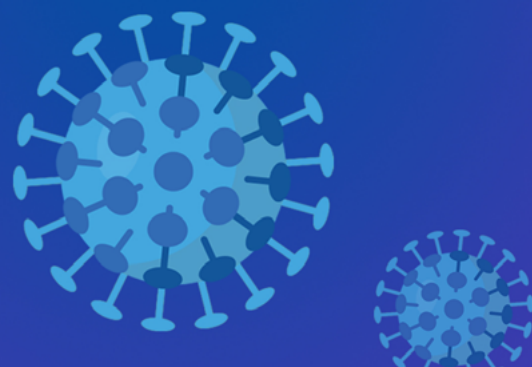




European
Commission

SOLIDARITY WITH EUROPE

JOINT RESEARCH CENTRE
SCIENCE TO TACKLE THE CORONAVIRUS CRISIS



Since the beginning of the COVID-19 crisis, the European Commission's Joint Research Centre has used its extensive knowledge and expertise to inform the [EU's policy responses](#). Experts across the JRC have been analysing the crisis, anticipating its impacts and supporting the development of an exit strategy, among several other activities.

Here is a snapshot of five areas where our scientists are working hard, right now, to help tackle the emergency and protect people's health. We will provide regular updates on our activities as they develop, through [the JRC Science Hub](#) and on social media.

1 A new control material for accurate coronavirus tests

JRC scientists have designed a new control material that laboratories can use to **check that coronavirus tests return correct results**.

Timely and accurate laboratory testing is an essential part of the management of the pandemic. This material will help labs avoid tests returning negative results even if a person is infected. Up to 3000 samples were sent to testing laboratories across the EU, including major reference virology centres and hospitals.

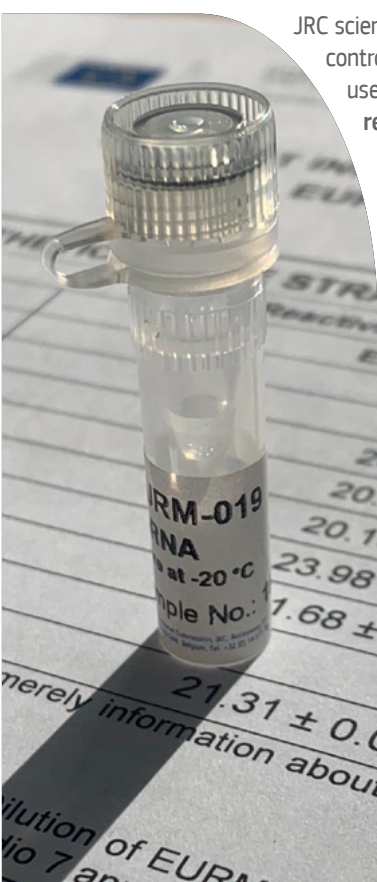
▶ A new control material will ensure that tests return accurate results

2 Helping countries manage the medical response

The JRC developed an **indicator of hospital bed capacities**, taking into account territorial demographic characteristics and the COVID-19 fatality rates by age. With this indicator, it is possible to identify regions that may need more support due to a mismatch between hospital bed capacity and high shares of the elderly in the population. It covers all EU regions, as well as the provinces in Spain and Italy, which are currently most affected by the crisis.

As a sign of solidarity, the EU is jointly procuring and distributing vital medical supplies, including personal protective equipment, ventilators and laboratory equipment. JRC experts have helped to develop a **distribution methodology** for the Emergency Response Coordination Centre, to make sure these supplies can get to where they are needed most, when they are needed most.

While the pandemic is still unfolding, it is of paramount importance to **collect and analyse epidemiological data** by age and compare distribution across regions and countries so that the response can be tailored accordingly. JRC is collecting data on cases and fatalities by age and gender to support these efforts.



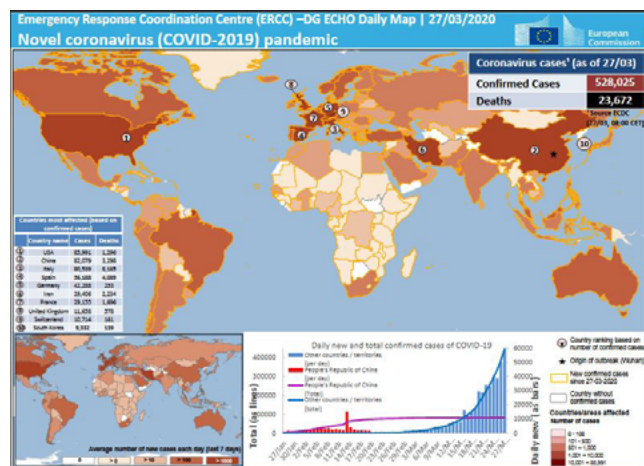
3 Tracking the epidemic and the research

The [Epidemics Intelligence from Open Sources \(EIOS\) platform](#) is a collaboration between the World Health Organization and JRC that is collating up to 120,000 articles per day related to the coronavirus pandemic. The platform is helping to sort through this information and make it available to experts across the globe who are tracking the pandemic.

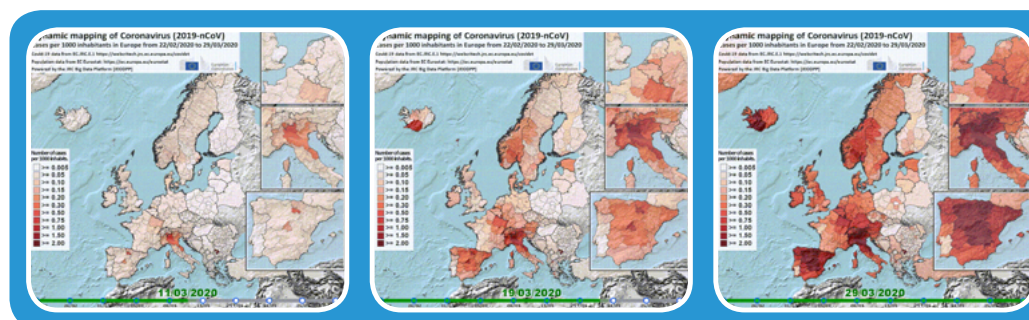
The JRC's [Europe Media Monitor](#) also provides [daily newsbriefs on coronavirus](#). It is also being used to identify and push back on fake news.

Data from EIOS also feeds in to [the COVID-19 News Map](#), which displays the ten most recent articles related to COVID-19 in their original languages. It cycles through each news item before being refreshed and re-running the cycle.

A new webpage with visualisations to help people follow the [state of research on coronaviruses](#) through patents, peer-reviewed publications, and EU funded projects has also been launched.



JRC experts help produce daily maps for the Emergency Response Coordination Centre



Dynamic maps from the JRC Big Data Platform track the spread of COVID-19 in Europe

4 Exit strategies from the crisis

The JRC is working on defining common 'exit scenarios' – strategies for safely lifting containment measures and helping our societies to get back to normal once the worst of the crisis is over. This covers exploring all aspects of exit scenarios, including health, economic, security and social aspects.

In analysing these exit strategies, the JRC is working closely with the London School for Hygiene and Tropical Medicine, the Imperial College London, the European Centre for Disease Prevention and Control and others. Together we are working on developing a modelling method, exchanging data and producing supporting modelling output.

JRC experts have also developed an outbreak risk model using the [INFORM index for risk management](#). The model is used to assess the risk of spreading across the globe, combining the probability of cases being imported and the risk of people-to-people transmission in the country.

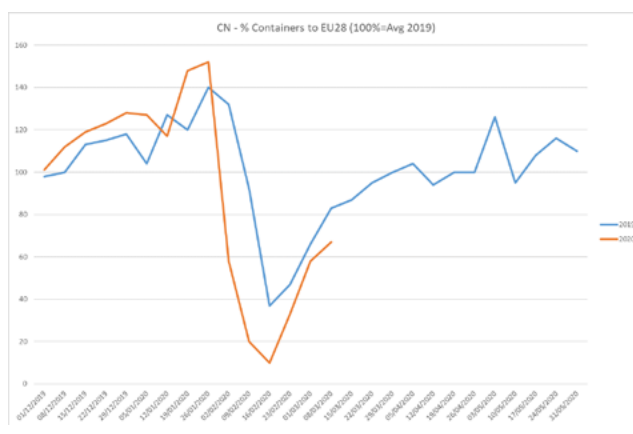
5 Monitoring the impact on global travel and the economy

We are also conducting research to understand the pandemic's impact on major economic sectors, including the aviation industry, tourism and global trade.

Our analysis shows a **74% drop in air traffic activity in Europe** in mid-March 2020, compared to the previous two weeks. Global traffic declined by 54% over the same period. In China, activity appears to be stabilising as the country gets over the worst of the crisis and starts lifting control measures.

The JRC is also using its system providing information on container routes, as well as risk assessment services for customs and security authorities. The system has **near-real time data on container traffic** and shows a marked drop in China to EU traffic in recent weeks. The results help authorities to understand trends in China's economy and how quickly it may recover after the outbreak.

Finally, work is ongoing to assess the impact of international travel bans on tourism and the wider economy of EU regions. By identifying the most vulnerable regions, this work can help inform reallocation decisions of EU Structural Funds and support tourism recovery.



Data shows the impact on travel and trade activities