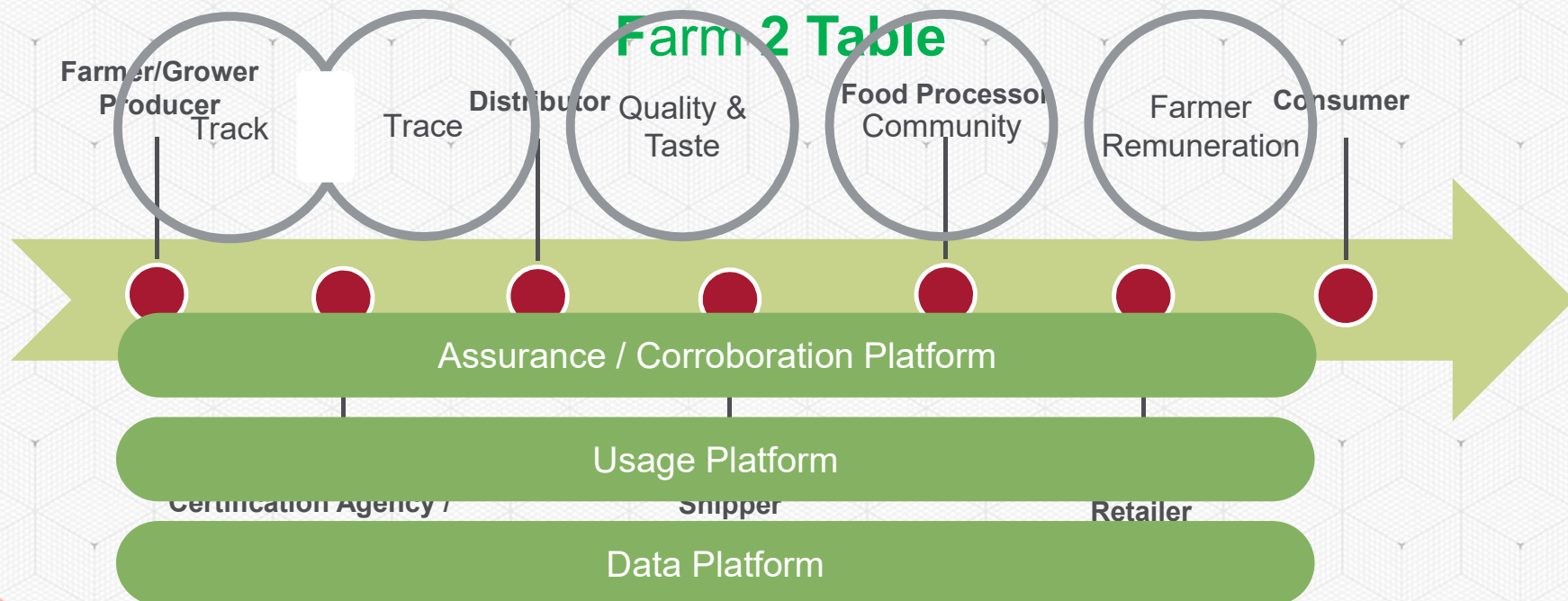Mindtree

Welcome to possible

BLOCKCHAIN

Blockchain Food Supply Chain and Beyond…
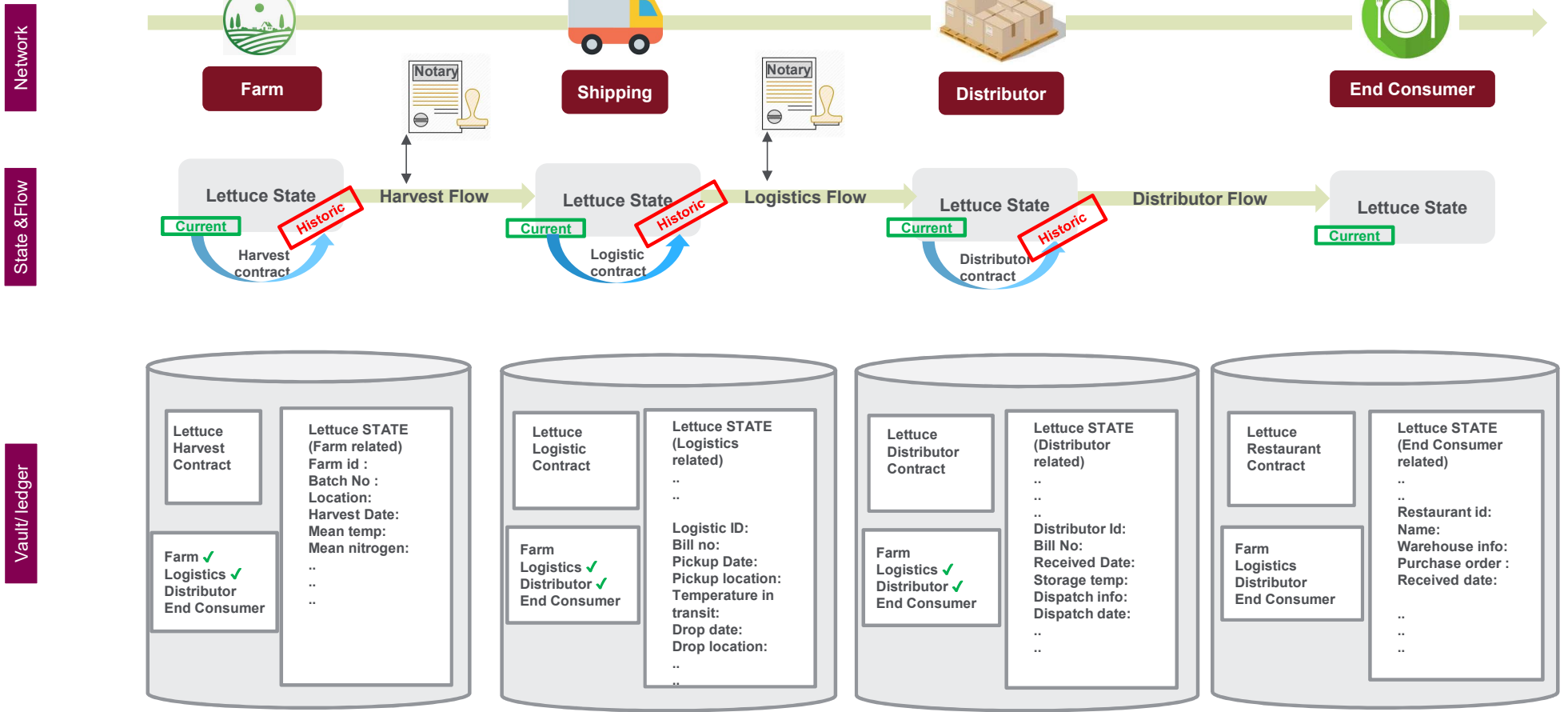
CORDA DESIGN TRADE-OFFS

TRADITIONAL BLOCKCHAINS	CORDA
Block-based Consensus - Difficulty with Performance / Scaling - Validator governance	Real-time Flow-based Consensus - Allows for Parallel/Multi-threading Latency associated with # of participants per state
Gossip / Broadcast Network	Point-to-Point messaging with Observer Nodes
Full Replication on Databases - Difficulty on Privacy & Data storage	Partial Replication on States - Relies on traditional database back-up
Anonymous Wallets - Feature, but must be governed in a permissioned network - Allows for more B2C (but in an unregulated way)	Single Node Identity (1-to-1 Mapping) - Must have a node to participate → Leads to more B2B use cases
UTXO (for coins) / Replicated VM (for Ethereum)	UTXO

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Problem Statement & Stakeholders

Architected & Developed a truly decentralized, democratized, transparent '**Food Traceability Platform**' across the food supply chain based Blockchain technology for sustainable practices with certain characteristics.

Farm 2 Table

Farmer/Grower Producer — Track — Trace — Distributor — Quality & Taste — Food Processor Community — Farmer Remuneration — Consumer

Assurance / Corroboration Platform

Usage Platform

Certification Agency / — Shipper — Retailer

Data Platform

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Corda – Basic Flow & Key Concepts

Network

Farm → Notary → Shipping → Notary → Distributor → End Consumer

State & Flow

Lettuce State (Current / Historic) — Harvest contract — Harvest Flow → Lettuce State (Current / Historic) — Logistic contract — Logistics Flow → Lettuce State (Current / Historic) — Distributor contract — Distributor Flow → Lettuce State (Current)

Vault/ ledger

Lettuce Harvest Contract	Lettuce STATE (Farm related) Farm id : Batch No : Location: Harvest Date: Mean temp: Mean nitrogen: .. .. ..
Farm ✓ Logistics ✓ Distributor End Consumer	

Lettuce Logistic Contract	Lettuce STATE (Logistics related) .. .. Logistic ID: Bill no: Pickup Date: Pickup location: Temperature in transit: Drop date: Drop location: .. ..
Farm Logistics ✓ Distributor ✓ End Consumer	

Lettuce Distributor Contract	Lettuce STATE (Distributor related) .. .. .. Distributor Id: Bill No: Received Date: Storage temp: Dispatch info: Dispatch date: .. ..
Farm Logistics ✓ Distributor ✓ End Consumer	

Lettuce Restaurant Contract	Lettuce STATE (End Consumer related) .. .. Restaurant id: Name: Warehouse info: Purchase order : Received date: .. .. ..
Farm Logistics Distributor End Consumer	

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