

HOW DIGITAL TECHNOLOGIES CAN SUPPORT CARBON MARKETS:

THE DIGITAL 4 CLIMATE INITIATIVE



European Space Agency



CLIMATE CHALLENGES
MARKET SOLUTIONS

Panel



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Frank Martin Seifert

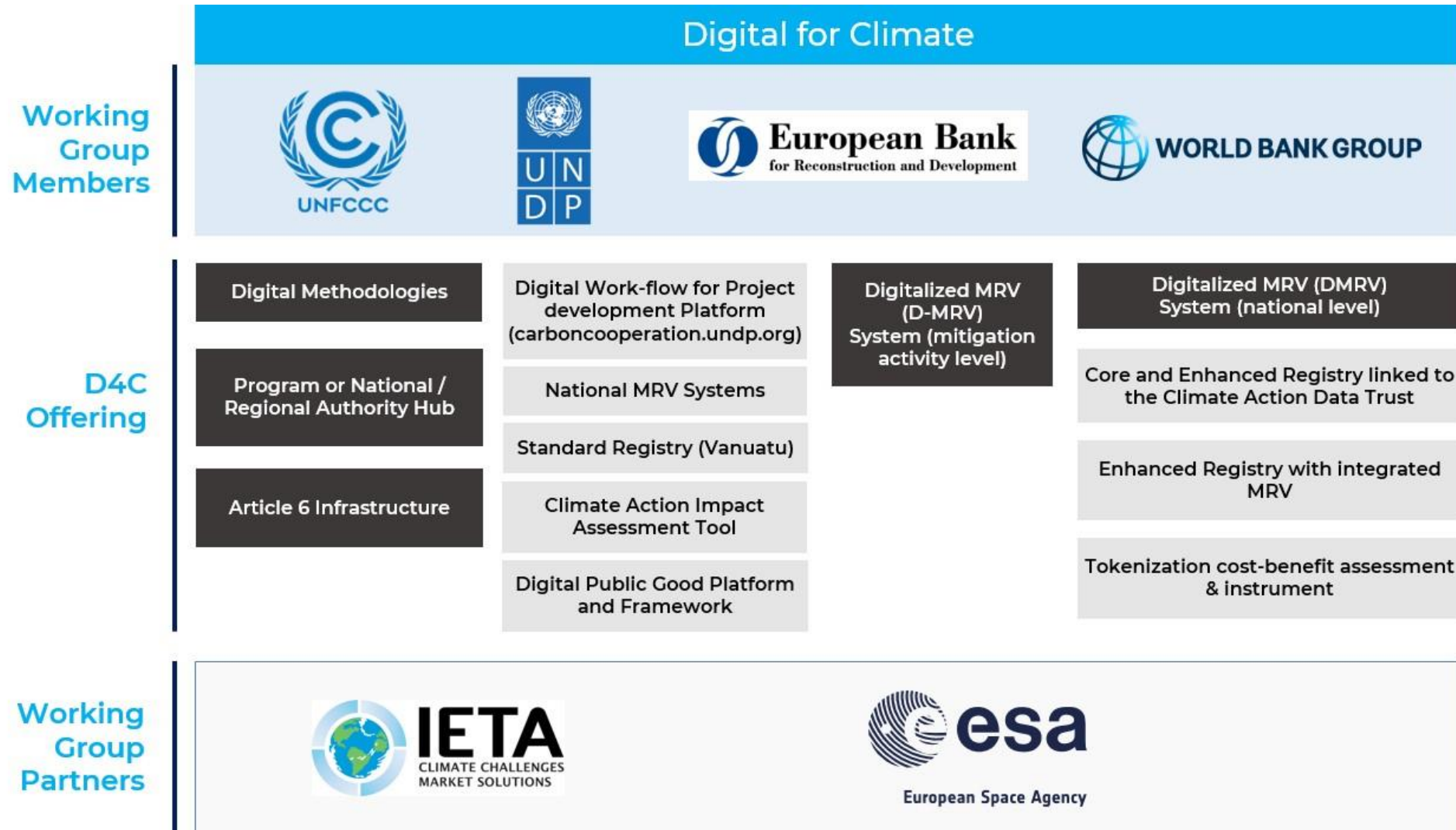
Earth Observation Application
Engineer, European Space Agency
(ESA)

Agenda	Speaker
13:15 – 13:20	Welcoming remarks by UNFCCC & WB
13:20 – 14:00	<p><u>Panel Presentation</u></p> <p>Moderator: Chandra Sinha, Global Lead of Carbon Markets & Finance, World Bank</p> <p>Panelists:</p> <ul style="list-style-type: none"> • Massamba Thioye, Project Executive, Global Innovation Hub, UNFCCC • Dmitry Halubouski, Associate, Climate Finance and Carbon Markets, EBRD • Reina Otsuka, Lead Digital Innovation for Climate Nature and Energy, UNDP • Gemma Torras Vives, Climate & Technology Specialist, Climate Warehouse, World Bank • Frank Martin Seifert, Earth Observation Application Engineer, European Space Agency (ESA)
14:00 – 14:20	<p><u>Discussion</u></p> <ul style="list-style-type: none"> • Sonam Tashi, Chief Planning Officer, Policy & Planning Division, Ministry of Economic Affairs of Bhutan • El hadji Mbaye Diagne, Director General of Afrique Energie Environnement (AEE), Senegal
14:20 – 14:28	<p><u>Open Q&A session</u></p> <p>Moderator: Chandra Sinha, Global Lead of Carbon Markets & Finance, World Bank</p>
14:28 -14:30	<u>Closing remarks by UNFCCC & WB</u>

Welcoming remarks by UNFCCC & WB

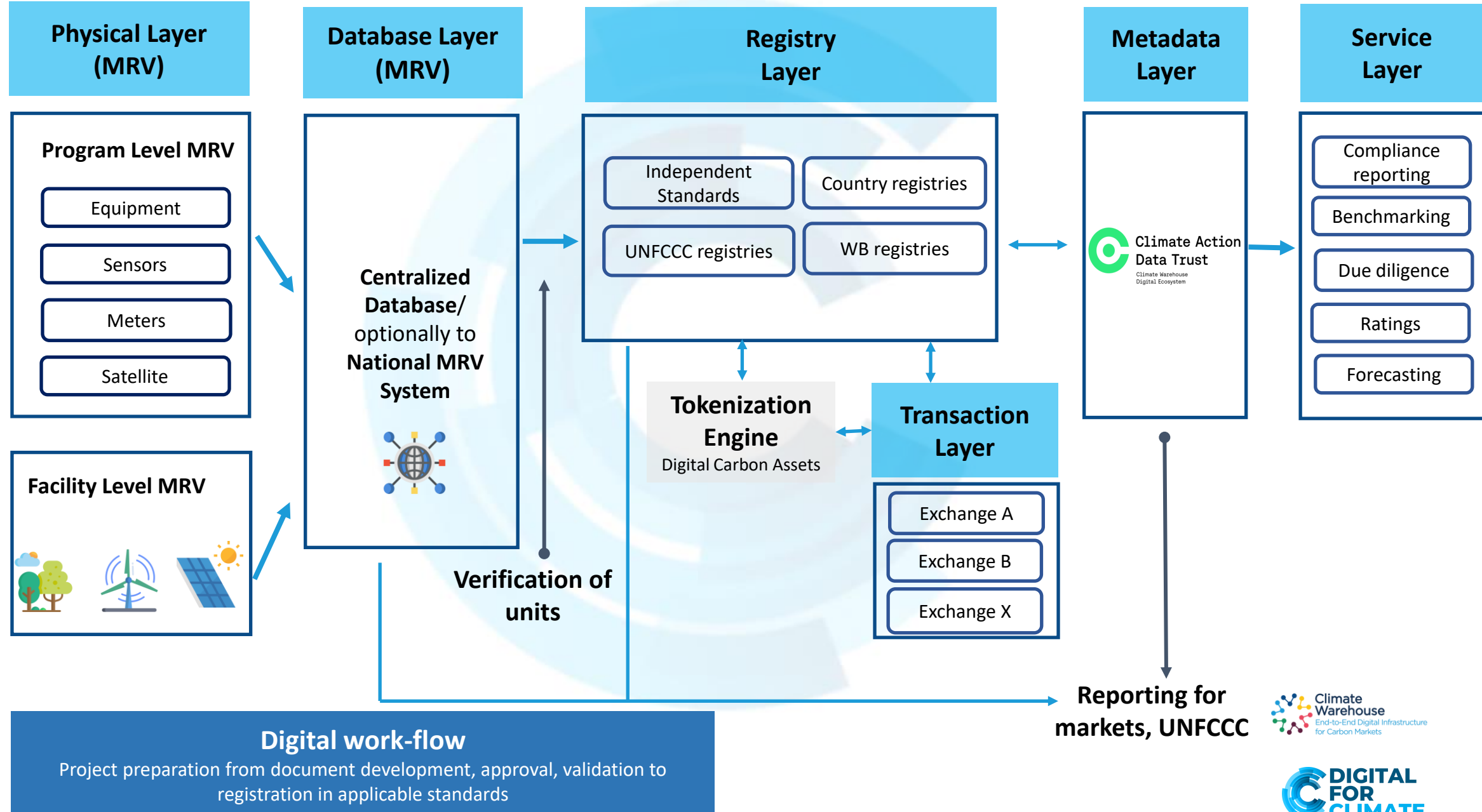


Overview of D4C



Building an End-to-end digital Ecosystem for Carbon Markets

Digital Methodology
Digitalization of Methodologies: smart contract toward the digitization of the mitigation activity cycle





Meth digitization

Question 1

R11

Question 2

R23

Questions 3

R31

Questions n

Rn

Baseline emissions, Project emissions and leakage emissions are determined and ER calculated
Additionality is tested

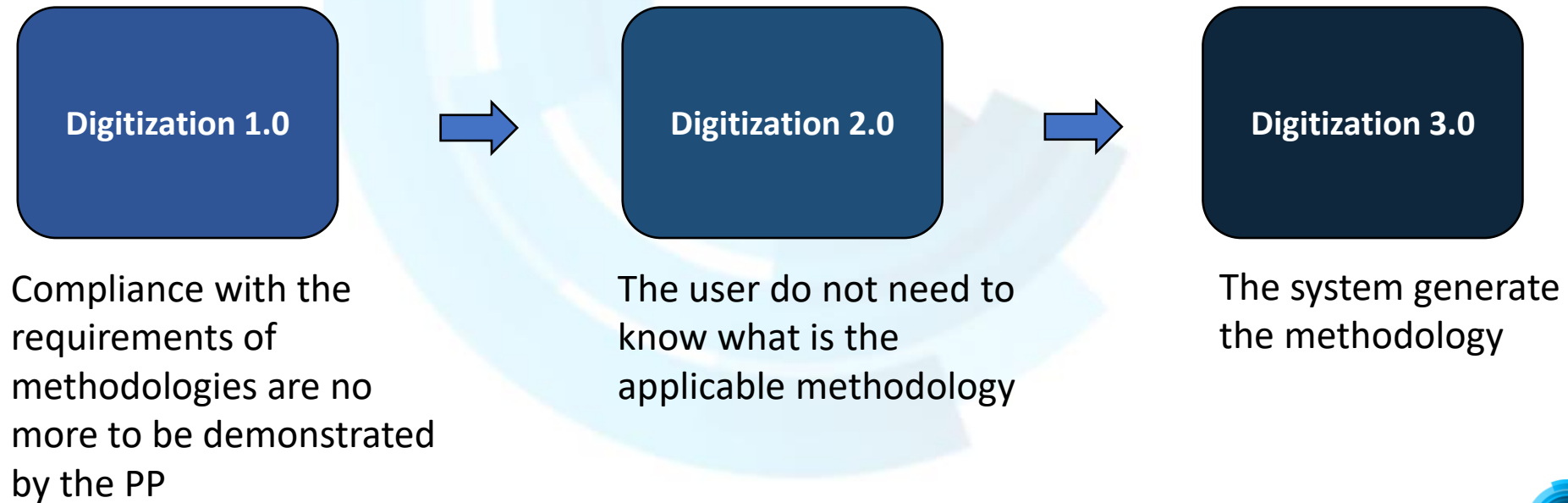
3

Information is requested

2

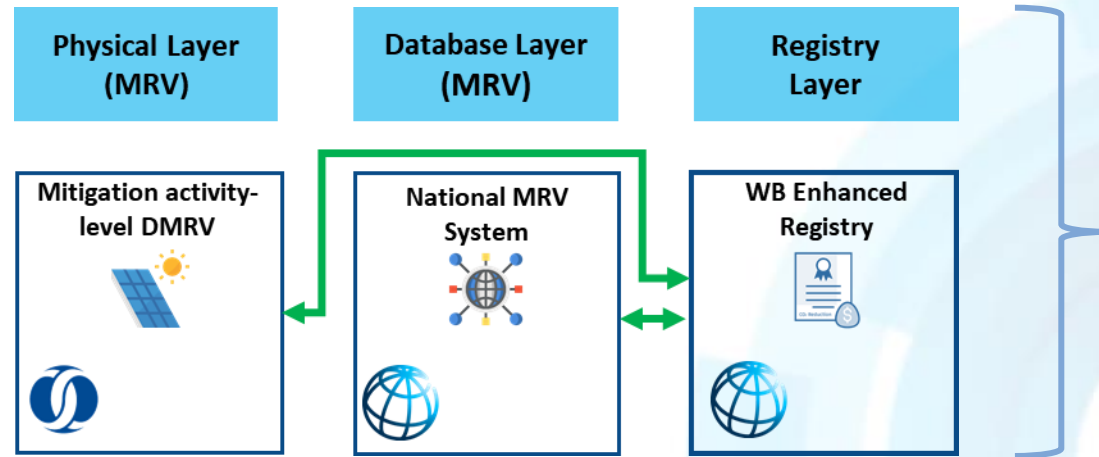
- 1. Project completely specified through tick boxes
- 2. Relevant formulae and Information needed for ER calculation and additionality demonstration identified

The Improvement Journey



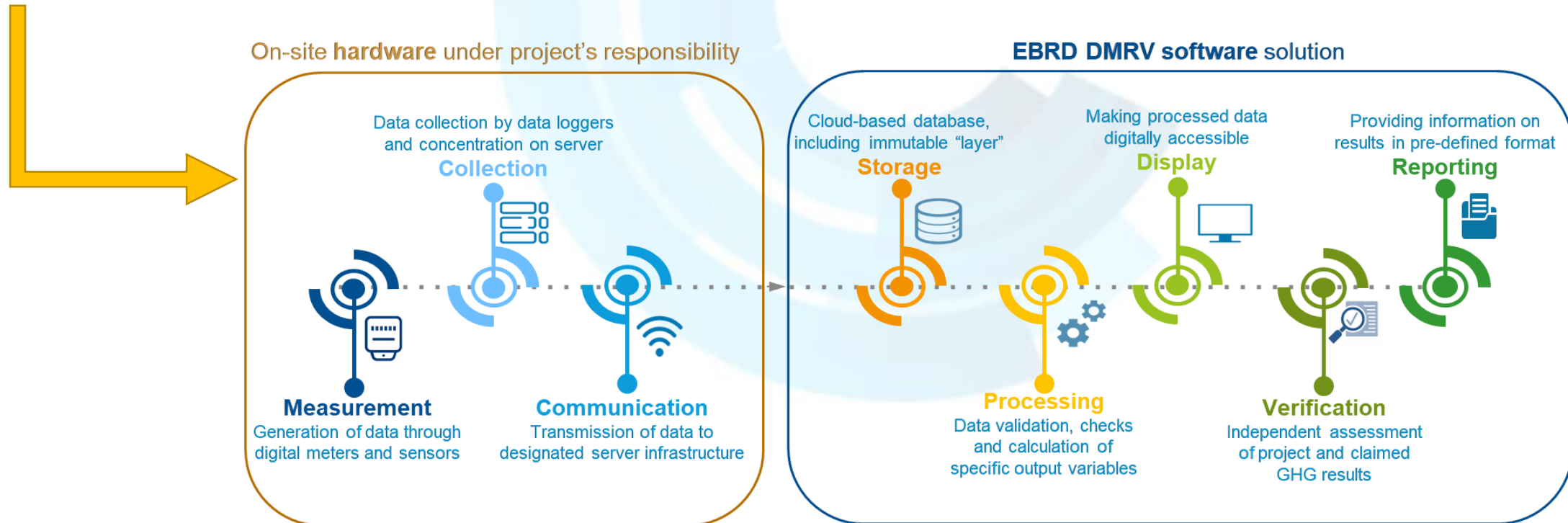
Digital MRV system

Exploring interconnectivity of digital systems for streamlining generation of carbon assets



Scope of EBRD-WB pilot under D4C

- Showcasing **automation** and **digitalization** of generation and use of emission reduction credits by interconnecting **EBRD's mitigation activity-level DMRV system** with the **WB's Enhanced Registry**
- Defining key elements of **interoperability** to inform further creation of end-to-end digital ecosystem of infrastructure for carbon markets



Digital MRV system

Piloting interconnection of EBRD's DMRV with WB's Enhanced Carbon Registry: interoperability considerations for RE projects



Parameter/ information	Frequency of exchange	Considerations	Exchange flow direction	
			DMRV system	Registry / national MRV
Project set up info: title, ID, country, methodology etc.	Once (+future changes)	<ul style="list-style-type: none"> - Registry “controls” project set up info - Saves DMRV onboarding costs, avoids errors - Update option for changes during project lifetime 		
Grid emission factor (tCO2/MWh)	Once (+annually ?)	<ul style="list-style-type: none"> - Registry “controls” GEF data - Agreed format (tCO2/MWh, gCO2/kWh) - Ensures consistency across all projects in the country - Update option for dynamic GEF 		
Monitoring reports	Quarterly (monthly, “as available”?)	<ul style="list-style-type: none"> - Pre-defined template and document format - Frequency of exchange depending on targeted issuance cadence 		
Verified GHG emission reductions (tCO2/period)	Quarterly (monthly, “as available” ?)	<ul style="list-style-type: none"> - DMRV controls ER data, supports high-resolution, close to real-time (5-15 min) - Continuous, fully automated system verification key to (near) real-time issuance - More practicable exchange frequency to be piloted to demonstrate much higher issuance cadence than current market practice 		

Common underlying data model/dictionary is key!

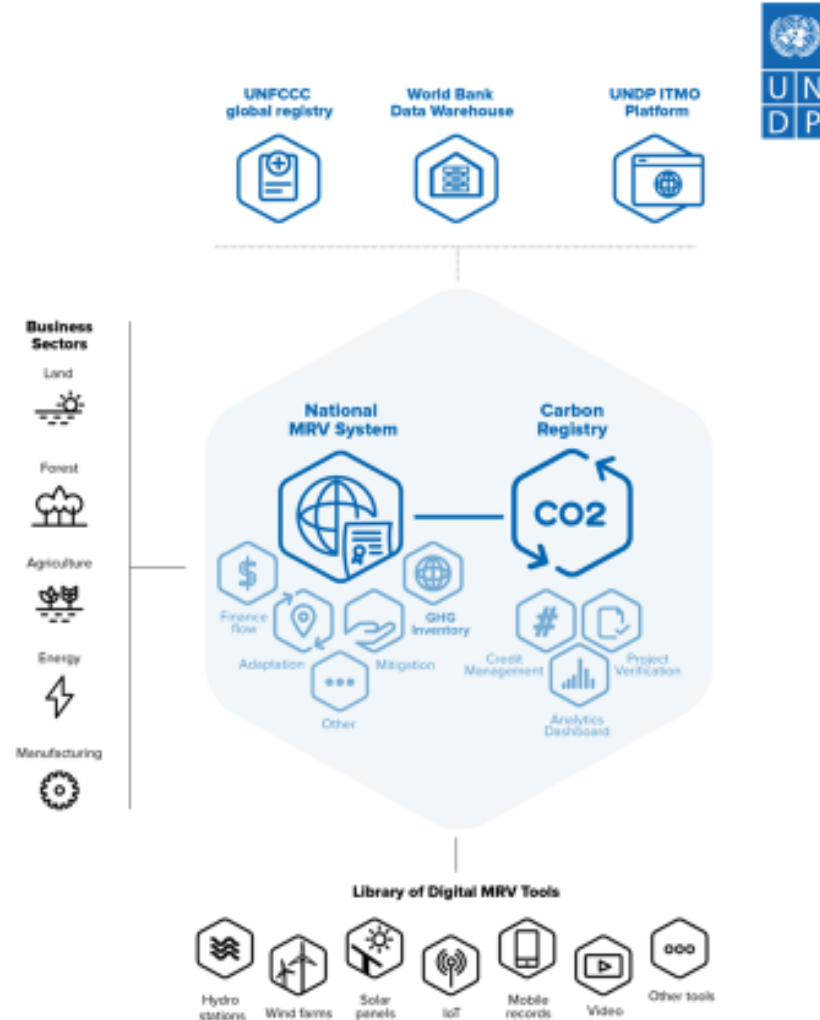
ITMO Platform



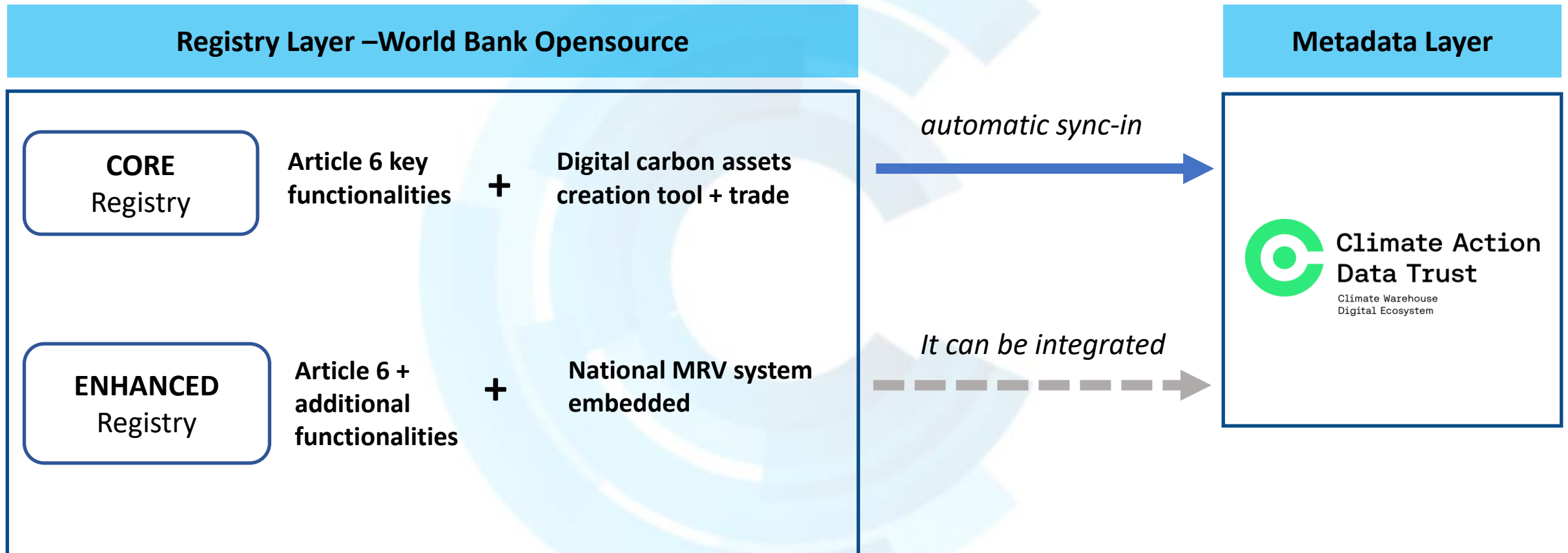
DPG National Registry & Transparency Module

A Ready-to-install, Modular 'National Transparency System' as a Digital Public Good

- **Supports effective management of national data** and information following complex international requirements
- **Based on best practices following UNFCCC guidance, with expert inputs** from World Bank, UNDP, D4C group members.
- **Open source code for any country** to install and adapt based on country context.
- **Lowers price, risk, and shortens lead time** for system development by reusing software and technical documentation.
- **Continued upgrade** for security, data, integration, upgrading the registries as technology evolves
- **Interoperability** with other platforms and tools
- **Standard Carbon Registry** was launched. Next module planned is a National MRV System.



WB Registry Offering & CAD Trust





Discussion

Discussants:

- Sonam Tashi, Chief Planning Officer, Policy & Planning Division, Ministry of Economic Affairs of Bhutan
- El hadji Mbaye Diagne, Director General of Afrique Energie Environnement (AEE), Senegal

Open Q&A session





Closing remarks by UNFCCC & WB