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# Brussels, region of knowledge?

Synopsis, CFB No. 12

*Bruxelles, région de la connaissance ?*

*Brussel, een kennisregio?*

**Benjamin Van Camp and Olivier Witmeur**

Translator: Jane Corrigan



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Synopsis nr. 12

## Brussels, region of knowledge?

B. Van Camp, O. Witmeur

Translation : Jane Corrigan

• **Benjamin Van Camp** is honorary dean of the VUB (00-08) and department head of the university hospital UZ Brussels. He is chair of the exam group "Hematologie faculteit Geneeskunde VUB" and of the strategic committee "Comitee Universitair Beleid van het UZBrussel". He is also a member of several scientific committees and boards of directors.

Contact : [ben.vancamp@uzbrussel.be](mailto:ben.vancamp@uzbrussel.be) - ++32 (0)2/477.62.11

• **Olivier Witmeur** is a professor of entrepreneurship at Solvay Brussels School of Economics and Management (ULB). He is also President of the Conseil de la Politique Scientifique de la Région de Bruxelles-Capitale and administrator of several innovative SMEs.

Contact : [olivier.witmeur@ulb.ac.be](mailto:olivier.witmeur@ulb.ac.be) - ++32(0)2/650.41.61

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IHECS  
Rue de l'Etuve 58-60  
1000 Brussels



## I. Observations

### 1. *The importance of knowledge for Europe and Brussels*

There are more than 70,000 students in higher education in the Brussels Region. The diffusion of knowledge based on academic research and/or the experience of practitioners is organised on university campuses and in colleges of higher education in the 19 municipalities. Higher education staff also represent more than 14,000 assistants, researchers and administrative and logistic support staff. This exceptional concentration of educational and research activities should – in principle – position Brussels among the leading stakeholders in the knowledge society.

The development of a knowledge society is part of an evolution of economic production factors. Whilst initially, the main production factors were labour and capital, today it is an accepted fact that knowledge constitutes a third essential pillar for western economies. Thus, economic, social and environmental development are also based on innovation and the creation of new knowledge in training and academic research centres (e.g. universities) and industrial research centres (i.e. companies of all sizes), or various thinktanks. This is the reason why the European Union encourages the member states to significantly increase the amount of expenditure on research and development (R&D) with the objective to reach 3% of the gross domestic product.

Certainly more than elsewhere, these activities are crucial in Brussels, where they must contribute to creating an economic fabric adapted to the characteristics of a city-region. Unfortunately, for lack of short-term visibility, they are rarely placed at the centre of debates on the future of the region.

2. *The knowledge economy is based on a process of development and promotion of research*

The promotion of research and the development of a knowledge society involves the command of a value chain which, from upstream to downstream, covers a wide range of activities, including basic or ongoing training, basic research, applied research, development activities, the creation of organisations in charge of promotion (new or within existing entities), and the development of these organisations. Furthermore, the smooth functioning of this chain involves a series of support activities in relation to the management of intellectual property, scientific assessment, technical and commercial evaluation, management support, financing, development of support infrastructures, etc. Positioning Brussels as a city of knowledge involves the control of all of these activities.

3. *The Brussels-Capital Region has limited competences in terms of scientific policy*

In Belgium, the communities are competent as regards affairs involving individuals, and the regions as regards those involving the territory. The communities therefore manage education and research in this respect; this includes basic and applied research in universities and associated colleges of higher education, the popularisation of science and the scientific institutes dependent on the communities. The regions manage the aspects of economic assistance and technological innovation as well as the corresponding research activities; this includes basic assistance provided to industry, the development of new products and processes and technology transfers. The federal authorities manage federal scientific institutes and research in the fields of aerospace and nuclear technology. The scope of the Brussels-Capital Region is therefore limited, and the full management of the value chain involves collaborations with other entities. The regional operators are also confronted with the limits of the territory and the competences of the Brussels-Capital Region, and on a regular basis are precariously balanced with respect to the other regions and communities.

4. *Few data are available for the study of the situation in Brussels*

The Brussels-Capital Region has few statistics and studies to define, manage and evaluate its scientific policy and its support for innovation. The majority of data available come from inter-regional or inter-community comparisons, or even from European studies which do not examine the Brussels regional phenomenon fully. Furthermore, the majority of data available are focused on a link in the value chain, whereas it is essential to adopt an integrated approach. Consequently, although the data allow a basic idea of the situation in Brussels, they do not allow a more in-depth analysis.

5. *Research in Brussels represents a very important economic activity as such, which is strong in the academic world, and weaker in the industrial world*

There are more than 13,000 people involved in scientific research activities in Brussels, more than 9,000 of whom are researchers.<sup>1</sup> As a comparison, the numbers reach more than 47,000 people in Flanders (more than 27,000 of whom are researchers) and more than 18,000 people in Wallonia (more than 11,000 of whom are researchers). A closer analysis of the figures reveals that, compared with the two other regions, scientific employment in Brussels is more significant in the academic sector (approximately 2/3 of jobs) than in the industrial sector (approximately 1/3 of jobs), whereas this proportion is reversed in the other regions.

With two complete universities (ULB, VUB), two incomplete universities (FUSL, K(H)UB), the UCL Faculty of Medicine, many colleges of higher education and institutes of higher education (e.g. de Vinci, de Brouckère, Spaak, Erasmus, EHSAL, Haute Ecole de Bruxelles, Ferrer, the group ICHEC - ISC Saint-Louis - ISFSC, La Cambre, etc.) and three university medical centres (associated with UCL, ULB and VUB), the Brussels Region is home to a large number of researchers and has great potential. Unfortunately, due to the structure of the regional industrial fabric, companies in Brussels tend to be less innovative than their neighbours.<sup>2</sup> The existing upstream scientific potential therefore does not always have downstream support when it comes to promotion. The region lacks a decision centre for established companies and entrepreneurs ready to develop companies with high growth potential. Furthermore, resources (facilities, financial means, etc.) are scattered among multiple stakeholders with different approaches (students, education centres, research centres, big companies, small companies, institutions under the remit of one or both communities, etc.). Finally, as it is common practice for research institutions to promote their knowledge with economic partners sometimes established outside the region, it would be preferable for a better institutional framework for Brussels to exist, regulating relations between the different partners.

6. *The knowledge economy is not limited to R&D*

In addition to traditional life sciences and applied science, research in social science has experienced significant growth. The knowledge produced by the latter not only has an essential impact on the socioeconomic development of service activities, but it also has a significant influence on the evolution of our views and the very organisation of our societies. A good example is the research conducted on the specificities of Brussels (see the 'Brussels Studies' publications) in which diversity, multiculturalism, multilingualism and the issue of social integration are studied in depth and prompt new initiatives at many levels.

The development of the knowledge society and innovation is not only based on the promotion of research. It also takes advantage of a climate which is favourable to creativity derived from the academic world as well as artistic and cultural spheres. The role of the authorities is therefore to create a climate and conditions which are favourable to all creative activities.

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<sup>1</sup> Source: website of the federal scientific policy ([www.belspo.be](http://www.belspo.be))

<sup>2</sup> CIS survey 2006.

Brussels, as the biggest student city in the country, major research centre and home to a profusion of cultural and artistic 'temples', is thus ideally positioned to meet the challenges of duality and the cultural diversity which typifies it. In this context, the choice of major public works projects such as Urbizone, 'Brussels Wireless Network' and urban renewal is essential to mobilise the population as regards a new dynamics.

7. *The government of the Brussels-Capital Region has already made a series of relatively general choices*

In its 2004-2009 legislature programme, the government of the Brussels-Capital Region recognised that efforts in terms of research and development had been inadequate until then. During the last legislature (under way), the means invested by the region made considerable progress and were invested essentially in projects mobilising universities for projects intended to be promoted in the region.<sup>3</sup> The actions of the government are aimed essentially at three very broadly defined sectors:

- Information and communication technologies;
- The health sector;
- The environment.

The regional plan also proposes six working lines:

- Line 1: Promote the three strong innovation sectors. This involves reinforcing the clustering approach in these sectors;
- Line 2: Reinforce the creation of innovations. The implementation of incentive programmes is in keeping with this;
- Line 3: Stimulate the use of innovations via the commercialisation of research results and assistance provided to small companies in order for them to assimilate and make use of the innovations;
- Line 4: Emphasise the internationalisation of innovation;
- Line 5: Attract and firmly establish innovative activities;
- Line 6: Create an environment which is favourable to innovation.

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<sup>3</sup> See the IRSIB and the *Conseil de la Politique Scientifique de la Région de Bruxelles-Capitale* annual reports.

8. *The instruments of the regional policy for innovation support are comparable overall to those of the other regions*

The Dulbea study (Capron & Hadjit, 2007) on the STI policy (Science, Technology and Innovation) concludes that it 'is relatively young, but in recent years, the Brussels Region has developed a series of instruments to meet the needs of research stakeholders. The Brussels Region is aware of the importance of the research and innovation policy in regional development, and has increased its public budget appropriations for R&D in recent years'.

The Brussels Region has developed a range of initiatives comparable to those of the other regions:

- several types of research grant for all types of stakeholder;
- specific administration with the creation of the IRSIB (Institut d'encouragement de la Recherche Scientifique et de l'Innovation de Bruxelles);
- support for technology transfer teams from universities and colleges of higher education;
- creation of several incubators;
- promotion of venture capital;
- etc.

Nevertheless, it should be underlined that, comparatively, the region allocates even less financial means than the neighbouring regions. Furthermore, the initiatives in Brussels are often taken up by different organisations such that the economies of scale are weak and coordination is sometimes difficult.

9. *The challenges of research greatly exceed the regional sphere, but Brussels benefits from its unique position as national and European capital*

It is obvious that the challenges of research and the accompanying notion of excellence collide very quickly with the limits of a regional approach. The phenomenon is even more pronounced due to the fact that the Brussels-Capital Region is small and has little means. Despite its central position, the region has not developed structured collaborations with external partners for conducting research projects or for the promotion process. A better collaboration with other regions and a better structuring with European initiatives (e.g. successive Framework Programmes, European Institute for Technology, single area for research, etc.) is necessary.

*10. A lack of coordination within the region*

The Brussels-Capital Region suffers from a lack of competences in terms of coordination and collaboration between, on the one hand, the 19 municipalities and, on the other, the research and education institutions for issues related to infrastructures as well as other support logistics. These institutions are constantly confronted with major shortcomings in terms of infrastructures (buildings, housing, facilities, etc.) and the lack of related general services, which prevent an improvement of their attractiveness. Currently, each initiative must adapt to different municipal rules and it is not rare for the mere presence of an institution in a municipality to be considered as a 'nuisance'. Collaboration agreements between the institutions and the local authorities are almost non-existent. The coexistence of different levels of authority in the region greatly hinders the implementation of a policy to reinforce the attractiveness of Brussels for students and researchers. Compared with cities such as Antwerp, Ghent, Liège and Leuven, the absence of concerted measures between the region and the different higher education institutions does not allow their critical needs in terms of aid and infrastructure to be met.

At regional level as well, the competences related to the support and the promotion of research are implemented via many instruments (see observation 8).

*11. Lack of emphasis placed on social science*

Although social science is widely represented in the academic world, it is rarely the object of specific projects aimed at encouraging its development. For example, it is not included in the main priorities of the Regional Innovation Plan.



## II. Questions-issues

### 1. *What types of projects should be supported?*

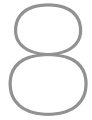
- What are the most advanced sectors in Brussels and what possibilities do they offer at all levels in the value chain? Does the health sector have the best potential in Brussels?
- Should we focus on our strengths (for example the health sector) or try to develop new capacities oriented towards sectors of the future (for example the environment)?
- Should more interdisciplinary research on major challenges be encouraged?
- What synergies can the region develop with the initiatives of the other regions, the federal state and the European Union?
- Are the regional policy choices too broad? Are local initiatives big enough to compete with those of the other regions of Europe and the world? In this context, should we not point towards multidisciplinary centres of excellence which connect institutions virtually and thus create platforms for the exchange of knowledge between institutions, following the example of the Vlaams Instituut voor Biotechnologie, for instance?

### 2. *Should the creation of a 'Brussels University' be considered?*

- In line with the above question, would it not be sensible to gather some highly mobilising projects (advanced master's degrees, interdisciplinary centres of excellence, etc.) within an entity, using the region as an international platform?
- How could such an infrastructure be organised, considering the institutional restrictions of universities in Brussels?
- Is it only a question of research and innovation? Should there not be a more global approach integrating education and the economic promotion process?
- Because of the international dimension, can we assume that the working language and marketing will be in English?

### 3. *Should we not be more concerned about support for research activities as such?*

- Should we not try to make Brussels more attractive to researchers by improving the proposal for research support, i.e. linguistic practice, administrative formalities, housing, local services, logistical assistance, development of infrastructures, etc. ?



4. *How can we reinforce the collaborations between the different stakeholders?*

- How can academic research centres and companies be brought closer together?
- How can we coordinate the municipal and regional authorities as regards requests for assistance in terms of logistics and infrastructure on behalf of higher education and research institutions?
- How can we collaborate with other regions and communities? How can we benefit more from European initiatives?
- Has the region created too many organisations in terms of support for research and innovation? Is it not time to proceed with a rationalisation of proposals (e.g. bringing together the IRSIB, the innovation service of the ABE and the new association Research in Brussels, fusion(s) between incubators, etc.)?
- How can the research centres which focus on Brussels as their main object of study be brought closer together?
- What types of stakeholder should be encouraged in view of their capacity to settle in Brussels?

### III. Policy options

#### 1. *Develop an instrument panel for research and innovation in Brussels*

In order to objectivise the position of Brussels, refine the definition of regional priorities and evaluate the impact of existing initiatives, it would be desirable for the region to have its own statistical system of reference similar to the 'Vlaams Innovatie-Instrumentarium' and the 'O&O steunpunt' in Flanders. Such an instrument could be managed by the IRSIB provided it is given the necessary means.

#### 2. *Increase selectivity as regards support provided to major regional projects*

Three criteria should prevail in the selection of initiatives supported by the region:

- excellence;
- the impact in Brussels (i.e. the socioeconomic aspects via good integration in the value chain);
- the impact for Brussels (i.e. the quality of life of inhabitants of Brussels).

For example, medicine and social science are two fields which meet these three criteria even if the 'industrial' promotion of social science is more diffuse and not as well defined.<sup>4</sup>

At the same time, the projects/teams which benefit from successive support from the region should participate in the creation of value and not undermine the emergence of new projects/teams, which must be integrated into the regional mechanism on a regular basis.

#### 3. *Encourage strategic and multidisciplinary research uniting basic sciences, life sciences and social science and mobilising a maximum number of regional stakeholders*

It would be appropriate to consider refocusing the regional policy on a more limited number of more strategic projects<sup>5</sup> or 'major works' (e.g. the development of ITC, energy and/or environmental infrastructures) which would allow, on the one hand, the development of a sustainable capacity for the support of societal and economic innovations with all the stakeholders likely to contribute, and on the other hand, undoubtedly, a greater mobilisation of the population with respect to these major projects. As indicated in the 2007 annual report of the Conseil de la Politique Scientifique: 'In many cases, multidisciplinary research is involved, as the real problems of the knowledge society are so complex that a "mono-disciplinary" solution cannot be found. An approach which targets the programme rather than the project would therefore be necessary. Basic strategic research in a spirit of open innovation always takes place in consortium. Research is often centred on useful results for an entire industrial sector rather than for a single company. Basic strategic research is indissolubly related to a plan to evolve towards the exploitation and realisation of economic added value. The results are generally pursued in applied R&D projects, with

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<sup>4</sup> It should be mentioned that social science research centre 'spin-off' companies have been created in the past few years.

<sup>5</sup> Cf Cornelis (2005 ; 2007 ; 2008)

a more limited number of partners and in a logic of a competitive market.' Such research projects could materialise in fields such as, for example, multilingualism, assisted reproduction, palliative care and robotics.

4. *Priority given to the financing of projects involving several types of regional stakeholder upstream in the research chain*

In the same way as the strategic projects mentioned above, regional initiatives must always try to reinforce the ties between the academic world and the industrial world which constitute the weak link in the value chain in Brussels. As an example at various levels in the value chain, we could imagine providing support for the realisation of doctoral theses in companies, the collaboration between companies and universities in projects subsidised by the region, the systematic presence of industrial specialists in the management bodies of regional policy instruments, etc.

At the same time, the region must ensure the development of entrepreneurial behaviour in both small and large companies as well as in research centres. This type of competence is inescapable when it comes to socioeconomic exploitation.

5. *Rationalise regional initiatives by grouping them among a more limited number of stakeholders coordinated by a para-regional organisation in charge of research and innovation, such as the IRSIB*

At the very least, a diagnosis should be made of the effectiveness of current initiatives for research and innovation support, and the possibilities for integration and simplification should be analysed (this type of initiative should be entrusted to an independent and ideally foreign stakeholder). It would also be necessary to see which actions must be intensified. In this respect, a very close configuration between the 'research' and 'economy' competences at regional government level is essential (it is currently in place but not systematically during the constitution of governments).

In this perspective, the quality of support for the principal innovation stakeholder should also be reinforced, i.e. the researcher as well as the student as a potential future researcher or promotion stakeholder. Brussels should be more concerned about the quality of services and working conditions which are offered to them, following the example of initiatives in cities such as Leuven, Antwerp, Gent and Liège. These cities have implemented voluntarist policies to favour the presence of creativity centres in connection with universities, colleges of higher education, cultural centres and research centres. In each of these cities, a deputy burgomaster is in charge of improving relations between these different stakeholders and has the means to do so.

6. *Unite the new strategic projects within a Brussels University*

This would not involve creating a new organisation based on nothing, but rather gradually uniting support services which do not need to be duplicated in the universities and colleges of higher education in Brussels. Then, a series of new initiatives (such as the strategic programmes mentioned above and the development of a contact network or a coordination infrastructure for research stakeholders in Brussels) and the results of rationalisations in the regional system would be added to this construction. It would also involve taking advantage of the role of European capital.

This structure could also accommodate international training programmes resulting from collaborations between different regional stakeholders. The choice of English as a working language is in keeping with the international dimension of the project.

7. *Better collaboration with the other associated entities: a pious vow?*

Without launching an institutional debate, it seems obvious that 'winner-winner' collaborations with the other regions and the communities are possible. For example, standardising procedures, simplifying the implementation of mechanisms for collaboration with non-regional stakeholders, increasing flexibility as regards the localisation of industrial promotion, etc. should not create insurmountable problems.

8. *Reinforce the metropolitan and international dimension*

The approaches mentioned in this section are guided mainly by the regional dimension of Brussels. The metropolitan and international dimension of the initiatives for the development and promotion of knowledge should be borne in mind, however. More attention should be paid to transregional and transnational collaborations, in particular by taking advantage more systematically (with a proactive approach) of European initiatives or those aimed at going beyond the strict institutional limits of the Brussels Region.

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