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COVID-19 Exit Strategy Simulator Available Online

Covid19 NPI Simulator

An online tool simulates COVID-19 exit strategy planning for nearly 100 countries assessing various restrictive measures implemented in different countries around the world.

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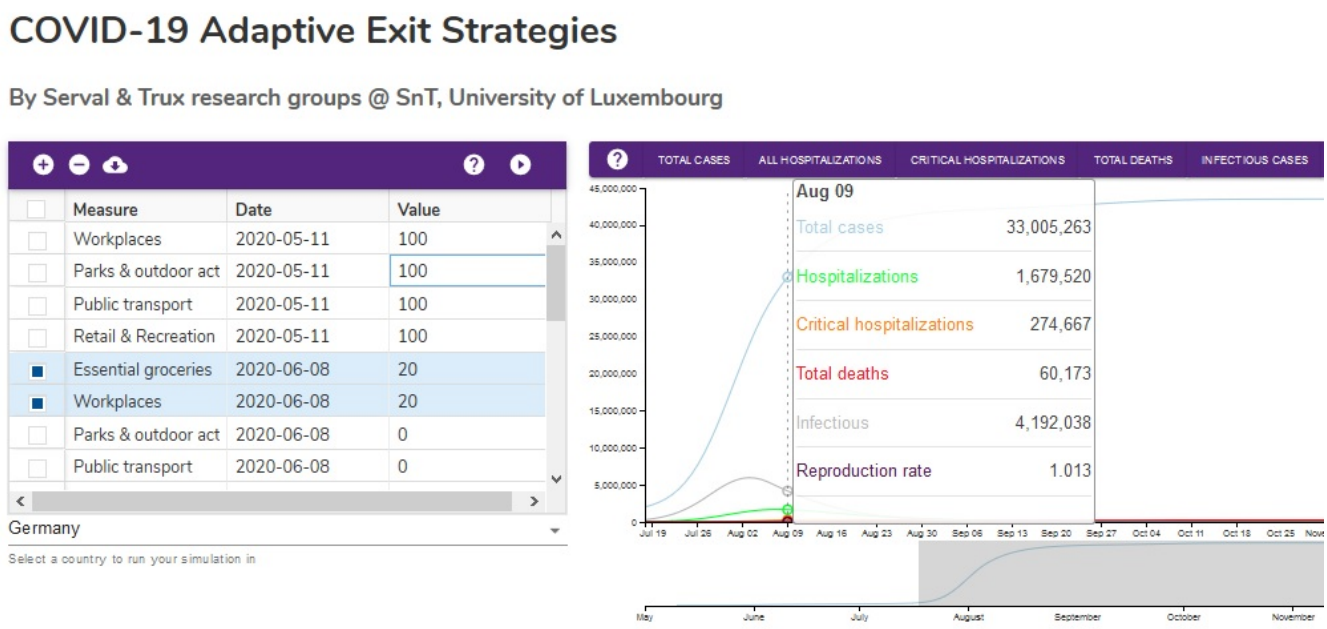
The tool, called COVID-19 Adaptive Exit Strategies Simulator, has been developed by a team of researchers at the University of Luxembourg's Interdisciplinary Centre for Security, Reliability and Trust (SnT), led by SnT Vice-Director Prof. Yves Le Traon. It helps to model the impact of different national policies aimed at containing the spread of COVID-19 and provides a data-driven approach to the evaluation of the COVID-19 reproduction rate (Rt).

Using machine learning techniques, the simulator analyses publicly available data, eg from the Google COVID-19 datasets and from Johns Hopkins University. The analysis is based on a number of variables, such as workplaces, parks and outdoor activities, public transportation, retail and recreation, and essential groceries. To obtain projections on the impact of different public health measures on the spread of infection over a six-month period, a user needs to select a country from a list and adjust intensity values for each of the isolation measures.



A screenshot of the COVID-19 Adaptive Exit Strategies Simulator's interface (part)

The beta version of the simulator is available here and an explanatory presentation can be viewed here. The instrument has been released for two reasons, namely to make it available to the public as quickly as possible, considering the time-sensitive nature of these data for public health policies, and to get the feedback from users. Since the simulator is a project in progress, the latter will help the researchers to update and improve the machine-learning algorithm that drives it. Furthermore, the team is looking at the possibility to expand the simulator's customisation features in the future by including datasets from the World Health Organisation or the Organisation for Economic Co-operation and Development.

According to Prof. Le Traon, today every piece of data has the potential to impact the lives of people around the world. "Given the enormous amount of data to analyse, we have developed this tool to support exit strategy planning. As many countries in Europe are beginning to execute on their plans already, we wanted to release our work as soon as possible," he said.

Source: University of Luxemburg

Image credit: SnT

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