

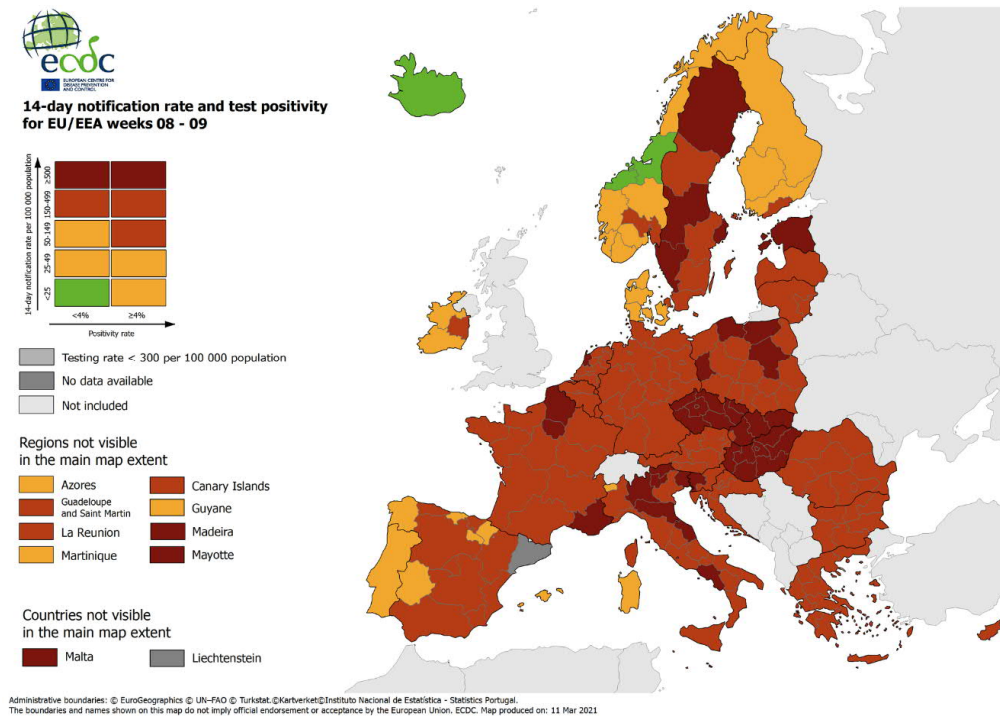


Digital Green Certificate

Overview of the key aspects of the Commission Proposal

Status quo

- Many different free movement restrictions in place across the EU
- MS require **various types of documents** (medical certificates, tests results etc.)
- **No agreement among MS as to the use** of such certificates, but several already exempt vaccinated/recovered persons from restrictions (or plan to do so)
- Absence of standardised and secured formats cause **problems for acceptance and fraud**



Examples of the current fragmented approach – vaccines certificates

- 27 Member States, 27 types of certificates, with different data fields, verification and authentication mechanisms
- EU citizens should not suffer from the adverse effects of fragmentation and divergent approaches which are not interoperable

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ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
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**Πιστοποιητικό Εμβολιασμού SARS-CoV-2
 SARS-CoV-2 Vaccination Record Certificate**

Αριθμός Εμβολιασμού / Vaccination ID: 0123456789
Όνομα / Name: ΟΝΟΜΑ-Α / ΟΝΟΜΑ-Α
Επώνυμο / Last name: ΕΠΩΝΥΜΟ-Α / ΕΠΩΝΥΜΟ-Α
Ημερία γέννησης / Date of birth: 01/01/1999
 (0000000000 - 0000000000)
ΑΜΚΑ / Social Security Number: 0123456789

Ημερία πρώτης δόσης / 1st dose date:	Τύπος εμβολίου / Vaccine manufacturer:	Αριθμός ΕΟΦ / NOM number:
20/01/2020 HHMMSSSS DDMMYYYY	Pfizer	0987654321

Ημερία δεύτερης δόσης / 2nd dose date:	Αριθμός δόσεων / Total doses:	Αριθμός Lot / Lot number:
11/02/2020 HHMMSSSS DDMMYYYY	2	0987098760

Σύμφωνα με τα στοιχεία που έχουν καταγραφεί και τηρούνται στο Εθνικό Μητρώο Εμβολιασμού COVID-19, ο ΟΝΟΜΑ-Α ΕΠΩΝΥΜΟ-Α με ημερομηνία γέννησης 01/01/1999 και ΑΜΚΑ 0101682865 έχει εμβολιαστεί επιτυχώς κατά του SARS-CoV-2 με εμβόλιο τύπου Pfizer.

According to the National COVID-19 Vaccination Registry, ΟΝΟΜΑ-Α ΕΠΩΝΥΜΟ-Α, date of birth 01/01/1999, being Social Security Number 0123456789 has been successfully vaccinated against SARS-CoV-2 with a Pfizer vaccine.

ΕΜΒΟΛΙΑΣΜΟΙ - ΠΡΟΣΤΑΤΕΥΟΜΑΙ ΑΠΟ ΤΟΝ COVID-19
 Ημερομηνία εμβολιασμού για τον COVID-19
 The dates and type of COVID-19 vaccinations
 Παραπομπή πληροφοριών για τον εμβόλιο COVID-19 ή να μάθετε να ελέγξετε την αλήθεια του εγγράφου επιστρέψτε στο www.mnh.gov.cy

GETTING VACCINATED - PROTECTION FROM COVID-19
 Don't forget your appointment for the 2nd dose of the vaccine for COVID-19.
 Keep your Vaccination Card with you when you come for the 2nd dose of vaccine.
 For more information on the COVID-19 vaccination or what to do after your vaccination, www.mnh.gov.cy

**ΚΑΡΤΑ ΕΜΒΟΛΙΑΣΜΟΥ
 VACCINATION CARD**

Προβλεπόμενη ημερομηνία 2ης δόσης εμβολιασμού
 Expected second vaccine dose date

Όνοματεπώνυμο / Name: _____
 Τύπος εμβολίου / Vaccine type: _____
 Ημερομηνία εμβολιασμού / Date of vaccination: _____
 Κέντρο εμβολιασμού / Vaccination center: _____
 Υπογραφή Υπουργού Υγείας / Health Minister Signature: _____

Szczepienie COVID-19

Zaświadczenie o szczepieniu

Ważne do 06.02.2022

22 lutego 2021 (20:59:37)

mTasarnoteć Odśwież Więcej

**LE GOUVERNEMENT
 DU GRAND-DUCHÉ DE LUXEMBOURG
 Ministère de la Santé**

Direction de la santé

**Certificat de vaccination contre COVID-19
 Certificate of vaccination against COVID-19**

Nom / Prénom: Jeanne / Jeanne
 Numéro d'identification / Identification number: 1983081974925
 Sexe / Sex: F
 Date de naissance / Date of birth: 19/08/1983
 Date d'émission du certificat / Date of certificate: 26/12/2020 12:18
 Date de la dernière vaccination / Last vaccination date: 24/12/2020 10:30

Date of vaccination	Vaccine	Lot	Dose n° / N° of dose	Lieu de vaccination / Place of vaccination	Administré par / Administered by
01/12/2020 10:30	Comirnaty (BioNTech/Pfizer)	EJ6796	Première dose	Centre de vaccination VICTOR HUGO - Limpertsberg	Nico Majerus

Nombre de doses nécessaires: 2
 Number of doses required: 2
 Les 2 doses doivent être administrées à 21 jours d'intervalle.
 The 2 doses must be administered 21 days apart.
 Prochain rendez-vous de vaccination est prévu le 14/01/2021 10:30.
 Next vaccination appointment is scheduled for 14/01/2021 10:30.

Dr. Jean-Claude Schmit
 Directeur de la santé

GouvCheck

**PRIMNLI STE CJEPYVO COMIRNATY
 (PRVNA šepiva protiv bolezni COVID-19, modifikiranih naljepnica)**

Ime prijavitelja osoba: _____
 Datum prve doze: 20.12.2020
 Planirani datum druge doze: 12.01.2021
 Datum druge doze: _____

COMIRNATY



The European Union as a front-runner

- Acting now not only allows to **prevent fragmentation** but it also puts the EU as a **front-runner**.
- Our focus is to facilitate a **return to free movement in the EU** but it will naturally put us in a position to **influence the design** of solutions developed in **international forums**, in line with our values (non-discrimination, data protection...).
- This solution should allow **global interoperability** and our experts are already heavily involved with the WHO, ICAO etc. to ensure **global convergence**.

Guiding principles and key values

- Facilitate **free movement** in the EU
- Vaccination **should not and cannot be a pre-requisite** for free movement.
- Ensuring **non-discrimination** is thus of utmost importance.
- This is why **test and recovery certificates are covered** in addition to **vaccine certificates**.
- The **fundamental right to data protection** will also be fully ensured.

Proposed Regulation – outline

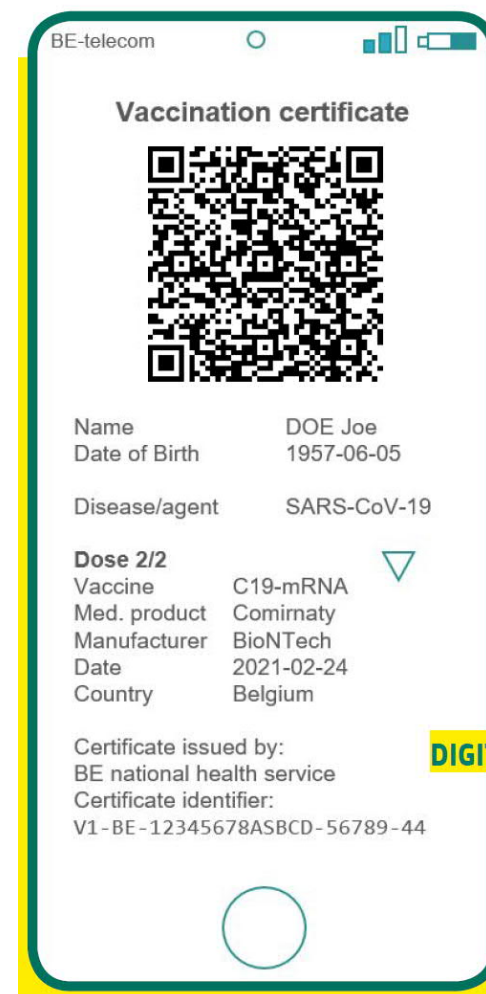
- **Legal basis:** Art 21(2) TFEU – free movement of EU citizens within the EU
- **Objective:** to facilitate safe free movement during the pandemic by establishing a common framework – the Digital Green Certificate – for the **issuance, verification and acceptance of interoperable:**
 - **vaccination certificates**
 - **test certificates**
 - **certificates of recovery**
- **Not covered:** Other uses – would have to be based on national law

The Digital Green Certificate framework

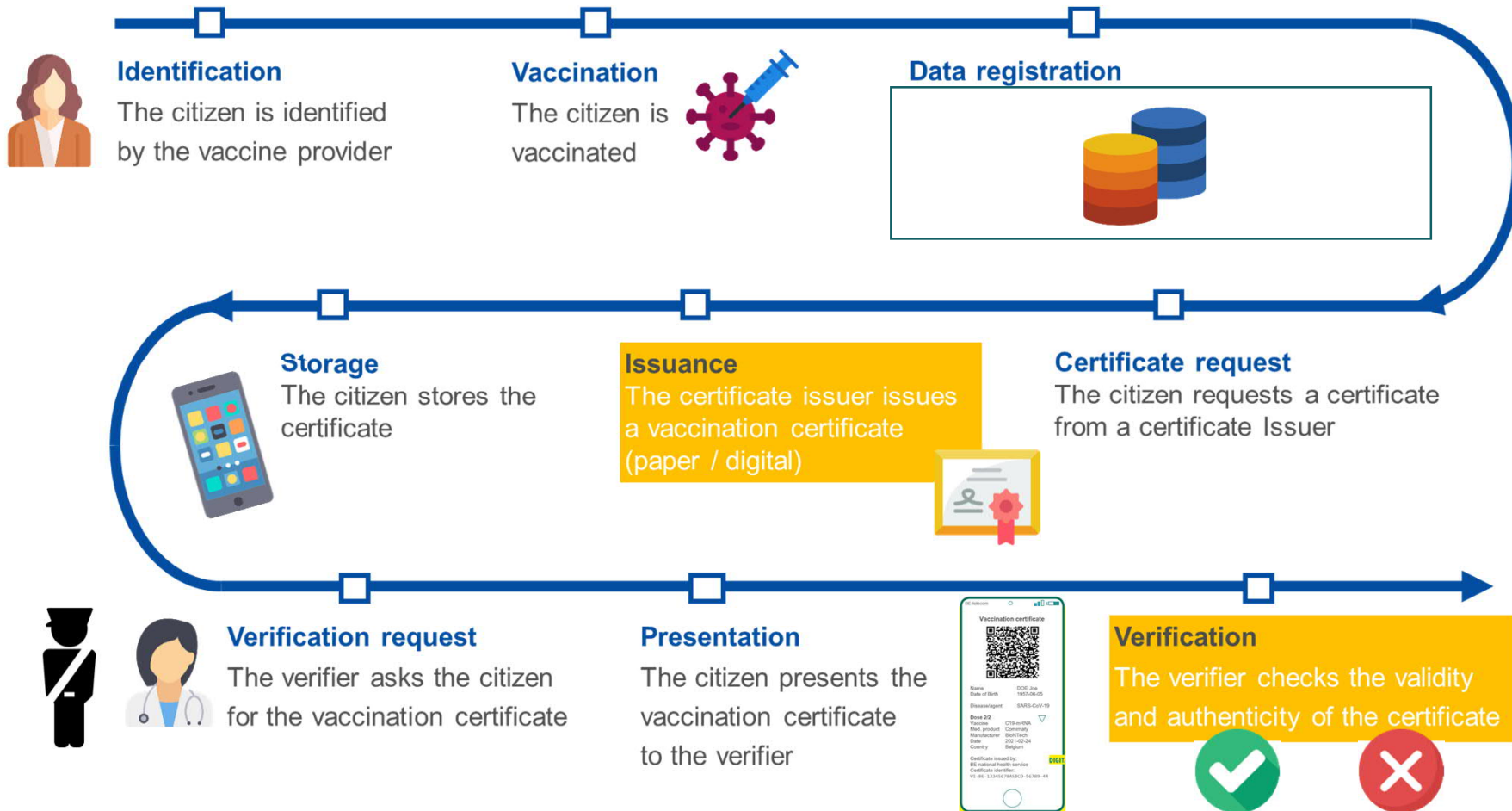
- Certificates **digital** and/or **paper-based** – important to ensure **access to for all citizens**
- Contain an **interoperable barcode** (e.g. QR code) for verification
- Information in **readable form** – official MS language(s) and English
- **Free of charge**
- Digital Green Certificate **does not affect/prevent other proofs**, in particular for medical purposes (e.g. WHO booklet)
- **Trust framework** – infrastructure and mechanisms required for the mutual recognition and verification of certificates

Vaccination certificate

- **Only key information:** identity, vaccine administered, metadata
- **Every citizen** who receives (including those already vaccinated) a COVID-19 vaccine **to receive a certificate** (regardless of type of authorisation – we cannot exclude that EMA authorisation will happen in the future)
- Where a MS waives free movement restrictions for vaccinated persons, it is **obliged to accept vaccine cert. for "EMA vaccines"** (but free to also accept certificates for other vaccines – we cannot oblige MS to accept cert. for vaccines they have not authorised)



Example: vaccination certificate life cycle



Test certificates and certificate of recovery

Test certificate:

- Identity, information about test, metadata
- For NAAT (such as RT-PCR test) and rapid antigen test on EU list
- Where a MS requires a test as part of free movement restrictions, it is obliged to accept test cert. issued by other MS in accordance with the Regulation

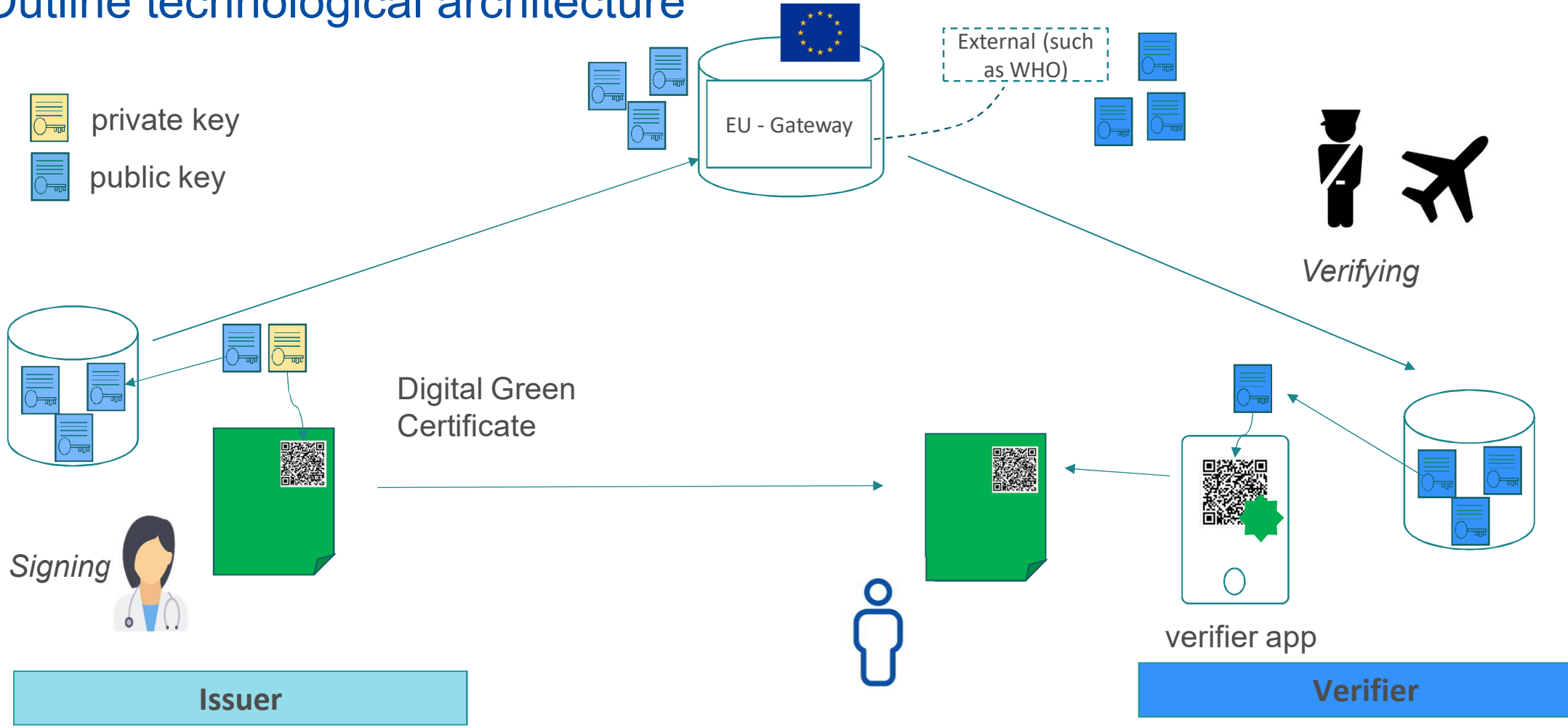
Certificate of recovery:

- Identity, information about past SARS-CoV-2 infection, metadata
- Where a MS waives free movement restrictions for recovered persons, it is obliged to accept recovery cert. issued by other MS
- Not much scientific data yet, but **important to cover** as certain MS already waive restrictions in this case

Data protection

- **GDPR applies**, including data minimisation (only necessary data on cert.)
- **Regulation is legal ground to process data to issue and verify the certificates for free movement purposes**
- For other purposes – **national legal basis required**
- Cross-border data exchange to verify certificate possible
- **No data retention** by verifying MS or transport operator
- **No EU database** on vaccination, test, recovery etc. status

Outline technological architecture



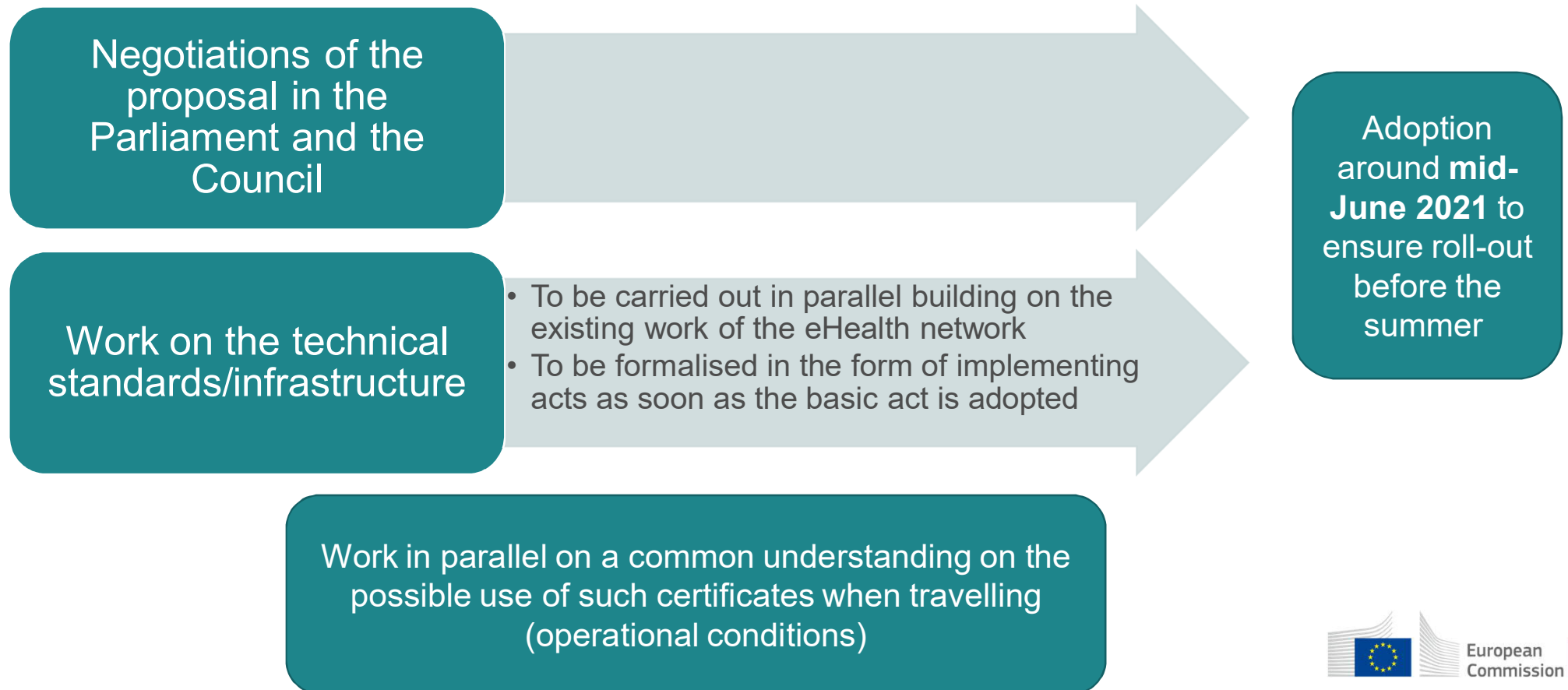
Existing guidelines

- The eHealth Network has adopted the following guidelines to support the interoperability of Digital Green Certificates:
 - [Interoperability of health certificates - Trust framework](#) (outline)
 - [Verifiable vaccination certificates - basic interoperability elements](#)
 - [COVID-19 citizen recovery interoperable certificates - minimum dataset](#)
- In addition, the Health Security Committee has adopted guidelines for test certificates:
 - [A common list of COVID-19 rapid antigen tests, and a common standardised set of data to be included in COVID-19 test result certificates](#)

Collaboration with international organisations

- The eHealth Network, the Commission, and individual European experts are actively participating to the work of the WHO expert group on [Smart Vaccination Certificates](#).
 - The goal is to link the Digital Green Certificate system to the global framework for vaccination certificates
 - The eHealth Network guidelines have been influential in the WHO work.
- The Commission is also exchanging views with and providing input to the work of ICAO and other relevant international organisations.

Timeline



Thank you



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Who is covered by this proposal?

- **EU citizens** and their family members:
 - **Main route:** vaccinated/tested by or recovered in the Member States
 - presenting proof of vaccination by third country to MS and be issued with MS vaccination certificate
 - Commission decision to recognise third country certificates compliant with interoperable international standard and which contain the necessary data
- **EEA nationals** via incorporation into EEA Agreement
- **CH nationals** based on a Commission decision and reciprocity

An instrument limited in time

- Digital Green Certificate framework **limited to the duration of the public health emergency** of international concern caused by SARS-CoV-2
 - an emergency measure to facilitate return to safe free movement
 - any need to show additional documents when exercising free movement in the EU must disappear once the pandemic is overcome
- However, the Digital Green Certificate framework can be **reactivated** in case of and for the duration of a similar public health emergency of international concern.

	ICAO-MRZ	ICAO-VDS	WHO	ICAO-VDS-NC	eHN early draft	eHN proposed
Expected implementation time	Deployed	Deployed	asap?	9m+??	< 3m	< 3m
Which			Vacc	Vac (but others fine)	Vacc/test/rec	Vac/test/rec
Primary stated usecase						
Surveillance	Store possible	Store possible	Central tracking	Store possible	Store possible	Store possible
Minimal dataset	Na	Na				
Taxonomy/ Terminology			Just ICD-11	Likely follows eHN or WHO	Mix - tbd	Mix - tbd
UVCI concept			Tied to paper	Tied to ...		
charset	A-Z / 0-9 + Transliterations	A-Z, 0-9 (ASCII like)		UTF8	UTF8	UTF8
Structure	<< / length	Tag Length Value		i-JSON <small>Full easy to read key names</small>	JSON <small>(short key names)</small>	JSON <small>(short key names)</small>
Packaging	< 7 bits	8 bit raw		--	CBOR	CBOR
Signature	None (only checksum)	Plain sign		Plain sign Put 'n' json	COSE	COSE
Signing certificate or signing key identifier		Key Reference number		X509 keyID / Cert	X509 keyID / Cert / 8byte version	First 8 bytes of sha256 of certificate
Trust root and PKD design, Xfer format & governance		ICAO master list	ICAO Separate Health list	Existing eMRTS CSCA list (but no DSC anymore)	Separate ICAO 'like' master list	Simplified 'like' DSC list (i.e. csc==dsc also allowed)
Online/offline	na	offline	online & reveal UVCI	offline only dsc revoke	offline only dsc revoke	offline revoking bit harder If dsc==csc @MS
Compression (esp for of utf8/snomed/ 11 uris)	No	No - but format optimized		I no	ZLib	Zlib
Protection against broken readers	Readersafe	8bit raw Unsafe		UTF8 (8 bit) Usually ok	Base45 Reader&URL safe	Base45 Reader&Reader safe
Rendition as a 2D barcode	Plain	Qr	Qr	Qr/DataMatrix/Aztec	Qr / DataMatrix / Aztec	Qr / DataMatrix / Aztec

ert: Security risk hence struck