Helping Businesses, organisations and Government to Manage, Measure and Monitor the Covid-19 health and vaccination status of their populations

CATENAE

Executive Summary

The approval and roll out of Covid-19 vaccinations is a significant step forward in enabling the transition back to 'normal' life. However, keeping track of the Covid-19 health and vaccination status of entire workforces – which for many businesses are across multiple locations and shifts – and keeping your sites Covid-secure is a monumental task.

Both public and private sector businesses have implemented solutions to maintain safety, enable Covid confidence and rapidly respond to suspected cases while waiting for a vaccination. However, the introduction of a vaccine does not signal the end for mass testing for 2 core reasons:

I. the vast majority of the public will not be vaccinated until later in the year (and even then it's unclear when the second part of the vaccination will be administered).

II. the vaccination does not fully prevent contagion or spread of Covid-19.

And so, not only will the need for mass Near Patient Testing continue for months to come, businesses, organisations and Government will, now more than ever, need to have systems in place to manage, measure and monitor the health, testing and vaccination status of their populations, for this pandemic and for those in the future.

The most effective approaches include:

- Safe, secure operating systems that enable individuals' real time records of health, test and vaccinations status.
- Dynamic dashboarding and interactive reporting capabilities.
- Alignment with UK public health bodies to support and leverage government strategies.

Catenae's Operating System provides the solution to these challenges. Our safe, secure Data Management platform enables businesses, organisations and Government to mitigate risk via:

- Fully customisable Mobile App which acts as an individual's digital health wallet.
- Accessible portal for secure and compliant capture of health information.
- Dynamic Data Intelligence Dashboards which enable the monitoring and management of testing, vaccinations and vaccination boosters through clear, easily understood and fully tailored visualisations of complex datasets.

Our Operating System is fully compliant with new UK public health requirements for the secure upload of all Covid test results and vaccination status.

Catenae's blockchain operating system

Helping businesses, organisations and Government safely and securely manage, measure and monitor their populations.

Catenae's Operating system ensures businesses can safely Manage, Measure and Monitor their populations:

Manage

- An integrated management system which provides full visibility of the Covid-19 health and vaccination status of your population.
- Access Control to sites and specific locations to manage and protect your population.
- Automation of Alert messaging to manage your population, instantly.

Measure

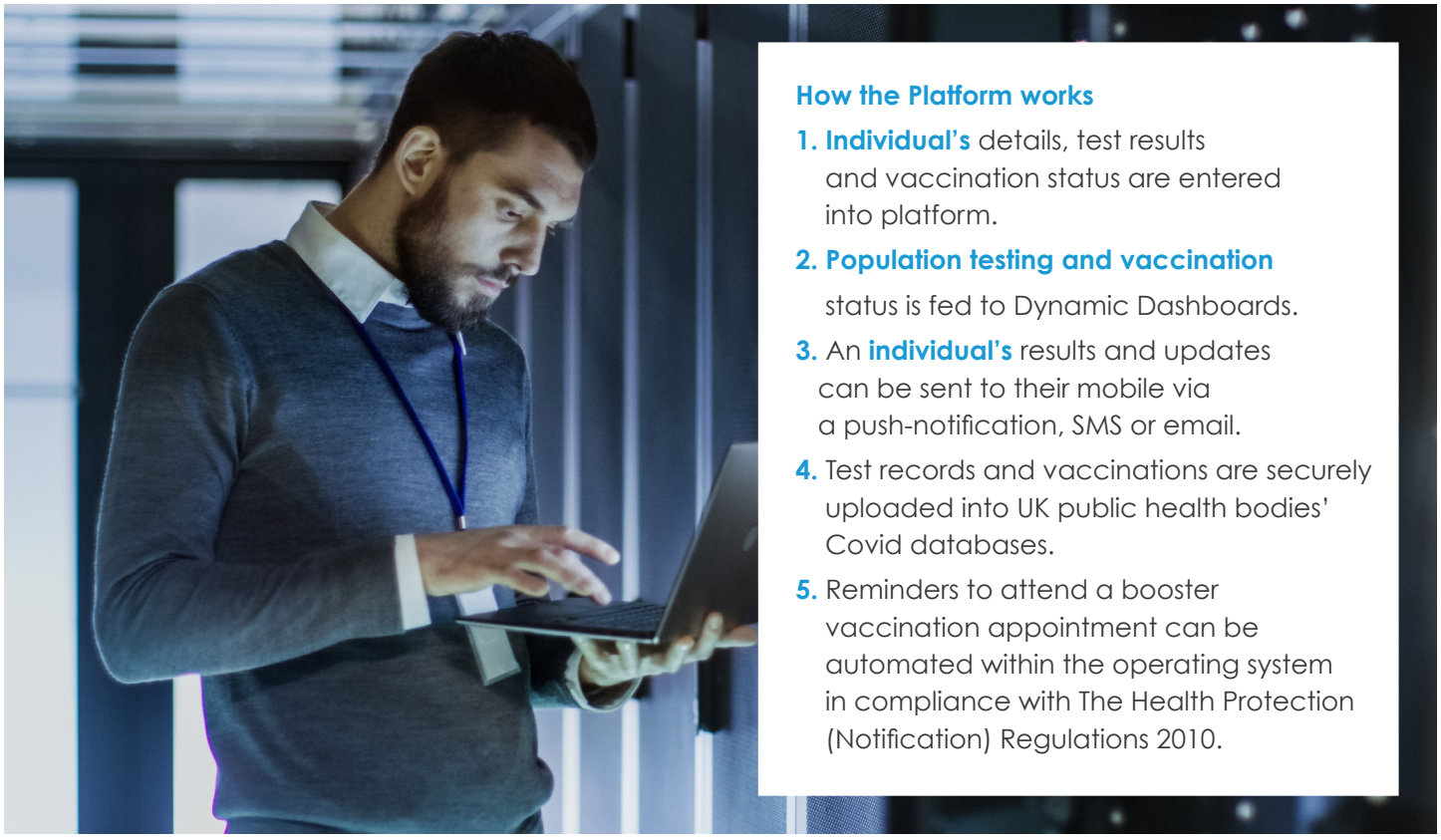
- Test and vaccination status captured efficiently and compliantly.
- Fully aligned with UK Public Health bodies' requirements for Covid Test data supply.

Monitor

- Instant visualisation of Covid-19 data touchpoints through Intelligent Dashboarding.
- Full visibility of safe staffing levels by team, location and shifts enabling instant reaction to changing levels.

The Catenae Operating System is:

- Fully compliant with UK public health bodies' Covid databases.
- Fully scalable, cloud-based platform.
- Fast, safe and reliable, utilising blockchain technology.
- Demonstrable provenance.
- Secure encrypted digital wallet.
- GDPR compliant.
- Uniquely designed to mitigate risk while building organisational and country-wide resilience.
- Fully customisable.
- ISO 27001 and Cyber Essentials certified.



How the Platform works

1. **Individual's** details, test results and vaccination status are entered into platform.
2. **Population testing and vaccination** status is fed to Dynamic Dashboards.
3. An **individual's** results and updates can be sent to their mobile via a push-notification, SMS or email.
4. Test records and vaccinations are securely uploaded into UK public health bodies' Covid databases.
5. Reminders to attend a booster vaccination appointment can be automated within the operating system in compliance with The Health Protection (Notification) Regulations 2010.

Intelligent Data Dashboards

Delivering full visibility and control

Data is the raw intel that any state, business or organisation needs. Clearly presented, segmented data gives you a powerful tool to make informed decisions and quickly take action, keeping you in control.

We offer fully customisable, dynamic 'Data Intelligence Dashboards'. They provide full visibility of what's happening within a population. Our dashboards provide the capability to drill down to a truly granular level on multiple data sets such as Covid-19 hotspots or administered vaccines by location, gender and ethnicity.

Furthermore, the Operating System can send push notifications, SMS or emails to individuals, specific groups or the whole registered population.

The ability to analyse the effectiveness of interventions and adapt, improve and communicate en masse is a significant benefit to businesses, organisations and Government.

Examples of instant access anonymised Covid-19 data analytics include:

- Covid-19 vaccination
- Date of next Covid-19 booster
- Antigen
- Date of last Antigen test
- Antibody (IgA & IgM, IgG)
- Date of last Antibody test
- Influenza
- Date of last Influenza test
- Date of last Influenza vaccination
- Age
- Gender
- Ethnicity
- Location (to 9 levels of granularity)

Example data only

Operating system App

Providing an individual's Covid-19 or vaccination status compliantly and securely, at scale

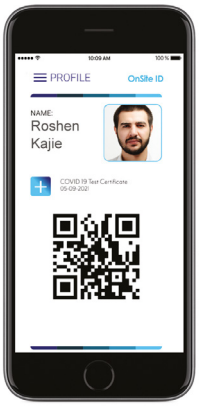
The platform is augmented with a mobile app which enables individuals to carry their test results and vaccination status with them securely and acts as their 'passport' to gain access to an environment safely. It also provides a means to record future vaccinations and expiry dates. Additionally, Users can be sent push notifications e.g. a vaccination booster reminder.

Below is an example usage flow which incorporates Access Control through the use of unique, 'single use' QR codes. This could be used to access an office, sporting or entertainment venue, or any other location where there's a requirement to ensure individuals are safe to enter.

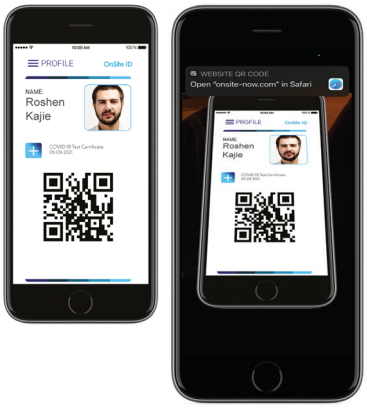
STEP 1
User signs into the App.

STEP 2
User can select certificate to share when requested e.g. test or vaccination.

STEP 3
The selected certificate Hash is unique to the user and certificate. Blockchain provides irrefutable proof.



STEP 4
User presents digital certificate.



STEP 5
Gatekeeper scans QR code.

STEP 6
Gatekeeper receives binary response. If required, original certificates can be viewed.

Each use of the system can record time / date / geographic data to feed track and trace. The key to the success of this approach is the use of Blockchain technology to ensure the integrity of the information from end to end.

Delivering Operational Resilience

Tailoring our Operating System for businesses, organisations and Government

The insights and ongoing learnings provided by the Catenae Operating System provides operational resilience for businesses and organisations. And for the public sector, they ensure that Governments are able to proactively keep their population safe.

- Our blockchain operating system can be delivered entirely from a secure cloud environment and have APIs into existing IT systems. Or it can sit within your network, fully integrated with and protected by your own security systems and protocols.
- GDPR compliant.
- All data is securely uploaded to the central operating system with all uploads geo-tagged, date & time stamped.
- All test records data will be uploaded into UK public health bodies' Covid databases.

SAFE

SECURE

FAST

SCALABLE

Catenae's platform strengths

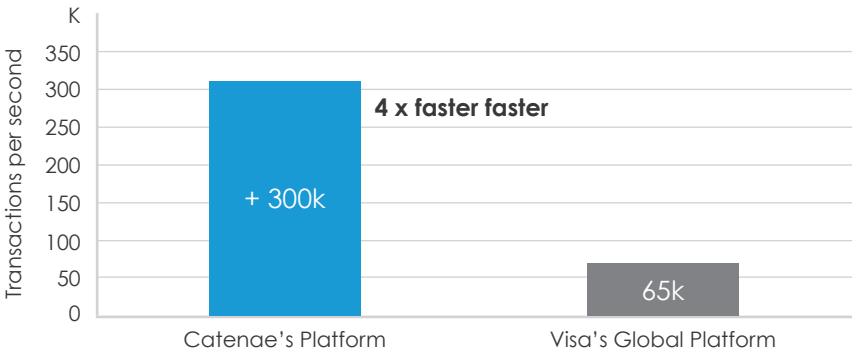
Safe and Secure

Our operating system is secure on multiple levels

- Due to the nature of blockchain, all transactions cannot be fraudulently tampered with. Any alterations are automatically written to the blockchain, meaning the original source documents or transactions will always be available for cross reference and a full audit trail of all transactions, alterations and updates can be provided for validation of identity, plus Covid-19 and vaccination status.
- Catenae can host the operating system for you.
- All servers are mirrored to achieve the highest levels of availability.
- Optionally, our operating system can be held within your own secure network where it can use all your security systems and protocols.
- Sign on glass for administrator validation.
- Biometric recognition and two-factor authentication can be added for added user security.
- ISO 27001 and Cyber Essentials certified.

Fast

Data processing speed is essential to ensure that businesses and organisations have the latest, most accurate data at their fingertips. Catenae deliver this, faster than other global data management platforms.



Scalable

Our services are delivered from highly efficient elastic infrastructures.

The architectural technical design of the systems allows for as many duplicate platforms to be created within hours through auto-build processes. This ensures that there's always sufficient bandwidth and processing power to provide the 24/7 instant-access mobile service as you roll out testing across the nation.

CATENAE

To find out more about Catenae's Operating System and how it can be safely, securely and efficiently integrated into your existing IT infrastructures, contact:

Guy Meyer
CEO

t +44 (0) 7973 118 878
e guy.meyer@catenaeinnovation.com

Nick Delacamp
Chief Commercial Officer

t +44 (0) 7880 475413
e nick.delacamp@catenaeinnovation.com

ISO 27001 CERTIFIED
UKAS MANAGEMENT SYSTEMS
British Assessment Bureau

CYBER ESSENTIALS
CERTIFIED

Catenae
26 Lansdowne Terrace, Newcastle upon Tyne NE3 1HP
United Kingdom
t + 44 (0) 191 580 8545

www.catenaeinnovation.com