DeLaRue

White Paper
COVID-19 Test and Vaccine Certification & Verification

Contact information

Katherine Black
Regional Sales Manager

Mobile: +44 786 0752 345
Email: katherine.black@uk.delarue.com

Julian Payne
Product Director

Mobile: +44 782 454 5047
Email: julian.payne@uk.delarue.com

De La Rue International Limited

De La Rue House, Jays Close,

Basingstoke, RG22 4BS

Background

De La Rue sees the certification and sound verification of Covid immunity status, whether from inherent antibodies or from vaccination, as holding significant societal and economic benefits, notably:

- Return to employment
- Domestic and international travel
- Future testing and vaccination boosters
- Earlier access to public spaces and services
- During national / future regional lockdown

Without correct control and protection however the certification will become an attractive counterfeit opportunity and will need protecting against:

- Fraudulent test results
- Fraudulent test / vaccine certification (digital or physical)
- Illegitimate access to legitimate supply chain (of certificates)

In this summary document we outline a number of approaches that could be swiftly adopted and deployed for governments using existing elements of De La Rue's secure government solutions

To counteract these threats, and to provide international inter-operability we believe the solution must have the following components:

- A physical, uniquely serialised, token, connected to:
- A secure database that can be accessed via the code on the token;
- A secure and verifiable supply chain for delivery of the micro-certificate to approved testing/vaccination locations; and
- A mobile application for use by border force inspectors globally to validate the micro-certificate against the citizen's identity documents

Summary of Key components

The concept solutions proposed rely on three proven elements – DLR Certify, the DLR Certify mobile app and a high security Smart Micro-Certificate (SMC) – that are all operating together in live environments today. They are flexible enough to work in a variety of scenarios

Take the test	Link the test	Create Smart Micro Certificate (SMC)	Issue SMC	Verify Certificate
Jan Smith takes the COVID-19 test and tests positive for an immune response	DLR Certify creates a unique test result code that is associated with the +ve test result*	De La Rue create high secure, uniquely numbered Smart Certificates	DLR Certify associates Smart Certificate No. with test result code.	DLR Certify manages the inventory and issue of Smart micro certificates	DLR Certify mobile apps used to verify smart certificates

* No Gvt or private Data held in DLR Certify

DLR Certify manages, monitors and reports on the end to end process

Smart micro-certificate

For instant visual proof of immunity we would recommend a highly secure, tamper evident smart micro-certificate that can be affixed to a passport visa page or secure ID card, and used in association with a software system and the database associated with the ID document reference number that enables mobile device verification of the certificate. This will provide a secure visual indication of covid immunity status and its holographic security and serialisation will be the first line of defence against fraudulent certification.

DLR Certify Secure Supply chain and Mobile verification

Enabling easy verification of secure documents relies on secure logistics and supply chain control. "DLR Certify" is able to both track and trace the Smart micro-certificate through the supply chain to point of use, but also to associate the certificate with another uniquely coded document such as a passport or ID card. No citizen data is held by DLR Certify – it only associates the ID document number with the certificate.

Once the smart certificate has been appended to an ID document, De La Rue has a number of mobile applications for both government / health officers and for the general public. These are being used today for verification of tobacco and brands.
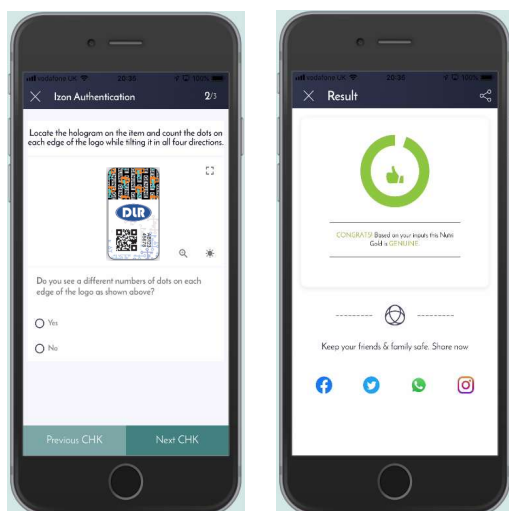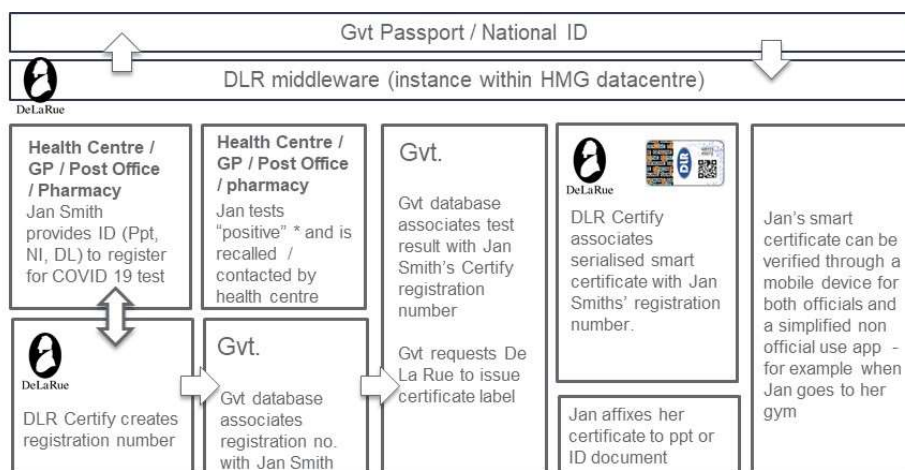
Simplified Solution Concept

There are a number of potential delivery mechanisms for this scheme using a flexible platform such as DLR Certify. Here we look at an example using centralised personalisation undertaken by De La Rue.

Key points

- De La Rue hold no citizen data
- Minimises impact on Health service resources
- Utilises existing "DLR Certify" system (used for tax stamp control, verification and logistics)
- Smart Micro certificate personalised centrally by DLR
- Some development to integrate with Gvt APIs

Gvt Passport / National ID

DLR middleware (instance within HMG datacentre)

Health Centre / GP / Post Office / Pharmacy
Jan Smith provides ID (Ppt, NI, DL) to register for COVID 19 test

Health Centre / GP / Post Office / pharmacy
Jan tests "positive" * and is recalled / contacted by health centre

Gvt.
Gvt database associates test result with Jan Smith's Certify registration number

Gvt requests De La Rue to issue certificate label

DLR Certify associates serialised smart certificate with Jan Smiths' registration number.

Jan's smart certificate can be verified through a mobile device for both officials and a simplified non official use app - for example when Jan goes to her gym

DLR Certify creates registration number

Gvt.
Gvt database associates registration no. with Jan Smith

Jan affixes her certificate to ppt or ID document

* tested positive for previously having had COVID, or tested positive for an immune response/presence of antibodies

8

In this overview we have provided a roadmap to to providing a secure, easily verifiable certification scheme. This approach can be quickly deployed and enable governments to re-mobilise societies and economies in a safe, controllable way.

With domain expertise in secure document design and manufacture and the securing of supply chains through track and trace De La Rue solutions can be adapted quickly to serve the need for robust certification and verification of positive COVID-19 antibody test results or, in the future vaccination status.