

Annex II

VIDEOCONFERENCE R&I DGs ON R&I ACTION ON COVID-19

MEMBER STATES CONTRIBUTIONS

24 MARCH 2020

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Austria

Teleconference R&I DGs on R&I action on COVID19, March 24, 2020

Let me start by conveying my best wishes and my deep sympathy to the Croatian presidency of the Council of the European Union in view of this weekend's earthquake in Zagreb and let me thank the European Commission for organizing this teleconference today. More than ever, fast, committed and co-ordinated action on the European level is needed to stem the spread of the virus and to join forces in finding an adequate treatment and a vaccine. This is also a real opportunity to demonstrate the value of the European Union.

The Austrian government announced this weekend a dedicated call for research of 23 million Euro, e.g. on algorithms for pandemic assessments, new disinfectants and especially for clinical trials for medication against COVID-19 with the aim to speed up the process of finding a treatment. The first deadline is already on April 8.

More information (in German): <https://www.ffg.at/presse/coronavirus-bmdw-und-bmk-unterstuetzen-erforschung-von-medikamenten-mit-21-mio-euro>

It seems relatively easy now to mobilise funding for COVID-19 related R&I. The difficult part is to do it in the most effective and efficient way in order provide the urgently needed knowledge transfer and products as fast as possible.

Therefore, it will be most important to have an overview of all these initiatives and to combine our efforts as most funding will probably come from national sources apart from funding in Horizon 2020 and transnational initiatives such as CEPI (Coalition for Epidemic Preparedness Innovations). We need to step up our efforts in coordinating all these initiatives in order to create critical mass and to avoid unnecessary duplication – so our meeting today is a good start.

Via the H2020 Health Programme Committee a list of the 8 most urgent research fields related to COVID-19 from GLOPID-R (Global Research Collaboration for Infectious Disease Prevention) and WHO was distributed. This list could form a good basis for coordinated action in Europe.

We should try a Joint Programming-like approach bringing together leading experts from Member States and Associated Countries, the European Commission and the ECDC to form a Task Force to coordinate the diverse efforts. Such a Task Force could collect and exchange information about all relevant initiatives in Europe, detect the potential for collaboration and joint action and initiate/facilitate the implementation of joint actions, e.g. by matching relevant groups of researchers. It is important to generate an overview of what countries are doing, with a view to providing a cross-country information service both for STI policy and researchers.

It will also be important to make the best possible use of the European Research Infrastructure, especially all ERICs in our common efforts and it will be important not to limit ourselves to life sciences and high performance computing, but also include the Social Sciences, such as SHARE. Besides, EMBL-EBI (European Bioinformatics Institute) started to work with interested Member States to establish data hubs that can serve as a

forum for data sharing amongst virologists. The data hubs would operate with strict control on data access, and are thus suitable for national-level institutions.

And there is the valuable idea to create a specific European data platform for COVID-19 related data/information exchange connected to the EOSC.

Open access to research results and data and ensuring the reproducibility of results in order to accelerate the overall progress is vital. The most important point is of course that we need to act fast and determined.

Belgium

1. What should in your view be the **priorities for EU coordinated R&I action on COVID19** in the short (**6 months**) and medium term (**12 months**) and beyond?

Short term:

- **Work on infection prevention and implementation of control measures in healthcare and community settings**
- **Develop a performant data capturing system for all EU countries.**

It became extremely apparent how crucial data are. Thanks to good data one can:

- Measure what is happening. We can map evolution in sequence of the virus, find constant and variable immunogenic regions, as well as to develop serological (and cellular) tests to each of these antigens.
 - Learn from existing networks such as VALGENT on HPV test validation and comparison;
 - Learn from previous pandemics to set up trials for testing multiple intervention options and to reduce stay in intensive care units and mortality; including on multiple interventions
 - Assess and model the epidemiological, economic, financial and ecological impact of the epidemic. An interdisciplinary approach is a must in order to take all parameters into account.
- Another priority should also be to support an **EU-wide sero-epidemiological research** (collection of samples over different age group – to be started asap, and repeated on a periodical basis in order to:
 - Follow and evaluate the development of population-immunity across de EU
 - Get insight in duration of immunity
 - Map immunological response after infection using these tests, identify and test for correlate of protection
 - We should also-develop a **European-wide model** including all countries and regions as 'patch' in which the **impact of different strategies across borders can be studied**. A study case could be particular The Netherlands and Belgium, in which both countries have chosen very different strategies.
 - Another priority should be to create an **EU-concerted platform for vaccine trials**, for phase 1 to phase 3 studies with candidate vaccines of different producers, with a clear roadmap to roll out across EU-countries
 - We should also develop quick, simple and easier method(s) for antibody detection from recovered patients while training research staff to use in a safe an easy way sampling material and diagnostics
 - Also support research to understand the differences in response to virus infection (from no symptoms to deadly consequences) and to therapeutic interventions should be a priority
 - And, off course, invest in **first-line measures to contain pandemic** such as to develop quick, simple and easier **method(s) for screening** for SARS-CoV-2. By the way, a

Belgian university is working on testing solutions without reagent, to make them available to the greatest numbers.

Mid term priorities:

- It is clear that finding a vaccine to be prepared for the next wave, should be a priority. It is therefore important to facilitate access to animal models: hACE2 transgenic mice, hamsters, non-human primates.
 - To set European **standardised procedures to ensure management/measure of the Public health emergency** should be a mid-term priority as well as
 - To support BSL3 infrastructure and training to be able to handle Covid-19 and other highly pathogenic respiratory pathogens, is another one
 - To Promote research across borders on **‘how to maintain the overall health and welfare of the people’ in quarantine situation’**
 - To develop a specific expertise and support for the regulatory aspects for accelerating the development of both vaccine and therapy
 - To ensure an interdisciplinary approach to prepare and prevent future pandemics. R&I has a role to play beyond the obvious contributions of the medical sciences, that goes from social psychology to communication sciences.
2. How could Member States and the European Commission best maximise funding eg to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call)?

We should:

- Consider to fund the H2020 SC1-PHE-CORONAVIRUS 2020 proposals on the reserve list and below available budget.
 - Further invest in a broad influx of novel research lines to increase the chances of coming to solutions within reasonable timeframes. Additional and very flexible funding is also needed to support research ideas based on very recent research results. In order to move fast and cope with the pandemic, we need to ease the rules and shorten selection timelines. In addition, high risk, high gain should be a major criterion for selection.
 - Develop mechanisms to ease and increase interaction and exchange with experts in other parts of the globe. Although COVID19 has proven the immense value of open access and open data, there is still a lot of expertise and knowledge build up in hospitals and research centres in China and the US which is of utmost value to the European situation of today.
 - Consider stronger involvement of different players, including SME’s – adapt calls to be ‘SME friendly’
 - EDCTP: no call is visible on the EDCTP website. If a call is open, this should be broadly spread. The—EU-Africa Global Health Partnership (EDCTP3) has the ambition to increase health security in sub-Saharan Africa and Europe and hence it can become an important partnership in the present context.
3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?

- Leveraging and strengthening the Europe-based biotech ecosystem will be of utmost importance to deal with the current pandemic threat. Empowering the interplay between academic research and pharmaceutical companies and especially support to versatile start-ups in Europe can facilitate a fast and proactive response to this societal challenge.
- In parallel, we need a sustained and long term support to develop appropriate societal approaches. We see an opportunity to create an ecosystem where innovations (e.g. fast diagnostics, inhaled use, other antiviral therapies,...) can be pursued in early stage and create economic impact.
- When vaccine or other medical solutions will be developed and available, production capacities will also be needed, and we need to anticipate that. Close-to-the-market funding will be needed to accelerate innovation ;
- The EU could provide quickly a collaboration platform for industry and the health sector to identify needs, production capabilities, solutions providers, funding providers, and facilitate collaborations along the value chains and develop innovative solutions;
- The IDFF could maybe be extended to other topics. A dedicated COVID-19 vehicle under the IDFF could be set;
- Concerning the EIC, the EIC Accelerator call on COVID-19 was extremely useful. The next cut-off date which is scheduled to deal with the Green Deal should also allow COVID-19 related projects (those two themes are by the way intertwined). But the low success rate remains an important bottleneck. A smoothen transition from Corona relevant Pathfinder projects to accelerator pilot for fast track procedure could be consider
- Ahead of Horizon Europe, the Commission should keep ensuring funding opportunities in support of Innovation Procurement for the sector: Pre-Commercial Procurement (PCP) and Public Procurement of Innovative solutions (PPI).

Bulgaria

1. EU R&I Response

1.1. What should in your view be the priorities for EU coordinated R&I action on COVID19 in the short (6 months) and medium term (12 months) and beyond?

- Both bottom-up and top-down approaches should be used;
- **Improve the collaboration and coordination between the European Centre for Disease Prevention and Control on EU and National Level**, with, for example, JRC and National Agencies and Research Organisations, where possible and adequate;
- We believe **inclusivity** should be among the leading principles in the process of forming and implementing new measures – no Member State and no relevant research community should be left behind;
- Although Horizon2020 has quickly organized and opened calls for project proposals, only few organizations from the new Member States were quick enough to actively participate – this once again revealed the existing **gaps** in the European Research Area;
- Researchers from many MS were left out (due to one reason or another) and are not participating in the projects, submitted to the Covid-19 related calls. In order to **overcome this** we believe a two-phase approach should be established, in which during the first phase organizations with the capacity and expertise needed should be identified and then invited to participate during the second phase;
- We would propose to create a EU-wide **network** of Research Organisations and Universities, which have the **capacity and expertise** to work in coordination toward solving the current Covid-19 outbreak, in the short term;
- We believe, if properly funded, this **collaborative network** could produce results quickly, but would **also have long term effects** if the funding is sustained;
- We also need to **involve** all of the available **research infrastructure**. On EU level we need **better coordination** between all the **European Research Infrastructure Consortiums** in the **field of health and biology and data and computing**; we need enforcement and usage of BBMRI, EACTRIS and other RIs within the IIInd Pillar of Horizon Europe so that no to waste resources.
- Also in the short term we believe **Horizon2020 funding should be further increased**, using **different instruments**, so that the expertise and capacity of every member state is involved;

- Our efforts should focus **not only in medicine and biology**, but also maths, modelling, mental health, social sciences, etc.
 - We shouldn't forget the **clinical trials and animal testing**. Many EU countries do not have or manage highly specialised vivariums, which are of crucial importance for development of vaccines and medicines.
- 1.2. How could Member States and the European Commission best maximise funding eg to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call?
- We urgently need an **EU online portal** for Covid-19 related R&I, where information about ongoing calls, search of **partners and partners' profiles and expertise**, research data, etc. should be available.
- 1.3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?
- Validation, harmonisation, ethical rules but open access to research and experiments (including animal research labs); we need open data sets

2. National R&I Response

2.1. OP Science and Education for Smart Growth

- We will reallocate resources from OP SESG for funding Covid-19 related research projects; we are yet to decide whether we will initiate changes in the OP.
 - OP SESG supports the **“Fundamental, Translational and Clinical Investigations on Infections and Immunity” Center of Competence**, which, unfortunately, started its activities with a delay since it was on the “reserve list” for funding;
- 2.2. We are trying to use **both bottom-up and top-down approaches** – we could launch a **National Research Programme**, in which we would shall point out the potential beneficiaries, and we could also launch an **Open call for research project proposals**; Both the National Programme and the Calls, however, are **only for public organisations**;
- 2.3. At the same time the **Ministry of Economy is providing support for private companies** for innovations and scaling up of innovative solutions;
- 2.4. The Ministry of Education and Science has **reached out to all Medical Universities and Medical and Biology Faculties**, as well as to every **publicly funded research organization** in these fields;
- 2.5. We also reached out to every Bulgarian **Research Infrastructure** in these fields in order to establish coordination and collaboration;

- 2.6. We have also **urged** the Committees of the ongoing National Research Programmes to **amend their Work Programmes**, where possible, and **focus on Covid-19 related research** and innovation; **Additional funding may be allocated** to the ongoing research programmes;
- 2.7. The National Operational Headquarters – the national high-level coordinating body, has a consulting body attached to it, consisting by scientists from the Bulgarian Academy of Sciences
- 2.8. We are continuing on **fostering collaboration between the pharmaceutical industry and our researchers**
- 3. A full picture of actions taken by individual Member States, we would like to ask you to share with us national action taken on:**
- 3.1. Epidemiology:
- 3.2. Modelling:
- Several models are being used and developed in Bulgaria (SI, SIR, SEIR, Reed-Frost, Vitanov-Dimitrova), but there are very few scientists, that have an expertise in both mathematical modelling and infectious biology.
- Mathematicians and statisticians from the BAS are currently supporting the National Operational Headquarters.
- 3.3. Diagnostics:
- The diagnostics is done primarily by the National Center for Infectious and Parasitic Diseases to the Ministry of Health, the Military-Medical Academy and private labs. The Bulgarian Academy of Sciences has provided access to its labs, equipment and offers its expertise
- 3.4. Treatment: Bulgarian researchers are actively working on developing effective drugs and chemicals in international collaboration, but Bulgaria lacks a Laboratory with 3rd level of biosafety, therefore research is limited.
- The Center of Competence, which I mentioned earlier, considers buying several RT-PCR machines for diagnostics.
- 3.5. Vaccines:
- 3.6. Civil Protection (protective equipment for healthcare and other frontline workers):
- several Bulgarian companies are developing new innovative facemasks;
 - other Bulgarian companies are scaling up their production of protective equipment.

Croatia

1. What should in your view be the priorities for EU coordinated R&I action on COVID19 in the short (6 months) and medium term (12 months) and beyond?

- It's important for EC to take a look at the **most promising research projects that have already started** or have been conducted in order to build on existing investments. This goes beyond health partnerships and Health regular calls, to consider additional funding for relevant projects from other activities within Horizon 2020.

Thus a good initiative would be additional resources for IMI2 call as well as finding ways to combine efforts and result from different sources of funding all around Europe. This should include options for **more flexible use of structural funds**, especially for equipment, diagnostic tools and other solution for immediate response to the rise of newly infected. However, an additional flexibility should be enabled for the use of ESI funds, to allow changes related to existing investments on challenges related to all kinds of difficulties caused by the pandemic.

- In order to **increase impact of national efforts**, we suggest to launch a **new public-public partnership** on coronavirus with joint call, possibly similar to **ERA-NET** and this should be done as soon as possible. Apart from maximising resources by EU top-up, this joint endeavour could help avoiding fragmentation across EU and expedite results.

2. How could Member States and the European Commission best maximise funding eg to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call?

- Croatia will launch a national call through Croatian Science Foundation to fund several streams of research on new diagnostic approaches, epidemiology, development of new vaccines and treatments and economic aspects. Total call size is about 2 million Euros. Top-up funding of such calls or enabling plug-in options from other sources of funding would be welcome
- The source of the additional funding should be **synergetic use of structural funds**. This is a potential great source of funds for COVID-19 related research and innovations. However, the use of structural funds needs to become more flexible very fast, allowing more flexibility for reallocations and fast mobilisation. This should include additional investments in relevant partnerships e.g. EDCTP.
- Creation of a **high level task force** forming a flexible structure of national experts which will steer the overall process, communicate, enable fast exchange of information and have a direct link to decision makers. This model could also be used for other crises – earthquakes, cyberattacks, solar flare or asteroid impact threats, migrant number increases etc.
- Due to this emergency, it seems a good idea to **redirect funds** that are currently planned for facing other challenges. Despite overall support for the key goals

recognized by the new Commission, I believe we can agree that pandemic represents a key challenge today.

- A wider implementation of open science publications, especially regarding research of COVID19, would be welcome.

3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?

- Launching a **dedicated EIC activity** related to COVID-19 should be considered, enabling financing of different aspects of solutions to tackle effects of pandemic.

Cyprus

Thank you for this initiative to bring together Research and Innovation policy-makers from the Member States to discuss such a prominent global challenge.

The R&I sector historically has contributed greatly to addressing challenges of this kind, by finding scientific and technological solutions. Our scientists and researchers are called, yet again, to find out-of-the-box solutions for the COVID-19 crisis. I fully agree, we can do that only if we cooperate closely and we promote solidarity across the Union and globally.

At the national level, from the very beginning of the outbreak, measures are taken to improve existing and develop new digital services and tools. Innovative ways were sought and for that reason our national Research Institutes, Universities and Centers of Excellence have been mobilized to offer their scientific expertise and creative thinking. Specifically, scientific assistance was provided for the efficient diagnosis of COVID-19 cases and collection of relevant data. In addition, we were able to promote online submission of applications to several Government services, to digitally support the COVID-19 data reporting system, to facilitate teleworking for public servants and to promote tele-education. Having said that, we are looking forward to the launch of the dedicated ESFRI website on activities and services that European and national Research Infrastructures have been providing for the fight against COVID-19.

Importantly, efforts should be made to open up the actions for all Member States to be able to participate and contribute. Smaller Member States that are in the periphery like Cyprus have a lot to offer, in particular and according to current circumstances; the health sector and ICT related fields. The Commission services and the project coordinators should reach out for new partners, utilising our well-organised NCP networks.

Networking, sharing information and exchanging best practices are vital in our efforts to fight COVID-19. We should make use of existing high-quality networking facilities, in particular COST actions focusing on all aspects of COVID-19, from biomedical, digital developments, to ethical and social issues.

We see the need for a coordination and support action on exchanging experiences and data for the econometric modelling of the virus spread in Europe so far. This epidemic modelling would provide valuable information about the infection rate under different levels of social restrictions, climate conditions and urban environments. The variations across Member States on these factors would help us better prepare for the next coming months. To this end, we strongly support the Commission on its Open Access policy for results and data relevant to COVID-19.

In respect to additional funding and investments for R&I actions on COVID-19 are concerned, we can support the possibility for co-investment offered by the EIC and the IDFF. However, we need to be ready to present our case to potential investors, giving emphasis to the economic and the social impact of the projects to be funded.

Czech Republic

- In previous 2 years, we discussed the possibility of introducing the so-called missions and mission-oriented approach in the European research and innovation policy-making procedures. Back then, we debated, which missions would be the most appropriate – in terms of imminence, significance and socioeconomic impact. Suddenly, new strain of coronavirus SARS-CoV-2 / pandemic outbreak of Covid-19 disease hit, bringing one of these missions of utmost urgency, importance and impact on everyday life of our citizens. Under the circumstances, research and innovation shall prove their substantial role in achieving wider policy objectives, and we shall do our best to capitalise the full potential of state-of-the-art research infrastructures, brilliant minds of our scientists and creativity of our innovators in the EU.
- The positive news is that the pharmaceutical companies have already reached into their archives and went through their existing portfolio of products – originally developed for treatment of other diseases. Following initial steps, they are already spending hundreds of millions of euro, developing new drugs in an immediate response to the worldwide spread of Covid-19.
- The European Commission has also been an active player in the field and we are very happy to see that the short-list of actions, which are already undertaken, includes high number of well-targeted incentives to quickly evaluate existing medicines and to introduce the most efficient test kits.
- In addition to that, various initiatives are being developed also in EU Member States. In Czechia, biomed research labs offer their services to test the potentially infected – to help out the severely overburdened healthcare facilities. Research infrastructures – for instance the HPC ones – ring-fence part of their experimental capacities and offer those to perform the Covid-19 related studies on a preferential basis. Artificial intelligence centres develop brand new respirators for healthcare workers in the frontline, etc.
- Going back to the development of the envisaged drug, how quickly the work has started on finding the effective product is actually unprecedented in history of mankind. All studies, which have been underway, are running under shortened and accelerated regimes. Thus, everything is being done to make the medicines available to the patients as soon as possible.
- Since it usually takes more than a decade to develop a new drug – from the first scratch in the lab, via clinical trials, to administering the drug to the patients – we shall now do our best to make the regulatory environment flexible to complete our difficult mission, but without compromising the health of the patients.
- Nevertheless, these medicines we are talking about are primarily intended for the patients, who suffer from severe symptoms of the disease, and not for the patients with a mild course. Moreover, when it comes to the development of completely new vaccine against Covid-19 it is rather a matter of months, maybe years, definitely not weeks, not to mention the days.

- Furthermore, when we will assess the efficiency of all the efforts, which are being made day-and-night now, it is very likely that much of the promising things that we see today will actually fail to see the daylight. That means that for the most of pharmaceutical companies the struggle for the effective drug for Covid-19 will result in a loss.
- Having said that, the scenarios we are facing are obviously very complex. There is an urgent need for an immediate response to mitigate drastic impact of the outbreak on the most vulnerable parts of our societies. At the same time, we need to come up with a long-term solution – to prevent us from being infected in the future by the same strain, and to be prepared to act rapidly, when the next wave strikes, as it most probably will in the future.
- These days, our efforts are focused primarily on tackling the immediate impacts. We hope to reach the culmination point soon. Afterwards, we will have to cope with socioeconomic consequences, which the outbreak has been causing. Casualties, losses and deficits will be most likely extreme.
- In short-term, it is a big challenge for the first FP9 Work Programmes to well-balance the incentives to aim precisely to hit the right target areas. In this regard, it is also essential that we do not forget that there are other highly infectious, degenerative and pathological diseases too.
- In mid- and long-term, it is clear we need to ensure there are dedicated research and innovation capacities as well as budgets – well-established and well-coordinated – which may be mobilised immediately in response to sudden threats such as the Covid-19 crisis.
- As regards the complementary or top-up funding of Horizon 2020 Covid-19 projects, provided it is possible to expand the successful consortia by participants from the countries that are not involved right now, Czechia will explore these possibilities. In this respect, top-up funding is being already provided to R&D projects financed at the Czech national level, which is certainly a good news also in terms of the internationally based R&D projects.

Denmark

First, thank you so much, Jean-Eric, for organising this video conference. The demand for research and innovation based solutions is at the forefront of our minds these challenging days – and it is very valuable to exchange views and information.

We need both short term and long term research and innovation efforts in order to address the crisis. To a certain extent, we must set aside our normal procedures and focus on delivering quick solutions.

Let me first share with you our national approach so far. Last week, the Danish government decided to give direct grants to corona related research projects of up to 6.7 million EUR.

The grant process has not been 'business as usual'. Together with universities and the health authorities, the Ministry of Higher Education and Science has identified concrete, relevant research projects.

It has not been an 'open call' and there has been no peer review. In the end, the Minister of Higher Education and Science decides jointly with the Minister of Health which projects to award funding.

This has been a fast-track procedure – the entire process has taken a week. The aim has been to produce quick research results that advance diagnostics, patient treatment or enhance the capacity of the health care system.

Of course, the chosen research projects must comply with applicable legislation. For example, in relation to obtaining regulatory approvals from relevant authorities before implementation.

In addition, close contact with the private foundations is key. Several Danish foundations have decided to fund corona related research. At present, the Carlsberg Foundation, the Novo Nordisk Foundation and the Lundbeck Foundation have together allocated around 21 million EUR extra for projects that can mitigate the adverse health effects of the coronavirus epidemic in Denmark.

We normally have a good dialogue with the private foundations, but this time, the openness and willingness to coordinate is truly great.

Also at the European level, we acknowledge that times are not fit for “business as usual”. Denmark fully supports the actions already taken by the Commission, and urge the Commission to do as much as possible. We support the use of well-known instruments, partnerships and networks. At the same time, we must think differently and focus on delivering results.

It is key to alleviate the effects of the corona virus on European citizens, our health care systems and the economy. In this respect, we will be supportive of selective top-down funding or European top-up funding of promising projects in Member States.

We fully support the call in the health programme, and the EIC pilot call, including the possibility to fast track corona related proposals. In addition, the Innovfin instrument is relevant for large scale equity funding.

In the short term, we need better and more precise diagnostic tools, test reliability and treatment that is more effective. The IMI call currently running is addressing these aspects. It would be interesting to know whether the Commission deems that more funds can be made available?

In the longer term, vaccine development is crucial, and we have a common interest in European investments in this regards.

In addition, research in communication to the public, societal behaviour, misinformation campaigns, the role of social media and related topics is highly valuable.

Last, but not least: Both in the short and in the longer term, a key aspect is open science and open innovation. The need to share results and data is nothing new, but in this situation, it is more crucial than ever. The EU is a driver for openness, and we will be happy to discuss new possible measures in this area. DK will be happy to contribute to a covid-19 data platform within the framework of the European Open Science Cloud.

Coordination and communication between Member States and between the DG RTD and DG SANTE is of utmost importance. We fully support the Commission's launch of a European team of scientific experts to strengthen EU coordination and medical response.

European challenges require European responses. With the largest research and innovation programme in the world, we have a shared responsibility to deliver!

Thank you.

Estonia

1. What should in your view be the priorities for EU coordinated R&I action on COVID19 in the short (6 months) and medium term (12 months) and beyond?

Calls for proposals for research and innovation projects should be better coordinated and the deadlines of the calls as well as the extension of those deadlines should be considered carefully. To guarantee that everyone has the same information, it should be considered to coordinate all changes and special calls with the strategic programming committee or on the level of NCP coordination network. Coordination of information is also necessary in terms of finding solutions to problems and possible force majeure circumstances that may arise from the current emergency situation.

Calls for proposals for finding a treatment to and preventing the spread of the virus during the COVID outbreak should be kept open for a longer period, so that research institutions and SMEs have time to react. Instead of short deadlines, more frequent calls should be considered.

2. How could Member States and the European Commission best maximise funding eg to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call?

More flexibility in the regulations as well as simplified procedures might be helpful. For example, creating more synergies between EU programmes so that they could contribute to fighting the virus. Applying certain exceptions for COVID-related calls might also be considered. Another option could be creating a possibility for COVID-related projects in the partnerships and/or working programmes of the framework programme.

3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?

There are different ways to approach this situation. From a long term perspective, it is critical to analyse the risks we are facing and to act in Europe as a united front, which means that each Member State is ready to contribute to joint European action. This could mean jointly developing a treatment or a vaccine or jointly confronting some other crisis. If Member States are able to act in solidarity, private investors feel more secure to contribute to joint initiatives.

In today's situation where we need to react to the crisis locally and find solutions quickly, one way to alleviate the situation is to have open-to-all project calls with lower standards for participation where the Commission could give lump sum contributions. This approach would make it possible to find quick and flexible solutions in a situation where our societies need to adapt to new circumstances almost every day (for example, studying at home and via e-solutions, adapting to isolation etc). A good example of this is the HackTheCrisis movement that started in Estonia, as well as our e-learning solutions.

Finland

Finland has conducted and is planning for dedicated actions to strengthen the research and innovation capacity of relevant actors to produce solutions for tackling the COVID-19 situation. These actions have and will be reported to the EU Commission in other contexts. This document contains the speaking points for the R&I DGs on R&I action on COVID19 telco on March 24, 2020.

1. What should in your view be the priorities for EU coordinated R&I action on COVID19 in the short (6 months) and medium term (12 months) and beyond?

- Also at the European level research already ongoing and relevant for solving the crisis should be recognised. SSH is needed to understand how do people, societies and economies behave, when a demographic nightmare hits, be it a virus, an insect, a mammal or a human crisis – there will be more, Corona is not the last crusade on this front. The recovery of societies and economies needs new tools.
- Several EU funded projects (from both Framework Programme 7 and Horizon 2020) are currently contributing to European and global preparedness and response activities. As a short term action, the results of these could more effectively be screened for potential end-users be they in the private or public sector. Potential solutions in pre-commercial phase e.g. for screening diagnostic samples and for medication should be sought for from the private sector. As an example, Finnish company *Mobidiag* is currently redirecting its development of high-throughput screening solution to COVID 19 and they expect to have the first working, scalable solution ready in 3-5 weeks to be shipped based on emergency utilization rulings in Finland. There probably are such feasible projects all over Europe.
- The European research infrastructures could with high priority provide support to research helping to invent solutions. The role of EBI, EMBL Hinxton and other bioscience infrastructures is obvious, but also here other research fields, like SSH, have a role. In Finland, the national data management and supercomputing center CSC – IT center for science prioritizes in resource allocation all research related to COVID-19 and allow atypical users, like the national health authority and the Bank of Finland, to use the facilities for free.
- Legislation should be used as a means to faster open data, research results and publications for all. National and European research infrastructure user policies and research funding criteria should work towards the same goals.
- Scientists have contacted civil servants and politicians probably also elsewhere than in Finland. Ideas have mostly been on biomedical projects and improvements. Academia could be consulted in a more holistic manner to look for ideas of transdisciplinary and interdisciplinary research and for not obvious existing international researcher networks.
- Activate the citizens. An on-line hackathon (Hack the Crisis) was arranged in Finland with over 1000 volunteers seeking ideas and solutions. Hundreds of potential solutions were identified and an evaluation team is now analyzing and

coaching the top 15 solutions. We warmly support the Estonian initiative for a pan-European hackathon.

- We should also together look into the possibilities that innovative public procurement could offer in this exceptional situation – in FI only 5 % of procurements meet the innovativeness criteria.

2. How could Member States and the European Commission best maximise funding eg to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call?

- We should try to build on existing partnerships and ecosystems, also other than the European & Developing Countries Clinical Trials Partnership (EDCTP).
- 17 H2020 projects: We thank the Commission for rapid reactions for actions to tackle the current outbreak of the novel coronavirus.

3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and the InnovFin Infectious Diseases Finance Facility (IDFF)? What other initiatives could be taken?

- In our thinking the EIC Accelerator for COVID-19 innovations (only testing, treatment and/or vaccination) could still be too slow, as the application process requires too much resource from the companies at this specific time.
- Fast-track contract signature procedures could be of use.
- One option could be to preselect and to pinpoint relevant companies nationally (plug-in) by national innovation funding agencies.

France

Actions put in place at French level:

REACTing the French consortium to combat emerging infectious diseases

French response to COVID-19 outbreak by research is coordinated at the national level by **REACTing, a multidisciplinary consortium** working under the authority of Aviesan (alliance for life and health sciences), which gathers all health-related research organisations to combat emerging infectious diseases. REACTing has been set up several years ago after the Chikungunya epidemics in the Caribbean's area in 2013. It has been active on various outbreaks, including Ebola's outbreaks in West Africa in 2014-2016 and in RDC in 2018-2020.

REACTing COVID-19 working group and its actions

Since the announcement of the new respiratory syndrome as a Public Health Emergency of International Concern by WHO in January, REACTing has created a COVID-19 working group which gathers interdisciplinary researchers, physicians in charge of COVID patients, the national reference center for respiratory infectious diseases.

REACTing COVID-19 group has first allowed the development, and distribution of the **diagnostic test for COVID-19** in French hospitals as well as **sequencing of the virus genome and its isolation**, a key step for the development of in vitro studies of SARS-COV-2 virus, and anti-viral drug screening.

REACTing COVID-19 group has also coordinated the setting-up of **two national cohorts of patients and patient contacts**, defining patients consent forms, standards for bio-sampling and patient data recording, in agreement with the ISARIC international consortium adopted by WHO.

REACTing has also set up **a multicentric and multinational clinical trial**, DISCOVERY with Belgium, UK, the Netherlands, Luxembourg. Additional countries may join (DE, ES, NO, IT, CH). **4 drugs or drug combinations will be tested** in more than 3000 patients to evaluate their therapeutic effect and tolerance. This clinical trial has been approved by regulatory authorities in March and will begin in the coming days.

REACTing is also active in supporting COVID-19 researchers applying to national or international grants. **France participates in 11 of the 18 projects financed by the H2020 COVID-19 call** and is actively preparing applications for the IMI and EIC COVID-19 dedicated calls.

Finally, REACTing **liaise with the French authorities**, including the Health and Research Ministries, to transmit the most **up-to-date information regarding the epidemics** and define the **needs of the research community** in terms of funding for COVID-19 research.

COVID-19 Research funding

REACTing has received 1 M€ so far from Ministries of Research and Health. This has allowed the development of a **pre-financing scheme for research projects on COVID-19**. 19 projects were pre-financed, on a large variety of topics after evaluation by the Reacting high-level scientific panel: modelling of the epidemics, cohorts of infected patients and contact cases in coordination with health authorities, treatments, natural history of the disease, fast production of recombining virus. Two social sciences projects were also funded (study of social networks to help the health authorities to communicate, study of the quarantine of 250 French people brought back from Wuhan beginning February).

Second, the French funding agency ANR has set up a **call for urgent research on COVID-19** (deadline 23 March, expected funding up to 15 M€). Its scope covers several research areas highlighted by WHO (epidemiology and translational studies, physiopathology, prevention and control in health settings, social and human sciences). Thanks to the fast process adopted, projects will be selected and financed at the beginning of April.

Third, the national **annual clinical research call** (deadline 10 March) **will consider COVID 19 research as a priority** (around 25 projects received). A special pre-financing scheme has been established to allow early start of projects. The possibility of launching an additional COVID- 19 call regarding is currently under consideration. To be noted, special measures have been taken to speed-up authorizations required for clinical research by regulatory authorities and national ethics committees. Up to now, 11 projects have been authorised through this accelerated process.

Most recently, the French Ministry of Defense opened a 10 M€ call to fund innovative solutions from technological, organisational, managerial, or industrial adaptation angles.

Besides, on March 19, Frédérique Vidal announced a **new fund for urgent research for COVID 19 of 50 M€**. The topics covered by this fund and funding schemes remain to be defined at this stage.

Importantly, **COVID-19 research remains a top priority**, in France in spite of ongoing population containment measures. In this very peculiar situation, France also wishes to express again its **support to open science**, since data sharing is essential to accelerate the development of new tools to combat the disease.

General comments to share with the Commission related to March 24 meeting

« Acute emergency actions » taken by the Commission have been very rapid, mobilizing very significant amount of money in a tight situation. The accelerated and highly efficient COVID call that will be complemented by the ongoing IMI action should cover a first round of projects for research or early development, concerning organization, early hypothesis and tests for epidemiology, new diagnostics, treatments, and vaccines. Such actions are also sustained by non-European efforts and actors, such as US and DARPA, with which synergies should be sought.

A prospect of a dedicated EIC call to sustain specifically COVID programs in SME should encourage future developments of the early research results.

France suggests to :

A general fast track evaluation,

Use of the Seal of excellence's stock and deal with them a Plug-in at interview step and for some of them a redirection to FTI/InvestEU etc.

The EIC may think about the possibility to marry some proposals in order to reach more faster the targets,

On a long term basis, we suggest also a coordinated pre-commercial procurement (PCP) managed by the EC.

However, second generation research for more specific therapies and more efficient vaccines will require a better understanding of the disease, and particularly virus / human interactions such as immune responses over time, particularly generating some knowledge of the factors that lead to partial or complete protection and recovery, or to a worsening of disease.

A second wave of calls towards developments could then be envisaged, once fundamental research will have progressed significantly, and in regards of general advances from early actions.

What is more, sharing and exchanges are mandatory in this fight against COVID-19, using all tools of open science and sharing fair data, and designing new formats to share information better and faster.

Of high importance is to rely on and sustains preparedness and coordinating structures such as those listed on last slide of Commission power point, particularly GLOPID, CEPI, PREPARE. Meanwhile, as soon as possible, coordination between research actors should be reinforced, and the Commission might play a significant role encouraging global knowledge on existing efforts.

Information toward decision making bodies being key, in addition to the acknowledged general effort to provide open access to all publications on COVID-19, a communication cell to run through bibliographic production and extract key messages and share them at policy maker level could be of common interest.

It is also major, In each MS and at EU level, to mobilize enlarged communities together with Biologists and clinicians, to provide a general appreciation and extract conclusions from the ongoing crisis.

To reply specifically to the EC questions:

1. What should in your view be the priorities for EU coordinated R&I action on COVID19 in the short (6 months) and medium term (12 months) and beyond?

- a) Strengthen knowledge effort on pathogen and disease, to derive second-generation hypothesis for treatments and vaccines
- b) Develop sharing of data and reagents using existing platforms, for information of research efforts and mutualisation of outputs: clinical data, products, etc...
- c) Develop common database of annotated and pondered scientific information for policy making
- d) In a few months, a call could be launch to help understanding the consequences of the COVID pandemic, and to model short, medium and long term consequences at social, cultural, economic , organizational level.

2. How could Member States and the European Commission best maximise funding eg to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call?

- a) Maintain a high level of exchanges to prepare actions, e.g. calls, fund mobilisation, prior to launch them, in order to maximize synergies.
Including having exchanges at WHO and global level - e.g. with US or Asian research funders. Particularly, a tight interaction DGIR - DG SANTE at commission level is to be continued.
- b) Sustain actors such as Glolid, - R, CEPI, PREPARE, and similar preparedness actors able to detect / organize / Intervene in case of future emerging disease. It is critical to insure the vaccine hypothesis can be followed and tested.

At this stage, the use of EDCTP as a tool to react to COVID-19 should be though carefully, the matching of this instrument to the COVID purpose is to be verified.

3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?

- a) As stated already, envisage a dedicated EIC action separated from current open call
- b) Mobilizing regional funds can be an option to be discussed.

Germany

1. Where do you see most potential for EU coordinated R&I action, in the short, medium and long term?

EU coordinated R&I action is crucial for a better understanding of the coronavirus replication and pathogenesis, a more efficient diagnosis, treatment and vaccination as well as increased preparedness of health systems.

In the short term, there is a need for an “emergency funding for R&I” to fully mobilize, involve and interconnect the available research capacities throughout Europe. In this regard, we highly appreciate the current European Commissions efforts, e.g. the recently launched call 'SC1-PHE-CORONAVIRUS-2020' or the fast track approach under the ongoing European Innovation Council Accelerator as an important step in this direction. Evaluation and funding decisions should be fast and the bureaucratic burden of applicants must be minimized. In particular, the researchers and laboratories as well as the SMEs which are already active in the development of vaccines, drugs, diagnostics and treatment need financial support. If successful, support should be continued in the medium term to advance candidate products through clinical development. A European Platform to stimulate collaboration between research and innovation actors (e.g. for consortia seeking additional expertise) might be helpful. Also, immediate sharing of results and more urgently available data is crucial for the success of these projects. This holds true for fine-grained epidemiology data and genetic and structural data of the virus.

In the medium term, the contribution of digitization in the fight against virus pandemics is essential. Supercomputers and big data can effectively improve the simulation of disease spreading or the automatization of the analysis of targets for new drugs and treatments. The EU project Exscalate4CoV is a promising initiative in this context. Preparedness Networks e.g. of researchers, hospitals, clinics and diagnostic laboratories should receive continuous funding in order to have structures in place to rapidly respond to outbreaks.

In the long term, more basic and bottom-up research in virology and epidemiology is required. Sufficient support for fundamental research in life sciences and biomedicine as well as platform technologies should be mobilized.

2. How can we best pool resources, e.g. through matchmaking between public/private sector?

In a time of a severe crisis, there is no room for a theoretical debate on new instruments or governance approaches at political level. Ideas for new missions or partnerships should not interfere with the best possible use of existing instruments and partnerships. The possibility of calls within Horizon 2020 and the Innovative Medicines Initiative (IMI) remain the most important and available instruments for public-private cooperation in the

field of biomedicines. We fully support the special fast track calls in IMI and Societal Challenge 1 “Health” for research proposals for projects to develop treatments and diagnostics and to better tackle the outbreak in more general terms.

An additional cut of date within the EIC Accelerator and opening the Cut-off date in May for projects on Covid 19 (beyond Green Deal projects) would allow innovative SMEs to get funding.

3. How can we best coordinate our international cooperation?

Global co-operation is a key to tackle the COVID-19 pandemics. The “Coalition for Epidemic Preparedness Innovations” must be a major anchor for Europe’s efforts for international funding of vaccines development. Germany is actively supporting CEPI. Moreover, the co-operation with the “Global research collaboration for infectious disease preparedness” network (GloPID-R), which acts under the roof of WHO, is most relevant for the EU. Member States and European actors should increase their efforts to interlink at global scale with the funding bodies investing in research related to infectious diseases. Timely and transparent sharing of data at global scale is required.

Germany is closely working together with G7- and G20-member states. The recently adopted G7 Leaders’ statement expresses “our conviction that current challenges related to the COVID-19 pandemic need a strongly coordinated international approach, based on science and evidence, consistent with our democratic values, and utilizing the strengths of private enterprise.” The G7 “will increase coordinated research efforts, including through voluntary support for the global alliance Coalition for Epidemic Preparedness and Innovation. We will support the launch of joint research projects funded by both public and private resources, and the sharing of facilities, towards rapid development, manufacture and distribution of treatments and a vaccine, adhering to the principles of efficacy, safety, and accessibility.”

Germany urges to increase investment in research and development for new vaccines, therapies and diagnostics, to strengthen international cooperation and to follow the recommendations of WHO. Germany, for example, invites G20 countries to also support CEPI in their effort to develop a vaccine against SARS-Cov2. The German Federal Ministry of Education and Research decided to support CEPI (Coalition for Epidemic Preparedness Innovations) with additional € 140 million to support R&D on new vaccines against Covid-19.

Last but not least, the international cooperation efforts of private entities must be taken into account. The Biotechnology Innovation Organisations (BIO) member companies are working closely with U.S. government agencies, Chinese authorities, non-governmental entities and the WHO. The recently created “Coronavirus Hub” might help also European entities to connect with global companies with capacity and resource.

Greece

First of all we would like to thank and congratulate the Commission for organizing the videoconference during this unprecedented situation. Our thoughts are with the Italian and Spanish people that have been most hardly hit so far. The pandemic has made crystal clear that this kind of threat has no borders and no nationality and the only way to respond is by joining forces. The European Commission has our full support for all the initiatives and actions undertaken so far; what has been done is what could be done and they are all in the right direction.

Testing for the virus in Greece is done by the Hellenic Pasteur Institute, the national COVID-19 Reference Centre. Testing is up to now limited to those with serious symptoms. It is not possible to extend testing to the symptom-free population, mainly due to shortages in reagents and essential consumables. Epidemiological data are stored for all samples.

There is a plan for testing performed at home, but it is not implemented yet. Other research centers have infrastructure capacities and know-how and can contribute to the national effort to broaden testing of the population under an initiative of the National Council for Research & innovation and the National Organization for Public Health. This plan has not been fully implemented yet until all biosafety requirements are met and all controls are completed.

Up to now, due to shortage of immediately available funds, Greece has not yet launched a dedicated call for R&I actions in response to COVID-19 pandemic.

There are important research activities in the field of biology of viruses (among them the family of coronaviruses) along with the reaction of the human immune system to viral infections. Such research is mostly undertaken at the Institute of Molecular Biology and Biotechnology of the Foundation of Research & Technology in Crete, but also at the other biomedical research Institutes.

Substantial work is also being done in the field of epidemiological modelling of the virus spread dynamics with mathematical and computer models.

On treatment for COVID-19, Greece is already implementing a strategy of drug-repositioning / re-purposing for already approved drugs. Several research groups along with enterprises are working on this field.

The Institute of Molecular Biology and Biotechnology of FORTH (Crete) has developed an innovative technology based on biosensors for the direct detection of virus particles of SARS-COV-2. They are in consultation with the Reference Centre of the Pasteur Institute in order to perform tests. A spin-off company has been created by FORTH for the next steps and exploitation of research results.

Finally, at the administration level we are taking all possible measures to ameliorate the effects of restrictions and closures to our universities, research centres and enterprises. We, therefore, extended all deadlines for submission of proposals for R&I projects as well as those for completion of running projects, upon request by the coordinators. At the same time we will make every effort to speed up the administrative steps and audits for the completed projects and to allow/ enable timely payments to the enterprises and research organizations that have completed their projects.

We also fully support extending the deadlines for submission of proposals and also for H2020 running projects.

Regarding structural funds, we envisage an extension of eligibility of expenses of the current programming period up to 2025.

As for the priorities for EU coordinated R&I action for COVID19, we fully support the initiatives and actions taken by the Commission for RD&I, especially on vaccines and treatment. We welcome the dedicated call of the Health Program and allocation of 47,5 M€ for the 17 selected projects. We consider, somehow premature to discuss allocation of extra funds to the consortia of these 17 projects.

We need to look at their initial results first while additional funding could be allocated to complement and expand the 17 consortia to new partners across Europe, with open and transparent procedures. We also certainly need to leave room and funds for future open calls and new ideas. We would like to emphasize that targeted, competitive calls, open to all, give rise to opportunities for new, breakthrough methods and solutions. Partnerships are also important when they mobilize additional investment from the private sector or from the participating countries.

Regarding EIC, we fully support new calls in the framework of the Pathfinder for longer-term projects and in the framework of the Accelerator for shorter term. To ensure that new players, with fresh ideas will come on board, it is essential to give enough time to the proposers for preparation. Furthermore, in the case of the EIC-Accelerator, it is also essential to evaluate the proposals giving priority to the idea rather than the experience and track-record of the proposer. Such a priority will enable new, breakthrough ideas with to emerge and get funding as is the case with the very successful practice followed in the USA (under the SBIR initiative).

In a longer term perspective, the urgent need for response to all fronts against the COVID-19 pandemic (diagnostics, vaccines, treatment, modelling, epidemiology, civil protection) shows the utmost importance of reliable research ecosystems, based on highly qualified human resources and state of the art infrastructures. Without these the EU could not respond to the current and potential future pandemics. They require long term, consistent investment and commitment both at the EU and at national level.

Now, more than ever, there is need for coordination and use of expertise and capacities of ALL Member States.

Hungary

1. What should in your view be the priorities for EU coordinated R&I action on COVID19 in the short (6 months) and medium term (12 months) and beyond?

The COVID19 virus has become a major threat for Europe and for the whole world. We need to react quickly, effectively and efficiently. Therefore we strongly agree that we need **coordinated efforts at EU and even at global level to explore synergies and avoid unaffordable overlaps. We underline the significance of mapping and closely monitoring current RDI efforts in Europe and worldwide** therefore we really welcome the initiative of the Commission to start discussion with Member States on RDI aspects of this critical issue. In our view all countries can **benefit from regular discussions and knowledge sharing** in such a forum and it can also serve as a **platform for preparing the ground for joint initiatives by linking national programmes or projects** where appropriate.

In addition to the coordination within the EU it is particularly **important to address this unprecedented challenge globally and join efforts with countries outside Europe**, especially with those, which have successfully brought the epidemic under control. We welcome dedicated actions for exchanging best practices with these countries.

Strengthening the common knowledge base is a key issue, the Database of publications on coronavirus disease established by WHO is a good example for that.

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/global-research-on-novel-coronavirus-2019-ncov>

Apart from that, we would also be in favour of **setting up a platform for researchers for rapidly sharing results and experiences, though its monitoring and quality assurance has to be set up and strictly supervised**. Next to the listed timeframes, let me add another one, the very short term actions (within 1 month), which are urgently needed during the mass infection phase. Supporting diagnostic projects which can detect COVID19 quicker than the usual processes can help a lot to isolate the infected people from the healthy ones. Antibody tests, which can show how many people have really been infected, should be also supported.

In the short term we need to focus on prevention and to support new ideas which can ease the work of the healthcare personnel and to reduce the chance of having complications when infected with the virus.

In the medium term (12 months), Europe needs to speed up the research on vaccines and therapies, which could be effective against COVID19 and to define a clear action plan that can **reduce the negative side effects of the virus** from economic, societal perspective.

The **RDI sector and its human resources are also expected to be seriously affected by the pandemic**, therefore we have to take measures to **preserve research and innovation**

capacities as far as it is possible and allocate additional funding and launch targeted actions to avoid losses in this critical period

2. How could Member States and the European Commission best maximise funding eg to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call?

- Mapping the COVID19 related R+D+I activities in the member states;
- Establishing platforms for the funded projects and for the research groups that they can know about each other and work together;
- Allowing research groups from the member states to join the running EU funded COVID-19 projects;
- Using the existing research infrastructures (including national ones) as a platform for sharing relevant research data;
- Regarding the EDCTP call - Hungary is not a member in the EDCTP (European and Developing Countries Clinical Trial Partnership)

Ireland

Research and Innovation, in health, academia and industry, have a significant role to play in the national and global response to COVID-19. Consequently, the Irish Government's main research and innovation agencies have developed a coordinated Rapid Response Research and Innovation programme to help mitigate and manage the COVID-19 pandemic by unlocking the potential of Irish based researchers and innovators to join the global efforts.

This coordinated response is comprised of two complementary strands. Having two focus areas allows for sufficient specialisation and coordination while optimising available resources.

- The first focus area targets **medical countermeasures, health service readiness, and social and policy countermeasures** to COVID-19. This is led by the Health Research Board (HRB) and the Irish Research Council (IRC) and details of the call can be found [here](#).
- The second focus area is an agile and adaptive initiative to combine the capabilities of industry and academia in the development of innovative solutions that can have a rapid demonstrable impact on the current COVID-19 crisis in Ireland. This is led by SFI, Enterprise Ireland and IDA Ireland and details of the call can be found [here](#).

Italy

1. What should in your view be the priorities for EU coordinated R&I action on COVID19 in the short (6 months) and medium term (12 months) and beyond?

Our answers to the proposed questions are undoubtedly influenced by and based on what is occurring in our country, but we will try to use this ongoing dramatic experience to support our discussion for the benefit of all the countries represented here and beyond.

About the priorities, besides the obvious need for an effective vaccine and for effective drugs (either new drugs or renewed use of existing drugs), we recognise the urgent need for expanding the knowledge base on SARS-CoV-2, for developing tools for immediate 'on the spot' diagnosis, for remote monitoring of the clinical status of non-hospitalised patients, for alleviating symptoms and distress of severely sick patients, for example with more patient-friendly assisted-breathing devices.

Another first rank priority is, in our view, to protect frontline health workers, which, by the way, is also a powerful measure to counteract further spread of the virus. Consider that, in the last 30 days, since the inception of the emergency in our country, we lost 24 physicians, who died, and we count now about 6000 infected health personnel, who had to be withdrawn from service.

Therefore, we believe that we should encourage and incentivise research on and production of robots able to perform risky tasks, preserving human operators. Robots can be a safe and effective interface between the care givers and the potentially or actually infected persons. We propose for the European Union to deploy a large, integrated effort to design and produce robots to contrast the current pandemic, and the ones that inevitably will occur in the future. Since the TRL of many robotics systems is close to 8-9, already in the short term many operational tasks, such as cleaning, disinfecting, logistics, could be entrusted to robots. In the medium term, our researchers could focus on developing a new generation of high performance and reliable "Robot Companions", ready to accomplish even more sophisticated bedside tasks (as swabbing, intubating, cannulating).

Another priority, emerging from the ongoing experience, is the need for tapping the full potential of a synergetic use of big data, high performance computing and artificial intelligence. Effectively combining these domains, the spread of epidemics can be modelled and monitored with an unprecedented precision and impact. What we are seeing in all our countries, with an empirical day-after-day decision process, shows that, although we possess the instruments, we are still far from making an optimal use of them. Thus, from our perspective of research policy makers, there is the urgent need to develop

a new generation of researchers, who can talk each other across these domains. This implies an assumption of responsibility by our higher education institutions to develop multi-, inter- and trans-disciplinary curricula.

2. How could Member States and the European Commission best maximise funding eg to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call?

We are shifting progressively from the first to the second question by saying that, in the coming weeks and months, we need to reflect on how to improve our foresight activities. We together, the MS and the EC, invested on these activities in the past, we designed accordingly Horizon 2020 and we are designing currently Horizon Europe, but our ability to anticipate troubles looming on the horizon was, at best, inadequate.

Despite the scourge of SARS, MERS and EBOLA, just to mention the most recent ones, we have been listening to a narrative that communicable diseases were extinct as dinosaurs, but obviously they are not. Therefore, we should accordingly revise our vision and our priorities of investment.

To guarantee widespread preparedness across the Union, because we know that there will be other epidemics, but we do not know where they can break out again in future, we should encourage and incentivise sharing data and best practices at European level. We see this as one of the priorities for the European Open Science Cloud, and GloPID-R can represent an excellent basis to build on.

Furthermore, we should make use of smart directionality in orientating the evolution of our health systems. This evolution, in the recent past, has been characterised by a trend which led to a reduction of hospitalizations per inhabitant on one hand, and, on the other hand, to strengthening large care centres. This concentration process, providing greater quality, competence and cutting-edge technologies, should have been accompanied, in principle, by an enhancement of primary care, to ensure overall care services as close as possible to the citizen.

In reality, especially in the case of complex care pathways, and the Covid-19 is a case in point, a significant communication and coordination gap remains between these two settings of care, which can cause, and indeed it caused in the current epidemic, a harmful delay in the early detection of cases, which is crucial for circumscribing a sprouting epidemic.

In this complex challenge of combining the need to guarantee proximity of the services to the patient and the excellence of the healthcare, a fundamental role can be played by new

technologies that can allow these two perspectives to be reconciled, to improve and simplify the processes of diagnosis and care and, in short, to bring excellence to the patients' home.

Therefore, besides the ordinary instruments of the current and future framework programmes, and those indicated as examples in the question, we propose that a 'one stop shop' is activated with an open-ended list of topics to be co-funded by MS and the EC, among which a place should be reserved to the development of technologies aimed at supporting preparedness and resilience of our health systems and increasing social cohesion, through a strong person-centric, smart primary health care.

3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?

Finally, a long-term investment should support the establishment of a European platform for vaccines, drugs and smart health devices production. This doesn't need to be a physically concentrated unit, rather, it can be imagined as a 'federation' of productive units, designed and managed like a single entity, where collaboration is rewarded more than competition.

A useful initiative could be the creation of a panel of high-level experts which could bridge and co-ordinate the scientific/public health domain with the wider societal domain (something similar to the 'Mission Boards'). This would allow also the scientific efforts and the interactions with non-EU countries (e.g. USA, China, etc.) to be better co-ordinated, for the EU speaking with one voice. In fact, it will be essential to have one strategy for COVID-19 (with standardized policies) across countries, in particular within Europe, not only now but also during the post-quarantine phase, in order to insure that the results obtained during the quarantine/isolation do not get nullified.

This pandemic taught us that the healthcare system is not a commodity, and that some assets and aids are strategic values for which Europe cannot depend on other countries. In these areas, we need to build a pact with European companies to guarantee on-site production.

We are confident that all our citizens, in the current, dramatic circumstances, are appreciating, and will struggle to preserve, our universal welfare system, that makes Europe a different and unique continent worldwide. Our challenging responsibility is to exploit the incredible speed of development of new technologies to guarantee its sustainability for generations to come.

Latvia

1. What should in your view be the priorities for EU coordinated R&I action on COVID19 in the short (6 months) and medium term (12 months) and beyond?

Short term –

- Coordination of establishment and operation of biobanks containing material from confirmed patients and separately – symptomatic but not confirmed patients. Coordination of joint database operation for – omics data, primarily viral genomics and metagenomics data. **Including the relevant data from ALL member states according to protocols.** Support to studies on viral strain relation to clinical outcomes.
- Coordination and funding of targeted clinical studies on therapy and diagnosis and rapid propagation of early results. Inclusion in early phase studies of new compounds.

Medium term –

- Coordination and research funding for vaccine development based on various platforms, including **virus like particles (VLP)**. Efficient integration of VLP vaccine platforms located in Member states. Establishment of distributed EU Vaccine development infrastructure and calls for further stages of vaccine development.
- Research funding on post-viral therapies and best clinical practice for recovery of patients

2. How could Member States and the European Commission best maximise funding e.g. to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call?

- Securing open data and open publishing for all projects, rapid pre-printing of results, active use of EOSC. This avoids duplication and attracts follow-up funding.
- Flexibility in regulation, in particular, postponing starting date of Medical Devices Regulation 2017/745 for critical care equipment.
- Additional EU funding for deployment of further vaccine platforms in Member states, especially VLP platforms

3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?

Maximally targeting **Open science** to allow discovery, interpretation and attract start-ups and investors.

Latvia has excellent experience with Covid-19 related #HackForce Hackathon where 27 proposals were submitted. The best three honoured with seed money were: **Face Shields** – 3D printing of protective gear; **Emergency Ventilator** – mobile ventilation device for emergency use in a simplified setup; **Exonicus** – simulation program for medical professionals for protection in a severe epidemic outbreak. Clearly medical devices / IT solutions have better readiness for the start-up scene.

EC and Member states have to make all necessary conditions for swift structural funds' investments in Covid-19 research.

Lithuania

1. What should in your view be the priorities for EU coordinated R&I action on COVID19 in the short (6 months) and medium term (12 months) and beyond?

Lithuania supports coordinated EU response to COVID-19.

We would propose to create the **EU-wide collaborative network of R&D institutions** that have necessary capacity and expertise to contribute to solving Covid-19 problems. It is important to work in coordination towards not only clinical or pharmaceutical issues; social, technological and other challenges shall be addressed, as well. It's highly important to provide open access to the results of the Covid-19 related calls;

Due attention should be given to the effective **communication**. We need more systemic approach when organising information flows about extended deadlines for submission of applications, urgent calls or about national R&D capacities and readiness for joint projects and more.

2. How could Member States and the European Commission best maximise funding eg to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call?

Concerning the second question Lithuania is considering to increase co-financing and administrative assistance for researchers, aiming to join international research teams (eg life sciences, technology research).

This week the Agency for Science, Innovation and Technology has launched a call "Life saving-innovations: stop COVID-19" with simplified procedures. The call is open for innovators, technology developers, startups and innovative companies that can offer research and innovation based unconventional solutions to manage the COVID-19 crisis. After the selection the best projects will be funded from the EU SF instrument Inostartas (52,000 euroes / project).

I would also like to provide an example of Lithuanian robotics company "Rubedo sistemas", that is developing a unique disinfecting robot that can help fighting the COVID-19. This autonomous robot has great potential for future applications: it can be used in hospitals, quarantine facilities, offices, schools, supermarkets, warehouses and airports.

3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?

We would support a dedicated EIC Accelerator call on COVID-19 for innovative SMEs and start-ups.

Facing the disruption in international trade the Lithuanian government is looking for opportunities to promote scientific cooperation with Lithuanian companies, working in the field of production of reagents and preventive measures.

Luxemburg

We fully support the proposal and priorities of the Commission for a coordinated EU response to the public health threat of COVID-19, which should include:

- (1) Funding from Horizon 2020, including the Horizon 2020 COVID-19 call for research funding of €47.5 million for 17 projects, the Call21 under the Innovative Medicines Initiative (IMI) 2 Joint Undertaking with a budget of €45 million, the reorientation of ongoing Horizon 2020 projects within the context of the Horizon 2020 European Innovation Council (EIC) Accelerator pilot, as well as the next bottom-up call for proposals (budget of €164 million). We also support a fast-track procedure for the signature of contracts with the selected companies working on COVID-19 related topics.
- (2) Support cooperation and information exchange at international level to ensure synergies, and to avoid duplication of efforts at project level with international networks.
- (3) Increasing cooperation with different European agencies: European Medicine Agency (EMA), European Centre for Disease Prevention and Control (ECDC) and others.

In our opinion, the European & Developing Countries Clinical Trials Partnership (EDCTP) could be the right tool to maximise funding on COVID-19 research by increasing national funding to the EDCTP programme.

EU financing opportunities should be mobilised through the Horizon 2020 InnovFin Infectious Diseases Finance Facility of the European Investment Bank notably via the Horizon 2020 InnovFin Infectious Diseases Finance Facility (IDFF). We would also support a possible EU contribution to the Rapid COVID-19 Vaccine Development programme of the Coalition for Epidemic Preparedness Innovations (CEPI - vaccines).

On the national level:

Research Luxembourg, a joint initiative of the main players in Luxembourg's public research sector, is mobilizing its knowledge and its human and material resources to help address the challenge of COVID-19. A task force has been set up in order to offer the health system the combined expertise available within the Luxembourg public research sector under the coordination of the Ministry of Higher Education and Research.

The missions of this working group are to:

- Coordinate the provision of support from the national research community to healthcare providers and the government in order to contain the current COVID-19 pandemic.

- Help identify and centralize a variety of priority activities, leveraging on the cross-sectoral expertise in molecular biology, epidemiology, clinical trials and fundamental research
- Be the point of contact between the national research ecosystem, the clinical community and the authorities

The task force will focus on three pillars:

- a prevalence study to assess the extent of the spread of the virus and the number of asymptomatic individuals;

- a stratification study in which researchers attempt to identify risk factors that contribute negatively to disease progression;

- statistical simulations on the evolution, impact and spread of the COVID-19 pandemic to provide short- and medium-term projections and thus facilitate decision-making on when restrictions could be lifted.

Concrete actions have already been put in place.

Malta

1. Where do you see most potential for EU coordinated R&I action, in the short, medium and long term?

- Thank you, Jean-Eric, for this timely initiative, which we warmly welcome.
- First of all, better communication needs to take place to ensure that researchers in all the Member States are aware of the recent funding allocated towards tackling the COVID-19, including the calls of the 'Innovative Medicines Initiative' partnership, and the EIC Accelerator. We must make full use of all the competent research expertise from all the Member States.
- By way of further short-term actions, we clearly see the need for the mobilisation of more "reserve" and unutilised funds to address research for vaccine development, diagnostics and clinical trials.
- We would also urge immediate adjustments in the "mission areas" of Horizon Europe. We see an opportunity to address research funding for healthcare related applications and solutions, in densely populated, and highly urbanised areas. The adjustment of mission area two, towards a greater focus on smart healthcare applications in cities and urban areas, would help considerably. As we are witnessing, highly urbanised areas are notably prone to rapid diffusion of potentially lethal viruses/disease causing agents.
- On the long-term, we believe that research in the areas of food and water, must gain weight across all R&I instruments. Without adequate resources to secure the supply of healthy food, and potable water, all other efforts will be in vain.

2. How could Member States and the European Commission best maximise funding eg. to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call?

- Like other colleagues, we see the need for a Coordination and Support Action exchanging experiences and data in the econometric modelling of the spread of virus in Europe so far, as well as, facilitating the cooperation of experts across all fields, including social science and humanities. This would be the logical next step for expanding the 17 H2020 COVID-19 projects. The Commission would need to ensure immediate "open access" to such data to all Member States.
- Furthermore, we would like to suggest the creation of a Commission-led R&D alliance for COVID-19 research open for the pharma industry and private/public foundations. The EU can also consider expanding the budget for the Innovative Medicines Initiative, subject to a higher financing contribution from the pharmaceutical industry or private/public foundations.

3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?

- We welcome and support the proposed approach to further strengthen the InnovFin Infectious Diseases Finance Facility.
- We would however also like to propose the creation of a dedicated European Innovation Council (EIC) Accelerator call to help innovative SMEs and start-ups to develop tech solutions to tackle the COVID-19 outbreak, including from a social and economic adaptation perspective.

The Netherlands

Introduction

- We would like to thank the Commission on the immediate action on specific Horizon 2020 calls in relation to COVID-19. It shows flexibility even in hard times.

Regarding the first question on priorities for a European coordinated R&I action:

- The crisis that we face, shows how important it is to keep investing in research and innovation. The unforeseen scientific breakthrough of today can be of immense importance in tackling challenges we might face in the future.
- In the Netherlands, a lot of action has been taken on a national level in the field of research and innovation on AI/Big data and super computing and health, epidemiology, diagnostics, treatment, vaccines, protection, etc. We will share with you the overview of these actions as soon as this is reasonably possible. Sharing this information in a structured way give the possibility of acting together and liaise with colleagues in other Member States.
- However, we will have to be realistic in the timing. Although coordination is important, institutions are now focused on managing the crisis at hand. In due time we will be able to reflect and improve coordination.
- Moreover it is important for EU and Member States to invest in the optimal conditions for researchers and companies to combat this crisis. One of the conditions is the optimal flow and exchange of (research) data. Cooperative efforts like the European Open Science Cloud can be crucial in solving COVID-19 research questions in the medium and longer term.
- Facilitating partner search and matchmaking where needed can also contribute to strengthen the European research and innovation efforts in this crisis.
- For the immediate short term, MS have asked the Commission to further extend Horizon 2020 calls, especially those in the health domain. Many health researchers are currently not able to prepare or finish their project proposals.

Regarding the second question about how to maximise funding:

- The aforementioned mapping and coordination is needed to analyse in which fields on health and combatting viruses we need more coordination at EU-level and what aspects should be kept as a national competence.
- That requires a good overview of the actions already deployed in order to enable cooperation, maximising the impact of the available funding.
- For the wellbeing and future of Europe, impact and excellence are essential in the selection of which projects receive funding.
- Partnerships, both public and public-private, can provide a valuable contribution in coordination and cooperation. So we have to have a close look at the partnerships under Horizon Europe. Which partnerships can contribute to combatting viruses, and which partnerships can be focused more to make a contribution?
- We also have to take into account the societal, economic and social aspects of a crisis we are now in as result of COVID19. So a mission oriented approach can be helpful in the future.

- In that respect, it might be worthwhile exploring how R&I investments might serve both the COVID-19 as well as the climate crisis. The huge investments that will be necessary in order to solve the COVID-19 should take sustainability into account as much as possible, in order to maximize efforts.

Regarding the third question about how to mobilise State long-term investors:

- We are positive about smart and swift interventions to stimulate co-investments by EIB/EIF and “State long terms investors”. NPI’s (National Promotional Institutions) could do a lot and existing innovation schemes like the Dutch Innovation Credit Scheme has a proven track record in stimulation of new drugs and treatments.
- We should especially make use of the State investors and schemes that can act fast and have the proper know-how / experience.
- Good practice is the EIB/EIF co-funding with risk-capital and venture debt. The recent business case of CureVac is a fine and fast example. Also the national agencies and NPI’s can have an instrumental role.

Poland

1. What should in your view be the priorities for EU coordinated R&I action on COVID19 in the short (6 months) and medium term (12 months) and beyond?

We would like to propose three concrete actions:

1. Short term: creation of “COVID-19 Response Centre” – for monitoring actions of MS to limit infections and to cure the illness.
2. Short and medium term: creation of “Rapid Research Support Mechanism” to mobilize significant funds to support urgently needed research on European scale.
3. Long term: creation of “Threats Prevention and Mitigation Centre” – a research unit to investigate possible EU-level threats and design possible prevention and mitigation actions.

Ad. 1. “COVID-19 Response Centre”

Today, actions against COVID-19 are taken by each MS individually, they are very diverse and results differ dramatically. Therefore an ‘European response’ looks just chaotic. We need a center to monitor all actions taken to limit the spread of the virus and their results. Best (and worst) practices should be presented to follow (or to avoid).

We should build effective mechanism for monitoring the international situation. Current state of affair shows that lack of such a mechanism contributes to many fake news and disorientation in the public space, among politicians and citizens.

On the medical side, various treatment options are being tested in different countries. Again, one should collect the results to increase their statistical significance and to disseminate conclusions.

Ad. 2. “Rapid Research Support Mechanism”

We need a new approach that will substantially boost the research in case of urgent need, like the COVID-19 case. In such cases BAU (business as usual) approach is not valid any more.

The situation when the largest economy in the world, during a crisis that could lead to one of the most severe recessions in history, finances only 17 research projects in the last Horizon2020 COVID-19 call¹ is not acceptable. The budget of this call 47.5 million EUR plus 10 million EUR budget earmarked under the 1st societal challenge- Health² is by far not enough.

¹Horizon 2020, Work Programme 2018-20208.: Health, demographic change and wellbeing; Other Actions.

² Mobilisation of research funds in case of Public Health Emergencies 304 In case of a public health emergency (such as a Public Health Emergency of International Concern (PHEIC) according to the World

At the same time we finance projects that are not crucial to our economic and social sustainability. Therefore we need new improved and simplified procedures and processes, including public procurement, based on an enhanced cooperation between Member States and the European Commission, that could be introduced in exceptional situations like the one we're living now. This could be quite simple, as we are not dealing with issues that are disputable – we are dealing with the situation that could undermine European values and the European way of life put forward in the President Ursula van der Leyen's agenda.

If Schengen could have been lifted in such a instances within days, why cannot we change financial streams for research, building a real European value for European citizens and for the world. Therefore we urge you to build a framework for "Rapid Research Support Mechanism" that should be put in place under HE at the latest.

Ad. 3. "Threats Prevention and Mitigation Centre"

We do not have a guarantee that such a crisis will not repeat in the near future, especially in times when migration flows, climate change and globalization create good conditions for such a situation. Moreover, viruses is not the only threat, which may put EU citizens and economy in serious danger. Physical events like solar storms causing failure of electric grids, nearby gamma ray bursts hurting telecommunication and GPS satellites, inversion of magnetic poles causing very high radiation levels, asteroid impact etc. are only a few examples. Unexpected behaviors of artificial intelligence systems, vulnerability of Internet of things, internet virus attacks, and more general – hybrid threats, are no longer science fiction. We observe small scale cases every day and we cannot deny a possibility of continental scale events.

Developing measures while the event is already happening is too late, which we painfully witness today. Therefore, we propose to create "Threats Prevention and Mitigation Centre" conducting research in this field. To some extend the Joint Research Centre already study some of the issues, but the only substantial funding so far was designated to one threat only, which is the climate change. We should realize, that other threats cold have more immediate and much more severe impact on European citizens and economy.

Health Organization, a public health emergency under Decision 1082/2013/EU or under applicable national frameworks and regulations), research grants may be awarded in line with specific provisions of the Financial Regulation 305&306, that allow the awarding of grants without call for proposals in exceptional and duly substantiated emergencies. At that time, the Funding & Tenders Portal will open a dedicated section where research applications can be received. This will be communicated to the National Contact Points.

Beneficiaries in grants awarded under actions relating to Public Health Emergencies must make available their research data, at the latest within 30 days after it has been generated, through open access or, if agreed by the Commission, by giving access rights to those third parties that need the research data to address the public health emergency. Therefore the relevant option of Article 29.3 will be applied. It is expected that quality-controlled data are shared in accordance with the FAIR307principles. The use of harmonised protocols in collaboration with other actors is recommended for this purpose.

2. How could Member States and the European Commission best maximise funding eg to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call?

In Polish we have a say – milk has been spilled already. Now, taking into account the time needed to carry out medical research in my opinion it will be extremely difficult to build a concentrated response of MS and the EC to this issue. Every country needs to evaluate the situation according to their national procedures and finance research on its own, trusting that any research funded with public money will be put as an Open Science data. Our researcher prof. Marcin Drąg who discovered an important enzyme and a mechanism for fighting CoV-2 published the findings as an open access publication in **bioRxiv** database which should be a standard practice.

3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?

We need to be aware that initiatives such as IDFF or EIC could only be successful if they have innovative science results that could be developed under those schemes. US example clearly shows that financing is not a problem, what we lack is innovative, excellent science based on using full European research potential.

Portugal

1. What should in your view be the priorities for EU coordinated R&I action on COVID19 in the short (6 months) and medium term (12 months) and beyond?

Short term

Portugal congratulates this initiative and is pleased to contribute to finding solutions to a truly pan European and global crisis. We need to find a **quick supply of testing kits, materials and reagents, protective masks, glasses and clothes and ventilators** for emergency rooms. A quick response requires the engagement of research units, to develop new innovative solutions, factories, and the health care system as the Open Air project is trying to do. New tests providing quick results (in minutes!), as are being developed by Biosurfit/IMM, need to be tried. Transnational cooperation is required, as different regions and MS have different specializations and production capacities. Sharing information on needs and capacity will contribute to a more efficient protection of infected citizens and contagion limitation.

Data sharing is equally crucial to inform and protect the population as well as to design efficient contention policies.

Medium term

Medium term initiatives should build a **stronger knowledge** of this pandemic that leaves us better prepared to this and similar future events. We need to create a major European task force and cooperation to help developing a vaccine and other potential therapies through consortia that join biochemical firms and other partners. Linking SMES and start-ups with larger corporations may also increase the potential for greater impact. Other technologies such as support to distance learning and tele work or quick screening at airports, stadiums and other large meetings are fundamental for a revival of the economic and social activity. An European task force on risk perception and the development of actions towards the promotion of scientific culture and social engagement would enable a more resilient society.

2. How could Member States and the European Commission best maximise funding e.g. to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call?

Immediate funding should be provided to quick practical innovation that gathers available knowledge into solving the most pressing needs based on simple application forms - not regular calls for research projects that must obey to EU and national regulations and not just in health, but also covering other domains such as social and economic sciences.

For the medium term goals we propose that the **EC launches an ERA-NET Cofunded R&I of about 300 million Euros (COVID-19 R&I to protect EU)** with the participation of all national funding agencies, to be launched before the 3rd of April.

3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?

While the COVID-19 disrupts many activities it also creates opportunities for investors. The market value of pharmaceutical and health care firms is rising and investors are keen in finding promising start ups that can find solutions to the current crises. The problem is that there is a high risk and lack of evaluation time and a shortage of experts for careful due diligence, precluding an easy involvement from for profit Venture Capitalists. Health care focused business angels are a more likely source of financing, but the resources of EU-based VCs are more limited than their US peers. EIC funding through the “Accelerator” needs to provide quicker go-no go decisions, especially in the current race for solutions.

Strengthening national ecosystems with Horizon Europe, e.g., by co-funding a national replacement for phase 1 of the SME Instrument most favored by smaller SMEs and start-ups, could speed up the objectives of the EIC Accelerator scheme.

Specialized start-ups with close links to research units and Collaborative Laboratories, engaging research units, private firms and public entities to work together towards innovative solutions in their thematic focus areas, could find a significant support in these tools and become interesting magnets for private investors.

Romania

1. We will launch very soon a call for project proposals, based on the research topics posted by the World Health Organisation. In Romania, at the Ministry of Education and Research, we have a special mechanism to launch quickly such a call named "solution". Even funding is ensured by the ministry that work for, the content, the work itself is coordinated by the Ministry of Health in this case. Specifically, what are we do? We encouraged research teams in Romania not only to work with companies in order to bring products / technologies quick on the market but to work together with European Colleagues, to work at the European level to deliver concrete solutions that are solving precise topics, particular issues.
2. We strongly support the establishment of single-entry point in each MS, who should be able to reply to questions, to connect research teams across the EU and of course with companies from no-matter-what area that are able to deliver products, methodologies, services to citizens.
3. COVID-19 response centre at EU level proposed by POLAND should be supported. We do need a coordinated response at European level, not 27 individual responses.
4. projects dealing with COVID-19 themes or related topics should be opened now to all organisations (both EU projects and projects at national level) that could contribute to the identification of appropriate solutions. Money should not be an issue, we should mobilize all our resources to successfully pass this problem.

Slovenia

1. What should in your view be the priorities for EU coordinated R&I action on COVID19 in the short (6 months) and medium term (12 months) and beyond?

In the short term, it is necessary to enable testing of already developed and "almost mature" solutions from R&I projects and to provide access to financing for roll-out companies. In the medium term, projects already funded should be encouraged to explore the possibility of applying current findings to all areas (treatment, diagnostics, modelling, sensors, systems, etc.) to tackle the COVID-19 epidemic, or to add a new focus to solutions in these areas. Of course, this would require setting up an appropriate budget, probably in the amount of 100.000 € per project. In the long run, however, we should not make the mistake of focusing on COVID-19, but rather on all strains of coronaviruses, as well as any epidemics that we cannot yet foresee. If in the past we focused only on imminent threats, like Zika and Ebola, which raised a lot of health issues, we would be left even more underprepared and ill equipped.

2. How could Member States and the European Commission best maximise funding eg to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call?

In case of maximising the funding, we should first ask ourselves whether the additional resources that could be offered to these projects would actually enable faster solutions (increase absorption capabilities). Or should we, for example, open up these projects to the ideas of all R&I institutions across Europe to contribute to them, notwithstanding research, development, innovation or translational phase. Of course, this also requires fresh funding, be it from the Member state the institution comes from and "joins" the project. In the long run, however, we need to put in place a way for a coordinated R&I approach to common challenges, which would allow us to tackle a specific challenge like this outbreak. For example, we can find model action plan in existing Climate & Energy action plan.

3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?

The EIC has proven to be a good tool for battling the outbreak of COVID-19. If (EIC) encourages the establishment of related or complementary schemes at national level, the ecosystem will function like EIC did in this case at EU level. There should be no major problem with the lack of funding for solution, as the widespread of the COVID-19 outbreak redefines the need and willingness of the Governments. Health and R&I Institutions and Industry to stop it. Money for the vaccine should not be an issue with dealing with the pandemic.

Slovakia

1. What should in your view be the priorities for EU coordinated R&I action on COVID-19 in the short (6 months) and medium term (12 months) and beyond?

- First of all it should be mentioned that what can really bring an European added value is a **coordinated approach** so that the money is spent effectively, duplicity is excluded and the whole European research potential is fully used.
- In our view, it is important to support diagnostic centers, healthcare facilities and research institutions in terms of an effective response to COVID-19 but also their preparedness for other emerging viral infections, and to coordinate their work across Europe.
- We need a perfect functional **information system** involving relevant information of all countries including their projects and infrastructure.
- Here there are two examples, where such an information system would help very much:
 - *Institute of Polymers of the SAS develops antimicrobial material that kills viruses and bacterias. It is currently in foil form. It would be necessary to determine whether the material is effective against COVID-19, but our scientists do not have the necessary equipment to do so. So they are looking for a partner appropriate infrastructure.*
 - *Another example: Institute of Virology of the SAS was successful in determination of isolation of the first Slovak strains of the new coronavirus including sequencing and bioinformatic analysis. It should help to compare differences at the molecular level with behavior and virulence at the clinical level. This knowledge will also be important for comparing differences between strains at the European and international level. The outcome is the isolation of the first Slovak strains of the new coronavirus.*
- In the short term, it would be also appropriate to introduce **rapid coordination of clinical testing of new or reoriented drugs addressing COVID-19** to obtain robust data at EU level.
- As for the Horizon 2020 calls, we can expect that within the last EIC pilot call which was closed on 20 March many proposals addressing the COVID-19 pandemic were submitted. It would be necessary to speed up the process of evaluation as much as possible and if necessary to increase the allocation.
- In the next EIC call with deadline on May 19, which focuses on Green Deal we propose - either broaden the thematic focus on the COVID-19, or - launch a separate call with the same deadline. We recommend to support the project with higher TRL so that the results could be on the market as soon as possible.

- We need to implement short term solutions for further development and application of contactless technologies preventing infection spread in various situations including payment methods, management of entrance to the buildings. Technologies could help us to closely monitor and identify people who arrived from high risk regions.
- In the medium term, we need to evaluate the results and effects of epidemiological and other preventive measures in the individual countries. The ethical and legal issues should be a topic too.
- As for the long term solutions: If we can learn something from the current COVID-19 crisis it is the need to create and implement complex planning mechanism on EU level to cope with global crisis scenarios, including infection diseases, natural disasters, massive energy blackouts or shortage of food or medicine. We need to create standard procedures tailored to the different global scenarios, including assessment of level of threat etc.

2. How could Member States and the European Commission best maximize funding to complement and expand the 17 Horizon 2020 COVID-19 projects and / or increase national funding for the European and Developing Countries Clinical Trials Partnership (EDCPT) challenge?

- It is a fact that the Coronavirus does not recognize any borders and in current situation it really necessary to have on board as many countries as possible.
- If we want to maximize funding of the 17 Horizon 2020 COVID-19 projects, we could introduce the possibility to open project consortia where it makes sense and added value and add additional research teams.
- The source of the additional funding could be national resources or structural funds.
- The national agencies should launch targeted calls in the structure complementary to Horizon 2020 and IMI 2 calls.
- Another important issue is synergy. You know that we have been speaking about synergy and complementarity with cohesion policy for a very long time, but in fact it does not work properly.
- However now, when we are in a very difficult situation, it is necessary to enable synergy and complementarity of ESIF with other European programs very quickly and in a simple and efficient way.

3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?

- The tax incentives seem to us to be an appropriate instrument to mobilize private investors.
- In the case of EIC Accelerator the availability of bank loans to cover the co-financing is important.

Spain

El objetivo de la teleconferencia convocada por la DGRTD es contribuir al debate en torno a las tres preguntas planteadas:

1. What should in your view be the priorities for EU coordinated R&I action on COVID19 in the short (6 months) and medium term (12 months) and beyond?
2. How could Member States and the European Commission best maximise funding e.g. to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call?
3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?

Intervención

First, we thank Director General Jean Eric Paquet, and his DGRTD team, for the efforts to provide us with a full picture of actions taken by Member States in addition to the specific measures put in place by the European Commission.

Second, in such context, we would like to inform briefly about the emergency measures adopted by the Spanish government concerning research and innovation.

RESEARCH

Emergency research package of 30M€ to accelerate early results applicable to the current situation. From these:

24 M€ allocated to a fast track Call for expressions of interest on SARS CoV-2 and COVID-19³ targeted areas that include:

- (i) Rapid diagnostic techniques, industrially scalable, to allow immediate implementation in the National Health Systems
- (ii) Clinical-biological-molecular characterization of COVID-19
- (iii) Innovative therapies, disinfectants and new antiviral molecules against SARS-CoV-2. Antiviral resistance studies. Effectiveness of non-pharmacological, prophylactic and therapeutic intervention
- (iv) Characterization of SARS-CoV-2, genetic and antigenic variation of SARS-CoV-2, and immunological response to SARS-CoV-2 and virus-host interaction
- (v) Vaccines' development, its efficacy and applicability
- (vi) Epidemiological surveillance of COVID-19 and molecular epidemiology

³ Research activities supported by national funds will be complementary and synergic with those carry out by Spanish research groups actively involved in the European COVID 19 projects, such as multidisciplinary network **I-MOVE-COVID-19 (ISCIII)**; modelling projects such as **RiPCoN (IRB)** and **EXSCALATE4CoV (BSC)**, diagnostic such as **CONVAT (CIN2-CSIC)**; and treatment projects **Solnatide (IRB)** and **MANCO (CNB-CSIC)**. Spanish research groups will receive **2.4 M€** out of **47.5 M€** total.

- (vii) Artificial intelligence and massive analysis of integrated data, oriented towards epidemiological control of COVID-19, and
- (viii) Socio-economic impact of COVID-19, including the use of resources within the National Health System.

4.5 M€ to directly support two promising lines in vaccine development building on experience of the National Centre for Biotechnology (CNB).

Other legislative actions include streamlining research with genetically modified organisms to be used in preventing, fighting or containing the epidemic caused by SARS-CoV2.

Lastly, the suspension of administrative procedures including deadlines, financial and scientific final reports, etc. related to the activities of the Spanish Research Funding Agency.

DEVELOPMENT AND INNOVATION

CDTI will provide up to 500 M€ in direct support to mid-caps and SMEs throughout partially reimbursable grants, with no need for any financial guarantee or collateral, seeking to facilitate access to capital for ongoing R&I projects or any new innovation activity that may be needed to face the COVID 19 dramatic consequences. Fast track and streamlining of CDTI evaluation and approval procedures.

OTHER OPEN INNOVATION INITIATIVES

FENAIEC –Federación Nacional de Clusters- and FEDIT –Federación Española de Centros Tecnológicos- are among others, core actors coordinating a significant number of innovators, SMEs, Technological Centers, etc. with the purpose of develop and deliver onto the market devices needed to respond to the COVID 19 emergency. The makers forum (<http://foro.coronavirismakers.org/>) seeks open source solutions, to solve urgent needs such as masks (<https://grabcad.com/library/coronavirus-flu-reusable-mask-1>), or how to produce a self-contained respirator, etc. <https://enable.hp.com/us-en-3dprint-COVID-19-containment-applications>.

Open innovation initiatives show the citizen engagement and social response; they are coordinated with the Ministries of Industry and Health, in charge of standardization procedures, and with the European Commission.

Concerning the specific questions for open debate, some suggestions from the Spanish perspective will include:

First of all, **coordinated action** in R&I among the EU and Member States is very much needed and must be reinforced.

INFORMATION AND INFORMATION MANAGEMENT

Time to action is very important, and therefore we would be very grateful if MS can establish Single National Points for coordination of information concerning COVID 19. A Single National Point on R&I will facilitate access to reliable information, as well as the diffusion of DGRTD and other EC relevant information.

We would kindly ask DGRTD to coordinate information requirements with OECD. We have received almost simultaneously DGRTD and OECD questionnaires. We do not have enough resources at this moment to process all the information requests.

Coordinated action should include the immediate implementation of an open research platform to provide updated, shared and reliable information on the state of the art research and innovation activities related to COVID-19. It is important to have access to relevant information to design policies and to promote effective exchange of information and results among researchers that leads to advances at a faster pace in the fight against the pandemic. It is important to prevent fragmentation of research and data; the European research system on COVID 19 has to be fully operational online, and in close cooperation with EC and public administrations from MS. The first step must include a complete mapping of the relevant research groups and innovators working across Europe in topics of interest. The EC –DGRTD- in coordination with MS –DGs for Research and Innovation- should be aware of bottlenecks and new demands to ensure the pipeline “from the lab to the bed side”.

R&I POLICY PRIORITIES AND COORDINATION

Short, medium and long-term research in COVID 19 should continue. While in the short term, we are in favour of continuing support of the 17 European projects showing promising results, we consider that we cannot face the threat of the Pandemic coronavirus «doing business as usual». One of the most critical elements is to avoid fragmentation of initiatives, funding and R&I efforts.

In first place, Spain fully endorses the request expressed by many MS to postpone April/May call deadlines, as well as the submission of financial and scientific reports within the ongoing ones. We hope this extension should be uniform and sufficient to prevent the need of subsequent extensions.

While we fully endorse a sustained and well-supported R&D effort aiming at the development of safe and efficient vaccines and more efficient and specific antivirals, we also have to tackle, with energy and without any delay, the current extreme health crisis that is spreading in many MS and worldwide. This has to be done with the elements at hand that essentially rely on antivirals whose clinical safety and efficiency have already been tested for similar or related diseases (have at least passed phase I clinical trials). In vitro screening of public libraries of phase I approved compounds.

Among those, the antimalarial drugs such as Hydroxychloroquine that reduces viral titres, or the antivirals Darunavir (anti HIV), or Remdesivir (used for the related SARS-CoV). The anti-cancer drug Aplidin (Pharmamar, for melanoma) is another candidate that has also shown an effect worth testing.

The use of convalescent sera and antibodies in passive antibody therapies should also be explored, especially for prophylactic measures with high-risk populations and health care system workers.

We consider that the EC together with MS must setup a specific Pandemic coronavirus crisis ring-fenced action, for what we should:

- **Adjust the Green Deal Call** and immediately direct other available H2020 funds towards the rapid deployment of solutions.
- Organize R&I in this area as a specific R&I mission (**Pandemic preparedness**) by implementing the idea of mission portfolio without any delay. This should promote extensive and in-depth research on virus-cell interaction, virus variability, the prevention of further outbreaks of this or similar pathogens, and prevention and monitoring of future zoonotic events, among other pressing issues.
This mission like (Pandemic preparedness) should also pay special attention to the question of how to deal with the public emergence of different scientific opinions and its political impact, together with the effects of social panic arising from fake news and other distortions in the social communication of science.
- Pooling technical and infrastructural resources in particular for **clinical trials**. Recruitment of cohorts for urgent clinical trials on promising drugs using, inter alia, ECRIN infrastructure (e.g. for testing hydroxychloroquine). Expedite and coordinated procedures for the clinical validation of these treatments, while maintaining the compromise with the European safety standards must be implemented.
- Strengthening synergies with other European Funds, in particular Structural Funds. Structural Funds (EC and national management authorities) of the current programming period to support innovative solutions and local/regional implementation, escalation and deployment, building capacities to support European national health systems.
- Finally, DGRTD through the specific Pandemic coronavirus action and potential further mission-like, should pay special attention to European standards and procedures that may hinder deployment and production of innovative solutions.

As to how to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?

- Concerning innovation we need:
 - o Support **breakthroughs** to make effective treatments, vaccines, or other preventive measures available at scale
 - o But also support **incremental innovations** to provide without delay ventilators, masks, and any other health related technology needed to satisfy an increasing demand.
 - o Strong interactions with industry to **ensure full production capacity**. Coordination and support to industry has to be provided to secure the production of the required amounts of pharmaceuticals and health care materials to meet the extreme demand.
 - o Finally, we cannot forget **open innovation** initiatives, as the Spanish case successfully shows in the case of 3D printing ventilators, among others. DGRTD should explore different forms to collectively benefit from the huge potential and strong commitment from business and private stakeholders across the EU. There

is a window of opportunity to explore the role of **digital innovation hubs** in the coordination of different initiatives at regional and local levels.

- Among other measures, close coordination of MS with the EIC accelerator should allow being aware and in the position of funding national COVID projects not funded at EU level.
- On the other, joining forces with MS investment initiatives such as Invierte or FondICO, in the case of Spain, to promote and support biotech companies to take these elements, equipments or pharmaceuticals to market.

EIC grants must be awarded to effective innovative solutions to concrete demands, and independently of current restrictions that apply to enhanced EIC pilot call.

Sweden

1. What should in your view be the priorities for EU coordinated R&I action on COVID-19 in the short (6 months) and medium term (12 months) and beyond?

- When facing a global pandemic, international cooperation is crucial in order to reach results as fast as possible. EU (the Commission) should quickly establish structured contacts, information exchanges and possibly joint calls or tests with other leading global research actors.
- Sweden supports the short-term priorities already made in the PC-SC1 call, i.e. focusing on novel vaccines, therapeutics and fast and cheap diagnostics. Research on epidemiology and mechanisms of immunity and transmission is also of importance to better understand and control the spread of the virus in society. Of special interest at the EU level may be to coordinate actions that would be hard for single MS to manage on their own, for example coordination of large clinical trials.
- In the long-term perspective, crisis preparedness and crisis management are important issues. It will be interesting to investigate why different countries have chosen different strategies to control COVID-19 transmission and outbreak, as well as to analyse the outcome of those strategies, both in terms of health outcomes and socioeconomic consequences.
- Capacity building will also be of importance, in a broad sense. We must continue to support excellent research and research infrastructures to enhance knowledge and build research capacity to be prepared for future pandemics.

2. How could Member States and the European Commission best maximise funding e.g. to complement and expand the 17 Horizon 2020 COVID-19 projects and/or increase the national contributions to the EDCTP call?

- Communication and transparency are crucial elements at this stage. Many actions are taken at the same time and it is important that everyone is informed about what everyone else is doing in order to avoid duplication, but also to learn from each other.
- Sweden appreciates the idea of an on-line platform for information exchange, as suggested in preparation for the next meeting with the European Open Science Cloud (EOSC) governing board. There is a need for a trusted and secure on-line platform, collecting and linking available COVID-19 related research results and transmission data, accessible to researchers in all member states and associated countries. This will be essential to maximize the benefit of the research efforts made and to allow for big data, AI approaches.

- Sharing clinical research data needs to be tried separately for each case according to national law. A platform for metadata and standards, which could link to location of actual data where necessary legislation must be followed, is feasible.
- The Swedish Research Council is currently in the process of mapping Swedish virology research in order to make a gap analysis to base future research funding on. We believe that this kind of exercise is crucial to find out where research efforts are most needed.

3. How to mobilise State long-term investors, given the possibility of co-investment offered by EIC and IDFF? What other initiatives could be taken?

- The first action will be to spread the word and inform national actors of these possibilities.
- Member states should also be encouraged to make national calls on a smaller scale. It may be beneficial to complement the bigger EU projects with a variety of smaller national projects in order to spread the risk a bit.