



COMPANY PROFILE

# Institut Scientifique de Service Public - ISSeP (Scientific Institute of Public Service) Unique expertise in services for the environment

True sentinel of environmental quality for 30 years, the Scientific Institute of Public Service (ISSeP) has three tools with which to carry out its mission: experts, laboratories and specialised equipment. Return on assets and projects from this unique institute in Wallonia.

The ISSeP is known as a benchmark laboratory within the Wallonia region and draws on the expertise of 300 agents and has 3 laboratories and an array of very specific equipment: field equipment and specialised analytical equipment, test benches, explosivity spheres, groundwater sample containers, extraction centrifuges... Covering the entire Wallonia area, the ISSeP has 300 air quality measuring stations, 300 water sampling sites and 300 groundwater sampling sites. Every year it carries out 1,000 analyses of hydrocarbons and 530 analyses of cyanide to check soil quality. It also carries out 2,000 recommendations for electromagnetic fields and 3,000 analyses of asbestos every year.



Mrs Bénédicte Heindrichs,  
Executive Director of ISSeP

risks (accidental risks, sub-soil risks and chronic and health risks linked to exposure to chemical or physical agents (such as environmental pollutants, asbestos and electromagnetic fields) and related activities, namely the preservation and restoration of heritage and energy research and certification.

The characterisation of environmental matrices allows the ISSeP to develop methods of analysis for future pollutants with a view to providing the Walloon Region with the appropriate tools for better environment and public health. The ISSeP is also helpful in decision making because it has a dense network for monitoring and measuring, as well as renowned expertise and an ability to anticipate the future.

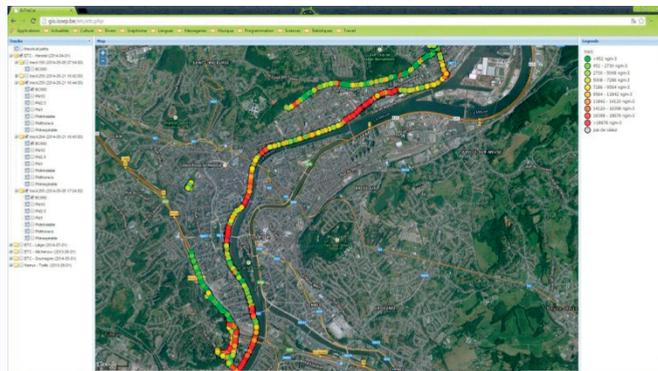
### A unique benchmark laboratory in Wallonia

The ISSeP is also distinguishable for its benchmark laboratory, the only one in its field in Wallonia. Encompassing the laboratories of Liège and Colfontaine, this laboratory is at the interface between public authorities and private providers. It offers technical expertise to approvals granted by the Walloon Region by verifying that their terms are correct. The ISSeP provides all those involved in the public and private sectors with an independent, transparent, and impartial public service. This triple feature is possible thanks to the interdisciplinarity of the ISSeP, which employs experts in chemistry, microbiology and eco-toxicology.

This high productivity is due to the wide scope of activity offered by the Walloon Region to the ISSeP. The institute carries out 6 missions: technological research and development, in order to remain at the forefront, the analysis and development of methods of analysis, the characterisation of the environment and the identification of pollutants of today and tomorrow, the certification of products and laboratories, the assessment of potential and future risks, and database management (with over 300,000 analyses per year). By characterising the environment through regulatory, normative and technical observation as well as comparing data, the ISSeP helps the Walloon Region to make the right decisions when it comes to environmental policies.

### Environmental monitoring

Environmental monitoring remains the foremost mission of the ISSeP. This monitoring includes the air, soil (including waste and sediment) and water, but also the prevention of harmful



Snapshot of the situation regarding black carbon atmospheric pollution



On-site cages containing small crustaceans in the caging tray

T e c h n o l o g y  
I n n o v a t i o n



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Furthermore, the ISSeP is able to ensure quality throughout the chain of expertise as it controls all the different stages, from samples and analysis to writing reports. Thanks to this knowledge, the ISSeP's benchmark laboratory is essential when dealing with a newly emerging pollutant. In addition, this interdisciplinarity has enabled it to create synergies with numerous partners like VITO, INERIS and many other laboratories and universities.

### Sentinels of the state of the environment

Relaunched around a decade ago, the ISSeP's R&D mission occurs at 3 levels: equity based research, Walloon research programmes and European programmes. Regarding equity based research, the ISSeP funds the BIOTES project, the objective of which is to develop analysis protocols in order to identify, evaluate the risks and propose a monitoring method for the evolution of the exposure of biota to the most harmful pollutants: fish and invertebrates actually collect pollutants in their bodies, which makes them sentinels of the state of the environment.

Another ISSeP equity based research project, EXTRACAR, focuses on developing an online mapping system of exposure to black carbon in urban areas. The exposure data, gathered by sensors fitted in vehicles, is then modelled to determine the spatio-temporal distribution of black carbon. This mapping system will provide a valuable tool to aid decisions about appropriate transport scenarios in terms of pedestrian and cycle paths.

Similarly, the SMARTPOP project uses available data combined with information that can be derived from satellite images to model and spatially plan population growth in Wallonia and in particular in Liège in order to shape the Smart Cities. For its part, the BIOBOS project aims at producing diesel from STEP sludge as part of the EU's Climate and Energy package.

### Highlighting potentially pollutant sediments

ISSeP is also active in regional research programmes. For example, the VALSOLINDUS project concerns highlighting potentially pollutant sediments in raw materials that are used in various industrial sectors. In addition, ISSeP is participating in the SMART WATER project: headed by the DGO4 and DGO6 (operational branches of the Walloon Region), it aims to bring out the hydroelectric storage sector by identifying potential storage sites and assessing the environmental risks.

At the European level, ISSeP is a stakeholder of the PM LAB FIJNSTOF project focused on the harmonization of information systems on particle dust. Another important project, APHEIS, focuses on the impact assessment of atmospheric pollution in the Walloon region while the ACCEPTED project (Assessment of changing conditions, environmental policies, time-activities, exposure and disease) assess the quality of the air inside schools and public buildings.



*Analysis of aliphatic and aromatic hydrocarbons (VOCs) and chloral hydrates by Purge and Tap coupled with a GC-MS Ion Tap*

### Evolving towards greater sustainability in the technological and economic sectors

The ISSeP works for all administrations, starting with DGO4 and DGO3, and is actively collaborating with the world of industry and Walloon competitiveness clusters. As part of this, it is required to validate environmental application of certain technologies (like terrestrial observations and sensors) or to validate ongoing technological innovations. In this respect, it has participated in a project approved by the MechaTech cluster: CARMAT. Brought by the company Recoval, this project focuses on the possibility of recycling steel slag and using it as construction material. For this, ISSeP has assessed the toxicological and environmental safety of this recycled slag.

In addition, ISSeP is a full-fledged member of the GreenWin and Skywin clusters. It is also present in 12 international networks of experts, 33 technical groups active in standardization and 36 regional, federal, and international work groups. Finally, it is a member of 30 different groups and associations. Thanks to such participation, ISSeP is ideally placed to help bring greater sustainability to the technological and economic sectors.



### Institut Scientifique de Service Public ISSeP

Rue Chéra, 200 - B-4000 Liège  
Tel.: +32 (0)4 229 83 11  
Fax: +32 (0)4 252 46 65  
Email: [direction@issep.be](mailto:direction@issep.be)  
<http://www.issep.be/>

