LEVERAGING DPI FRAMEWORK FOR E-MOBILITY

A DIGITAL COMMON FOR PUBLIC MOBILITY

CONVENTION HALL 2 | 26 OCTOBER

17th Urban Mobility India
C○nference & Expo **2024**

*Standardization and Optimization
of Urban Transport Solutions*

PUBLIC TRANSPORT IN INDIA

Buses are the primary form of public transportation in India

- **90%** of road-based passengers in India rely on buses for transportation

- **399 million** passengers travel by bus every day

- With **~2 million** buses on the roads, India has the **third-largest** bus fleet in the world, after Indonesia and China.

- Share of Public Buses - **7%**

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WRI INDIA

PUBLIC TRANSPORT IN INDIA

PROBLEM

Fragmented ecosystem with small players - limiting opportunities for efficiencies and scalability

90% of the bus operators *in India own less than 5 buses*

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WRI INDIA

INDIA ELECTRIC BUS STORY

800,000 e-Buses target in the next 10 years

100x growth demands a collaborative ecosystem:

Scale of Operations: Mobility and energy infrastructure at scale needs streamlined management and communication.

Investment and Innovation: Partnerships to leverage private sector strengths in financing and efficiency.

Broader Engagement: Collaboration for sustainable growth with diverse stakeholders.

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WRI INDIA

INDIA ELECTRIC BUS STORY

CHALLENGE

A decentralized approach leveraging technology with broader stakeholder involvement is needed

WHY NOW?

FOR BUS + INFRA

- 75% of India's buses reach end-of-life in 3-5 years - key opportunity for electric replacements

- Demand aggregation has already demonstrated cost parity with ICE counterparts

- Government initiatives for electric buses — to cut emissions and meet India's commitments

FOR IT-in-PT

- MoHUA and MoRTH independently implementing ITMS solutions nationwide, across cities and STUs

- Shift to service-based models demands transparent data exchange for stakeholders

- Limited technology providers offering non-interoperable solutions

OPPORTUNITY

To reimagine the bus sector as a connected, low-cost technology-driven ecosystem

CURRENT TECHNOLOGY GAP
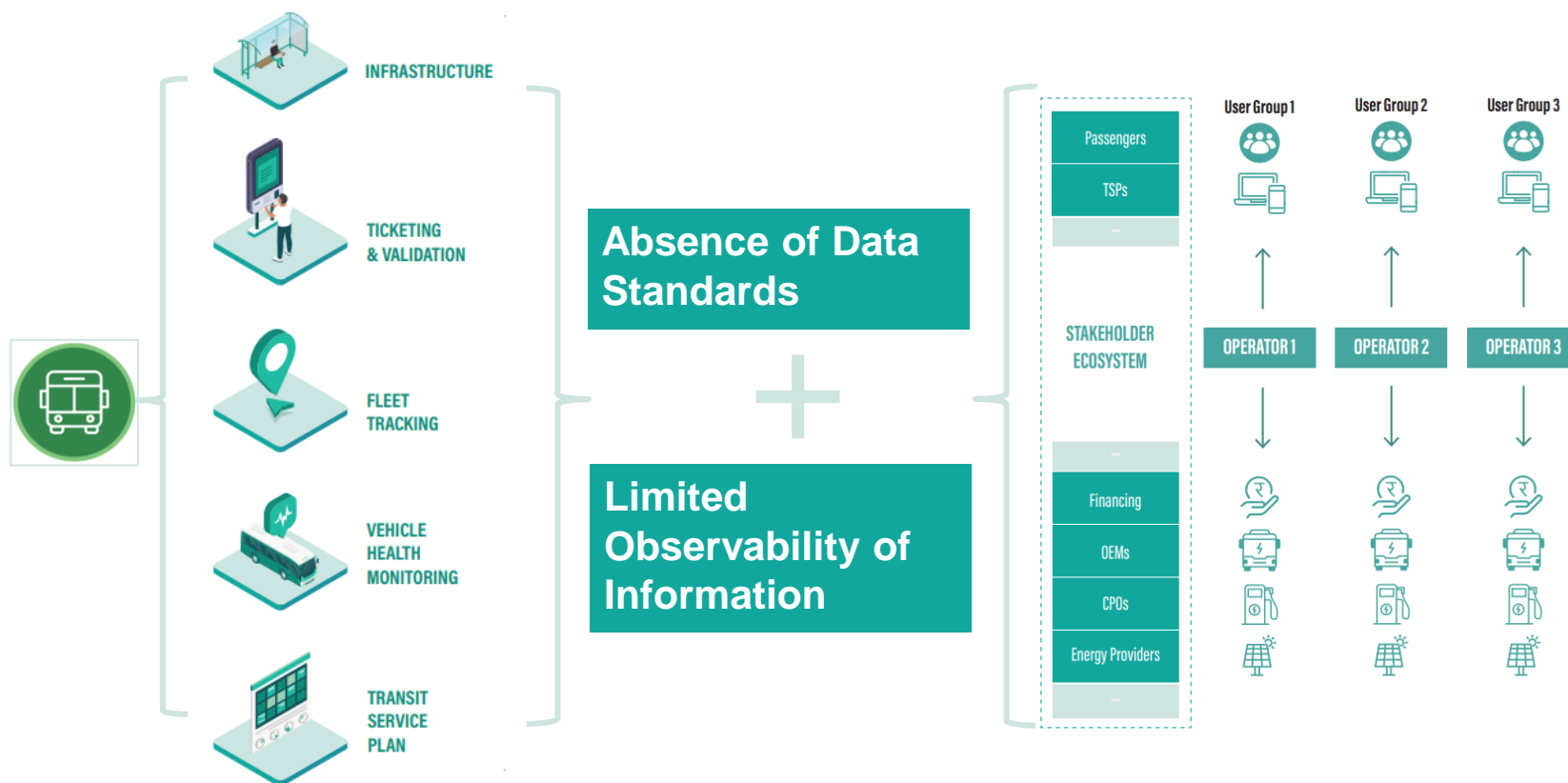
Limited Bus Discovery and Utilization: Over **₹1,000 crore spent on ITS** for public buses, with little value added and unreliable operational data capture
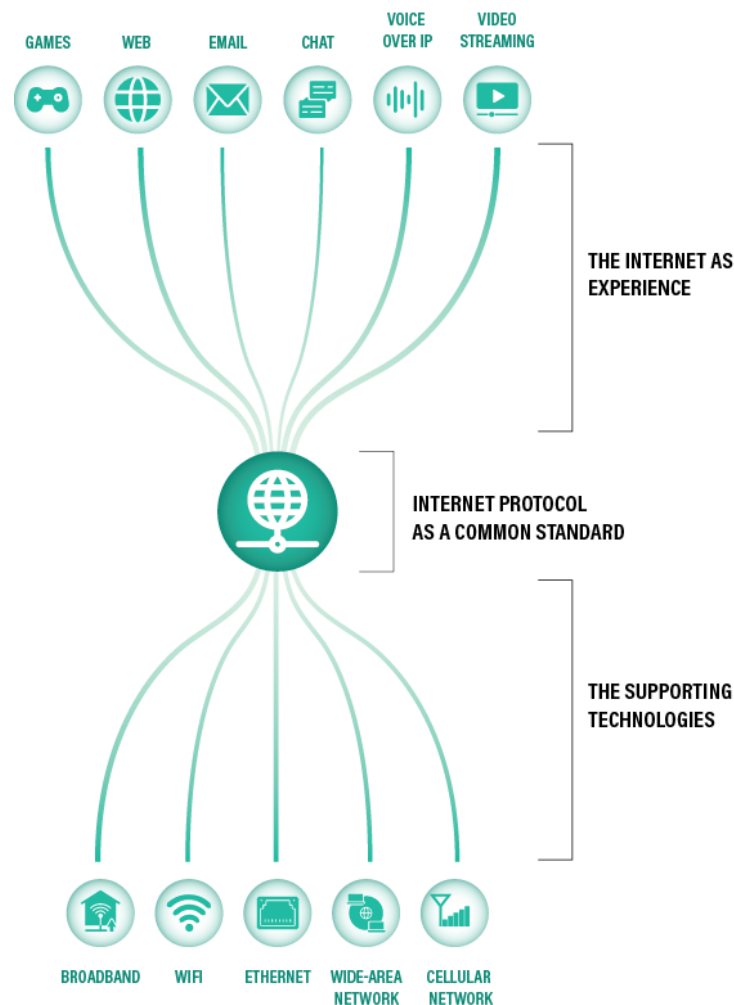
RETHINKING ABOUT TECHNOLOGY

THE DPI THINKING
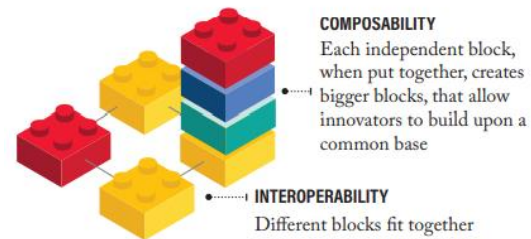
HOURGLASS DESIGN
Achieving more with less

- Illustrates minimalist technology interventions, as seen with the internet's design.
- At its core – internet protocol serves as a universal intermediary.
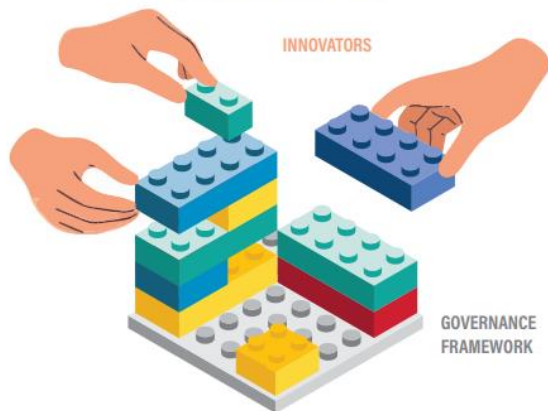- Enables seamless communication across networks.

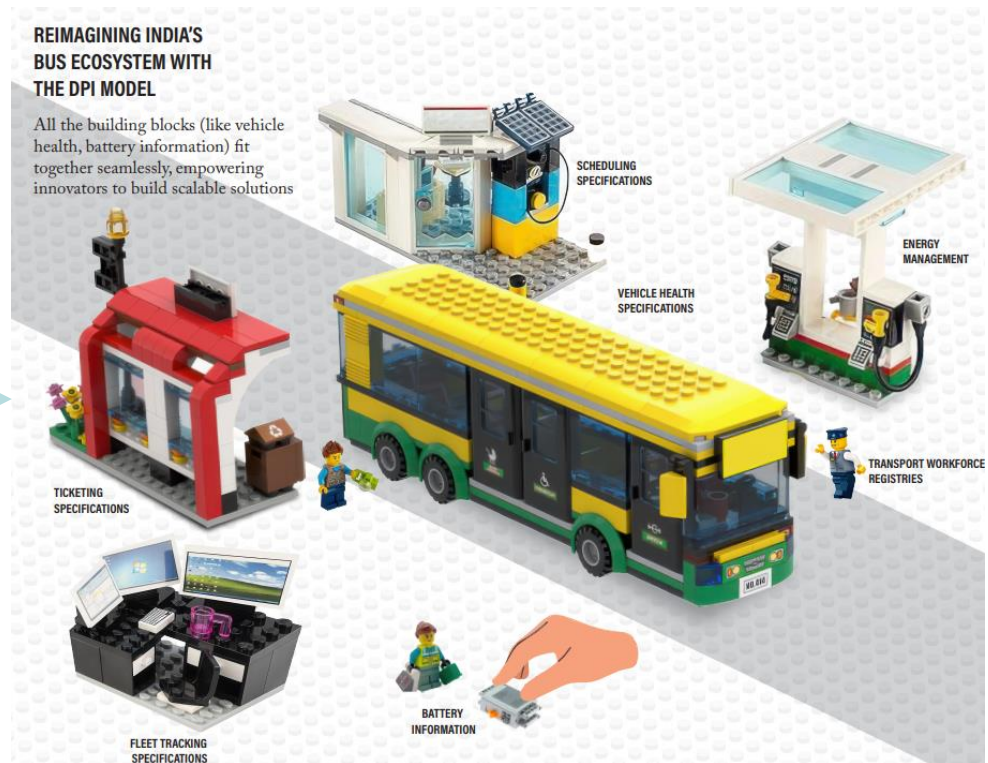# REUSEABLE BUILDING BLOCKS

THE DPI THINKING

OPEN E-BUS BLUEPRINT

ACTORS

Diverse stakeholders needing collaboration and multisectoral alignment to benefit from building blocks

BUS OPERATORS · OTHER EQUIPMENT MANUFACTURERS · FINANCIAL INSTITUTIONS · CHARGE POINT OPERATORS · ENERGY PROVIDERS · TECHNOLOGY-ENERGY-MOBILTY SERVICE PROVIDERS · GOVT MINISTRIES/ CITY AGENCIES/ REGULATORS · PASSENGERS

BUILDING BLOCKS

Specifications for common ground in software code, registries, platforms and applications that are composable, interoperable, and scalable

TRANSPORT WORKFORCE REGISTRIES · SCHEDULING SPECIFICATIONS · TRACKING SPECIFICATIONS · TICKETING SPECIFICATIONS · VEHICLE HEALTH SPECIFICATIONS · BATTERY INFORMATION

APPLICATION LAYER

Private sector innovating by leveraging financial strength, tech expertise, and service delivery

MOBILITY AS A SERVICE · DRIVER PERFORMANCE TRACKING · CHARGING MANAGEMENT APPLICATION

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OPEN E-BUS BLUEPRINT

INTEGRATES

- Technology architecture (observability)

- Governance (standards and specifications)

- Market-driven innovation

KEY BENEFITS

- Shift from technology to foundational digital building blocks in bus transport for scalable solutions

- Empower innovators to create cost effective and market driven tools for deploying the e-bus infrastructure

- Enable multi-sectoral stakeholders to contribute and benefit from the e-bus transition
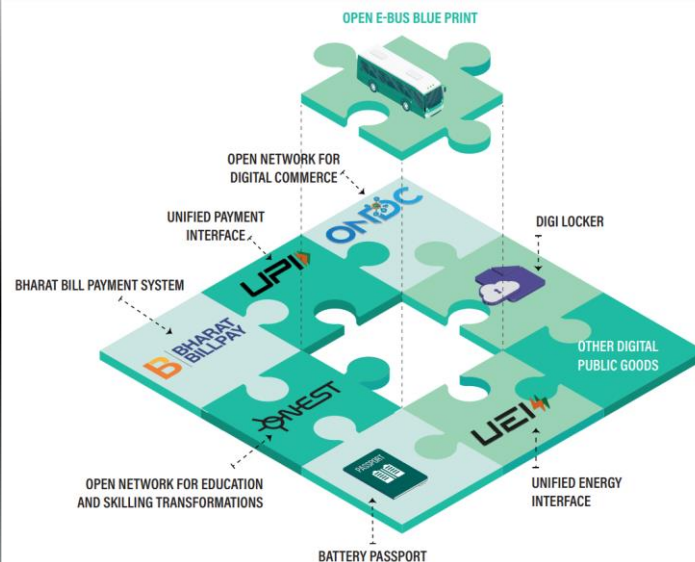
UNIFIED LANDSCAPE FOR BUSES
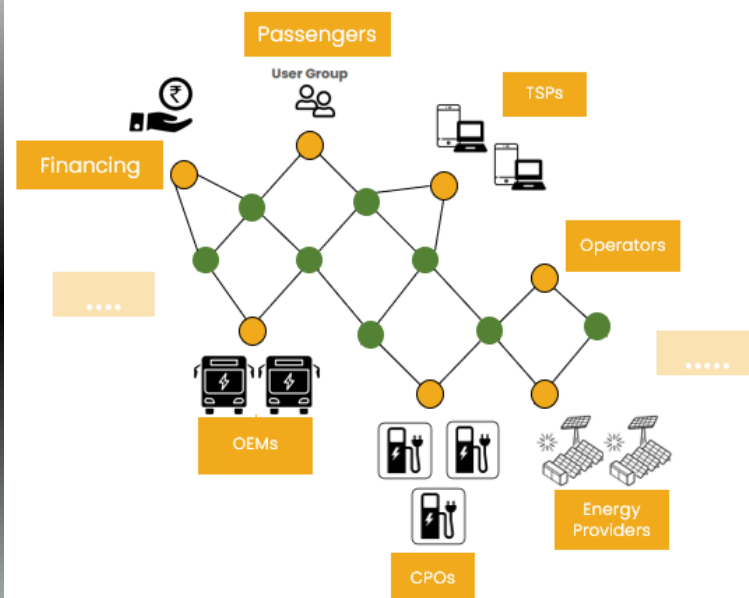
OPEN E-BUS BLUEPRINT- USE CASES

- Operational data empowers CPOs

- Sustainable battery management and circular economy

- Powering Workforce: E-buses, skills, and the future

- Public-Transport-as-a-Service independent of ownership

- Mobilizing Green Finance

PARADIGM SHIFT

- Encouraging widespread participation – in value creation

- Enabling flow of value than the store of value

- Addressing discoverability and trust, agnostic of a platform and across platforms

DPI FOR BUS ECOSYSTEM

OPEN E-BUS BLUE PRINT

OPEN NETWORK FOR DIGITAL COMMERCE

UNIFIED PAYMENT INTERFACE

DIGI LOCKER

BHARAT BILL PAYMENT SYSTEM

OTHER DIGITAL PUBLIC GOODS

OPEN NETWORK FOR EDUCATION AND SKILLING TRANSFORMATIONS

UNIFIED ENERGY INTERFACE

BATTERY PASSPORT

THANK YOU

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