, EASME/COSME/2006/035, November 2018, European Commission Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs.
[5] Such an approach is based on the insight that different regions across Europe are characterised by different assets, strengths and weaknesses, and that they face different obstacles and threats that need to be overcome. – European Policy Centre, *How do industrial transitions succeed? Transatlantic considerations on drivers for economic development*, Zuleeg et al, 2018.

1.2. Key economic and innovation indicators for the pilot region

In 2017, Wallonia had a gross domestic product (GDP) of EUR 28 000 per capita, which is below the EU level of EUR 30 000, and also below the national figure (EUR 38 700). Of the 10 pilot regions, the Belgium pilot region ranks fifth after North Middle Sweden, East & North Finland, Piemonte and Saxony.

Figure *1* combines selected economic indicators for the 10 pilot regions. It shows that Wallonia has a position slightly above the median of the 10 pilot regions in terms of economic strength, measured as GDP per capita. In terms of the employment rate, the region is last. With 44.9% of employees with a higher education degree, Wallonia is second among the pilot regions behind Cantabria and has an above-average level of highly educated employees compared to the EU average (34.4%), but a below-average figure compared to the national share (46.4%). Neither Belgium nor Wallonia are specialised in manufacturing compared to the EU; the national and regional location quotients are below 1. (Figure 1)

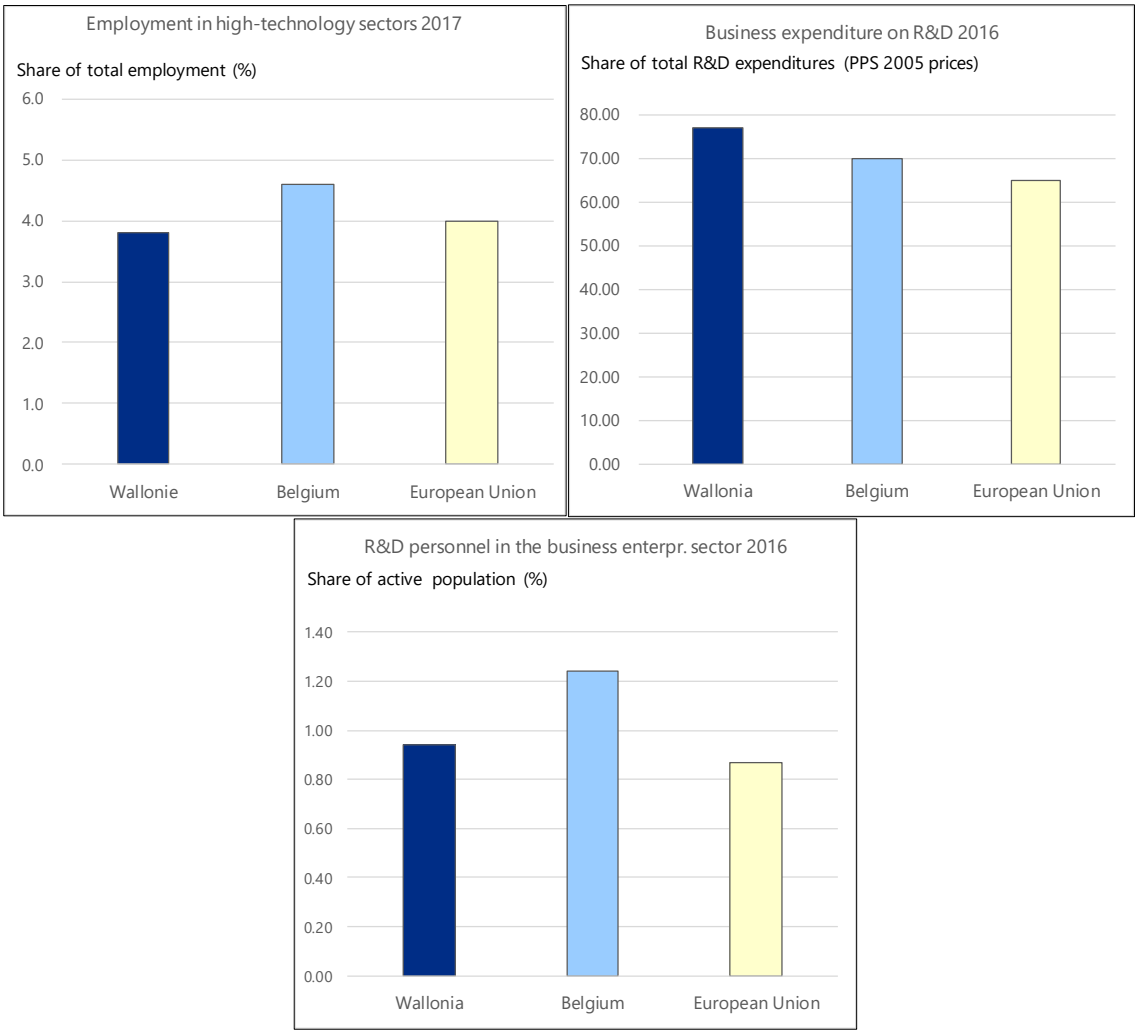
Figure 1: Selected economic data for the 10 pilot regions: GDP/ capita, Employment rate, Share of employees with higher education degree and Specialisation in manufacturing



Source: EOCIC, based on Eurostat data and own calculations

Wallonia's share of employment in high-technology sectors (high-technology manufacturing and knowledge-intensive high-technology services) is close to the European average, though below the national level. The business enterprise sector in Wallonia spends a higher percentage of total business expenditure on research and development activities than enterprises in Belgium as a whole and the European Union. However, the region's share of R&D personnel in the business sector exceeds the EU figure, but is still below the national level (figure 2).

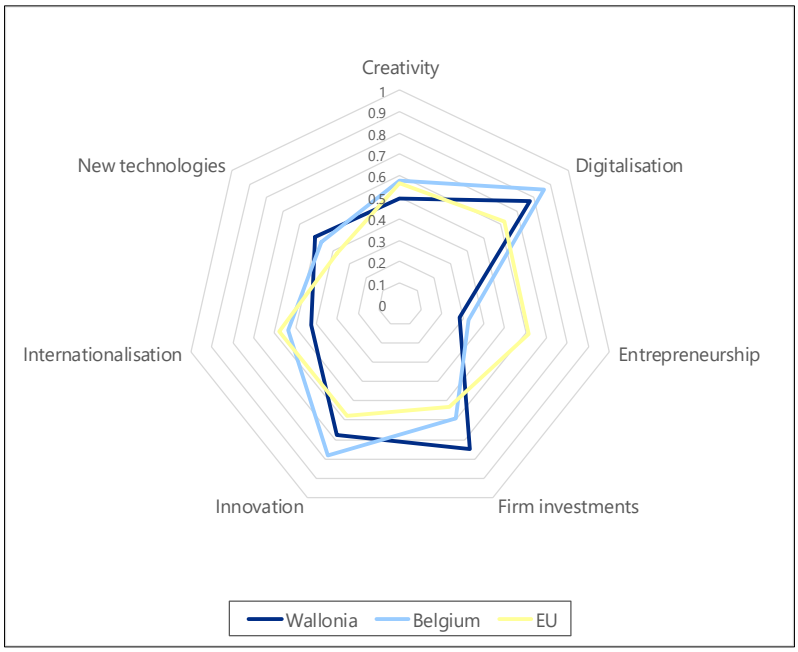
Figure 2: Selected technological indicators for Wallonia



Source: EOCIC, based on Eurostat data and own calculations

In order to provide insights into industrial modernisation, the European Observatory for Clusters and Industrial Change (EOCIC) provides composite indicators on seven dimensions: Evolution towards a more innovative regional economy; New and emerging technologies; Digitalisation; Firm investments; Internationalisation; Creativity; and Entrepreneurship. Each dimension is represented by a set of specific indicators, which are condensed to a composite indicator. Figure *3* presents the results for those seven dimensions in Wallonia. With the exception of the new and emerging technologies and the firm investment dimensions, the pilot region scores below the national level, but it exceeds the EU averages for digitalisation, firm investments, innovation and new technologies. Its highest scores are for digitalisation, firm investments, and innovation. Wallonia in fact records the maximum value of all 10 pilot regions on the firm investments, innovation and new technologies dimensions. At the other end of the spectrum, the region's lowest score is for the entrepreneurship dimension.

Figure 3: Composite indicators for Industrial Change: Wallonia

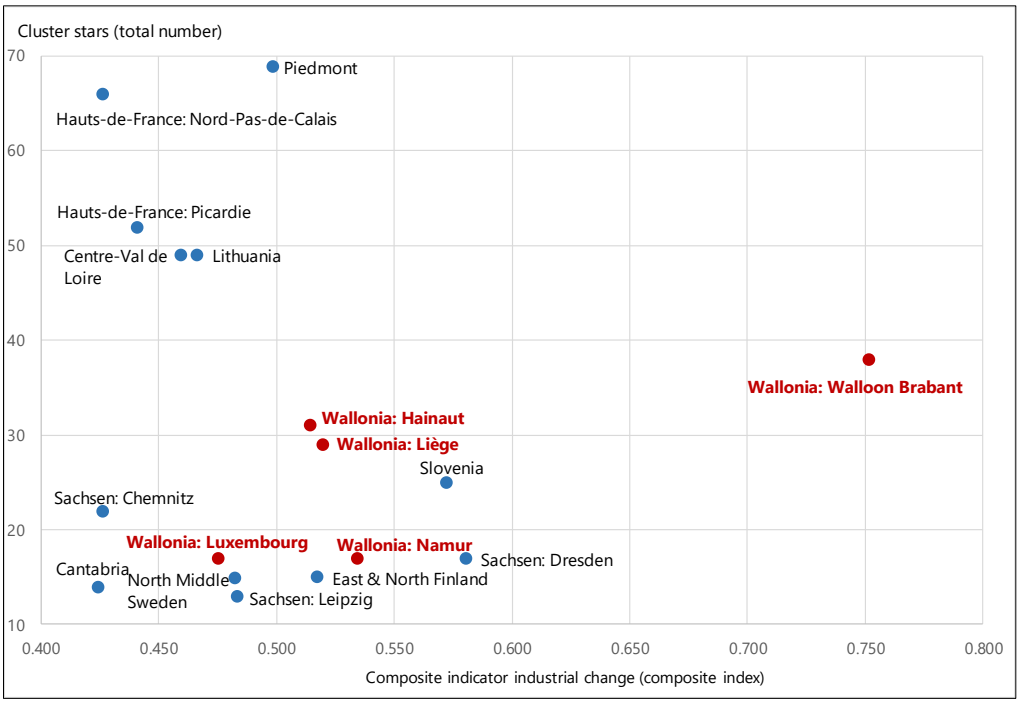


Source: EOCIC, based on various data sources and own calculations

Figure *4* shows the most recent total composite indices for industrial change and the total number of cluster stars in the pilot regions (NUTS 2 level). The composite indices show industrial change in a range between 0.4 and 0.8 between 10 and 70 in the 10 pilot regions, and the total number of cluster stars in a range between 10 and 70 in the 10 pilot regions. Five NUTS 2 regions have 45 or more cluster stars. Piemonte is the clear leader (69 stars). At the other end of the spectrum, various regions have 20 or fewer cluster stars – among them Luxembourg and Namur (17 stars both). Figure *4* also shows that the industrial change ranking is led by Walloon Brabant: on a scale of 0 to 1, this NUTS 2 region has a score of 0.751.

Mapping the pilot regions' industrial change and cluster stars reveals three different types of region: (1) high number of cluster stars, but moderate composite index of industrial change (below 0.5) (Piemonte, Nord-Pas-de-Calais, Picardie, Centre-Val de Loire, Lithuania), (2) regions with moderate figures for both indicators (below 35 cluster stars and composite indices of industrial change below 0.6) (Hainaut, Liège, Slovenia, Dresden, Namur, East & North Finland, Leipzig, Luxembourg, North Middle Sweden, Cantabria, Chemnitz), and (3) Walloon Brabant (composite index of 0.75 and 40 cluster stars). In the second group, Hainaut, Liège and Slovenia stand out from the other regions due to the higher numbers of cluster stars. In part, this is also the case for Chemnitz, but it has a lower index for industrial change.

Figure 4: Composite indicator industrial change (total index) and cluster stars (total) for pilot regions



Source: EOCIC, based on various data sources and own calculations

2. Key challenges, barriers, and drivers of industrial modernisation in Wallonia

This chapter presents a brief overview of the current policy landscape in Wallonia[6] and summarises, in tabular form, the political, economic, socio-cultural and technological framework conditions (PEST) in Wallonia. It then presents the key strengths, weaknesses, opportunities and threats (SWOT) to consider in the development of the regional strategy in Chapter 3. The current chapter is based mainly on desk research and builds on the assessment report.

The region's policy for industrial transition consists of **three successive Marshall Plans.** These bring together structural funds with a range of other support for companies in a single industrial innovation strategy. Since 2005, the Marshall Plans have represented the core of Wallonia's policy for industrial change. They have been updated twice in response to different megatrends and are currently being updated a third time for the next period. Table 1 gives an overview of the plans and highlights their different angles and focus.

Table 1: Marshall Plans

Cluster Policy	Main aim
Marshall Plan 2005-2009	Aim: put in place shared success through structural recovery, and convergence towards European means.
Marshall Plan 2. Green 2009-2014	Aim: an industrial policy based on the development of networks of actors (in particular competitiveness clusters) which is at the heart of economic policy.
Marshall Plan 4.0 2014-2019	Aim: to capitalise on the lessons learnt and strengths of the previous plans, as well as encourage the use of new technologies and the opportunities the fourth industrial revolution can bring.

Source: Claire Dujardin et al., « Les pôles de compétitivité wallons : dix ans de politique industrielle », Courrier hebdomadaire du CRISP 2017/12 (n° 2337-2338), p. 5-58. DOI 10.3917/cris.2337.0005

Marshall Plan 4.0 will soon come to an end, but Belgium held elections in May 2019 and this delayed development of another Plan by the Regional authorities (SPW). However reflection on possible further actions started before the elections, focusing on the energy transition, education and the transition to a circular economy.

The Walloon Smart Specialisation Strategy (S3) is also at the heart of the Region's industrial transition and innovation strategy. The S3 is based on the identification of strategic areas on the basis of the strengths and potential of the region's economy and on an Entrepreneurial Discovery Process (EDP).

The Region launched a **clustering policy** and established business clusters in 2000[7] and competitiveness clusters in 2006[8]. They are central actors in the implementation of both the Marshall Plans and of the S3.

[6] For a more in-depth portrait, please refer to the Assessment Report (2018).
[7] MERIT and Ernst & Young, (2000), "Cadre conceptuel et opérationnel pour une politique de Clusters en Wallonie".
[8] Competitiveness cluster policies started in 2005.

In terms of more specific policies that are also within the scope of the S3, the region has developed a series of initiatives to develop a critical mass of high-growth companies and sectors. To promote **research and development**, the Walloon government in the past implemented an integrated research policy (The Walloon Research Strategy (2011-2015). This inter alia defined key societal challenges to prioritise in research (sustainable development, renewable energies, quality and length of life, health, key technology domains)[9]. In the area of **innovation**, Wallonia developed the Creative Wallonia Plan to foster a widespread innovation culture in the region. This has started to bear fruit according to the feedback gathered at the policy review meeting. Finally, Wallonia also, in 2014, added a transversal axis to its industrial policy, which complements the role of competitiveness clusters: the NEXT programme aims to support Walloon companies in their transition to a circular economy and to increase their competitiveness by promoting the use of raw materials and natural resources[10].

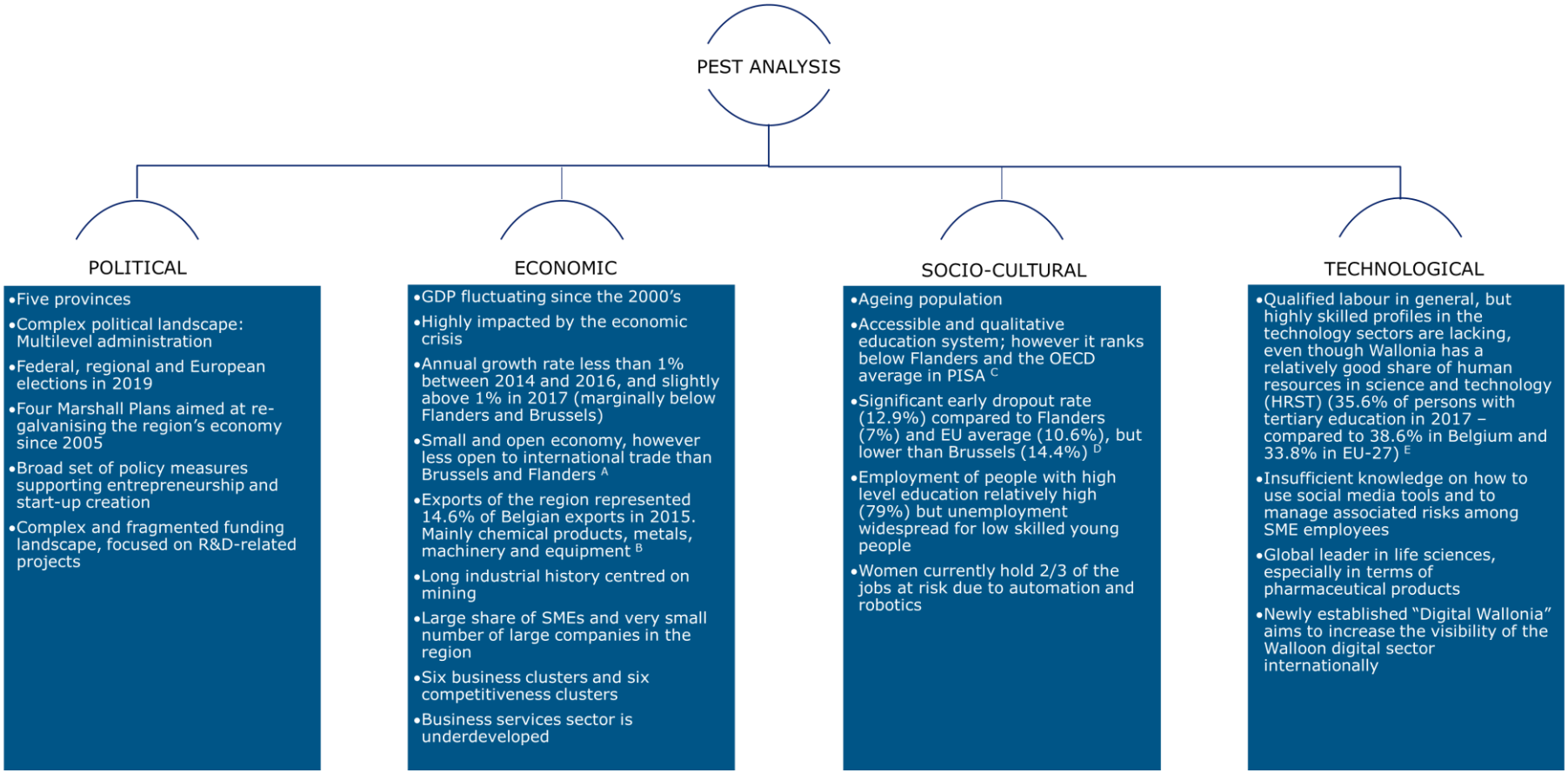
In a nutshell, a broad range of policy tools and instruments are already in place to support Walloon companies' growth. These are already oriented towards certain key societal challenges and megatrends such as the transition to a circular economy. However, it emerged from the policy review meeting that some of these initiatives are not necessarily well-known among their potential beneficiaries. Furthermore, stakeholders at the meeting insisted on the importance of the Region taking a stronger position on which societal challenges it wants to address as an overarching priority and adopting a series of coherent actions following this strategic positioning, and thus demonstrating the opportunity for the Region to move to a genuine challenge-based approach.

Before further elaborating on the next policy steps suggested for Wallonia (in the next chapter), the figure below presents an overview of the political, economic, socio-cultural and technological features (PEST) of the region, as identified and detailed in the assessment report.

[9]Public Service of Wallonia (SPW) (2012), *Towards a RIS 3 Strategy for Wallonia*, retrieved from: http://s3platform.jrc.ec.europa.eu/documents/20182/89065/AS_02+Background+01+Wallonia.pdf/788dbee7-fe9c-468e-8c28-3e666ae52a86

[10] AGORIA (2014), "Économie circulaire: comment participer au programme wallon NEXT?", retrieved from : https://www.agoria.be/fr/Economie-circulaire-comment-participer-au-programme-wallon-NEXT

Figure 5: The regional ecosystem and framework conditions in Wallonia



Source: EOCIC

[A] IWEPS (2018), *Exportations internationales de biens et services*, retrieved from: https://www.iweps.be/indicateur-statistique/exportations-internationales-de-biens-services/

[B] European Commission (2019), *Growth – Wallonia*, Retrieved from: https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/wallonia; Flanders Investments and Trade (2016), "Flemish exports reach new historic high", retrieved from: https://www.flandersinvestmentandtrade.com/en/news/flemish-exports-reach-new-historic-high

[C] Fédération Wallonie-Bruxelles scored 483 points (35th position), below the OECD average of 493 and Flanders scored 511 points (10th position). See: La Ligue de l'Enseignement et de l'Éducation Permanente (2016), "PISA 2015, l'écart se creuse entre la Wallonie et la Flandre", retrieved from: https://ligue-enseignement.be/pisa-2015-lecart-se-creuse-entre-la-wallonie-et-la-flandre/

[D] Eurostat (2018), "Europe 2020 indicators – Education", retrieved from: https://ec.europa.eu/eurostat/statistics-explained/index.php/Europe_2020_indicators_-_education; : La Ligue de l'Enseignement et de l'Éducation Permanente (2015), "Un jeune sur dix en décrochage scolaire", retrieved from: https://ligue-enseignement.be/un-jeune-sur-dix-est-en-decrochage-scolaire/

[E] Eurostat (2019), "HRST", Retrieved from: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=hrst_st_rcat&lang=en.

The PEST above shows that the region has a complex political landscape and some key socio-cultural challenges to address, as well as some skills gaps, especially in technology sectors.

Table 2: Strengths, weaknesses, opportunities and threats of industrial transition summarises the strengths, weaknesses, opportunities and threats of Wallonia in the context of its industrial transition.

Table 2: Strengths, weaknesses, opportunities and threats of industrial transition

Strengths	Weaknesses
• Features among the leading regions worldwide in life sciences, especially the pharmaceutical sector[11] – Strong bio and nano production. • Increasing collaboration between firms and other actors, especially universities. • Network of 25 thematic *Centres de compétences* (centres dedicated to training, professional development, accessibility and innovation). • The future needs in terms of skills were mapped in recent detailed prospective studies[12] which make it possible allows to apprehend education needs. • Walloon SMEs innovate more than the EU average[13] and the entrepreneurial culture is rising[14]. • R&D expenditures are higher than the EU and Belgian average in the business sector, but lower in the public sector[15]. • Programmes promoting entrepreneurship and creativity are available (e.g. Creative Wallonia). • Digital Wallonia promotes education, SME awareness and internationalisation of Walloon technology companies. • The region has been able to put in place a "one-stop-shop" that brings together financing opportunities for companies in a single place[16].	• Complex ecosystem with dispersed actors and sometimes overlapping roles. • Collaboration between competitiveness clusters, incubators and living labs is low[17]. • Clusters have increasing responsibilities to their members and to align with administrative requirements, whereas their funding and revenues have not increased at the same rate. • Complexity of support structures and programmes, while administrative procedures are not optimal and do not valorise R&D investments. Investments are focused mainly on R&D, rather than later phases of industrial development and commercialisation.[18] • Strict requirements for funding means that projects need a 'regional dimension' and that actors must be located in multiple locations (provinces) in the Region, which makes city-centred and interregional projects difficult to carry out. • Most Walloon firms are reluctant to go international, especially in traditional sectors (extractive, agricultural, food and manufacturing industries) and rarely participate in EU level projects and networks. • Companies do not see clearly what prospects and opportunities can arise from developing and participating in new projects. • Frequent lack of human and financial resources for Walloon companies to apply for EU-funded projects.

[11] Wallonia, *Leading sectors*, rRetrieved from : http://www.wallonia.be/en/leading-sectors

[12] AGORIA (2018), *Shaping the Future of Work*, retrieved from: https://www.agoria.be/fr/BeTheChange2030-L-evolution-du-marche-de-l-emploi-exige-des-mesures-fortes; FOREM (2018), "Métiers en tension de recrutement en Wallonie", retrieved from: https://www.leforem.be/MungoBlobs/1391440192010/Rapport__metiers_en_tension_de_recrutement_en_wallonie_2018.pdf

[13] European Commission, *Regional Innovation Scoreboard 2017 – Belgium* (see Wallonia), Retrieved from: http://ec.europa.eu/DocsRoom/documents/24166

[14] Stakeholder consultation (working session and Policy Review meeting).

[15] European Commission, *Regional Innovation Scoreboard 2017 – Belgium* (see Wallonia), Retrieved from: http://ec.europa.eu/DocsRoom/documents/24166

[16] 1890 Platform, Retrieved from: https://www.1890.be/

[17] Frédéric Poignant, *Enhanced Strategy for Economic Transformation based on Smart Specialisation*", Wallonia, 30 December 2018.

[18] Ibid.

	• Low entrepreneurial culture in general (yet increasing according to stakeholders). • Few medium-sized companies that can be scaled-up. • Skills shortage in high and low-tech sectors, and low investment of companies in lifelong learning programmes. • No systematic anticipation of educational needs and a training supply that does not reflect the needs of the market. • Lack of leadership and a clear piloting structure to drive, lead and scale up the region's economic transition strategy.
Opportunities[19]	**Threats**
• Transversal societal challenges can drive the fragmented ecosystem to collaborate further and build new industrial value chains and stimulate cross-sectoral innovation. • Walloon companies consider social media and new digital tools (e.g. IoT and Big Data) as instruments with great potential for improving their procedures and offerings. • The transition to a greener economy is an opportunity to innovate and develop new products in a region with high potential and a dedicated cluster for sustainable development. • Numerous financing solutions for innovative SMEs and projects are accessible (e.g. Sowalfin with EasyUp and EasyGreen).	• EU funding often targets big projects while Walloon companies' projects are smaller scale. • High competition for Walloon companies to apply for EU-funded projects. • There is insufficient availability of risk capital with a focus on the region to help industrialisation and SMEs to grow. • Other regions are more appealing so there is a risk of delocalisation. • New IT tools are challenging for many companies (e.g. big data and social media); • Other regions offer more attractive employment opportunities.

Source: EOCIC

The SWOT and PEST above analyses led to the formulation of four main challenges that need to be addressed by the region:

1. Collaboration between businesses and competitiveness clusters and with other actors in the ecosystem is not optimal and there is room for stimulation of cross-sectoral dynamics;
2. Difficulty in scaling-up innovation;
3. Scepticism about going international (to look for funding, partners or buyers);
4. Skills gaps in growing sectors.

The next chapter outlines a regional strategy to address the challenges outlined above.

[19] Stakeholder consultation (working session and policy review meeting).

3. Proposed strategy to address the challenges

The previous chapter outlines the main challenges faced by the region. These were further discussed with stakeholders at the policy review meeting, which enabled certain needs to be identified a number of potential solutions to be suggested. This chapter presents an overview of the challenges faced by Wallonia and how the region can start addressing these by putting forward two key actions.

Figure 6: Our understanding of the problemsFigure takes the main problems discussed in the previous chapter and describes how these are understood relative to their drivers and impact in the light of the PEST, SWOT and the insights gathered at the policy review meeting.

Figure 6: Our understanding of the problems

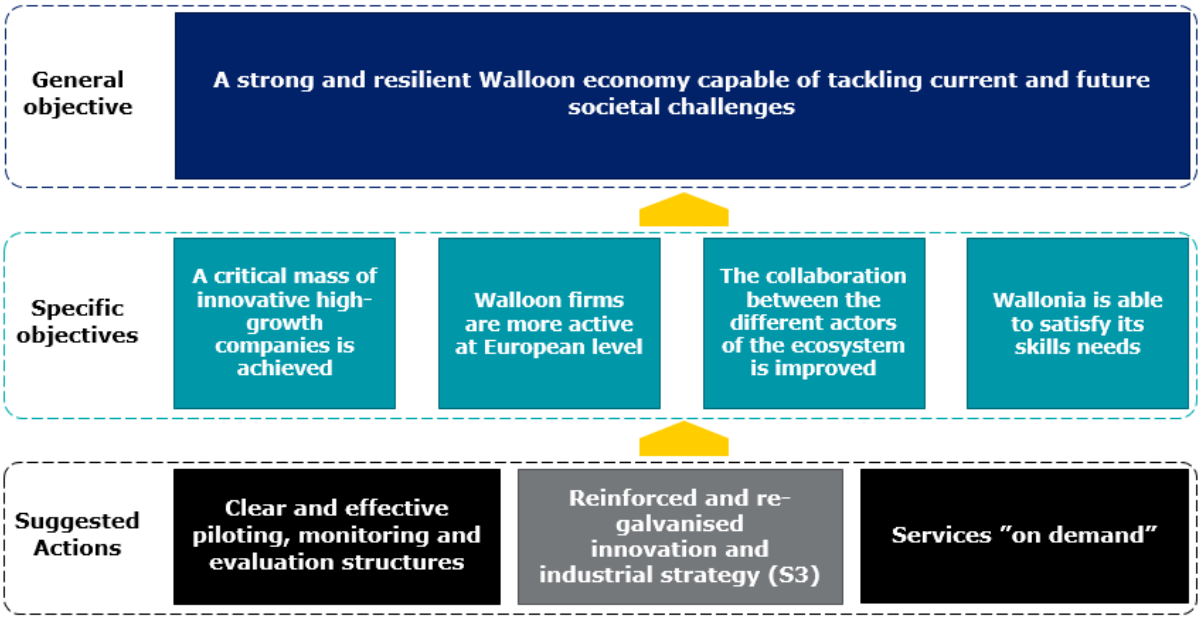
Source: EOCIC

As shown in Figure 6, **Wallonia has been facing difficulties in scaling up innovation for several years now and Walloon firms are still generally sceptical about internationalisation.** They are particularly reluctant to spend resources on looking for international funding, partners or buyers due to the high competition and perceived uncertainty. The main stakeholders also consider that **the Walloon ecosystem is fragmented.** They report an unclear definition of roles and responsibilities and limited collaboration between the different actors, for instance between businesses and competitiveness clusters. Moreover, the region has been facing **major skill gaps in certain key growth areas**, such as in digital specialisations. It emerged from the policy review meeting in particular that these challenges were being driven by a lack of leadership and monitoring capacity to implement and drive the S3, and also by the fact that the cluster membership system has a negative spillover effect. In fact, depending on members to finance their activities and achieve their full potential translates into a competitive mindset with their peer clusters and contributes to limited collaboration between clusters. The stakeholders also stressed the fact that **Wallonia has not defined a clear positioning strategy on how the S3 could help face the current societal challenges**. This also leaves the ecosystem in an ineffective status quo, as it does not provide the uplift to the region's talent, know-how and projects that it could.

For instance, stakeholders mentioned that stronger leadership and a policy with better defined priorities in term of which societal challenges to address could further stimulate innovation dynamics. In consequence, the Walloon economy is not strong and resilient enough to tackle current and future societal challenges.

In order to reverse the current trends, there are a few interventions that the region could put forward which would help achieve a stronger and more resilient economy capable of tackling current and future societal challenges. Figure 7 show a proposed regional strategy to reach this objective.

Figure 7: Proposed regional strategy



Source: EOCIC

Three interventions will help the region achieve the specific objectives shown in Figure 7 that, in turn, would allow Wallonia to become a stronger and more resilient economy. These three interventions consist of: firstly, reinforcing and re-galvanising the S3 (mainly by means of the High Impact Action proposed by the AMI expert); secondly, setting up a clear and effective piloting structure, as well as a monitoring and evaluation (M&E) structure to implement and drive the S3; and thirdly, establishing a "service on demand" system for clusters to deliver their services in a more transversal and cooperative manner.

The first intervention will be addressed by the High Impact Action (HIA)[20] being developed by an independent AMI expert together with the Region, in the context of a project for DG REGIO. The aim of the HIA is to put in place a **pilot to test the exploration of new innovative services and products by Walloon start-ups and SMEs** through the provision of support services and grants to innovative projects addressing key societal challenges. A key change brought by this HIA is that it implements a genuine challenge-based approach in that the EDP would be driven by the exploration of projects that aim to tackle societal challenges. The transition to a greener economy will be defined as an overarching priority in this discovery process. This challenge-based approach will potentially be scaled up for the S3, with a continuous mechanism driving the EDP and allowing permanent identification of new S3 niches. This will enable more flexibility in the discovery of new innovation projects and will go beyond the competitiveness clusters' areas of specialisation in order to enable a transversal approach and cross-sectoral dynamics involving SMEs and start-ups. The HIA will thus support the reinforcement and re-'galvanisation' of the region's S3.

[20] Frederic Poignant (2018), *Draft High Impact Action*.

The second key intervention will be highly inspired by the experience provided by the HIA and will also support the reinforcement and re-galvanisation of the region's S3. It consists of offering **support to the region in the definition and set-up of permanent piloting and monitoring and evaluation (M&E) structures for the governance of the S3**. The permanent piloting structure will be created building on the experience of the HIA's programme manager, who will be in charge of leading the pilot. A permanent M&E structure will also be established and will assist the piloting structure in its decision-making process by providing evidence based on a clearly defined M&E framework. These new S3 piloting and M&E structures, together with the work done through the HIA, will significantly reinforce and re-galvanise the S3, and will positively impact the specific objectives outlined in Figure 7. As mentioned above, the HIA will focus on a single societal challenge, namely the transition to a greener economy, but the challenge-based approach will be further expanded to address other challenges after the HIA.

Based on this EDP, **Wallonia will be able to adopt a stronger strategic positioning in terms of the challenges to prioritise**, which will be led and monitored by the new structures. This will define the mobilisation of efforts and resources with the aim of helping the region achieve a critical mass of high growth companies in the priority areas and tackling key societal challenges more effectively. This reinvigorated leadership will also take into consideration a clearer definition of the roles and responsibilities of actors in the ecosystem in order to facilitate collaboration between them. Lastly, it will focus on helping companies to access the resources made available to help them grow and especially focus on supporting and encouraging them to participate in more projects at the European level.

The third key intervention consists in developing **a 'service on demand' system for clusters**. Currently, the Walloon clusters' model is based on a membership fee system that allows members to access the cluster's services. Yet, it came out at the policy review meeting that this system was an obstacle to the collaboration between different actors and clusters, and that it made it difficult for smaller businesses to access useful cluster services from different clusters. Thus, establishing a 'service on-demand' system would allow clusters to offer their services not only to their members, but also to actors other than their members on an ad-hoc basis and for a fee.

The aim is to increase the networking and collaboration opportunities for actors to exchange ideas and stimulate cross-sectoral innovation by breaking out of existing silos. If successful, the next step could be for clusters to work together to offer common 'services on-demand' in order to develop new and more transversal services for companies, always in line with their roles in the ecosystem. For instance, they could develop innovative Life Long Learning (LLL) initiatives linking to the chosen strategic societal challenges targeted by the new S3 approach (e.g. transition towards a greener economy and further challenges resulting from the EDP). This third intervention mainly aims to improve collaboration between actors and stimulate transversal innovation while also contributing to growing a critical mass of innovative companies. Moreover, in the future it could have a broader potential depending on the type of new services undertaken, such as filling the existing skills gaps in the region.

The next chapter explains these proposed interventions in more depth, illustrating their benefits and costs, as well as the risks and the potential challenges to implementing them.

4. Specific recommendations for policy intervention

4.1. Piloting and monitoring and evaluation structures for the Walloon S3

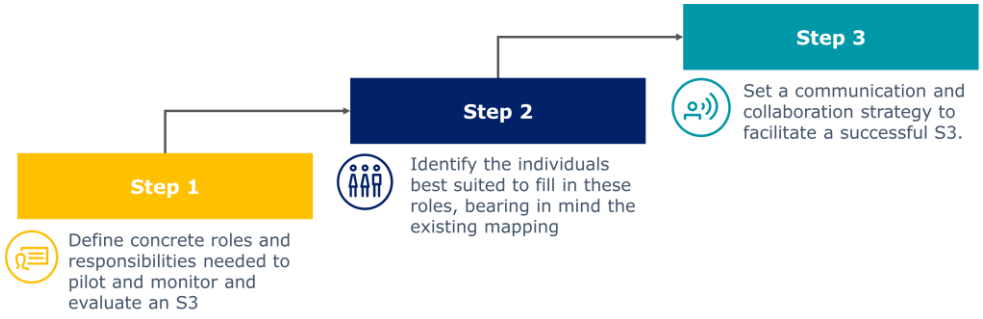
In order to support the improvement of the Walloon S3, which will be initiated through the High Impact Action (HIA) referred to in the previous chapter, a clear piloting and monitoring and evaluation (M&E) structure will need to be developed.

4.1.1. Description

Despite the existence of general guidelines to support regions in the implementation of their S3, translating them into practice is a recurring issue for many regions, in particular when it comes to piloting, and monitoring and evaluation.

In line with the JRC's publication *Guide to Research and Innovation Strategies for Smart Specialisations (RIS 3)*[21], Wallonia has carried out a first exercise to describe the current governance and monitoring framework[22]. This identified key administrative actors (at government and agency level) with a role in the S3, the stakeholders concerned by this strategy, set out the competitiveness clusters as the central players, and referred to their strong evaluation culture. Nevertheless, it did not go into further detail on the specific roles and responsibilities of these different actors for the piloting and M&E of the S3. The first recommendation will aim to take taking over this second exercise and define the key pending actions to achieve a clear piloting and M&E structure. Figure 8 summarises the key actions/phases:

Figure 8: Steps in the implementation of the Piloting, and Monitoring and Evaluation structures



Source: EOCIC

The first step will involve **concretely framing the requirements** to ensure the S3 does not remain theoretical but is implemented appropriately by the different actors and the expected benefits can in fact be drawn on. The piloting structure will have to translate the S3's long term goals into more concrete and operational tasks and missions for the different stakeholders, in order to ensure better engagement and ownership on the part of each actor. The piloting structure will need to determine the inputs (what is needed and what is available), expected outputs (short to medium term) and foreseen outcomes

[21] European Commission (2012), *Guide to Research and Innovation Strategies for Smart Specialisations (RIS 3)*, http://s3platform.jrc.ec.europa.eu/documents/20182/84453/RIS3+Guide.pdf/fceb8c58-73a9-4863-8107-752aef77e7b4

[22] Public Service of Wallonia (2012), "Stratégie de Spécialisation Intelligente de la Wallonie Vers une politique régionale d'innovation industrielle durable"

(medium to long term), and define clear KPI's that will help ensure monitoring and evaluation. Moreover, the piloting structure will need to guarantee communication between administrations and with stakeholders to secure understanding and take-up.

The development of the M&E structure will also require **definition of concrete responsibilities and a strict timeline.** The M&E structure will need concrete objectives and tasks that will allow it to oversee whether the strategy is implemented effectively, and a set of milestones to respect in order to make sure that any issue can be resolved efficiently. This will mean having a mechanism in place that allows it to find the source of the issue and propose mitigation.

Once the roles and responsibilities are clarified, the next step will be to **identify the individuals who are best fitted to the job** and what structure would be the most efficient and effective to get the work done. A good starting point would be the JRC guidelines referred to above, with a few changes to adapt them to the region's context. Based on the discussions with stakeholders, it would be important to have one or two people fully dedicated to leading the piloting structure, who would be supported by a number of individuals from different key organisations ensuring a *quadruple helix* model[23]. Concretely, we recommend the following:

- Two S3 co-managers from the regional administration, fully dedicated to driving the S3. Their profiles would be built based on the experience of the programme manager who will lead the pilot developed in the HIA. This will make it possible to build on lessons learnt in a relevant context;
- A Steering Group to secure political leadership, with representation from key enterprises (preferably from diverse sectors), the Regional government's 'cabinet' (staff attached directly to the government), and one or two representatives of the working group described in the next bullet point;
- A Working Group to ensure intellectual leadership. This will be composed of representatives of both competitiveness and business clusters, research centres and academia, as well representatives of the administrative actors identified in the first mapping of the governance of the S3 and of groups speaking for demand-side perspectives and consumers.

For the M&E, we recommend having a different structure from the one for piloting although with a close collaboration between both. While M&E are usually referred to in a combined manner, monitoring and evaluation differ from each other. The first looks into verifying that inputs are used to deliver outputs and work towards the desired outcome, while the second assesses the results and seeks to understand why and how they are achieved or not. There are synergies between both tasks and having one common person contributing to both can help carry them out effectively and efficiently. Half a full time equivalent (FTE) from the Walloon public administration should be able to do the job, and it would be desirable that he/she engages with international peers who can offer benchmarking. Nevertheless, an external evaluator is also needed to guarantee that there is no bias in the results of the evaluation. This could be IWEPS[24], who are currently the official independent evaluators of the Marshall Plans.

Finally, the last step in successful implementation of this intervention would be to develop **a solid communication and collaboration strategy.** As previously pointed out, the different structures and actors will need to collaborate and exchange with each other to ensure common understanding,

[23] i.e. representing industry, education and research institutions, government, and groups representing demand-side perspectives and consumers.

[24] Institut Wallon de l'évaluation, de la prospective et de la statistique (Walloon Institute for evaluation, forecast and statistics).

consensus and ownership so the S3 can be a success. Two types of collaboration and communication will be key for this intervention and will need to be addressed:

- Amongst the different individuals part of the piloting structure;
- Between the piloting structure and the M&E structure.

In terms of timing, **implementation of this intervention would, ideally, start in parallel to the pilot**, developed as part of the HIA, so it can build on lessons learnt from the management of this action. This will ensure that the roles and responsibilities are established based on a tried-and-tested foundation by the time the re-galvanised S3 is put in place. Subject to the final planning of the pilot, the first step would start at the beginning of 2020 so that the HIA has progressed enough to feed into having a very clear **first draft of the role and responsibilities of the piloting and M&E structures by end of May 2020** so step two can start by June 2020. While the search for the individuals who are best fitted for the job is under way, the roles and responsibilities will continue to be fine-tuned. These will be finalised together with the chosen structures (ideally identified by end of October). Step three will inevitably start shortly after the start of step one, as **collaboration and communication needs will naturally arise from the definition of roles and responsibilities and** will end after the different actors of the structures have agreed on the best practices. It would be desirable for the procedure (different steps) for the M&E structure to take place, if not at the same time, then shortly after that of the piloting structure so that step three can be concluded on time.

The overall approach and implementation should be assessed at the same time as the expected first evaluation of the HIA, i.e. during the fourth quarter of 2020.

4.1.2. Benefits and Costs

The aim of this intervention will be to ensure that the re-galvanised S3 is put in place effectively and can be continuously improved thanks to strong monitoring and evaluation. Having a structure that oversees the progress of work done and provides regular actionable feedback to correct inefficiencies and enhance good performance could be very beneficial for a successful S3.

Likewise, as explained in the description above, **developing a collaborative leadership that involves a broad array of actors in the piloting of the S3 will make it easier to ensure consensus and uptake of the strategy.** This interactive approach could improve communication and collaboration between different regional actors, potentially decreasing the duplication of effort in achieving a goal and increasing the opportunities to develop a transversal attitude to innovation. Consequently, this would allow for a more effective and efficient ecosystem.

Moreover, in addition to bringing extra views to the table to provide fresh ideas, having a clear managerial role fully and solely dedicated to leading the strategy would bring a drive to progressing towards decision making. This would enable **a well-established and articulated S3 with potential to concentrate on the opportunities that can emerge from participating in EU calls for projects and funding.**

As for the costs, **there would be a need to invest further both in terms of time and additional human resources.** While most of the individuals involved in the development of this intervention already have a role and a vested interest, and the (re)definition of clear piloting and M&E structures should lead to a more efficient use of their time (in the longer term), the initial effort would be noteworthy. Defining the roles and responsibilities, looking for the key components of the structures, transitioning from old habits to new methods, and further developing the collaboration and communication between actors would require some time before the efficiency takes over.

Furthermore, both structures would require an investment in two and a half additional FTEs: two full-time S3 co-managers for the piloting structure, and one part-time administrative staff person for the M&E structure. In monetary terms, this investment would entail:

- EUR 25 000-35 000 per year for the two S3 co-managers, which would be a recurring cost if the intervention was successful and the co-managers were kept in the long term (plus salary increases and inflation-linked increases);
- EUR 25 000-30 000 per year for the half time administrative staff person responsible for monitoring and evaluation of the S3, subject to the same recurrence and increases as the S3 co-manager if the intervention is a success.

4.1.3. Risks

The main risks and challenges in the implementation of the piloting and M&E structures are linked to the interest and involvement of the different actors in their role and the S3. Indeed, the fact that a series of guidelines in this area has existed in the past and did not lead to anything concrete that could support the current S3 might be a cause for concern. The following risks have been identified:

1. **The intervention is not considered a political priority by the Government in place** and is either pushed to the background or not enough resources are dedicated to it for it to be implemented successfully. While the political leadership is not the only level of leadership required to carry out this intervention, it is a decisive one for ensuring its full success. Nonetheless, industrial policy has been prioritised in recent years so, bearing in mind the potential benefits this intervention could bring to Walloon industrial policy, this should not change and, thus, not be an issue.
2. **Not being the centre of the S3 with the consequence that governance might lead to lower interest and engagement from the competitiveness clusters.** Competitiveness clusters are not the only actors necessary for the leadership structures to work and achieve success. However, a lack of involvement from their side might lead to under-representation of their areas of expertise, which currently represent key industries in Wallonia that need to be involved. Nevertheless, the clusters have been actively involved in the discussions leading to this recommended intervention, so this recommendation is likely to be well received and accepted by the clusters.
3. **The Steering Group and/or Working Group do not meet as frequently as would be necessary because they do not consider their involvement, or the strategy a number one priority compared to their other responsibilities.** Losing one or more of the pillars of the piloting structure would make it difficult to drive the S3 to success, regardless of the co-managers' work and motivation. Moreover, this would make ownership and understanding more difficult amongst the different actors in the Walloon ecosystem. However, agreeing on these aspects before the structures start their tasks, and ensuring that the administration oversees and is involved in the process to ensure it is enforced should mitigate this risk.
4. Similarly to the above, **if the different bodies do not dedicate enough time and effort to collaborate because they do not consider it necessary or a priority, this could lead to inefficient piloting and M&E structures.** It will be more difficult for them to carry out their tasks and achieve their goals, and the main aim of the intervention might consequently not be achieved. Nonetheless, the same considerations as in the previous point would apply and mitigate this risk.

In line with the last point, although not necessarily related to the involvement of actors in the piloting and M&E structures, one final risk should be taken into consideration: **results and observations from the evaluation structure are not taken into account to improve the piloting of the S3**. This would be a fundamental problem and would lead to inefficient and potentially ineffective implementation of

the S3. Moreover, it would make the investment dedicated to the M&E structure a waste of time and money. Nevertheless, here again, the same considerations as in all the previous points apply and should counteract this risk. Indeed, between the interests of each party in making this work, and the development and agreement of clear rules to ensure that the roles and responsibilities are respected, this should not become an issue.

4.2. 'Service on demand' approach in clusters

As mentioned previously, the development and work of the two types of clusters have been key in Wallonia's industrial policy. Through different roles and responsibilities, clusters help their members achieve a series of objectives that have the potential to bring value to the entire ecosystem. As defined by the Service Public Wallonie (SPW)[25]:

- Competitiveness clusters offer support to reach "global competitiveness in key domains by developing niche markets";
- Business clusters foster "networking, cooperation and innovation throughout the whole economy in Wallonia".

As key actors of the Walloon ecosystem, their ability to involve other actors, offer them useful services and promote collaboration is fundamental, although it is not as easy as might be hoped. This is why the second intervention will be linked to developing a 'service on demand' approach in clusters.

4.2.1. Description

As touched on above, the second intervention will be to develop a 'service on demand' approach. This would **open up the clusters' current services to a broader public** (not necessarily only their members). This could improve the effectiveness of these services by also facilitating new opportunities for collaboration. Furthermore, this approach could help tackle certain issues that arise from the membership structures, such as the inability of certain actors to pay for multiple memberships, or the competition between clusters (versus collaboration) to attract members and consequently funds.[26]

For this intervention, we would recommend using a pilot to first **test the approach on a smaller scale**, to ensure its feasibility and utility before promoting its use on a larger scale. Nonetheless, communication with and engagement of all clusters from the start would be preferable to ensure they understand the intention, to leverage their networks to promote the pilot and get participants to try it.

After having communicated with the clusters and chosen those to be part of the pilot, an assessment of one or two of the cluster's existing services that would be best for the first trial would be necessary. The choice should be based, to the extent possible, on the uniqueness of the service(s) to make it easier to attract participants and secure the willingness of the other clusters to share and promote it in their networks. It is important to note that **the aim is to choose the 'service on demand' from the current portfolio of services of the cluster and not develop new services** that are outside the scope of the cluster's responsibilities. For example, some clusters organise trade missions for their members. These are usually very attractive to many other companies that would prefer to join the organised mission rather than having to plan and prepare it themselves. Thus, the conditions for the participation of non-cluster members would need to be determined, as members for their part would be able to register and benefit from the service(s) in line with the conditions of their membership. The price would need to be

[25] PowerPoint presentation from by Florence Hennart on "Smart Specialisation Strategy and Cluster Policy in Wallonia".
[26] We understand that this intervention might need to be contemplated as part of a larger reflection about the way clusters are financed.

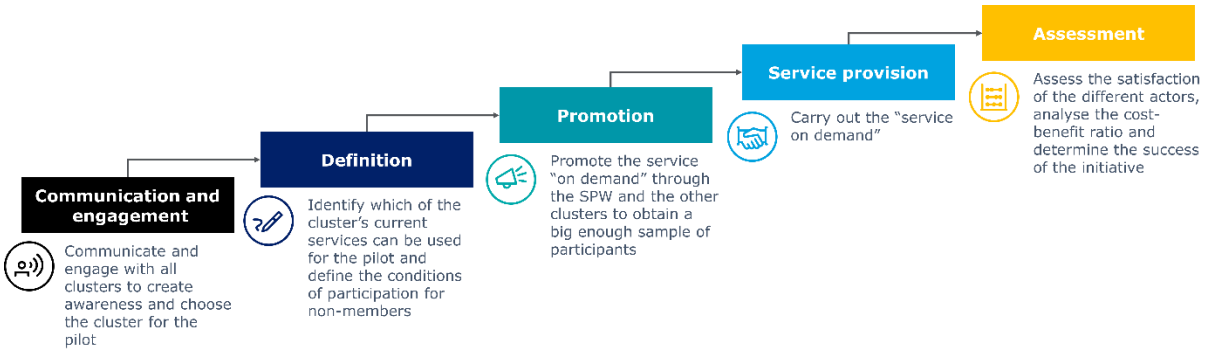
set at a level that is viable for the development of the service and that does not discourage current members from maintaining their membership, while being attractive enough for others.

Once the format and conditions have been determined, **a significant effort to promote the 'service(s) on demand' will be crucial** in order to have a large enough sample of people participating to later assess the viability and success of the approach. In the same vein, and as mentioned above, engagement from other clusters will make it easier to achieve the goal efficiently.

Finally, **an assessment of the satisfaction of the different actors and a cost-benefit analysis** will need to be carried out to measure the success and viability of the approach. It might be helpful (although not absolutely necessary) to engage the services of an external professional to support or fully perform such an exercise and/or the development of the pilot for this intervention.

Figure 9 gives an overview of the key steps in implementing the "service on demand" approach:

Figure 9: Key steps towards "service on demand"



Source: EOCIC

If the pilot is a success, the exercise could be replicated in the other clusters (taking into account any necessary fine-tuning to make improvements as relevant). If desired, the concept could also be broadened progressively. Concretely, the services involved could be expanded to include new services, developed in collaboration with other clusters in line with their roles, on interesting topics linked to the societal challenges from the re-galvanised S3, such as a LLL. **Moreover, if the intervention were to reach a sufficient level of success and maturity, a platform could be developed to further foster involvement and collaboration between the different ecosystem actors**. The platform could allow different actors to put forward innovative ideas of services to develop 'on demand', and others would be able either to propose their support in the development of the service or register their interest in having it. The platform should preferably be hosted as part of one of the SPW's websites to make it easier for the users to find it amongst other related regional support tools.

In terms of timing, contrary to the first intervention, which entails a stricter timeline to align with the HIA, implementation of the **'service on demand' can be more flexible**. Nevertheless, as this intervention could bring significant added value in various domains, we recommend starting work on it as of April 2019, raising awareness amongst clusters and deciding which cluster will be part of the pilot. Once this is done (approximately mid-May 2019), the cluster would be able to start working on the choice of service(s) and conditions to propose. This should be manageable in a six-to-eight week timespan, enabling work to start on the promotional activities during the months of July-September 2019 in time to offer the (first) service around mid-October 2019. Once the 'service on demand' has been used, the satisfaction assessment and the cost-benefit analysis should take place to draw conclusions, and decide the viability of the intervention and the next steps. If full implementation is endorsed, then it should be kicked off as soon as possible to ensure that the momentum does not dissipate.

4.2.2. Benefits and Costs

As mentioned above, although this intervention mainly involves clusters, it has a number of potential **benefits** that can favour the wider Walloon ecosystem. These benefits generally relate to more and improved collaboration, new and/or better access to services, and different solutions to financial concerns.

Firstly, the implementation of the 'service on demand' approach could have the potential to impact positively on collaboration at different levels of the ecosystem, including all four components of the quadruple helix. For example:

- **Between all actors:** by opening up the participation to a broader array of actors and not only the cluster's 'usual suspects', an opportunity arises for members to meet non-members with common interests and with whom a valuable relationship could be established. This could, for instance, lead to new unsuspected value chains. This could also be open to actors from other Belgian Regions, which could further expand the number of opportunities.
- **Between clusters:** this could be by the simple fact that members with low financial resources do not need to choose one cluster over another, so the clusters do not to actively compete for fees. Or because clusters can choose to develop joint 'on demand services' that can benefit both of them, without excluding either their members or any other Regional actor.

In turn, the improvement in collaboration could lead to **new opportunities**. New value chains could develop thanks to the new relationships from enhanced collaboration. Clusters could develop new and better services for their members and the ecosystem, including learning opportunities that fill gaps that are common to different sectors. Overall, there would be more circumstances conducive to implementing transversal approaches and cross-sectoral dynamics, and involving start-ups and SMEs.

Finally, the intervention would also bring **financial benefits for clusters, their members and other Regional actors**. On the one hand, clusters would have an additional source of funding that would come from the participation of non-members in their 'service on demand' offering. On the other, the different ecosystem actors would be offered the chance of benefiting from services that would otherwise require paying an annual membership fee, while making a lower contribution. This advantage would both serve actors who are already members of another cluster without them needing to change their membership or pay twice, as well as players who do not invest in such memberships – either because they cannot afford to or because the cost-benefit ratio is not interesting enough.

As for the **costs**, these will mainly depend on the decision on whether or not to contract support services to develop and evaluate the 'service(s) on demand' pilot. If external support is requested, an approximate budget of EUR 40 000-50 000 would need to be taken into consideration. Otherwise, the investments would be in the time devoted by the administration and the cluster directly involved in the pilot in designing and assessing the results, as well as, to a lesser extent, the time dedicated by the other clusters to communicate amongst their networks.

If the pilot proved to be a success and the decision to continue were taken, additional effort would be needed in terms of the time of the clusters implementing the approach. However, the involvement of an external expert should not be necessary; the clusters and the Region would be able to work using the previous experience, lessons learnt and recommendations from the final assessment.

4.2.3. Risks

In terms of risks and challenges in the implementation of the 'service on demand' approach, the following are worth highlighting:

1. **Lack or low take-up by the clusters due to low resources and other priorities that are considered more pressing.** This would be a fundamental roadblock as involvement of at least one cluster is necessary to lead the pilot, and having all of them involved would facilitate a swift and efficient pilot. However, this should not be an issue if the benefits of the approach are clearly presented and the administration offers support during the entire duration of the intervention, potentially with a service provider to help as well.
2. **Difficulty in determining the right conditions for the participation of non-members in the 'service on demand'.** In particular, if the price is too low it might lead to unhappy members who rethink their annual membership. This could have a significant short-term impact on the cluster's available funds. If the price was too high, it might not attract enough non-member participants to be able to assess the usefulness of the approach. Likewise, choosing a service that it not unique enough might not appeal to enough participants to evaluate the viability. Nonetheless, dedicating enough effort to the preparatory steps should lead to an attractive enough 'service on demand' to reach the target audience.
3. **Clusters do not see the approach as an opportunity but rather as a new threat from other clusters.** Their currently natural competitive mindset might be difficult to change into a collaborative one as they are used to competing to attract members in order to assure their finances. This could work against the success of the pilot and/or negatively impact on the intervention's expected benefits. Nevertheless, based on the discussions with the different stakeholders, if the opportunity arises, clusters are more inclined to work together to reach common goals.

5. Roadmap and action plan with activities, timeframe and actors

To deliver the specific recommendations set out in Chapter 4, the table below summarises the actions required, their timing and the relevant action owner. The timing of the actions related to the first intervention may, however, vary in line with the progress and requirements of the HIA.

Table 3: Action plan

Action	Timing of the action	Owner of the action
Piloting and monitoring and evaluation structures for the Walloon S3		
Frame requirements for piloting structure.	Start of 2020, with a first draft by end of May 2020	SPW and Cabinet of the Regional Minister of Economy
Frame requirements for M&E structure.	Start of 2020, with a first draft by end of May 2020	SPW, Cabinet of the Regional Minister of Economy and IWEPS
Recruit two S3 co-managers.	June to end of October 2020	SPW
Set up Steering Group.	June to end of October 2020	SPW and Cabinet of the Regional Minister of Economy
Set up Working Group.	June to end of October 2020	SPW and Cabinet of the Regional Minister of Economy
Finalise role and responsibilities for piloting structure.	November to end of December 2019	SPW, Cabinet of the Regional Minister of Economy and selected piloting structure
Finalise role and responsibilities for M&E structure.	November to end of December 2019	SPW, Cabinet of the Regional Minister of Economy, IWEPS and selected piloting structure
Define collaboration and communication guidelines amongst and between both structures.	In line with the first action (beginning of 2020) to end of December 2020	SPW, piloting structure and M&E structure
Start of operations.	Beginning of 2021	Piloting structure and M&E structure
First evaluation of intervention.	During the fourth quarter of 2021	SPW and IWEPS
'Service on demand' approach in clusters		
Awareness-raising amongst clusters.	April to mid-May 2019	SPW
Choice of cluster for the pilot.	Mid-April to mid-May 2019	SPW in discussion with all clusters

Action	Timing of the action	Owner of the action
Choice of the service(s) to propose as a 'service on demand' and conditions to propose.	Mid-May to end-June 2019	Chosen cluster, SPW and, potentially, external service provider
Promotional activities for the 'service on demand'.	July to end-September 2019	Chosen cluster, SPW and other clusters using their networks
Provision of 'service on demand.	Mid-October 2019	Chosen cluster
Satisfaction assessment and cost-benefit analysis.	After the provision of the "service on demand"	Chosen cluster, SPW and, potentially, external service provider
(If successful and viable) repeat the steps again, taking into consideration lessons learnt.	After the positive assessment and conclusion is reached	SPW and clusters

European Observatory for Clusters and Industrial Change

The European Observatory for Clusters and Industrial Change (#EOCIC) is an initiative of the European Commission's Internal Market, Industry, Entrepreneurship and SMEs Directorate-General. The Observatory provides a single access point for statistical information, analysis and mapping of clusters and cluster policy in Europe, aimed at European, national, regional and local policy-makers, as well as cluster managers and representatives of SME intermediaries.

The aim of the Observatory is to help Europe's regions and countries design better and more evidence-based cluster policies and initiatives that help countries participating in the COSME programme to:

- develop world-class clusters with competitive industrial value chains that cut across sectors;
- support Industrial modernisation;
- foster Entrepreneurship in emerging industries with growth potential;
- improve SMEs' access to clusters and internationalisation activities; and
- enable more strategic inter-regional collaboration and investments in the implementation of smart specialisation strategies.

In order to address these goals, the Observatory provides a Europe-wide comparative cluster mapping with sectoral and cross-sectoral statistical analysis of the geographical concentration of economic activities and performance, made available on the website of the European Cluster Collaboration Platform (ECCP) [27]. The Observatory provides the following services:

- **Bi-annual "European Panorama of Clusters and Industrial Change"** that analyses cluster strengths and development trends across 51 cluster sectors and 10 emerging industries, and investigates the linkages between clusters and industrial change, entrepreneurship, growth, innovation, internationalisation and economic development;
- "**Cluster and Industrial Transformation Trends Report"** which investigates the transformation of clusters, new specialisation patterns and emerging industries;
- **Cluster policy mapping** in European countries and regions as well as in selected non-European countries;
- "**Regional Eco-system Scoreboard for Clusters and Industrial Change"** that identifies and captures favourable framework conditions for industrial change, innovation, entrepreneurship and cluster development;

[27] European Cluster Collaboration Platform, *Official Website*. Available at: https://www.clustercollaboration.eu/.

- **Updated European Service Innovation Scoreboard**[28], that provides scorecards on service innovation for European regions;
- **"European Stress Test for Cluster Policy",** including a self-assessment tool targeted at cross-sectoral collaboration, innovation and entrepreneurships with a view to boosting industrial change;
- **Customised advisory support services** to twelve selected model demonstrator regions, including expert analysis, regional survey and benchmarking report, peer-review meeting, and policy briefings in support of industrial modernisation;
- **Advisory support service to European Strategic Cluster Partnerships**, in order to support networking between the partnerships and to support exchanges of successful practices for cross-regional collaborations and joint innovation investments;
- **Smart Guides** for cluster policy monitoring and evaluation, and for entrepreneurship support through clusters that provide guidance for policy-makers; and
- **Brings together Europe's cluster policy-makers and stakeholders** at four European Cluster Policy Forum events, European Cluster Days, and at the European Cluster Conference in 2019 in order to facilitate high-level cluster policy dialogues, exchanges with experts and mutual cluster policy learning. Two European Cluster Policy Forums took place in February and April 2018, and the European Cluster Conference is scheduled for 14 to 16 May 2019 in Bucharest (Romania).
- Online presentations and publications, discussion papers, newsletters, videos and further promotional material accompany and support information exchanges and policy learning on cluster development, cluster policies and industrial change.

More information about the European Observatory for Clusters and Industrial Change is available at: https://www.clustercollaboration.eu/eu-initiatives/european-cluster-observatory.

[28] Previous versions for 2014 and 2015 were developed by the European Service Innovation Centre (ESIC), see http://ec.europa.eu/growth/tools-databases/esic/index_en.htm.

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