



# RESEARCH AND INNOVATION IN WALLONIA & BRUSSELS AGAINST COVID-19



Wallonie - Bruxelles  
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## INTRODUCTION

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The COVID-19 health crisis is unprecedented and calls on Governments to implement high impact, short-term strategies in order to rapidly overcome the situation.

Implementing strategies is done at all levels of authority and is aimed at the effectiveness of care provided to patients affected by the virus, managing the economy of the country and region, overcoming the psycho-social consequences for citizens, etc.

Within this context, Wallonia-Brussels International (WBI), the agency responsible for international relationships of the Wallonia-Brussels Federation (FW-B), Wallonia and the COCOF, is resolutely working to promote the Wallonia-Brussels scientists and technological experts who are currently working to help us overcome this crisis.

WBI, through its Research and Innovation Service, has drawn up a “COVID-19” strategy with a dual purpose:

1. Internationally enhance and promote the Wallonia-Brussels scientific community, which conducts research within the laboratories of universities, academic institutions and research centres.
2. Accelerate research and implementation of new technologies by encouraging the creation of international collaborations and setting up joint scientific and technological projects.

## METHODOLOGY

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In order to best inform the FW-B R&I operators during the Covid-19 crisis, the WBI R&I Service with the assistance of members of the R&I platform, is working hard to gather together all the information which could be useful and used by the foreign networks of WBI and AWEX, With the support of the WBI Scientific Liaison Officers (SLO), the WBI R&I Service therefore intends to play its role of international connector and facilitator to the full for setting up technological partnerships associated with COVID-19.

## CADASTRE

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During the last few weeks, numerous initiatives have been proposed in Wallonia in order to address the COVID-19 crisis. Throughout the region, research groups and companies have allocated budget to address the problems associated with this pandemic. The Walloon Government has for example released 25 million Euro for research projects<sup>1</sup>.

In view of the crisis, the FNRS<sup>2</sup> has also decided to finance a double appeal for projects aimed at mobilising the FW-B scientific communities and helping them to contribute to the international efforts that are under way. € 3 million have been made available for this.

As part of this, international collaborations concerning research and innovation play a vital role in the COVID-19 crisis: universities are working hard and inter-university collaboration with industry is intensifying.

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<sup>1</sup> <https://recherche-technologie.wallonie.be/fr/annonces/a-la-une/covid-19.html>

<sup>2</sup> <https://www.frs-fnrs.be/fr/l-actualite-fnrs>

The reputation of our university institutions is second to none and the examples below show our institutions' ability to mobilise and dedicate considerable resources to deal with a major and urgent crisis.

So, you will find an overview of the initiatives in progress below.

### 1. Platform

The **UCLouvain**<sup>3</sup> researchers have launched a platform which enables open and/or public data to be collected. This platform aims to better understand and objectively analyse the impact of the COVID crisis on Belgium and its regions.

### 2. Tests

The company Coris BIOConcept, with the Brussels university hospital laboratory, the **LHUB-ULB**<sup>4</sup>, and other partners, including the **ULiège** Laboratory have developed an antigen test. This 15-minute screening test is going to enable COVID-19 to be detected from a respiratory nasopharyngeal swab of the patient.

The **Saint-Luc UCL university clinics**<sup>5</sup> laboratory has just developed a new serological test on an auto-analyser. The tube of blood is placed in the auto-analyser, then analysed to give results 40 minutes later.

A screening platform has been operational since 25 March in **UMons**<sup>6</sup>, in Hainaut. This device, which has been supported by Matera Nova, is able to process more than 400 tests per day

**UNamur**<sup>7</sup>, in collaboration with KUL, has perfected a diagnostic technique and a new work method which overcomes the shortage of reagents. The technique enables diagnosis in support of reference laboratories and is available all over the world. Its implementation depends on chemistry, workers and solidarity between researchers.

**ULiège**<sup>8</sup> has announced having developed an automated test for detecting SARS-COV2, the virus responsible for COVID-19. The technique developed enables increasing the daily capacity for detecting coronavirus in Liège by 2000 tests and thus becomes one of the 5 Belgian reference centres for screening. The technique could rapidly be adopted by the four other reference centres (GSK, UCB, Pharmaceutica et KU Leuven) as well as by other countries.

### 3. Masks and protections

At the request of CHU Saint Pierre, the **ULB**<sup>9</sup> laboratory has set about producing a protective visor intended to reinforce the hospital staff's basic equipment. This material consists of a transparent plastic panel the size of an A4

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<sup>3</sup> <http://covidata.be/>

<sup>4</sup> <https://www.7sur7.be/belgique/un-test-belge-pour-depister-le-coronavirus-en-15-minutes~a8af3b5d/>

<sup>5</sup> <https://www.lalibre.be/planete/sante/coronavirus-un-laboratoire-belge-a-mis-au-point-un-test-serologique-qui-dose-le-taux-d-anticorps-en-quarante-minutes-5e974626d8ad584f6e10e9d5>

<sup>6</sup> <https://www.lalibre.be/planete/sante/coronavirus-un-laboratoire-belge-a-mis-au-point-un-test-serologique-qui-dose-le-taux-d-anticorps-en-quarante-minutes-5e974626d8ad584f6e10e9d5>

<sup>7</sup> <https://nouvelles.unamur.be/upnews.2020-03-17.4035291869/view>

<sup>8</sup> [https://www.uliege.be/cms/c\\_11676883/fr/l-universite-de-liege-met-au-point-un-test-automatise-de-detection-du-covid-19-qui-permet-la-realisation-de-milliers-de-tests-supplementaires-chaque-jour](https://www.uliege.be/cms/c_11676883/fr/l-universite-de-liege-met-au-point-un-test-automatise-de-detection-du-covid-19-qui-permet-la-realisation-de-milliers-de-tests-supplementaires-chaque-jour)

<sup>9</sup> <https://actus.ulb.be/fr/actus/institution-et-engagements/des-visieres-pour-protger-nos-soignants>

sheet installed on a frame similar to that of glasses. The ULB states that its laboratory is currently producing 600 units per day and that it is counting on the help of other manufacturers to increase daily production.

With regard to re-use of masks, **UMons**<sup>10</sup> and Materia Nova, one of the UMons Innovation Centres, have taken part in an evaluation of the ability of plasmas to decontaminate them effectively. The first trials have started to test a technology with wide scale applicability on most frequently used consumer products, such as surgical masks.

#### 4. Surveys

**UMons**<sup>11</sup> has, via its Psychology Department, carried out a survey on confinement and its impacts on couples and families. Experts hope to better understand how couples feel during this confinement, in order to consider the help and support means that could be necessary.

#### 5. Sequencing

**UCL**<sup>12</sup> is working on the next sequencing of the COVID-19 strain and is collaborating with a private American partner for storing and bio-informatics analysis of data (Smartgene company, interface IDNS).

#### 6. Symptoms

A prospective study has been initiated from **UMons**<sup>13</sup> on loss of smell and taste problems in patients who are COVID-19 positive. Several specialists have in fact noted in countries affected by the epidemic that loss of smell, hyposmia (sense of smell problem) and dysguesia (taste problem) appeared in some infected patients, in the absence of other respiratory illnesses.

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<sup>10</sup> <https://www.laprovince.be/541358/article/2020-04-02/mons-des-nouvelles-technologies-pour-decontaminer-les-masques>

<sup>11</sup> <https://applications.umons.ac.be/survey/index.php?sid=69331&lang=fr>

<sup>12</sup> <https://uclouvain.be/en/node/75199>

<sup>13</sup> <https://web.umons.ac.be/fr/coronavirus>