



सत्यमेव जयते
Government Of India

CO+WIN

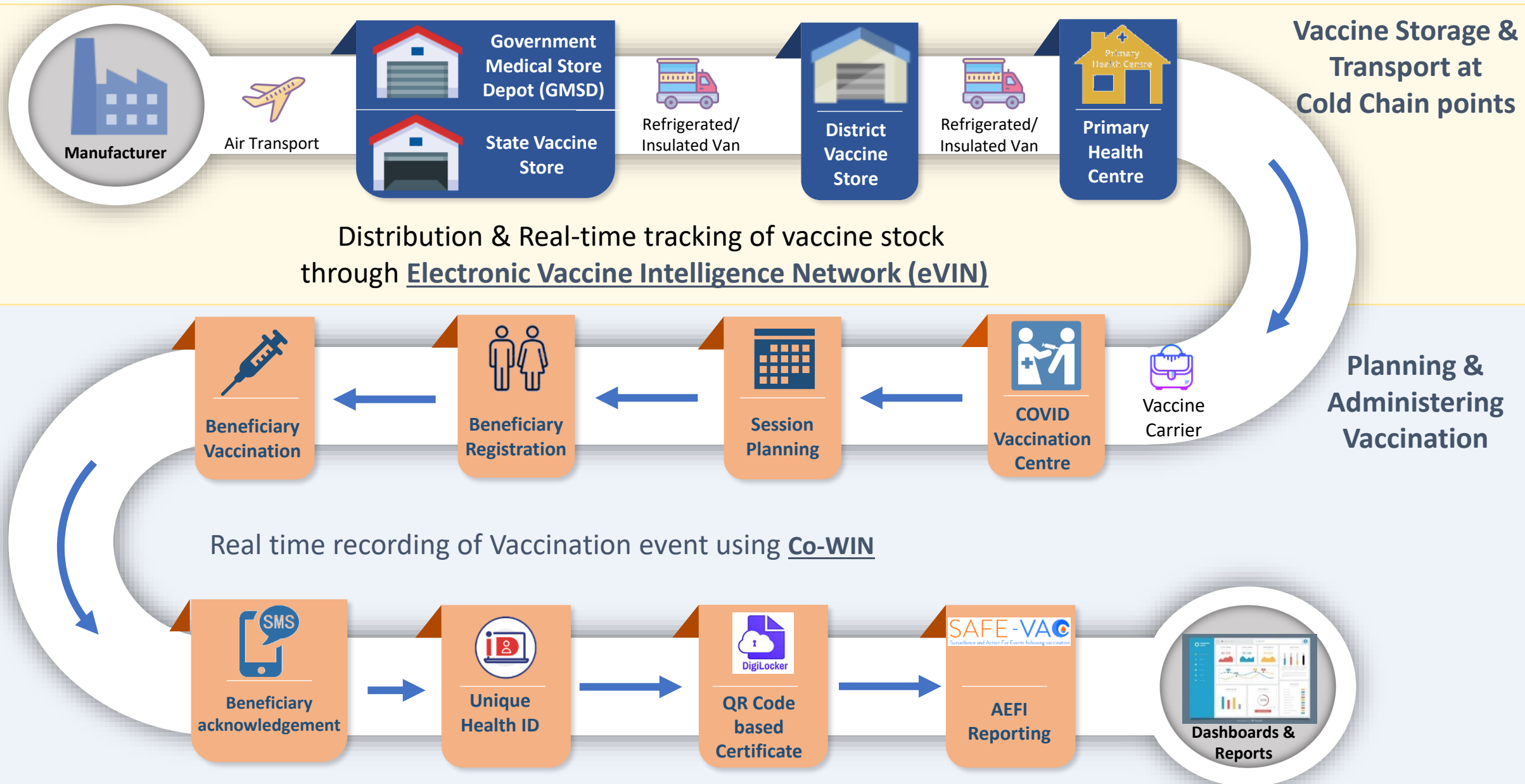
Tech-Backbone of India's C-19 Vaccination Program



Mr. T. Koshy

*Advisor to the Technical Unit of the
National Health Authority, India
and
Advisor, Ernst & Young India*

COVID -19 Vaccine Delivery Management System



Co-WIN : A Scalable, Inclusive and Open Platform for Universal C-19 Vaccination by 2022

Co-WIN



Covid Vaccine Intelligence Network

A tech-based platform facilitating the planning, implementation, monitoring, and evaluation of COVID-19 vaccination in India

Guiding Principles



Equitable and Inclusive

Equitable vaccination across multilingual states, with multiple modes for registration to ensure accessibility for all



Single Source of Truth

Unbiased distribution of vaccines through a single source of data to remove information asymmetry and align stakeholders



Evolvability and Scalability

Dynamic architecture capable of evolving and accommodating changes as per circumstances, built for a scale of a billion plus citizens



Feedback and Analysis

Data on vaccination and recording of AEFI helps form data-driven public health policy and evaluate the efficacy of different vaccines

Architecture of Co-WIN – Modular, Scalable and Interoperable

Private Healthcare
Provider Platforms

Registration &
Scheduling
Systems

Facility
Management
Systems

Vaccine
Administration
& AEFI Systems

Co-WIN

Web Portal

Registration &
Scheduling
Module

Vaccination
Facility Module

Vaccination
Module

Certification
Module

Registration

Facility

Vaccination

Certificate

Co-WIN Database

Citizen Platforms



UMANG
THE SPIRIT OF NEW INDIA



Aarogya Setu
मे सुरक्षित | हम सुरक्षित | भारत सुरक्षित



DigiLocker
Your documents anytime, anywhere



3rd Party Apps

Decentralization of
Operations via
Public & Protected APIs

Fetch Certificates via
Protected APIs

Advantages for Citizens & Vaccinators : *Agency at the core, luxury of choice*

Features for Citizens

- **Blended Registration**
 - Digital & Offline Walk-ins
 - Mobile, Laptop, CSC, Call Center/IVRS
- **Convenience in Slot Booking**
 - Choose vaccination slot based availability
- **Track Vaccination Schedule**
 - Guidance on *vaccine-based* schedule intervals between the doses, in a multi-dose regimen
- **Instant Digital Certificates**
 - Issuance of digitally-signed and offline-verifiable vaccination certificates

Features for Vaccinator/Administrators

- **Vaccine Stock Management**
 - Verify validity of stock supplied
 - Tracking of Vaccine stock at Facility level
- **Registration & Setup**
 - Registration & Verification of vaccinees
 - Vaccination session planning & Program setup
- **Vaccine Administration**
 - Daily availability (based on stock) & define Quotas for walk-in and online registrations
 - Recording of in-facility vaccination & AEFI events
- **Real-time Dashboards**
 - Analytics to provide a multi-dimension view of vaccination progress

Advantages for Policy Makers : *No information asymmetry and Alignment of departments*



Single Source of Truth

Aligns all stakeholders to prevent any form of rent-seeking and truly making each stakeholder accountable for their actions

Tracking AEFI for Vaccines

Allows recording of AEFI to form data-driven public health policy and evaluate the efficacy of different vaccines



Efficient Tracking of Certificates

Providing a reference point post first dose to guide citizens to follow the vaccination schedule and get the same second dose as first



Evaluating Geographical coverage

Facilitates coverage at a granular geographical level that helps get a view of each district at a state level to evaluate progress of vaccination

Inclusivity

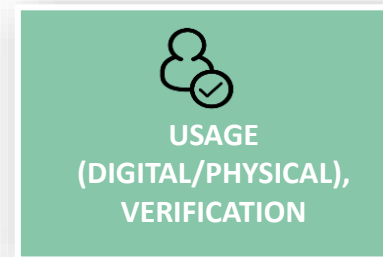
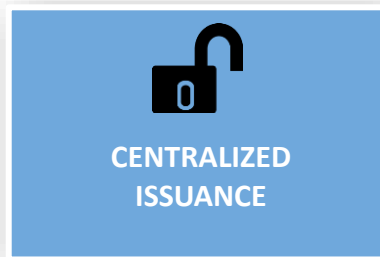
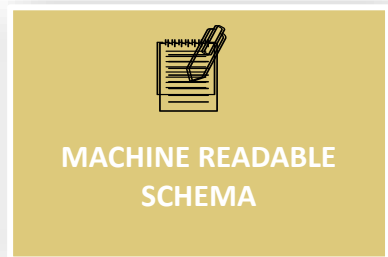
Multiple modes of registration in offline walk-ins, online and assisted through help centres and call centres ensure access for all



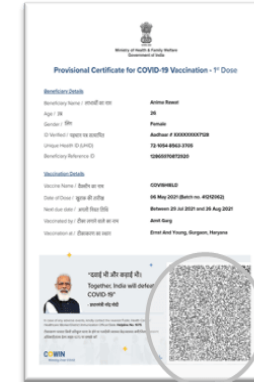
Co-WIN Vaccination Certificate : An Overview

- India's vaccination program was launched on **16 January 2021**
- **575 mn Provisional certificates** and **180 mn Final certificates** issued till date
- **Ministry of Health and Family Welfare** is the Central Issuing Authority

DESIGN PRINCIPLES OF INDIA'S VACCINATION CERTIFICATE



- The Co-WIN Certificate Module is based on a globally recognized (and WHO-DDCC:VS compliant software) open-source software stack – **“DIVOC”**
- The same open-source stack “DIVOC” is also being used in the national vaccination certificate implementations in **Sri Lanka** and **Philippines**, with a few other SE Asian & African countries in the pipeline for adoption as well.



Digitally Signed

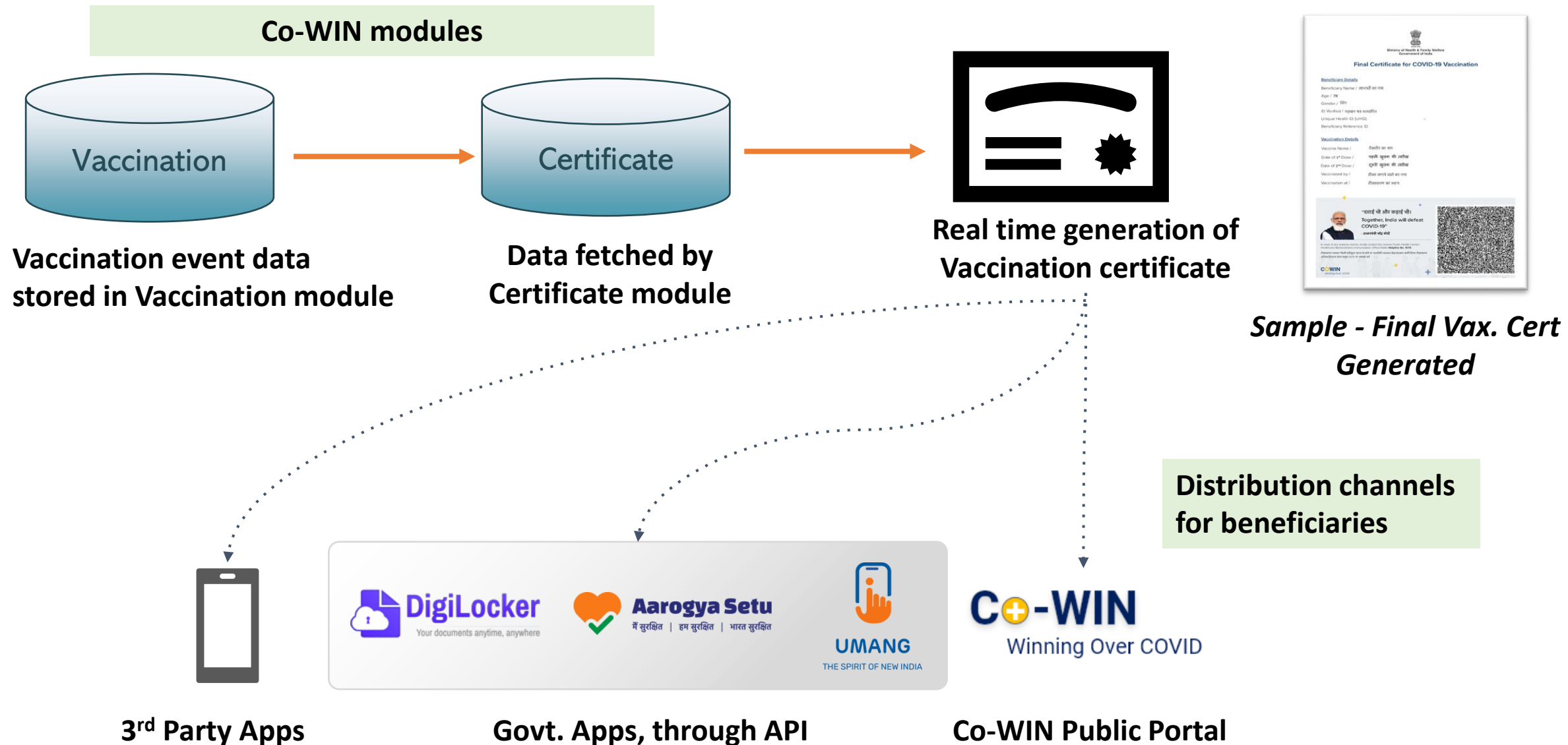
Single Source of Truth

Offline-Verifiable

Design Principles & Features of the Co-WIN Vaccination Certificate

- Based on the **W3C Verifiable-Credential** data model and aligned with **WHO-DDCC:VS** guidelines
- Currently generates **W3C-based signed JSON** documents for Vaccination Certificates. Co-WIN's Certificate module has flexibility to generate signed **FHIR-DDCC** documents (based on interim FHIR-IG)
- Privacy preserving and Authenticity verifiable via a digitally-signed **Secure QR code**
- Supports **multi-distribution** methods
 - Digitally available on smartphones
 - Printable for non-smartphone users
- Supports **multilingual** Vaccination Certificate templates
- Supports **API-based integration** with health lockers, travel wallets/passes and other health systems

Certificate Workflows – (1) Generation & Distribution



Certificate Workflows – (2) Verification

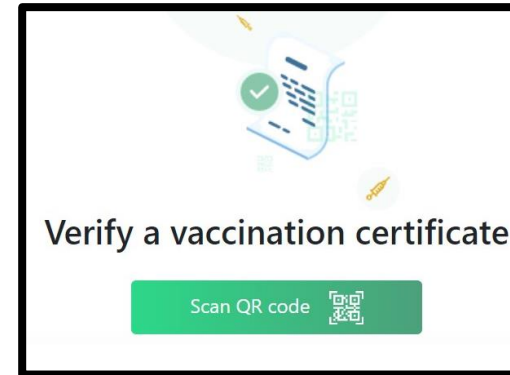


Beneficiary receives vaccination certificate



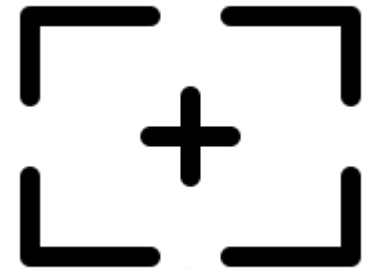
VERIFY.
COWIN.
GOV.IN

**Beneficiary/Verifier visits
verify.cowin.gov.in**



**Beneficiary clicks on
Scan QR code tab**

**Device camera gets
activated**

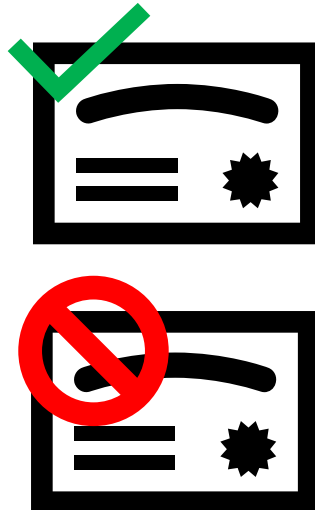


**Beneficiary scans the
QR code on certificate**



**Certificate successfully
validated**

Certificate Invalid





Certificate Successfully Verified

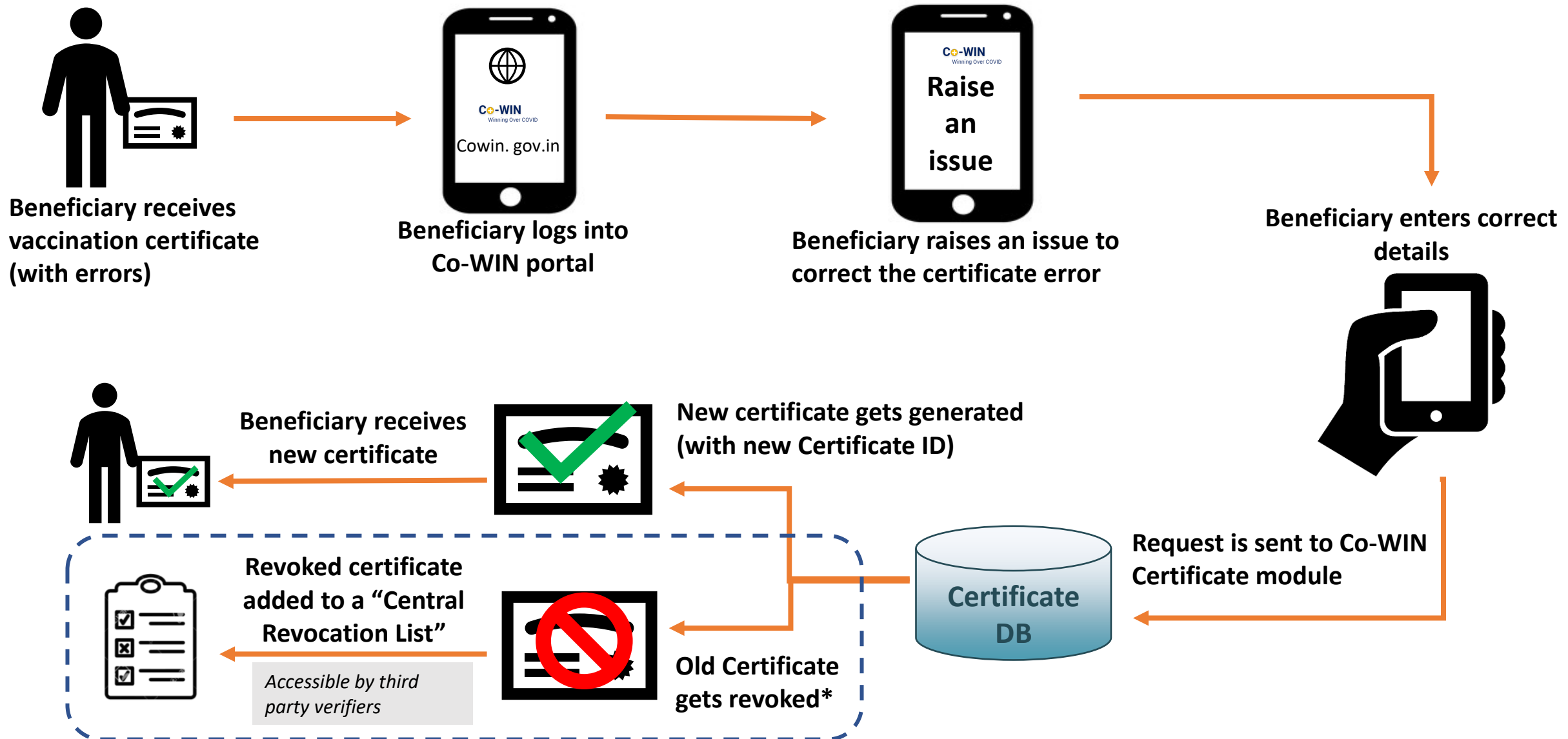
Final Certificate for COVID-19 Vaccination

Name	Bhargavi Trishna
Age	32
Gender	Female
Certificate ID	245345624362
Beneficiary ID	18274840342100
Vaccine Name	Covaxin
Date of 2nd Dose	14-Jul-2021
Vaccination Status	Fully Vaccinated
Vaccination at	Sangram Hospital

[Verify Another Certificate](#)

**Sample - Verification
Screen**

Certificate Workflows – (3) Correction and Revocation





Thank You