Coronavirus contact tracing and warning apps
DEFENSIVES

EU Interoperability Gateway Service

Who is paying for the gateway service?

- The Commission will fund the building and operations of the gateway service from the Emergency Support Instrument (ESI), a solidarity instrument drawing on the EU budget to help Member States in their efforts to address the coronavirus pandemic.
- A total envelope of €13 million has been allocated to the operation:
  - €7.5 million to develop, build and maintenance for the first months, and
  - €2.5million for maintenance until autumn 2021.
  - Further €3 million are set aside to support Member States to link and adapt their app to the system so that they participate in the interoperability solution.
- The gateway was developed and set up by T-Systems and SAP and is operated from the Commission's data centre in Luxembourg.

Dry-Run

- From 14-18 September, a pilot (dry-run) took place between the between the backend servers of the official apps from the Czech Republic, Denmark, Germany, Ireland, Italy and Latvia, and the newly established gateway server.
- The piloting community was set up by Member States. Their participation in the dry runs has depended on their technical readiness to participate.
- Following the successful dry run – uploads and downloads between the back ends of the participating apps and the gateway server worked as planned – the gateway was finalised by end-September.

Why wasn't the gateway ready much earlier?

- Setting up the gateway is a complex exercise from a legal and technical perspective. The Commission was working hard to help Member States make different applications developed separately interoperable. This required several steps: the agreement on the technical model (mid-June), an implementing act for the processing of the data (mid-July) and contractual arrangements with developers (end-July).
- A piloting phase ensured the system is operational and respect all standards, including on cybersecurity. Following the successful dry-run the gateway was finalised by end-September.
- Participating national apps can be linked to the gateway as soon as they are ready.

When will contact tracing apps be ready / be linked to the gateway?

- Most EU countries have decided to launch a contact tracing app, most of which are already available in the app stores.
- Many technical, legal and epidemiological considerations need to be addressed for a safe, privacy-preserving and effective deployment of these systems.
- If and when a national app is launched, and if and when a national app is linked to the gateway, is a question for Member States.

For how long will the interoperability solution be in place?

- Just like all national tracing and warning apps in the EU, the interoperability framework is temporary only and will be dismantled as soon as the pandemic is over.
- It is designed in such a way that it can be quickly reactivated should there be a resurgence of the pandemic.

Third-country participation in the gateway

- The Commission is setting up an interoperability gateway on the basis of the EU Directive on the application of patients' rights in cross-border healthcare. It applies to EU Member States as well as the European Economic Area (Norway, Iceland, Liechtenstein) by virtue of the EEA-EU agreement. EU and EEA countries are invited to participate to the eHealth Network where the development of contact tracing apps and a common approach to interoperability were discussed.
- The Gateway is governed by a specific Commission implementing decision laying down binding conditions, which the Commission cannot unilaterally extend to a third country in the absence of a corresponding agreement.
- Even if pseudonymised, the arbitrary identifiers which are exchanged through the interoperability gateway service concern health data – which is extremely sensitive. A solid legal and data security framework are of utmost importance. This is also why the Commission will host the gateway in its own data centre in Luxembourg.

SWITZERLAND

- In the case of **Switzerland**, we observe that such a legal framework that would allow the exchange of health data in the context of the interoperability gateway service does not exist. There is neither a take-over of the relevant Directive in Switzerland as it's the case in EEA countries, nor is there an agreement in the area of public health between the EU and Switzerland. As the necessary legal basis for tracing app interoperability, the rapid conclusion of an ambitious public health agreement, including further aspects such as cross border health care, would be necessary, subject to unequivocal progress towards the signature of the Institutional Framework Agreement negotiated in 2018 between the EU and Switzerland.

NORWAY

- Norway is a member of the EEA, and therefore they apply the acquis including the cross-border healthcare directive 2011/24/EU. On this basis, they could access the EFGS. However, they have not yet shown interest to join the EFGS.

UK

- The UK could theoretically participate until end-2020, but has not shown interest so far. From 2021 on, participation would depend on a public health agreement between the EU and the UK.
- *BACKGROUND: The EU Directive on the application of patients' rights in cross-border healthcare is not covered by the Withdrawal Agreement.*

What about the French app StopCovid / Alerte Covid?

- The French authorities have adopted a so-called 'centralised approach', where the central server receives the keys of the contacts collected by users confirmed with COVID-19, and the server does the matchmaking to alert users at risk.
- In a 'decentralised' architecture, adopted by all other EU countries that decided to develop an app, the matchmaking and risk calculation is done on the phone.
- The centralized approach is currently not interoperable with the interoperability gateway, however the Commission and Member States continue to explore the way forward.

What about the countries that do not have an app?

- It is up to Member States to decide whether to use an app in contact tracing, supplementing the manual contact tracing done by the health authorities.
- When an app is put in place, the Member States have committed to comply with the approach set out in the toolbox.
- These include interoperability. It is very important that they are put in place, in order to allow for their citizens to travel everywhere in Europe and be informed if they were in contact with patients infected with coronavirus.
- Countries which do not have any app will continue to rely on manual tracing approach.

Sharing test results at EU Level

Can I insert a positive test result in any of the participating apps?

- You can only insert a positive coronavirus test result in the app of the country where the test was taken. However, when you enter the code in that app, thanks to the interoperability, citizens from the country that you have visited will get notify that they have been in close contact of an infected case.
- The focus of the work so far has been on ensuring interoperability at the frontend (between devices) and at the backend (between national servers).

- While for the time being national apps recognise only the codes of positive tests issued in their country, work continues to explore a possible solution.

Will information always be shared with all participating apps? Or can users decide with which countries they share / from which they receive information?

- In essence, there are three possible patterns that national authorities can use when implementing the gateway:
  - First, a 'one Europe' pattern with upload and download of all keys.
  - Second, a 'traveller' pattern with upload of all keys for everybody, download of all keys for travellers, and download of domestic keys and those from incoming travellers for non-travelling users.
  - Third, a 'country of interest' pattern where only the keys of countries of the user's choice are shared, in addition to the ones of the home country. The different possible patterns allow some flexibility to national authorities and can be changed and adapted over time.
- National authorities are responsible for choosing the download patterns used by each national app, and this is coordinated at EU level as part of the management of the gateway service.

Sharing information:

- Depending on national legislation, the upload to the gateway is done automatically or with prior additional consent via the respective national app backend.
- If a user shares data from his/her app via the respective national backend with the European Gateway Server, the information is shared with all connected backends. A selective upload is not possible.

Receiving information:

- A customized download - i.e. from which countries a user wants to obtain data - is possible but needs to be implemented explicitly on behalf the national tracing application. This would save a user's data volume and ensures the performance of a mobile phone.
- If this selection is not implemented in the national corona app, all data from all countries are being downloaded to the respective mobile devices.

How should a user behave when abroad and is notified through the app for possible exposure?

- The user will receive a notification from the app with the steps to follow. It is up to the Member State responsible for the app (home country) to determine the message transmitted to the notified user.
- However, the instructions by the public health authorities of the host country need to be followed in any case.

Framework

Why amending the eHealth Implementing Decision?

- This revision sets out the modalities for processing data using the interoperability gateway, which will ensure the interoperability of apps across EU, including on the protection of personal data.

What are the guidelines on cross-border interoperability (13 May 2020)?

- These are common principles to ensure these tracing apps can communicate with each other when required. By ensuring cross-border interoperability throughout the EU, each citizen should only have to use one tracing app to report a positive test or to receive an alert, wherever they are in the EU.
- This complements previous actions by the EU, the joint EU toolbox ensuring common standards to develop contact tracing applications across Europe and the Commission guidance ensuring these respect data protection.
- These guidelines apply to voluntary applications covered by the toolbox.
- The guidelines were complemented in June 2020 by a set of clear technological parameters to ensure swift implementation by developers working with national health authorities
- The Commission is supporting Member States in finding the right solution to ensure secure, protected and interoperable contact tracing apps across Europe.

What is the toolbox about (16 April 2020)?

- It helps to coordinate the development and use of contact tracing applications in Europe by setting relevant parameters to be respected.
- Specific apps development may varies depending on individual situation, but to be efficient, tracing apps that must be; voluntary; using privacy-friendly technologies and arbitrary identifiers; time-limited; interoperable; accessible; cyber secure and reflect accepted scientific guidance.

Apple/Google

On the development between Apple/Google of a common API

- The Application Program Interfaces released by Apple and Google on 22 May support certain contact tracing apps 'decentralized' approach This is significant because almost every smartphone in the EU relies on either Android and iOS as the mobile operating system, and because the use at scale of the apps is a precondition for their success

- The majority of Member States have adapted their apps to be compatible with these APIs.

Apple/Google: Integration of tracing feature into operating systems

- Apple and Google updated their exposure notification Application Program Interfaces (APIs) to allow the basic functionality of proximity detection and warning without having to install an app. A tracing and warning functionality will be directly integrated in the mobile operating systems iOS and Android.
- In the EU, most Member States have decided to set up a national tracing app based on a decentralised architecture. Most of these apps are already on the market. These apps are based on the joint EU toolbox on tracing apps and the Commission guidance on data protection, both published in April, and interoperability will soon be facilitated through an EU gateway service. The update of the Apple and Google mobile operating systems has no impact on these national apps or the interoperability solution.
- The new Apple/ Google feature needs to be activated by public health authorities in the Member States for use in their country. Also, users have to enable the feature in order to use it. Public health authorities would then be responsible for setting the parameters e.g. the distance for detecting exposure, legal compliance, communications etc.
- The feature would require data to be held on the device as it is the case with 'decentralised apps'. As with the app, where a user tests positive for the virus, that user would be able to upload this information in accordance with the public health authorities procedure, so that other users can be notified if potentially exposed to the virus.

Effectiveness of tracing and warning apps

Are we sure tracing apps are effective to fight the Coronavirus?

- Contact tracing apps have emerged as one promising element in combatting COVID-19, but they will always be only one part of broader tracing strategies which include, for example, also manual tracing.
- To assess the effectiveness of these apps, the toolbox emphasises the importance of key indicators and evaluation mechanisms. The impact of such apps depends on a number of complex factors, including the integration of the app in wider intervention strategies to combat the virus and that a high percentage of the populations trusting and using such an app.

What is the minimal uptake rate for tracing apps to be effective?

- Contact tracing, usually done manually, aims to reduce transmission through identification and quarantining of those exposed to infection.

- Mobile contact tracing apps have the potential to complement the manual process.
- One of the major advantages of app-based contact tracing is that it enhances possibility to break the chain of transmission through the quarantining of those exposed to infection.
- The more people use an app, the likelier the positive effect on combating the virus, and the better we will be able to evaluate its effectiveness. Every successful notification means a life potentially saved and a study estimates that one infection will be averted for every one to two app users.
- Therefore, it is important to ensure that EU citizens can fully trust such apps and can download and use them without concerns.

Privacy, data protection and security

Will you favour efficient apps over protection of citizen's rights?

- Apps to be effective have to be trusted, and that means they must respect fundamental rights. That is why, alongside the toolbox, and as announced in its Recommendation of 8 April, the Commission issued on 16 April specific guidance to ensure that mobile apps in the fight against COVID-19 are fully compliant with EU data protection rules.
- Tracing apps must be voluntary, secure, interoperable and respect people's privacy. Apps will use arbitrary identifiers, no geolocation or movement data will be used. All apps have to be temporary only, so they will have to be dismantled as soon as the pandemic is over.

What does the data protection guidance do?

- The guidance aims to offer the necessary framework to guarantee that citizens have sufficient protection of their personal data and limitation of intrusiveness while using such apps.
- It focuses on voluntary apps with one or more of the following functionalities:
    - accurate information for users on the coronavirus pandemic;
    - questionnaires for self-assessment and guidance for individuals (symptom checker functionality);
    - alerts for people who have been in proximity of an infected person to get tested or to self-isolate (contact tracing and warning functionality); and
    - a communication forum between patients in self-isolation and doctors including where further diagnosis and treatment advice is provided (telemedicine).
- EU rules, notably the General Data Protection Regulation (GDPR) and the ePrivacy Directive, provide the strongest safeguards of trustworthiness (i.e. voluntary approach, data minimisation, time limitation) for such apps to operate widely and accurately.
- The European Data Protection Board was consulted on the draft guidance and issued a letter to welcome the Commission's initiative to develop a pan-European and coordinated approach.

- By committing to those standards, the full effectiveness and compliance of such tools can be ensured, even in times of crisis.

Will personal data be transferred between national authorities?

- The individual coronavirus tracing and warning apps only connect to their own national backend server. The national backend servers do not connect directly with each other. They exchange the information via the EU interoperability gateway service.
- The data exchanged will only be stored in the gateway for a maximum period of 14 days. No other information except the keys, generated by the national apps, will be handled by the gateway.
- The design of the gateway builds on the guidelines for interoperability, the set of technical specifications agreed between Member States and the Commission, the principles set out in the EU toolbox and the Commission and European Data Protection Board guidelines on data protection for contact tracing and warning apps.

Data and IT security

- Several parties, external and internal, have performed security tests on the gateway, including the company developing the system, the Commission itself and third parties, as independent security experts.

Do I pay extra charge when using the app while travelling e.g. roaming?

- No. In the EU, travelers pay domestic prices for data consumption while travelling to other EU countries. There is hence no extra charge for using the app.