



TOLL ROAD		
		
2 AXLE VEHICLES	\$1.51	\$2.01
EACH ADDITIONAL AXLE	\$1.51	\$2.01

Real Solutions For Real Needs

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What We Do

COMMERCIAL BACK OFFICE FOR ELECTRONIC TOLL COLLECTION AND MOBILITY SYSTEMS

Flagship Back Office System

- Extendable, scalable, flexible, and configurable
- Enables Electronic Toll Collection, Smart Mobility and Mobility-as-a-Service
- For public and private toll chargers, toll service providers, or integrated mobility managers.



References Include:

NTTA North Texas Tollway Authority, Texas

NORTH TEXAS TOLLWAY AUTHORITY

- 966-mile, AETC network comprising five tollways, two bridges, one tunnel, and two airport parking facilities
- TollPlus CBO system manages an average of **3 million** daily trips / **\$1.3B** annual toll revenue collected

ICICI Bank ICICI Bank, India

- ICICI Bank provide Toll Service Provider (ETC, parking, and fuel services) to road users nationwide
- TollPlus CEBA system manages **3.5M** active accounts with an average of **146M** average monthly transactions / **\$410M** monthly revenue collected across over 200 charge points



Transport Infrastructure Ireland

- Multilane free-flow (MLFF), all-electronic tolling (AET) and customer service of a 45km ring road encircling Dublin
- TollPlus CBO system manages 150,000 AADT and processes an average of 550,000 monthly payments

Real Solutions for Real Needs

Identifying Needs

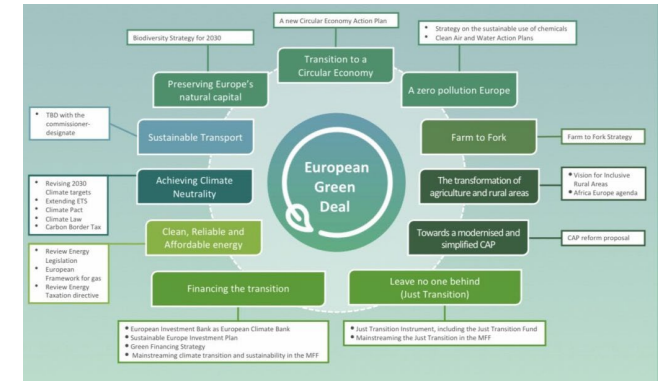
- The transport sector is rapidly evolving whereby rapid technology change and increased connectivity is totally transforming our business.
- Europe is transitioning towards a digital transport network which is defined as the adoption of digitalisation as an integrated component of a well-interconnected, interoperable and efficiently managed transport system to improve the safety, security and environmental performance of the transport sector in Europe
- Europe is also transitioning towards prioritising sustainable transport policies as a key component of achieving climate action objectives.
- **The twin climate and digital transitions are the main policy drivers within the European Union**
- This transformation is leading to:
 - New business models
 - Organisational change / Requirements for new skillsets
 - Cross-sector competition and collaboration
 - Increased overhead in keeping abreast of regulatory and technical developments
- The **“NEEDS”** are to maintain Business as Usual whilst implementing climate and digital transitions



Real Solutions for Real Needs

Identifying Needs

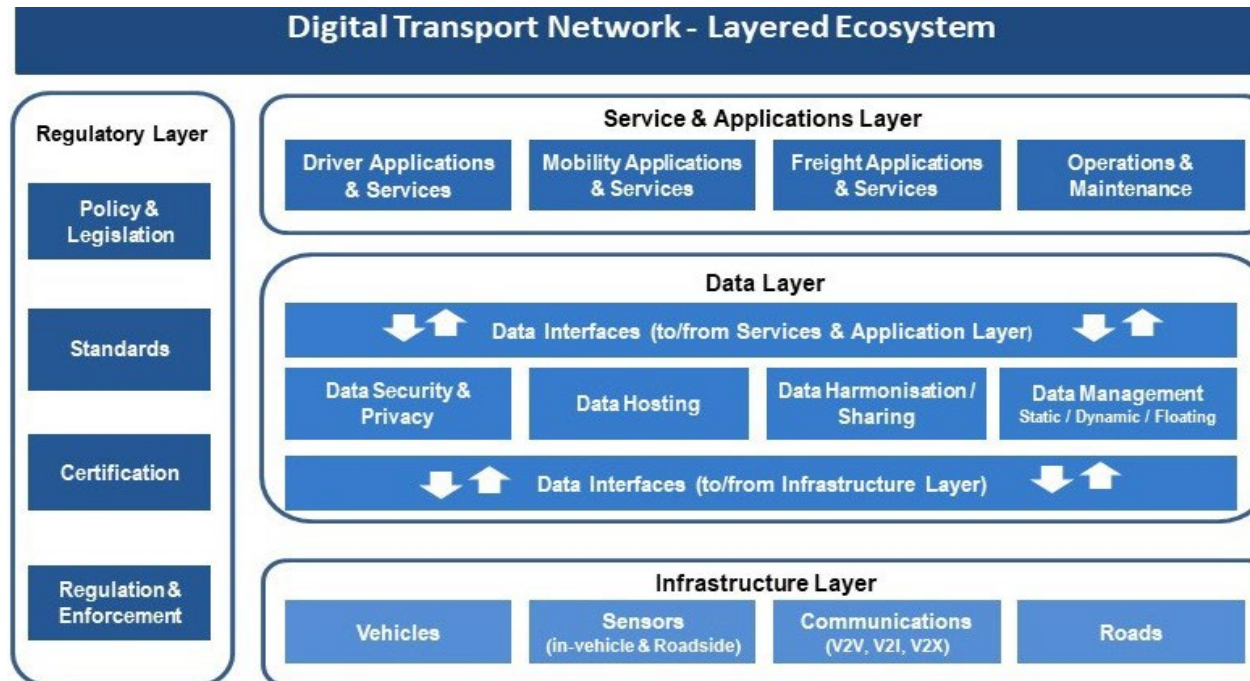
- The European Green Deal provides an action plan to
 - boost the efficient use of resources by moving to a clean, circular economy
 - restore biodiversity and cut pollution
- EU Sustainable and Smart Mobility Strategy
 - Associated Action Plan containing 82 initiatives lays the foundation for how the EU transport system can achieve its green and digital transformation.
 - All regulations and standards as well as R&D funding will be based on this strategy.
 - The Sustainable and Smart Mobility Strategy impacts on existing business and opens new opportunities in RUC, Tolling, MaaS, Freight and Big Data applications
 - Measuring Carbon Footprints
 - Connected and Automated Multimodal Mobility
 - Innovation, Data and AI for Smart Mobility
 - Majority of actions steps have been initiated and there will be a raft of revised and new Directives and Standards
 - EU member states will transpose same into national legislation and align their national policies accordingly



Real Solutions for Real Needs

Identifying Needs

- A DTN is defined as a layered ecosystem that enables digitalisation and operations to become an integrated component of a harmonised approach to addressing a plurality of transport policy objectives.
 - The cross-cutting nature of these layers means that individual elements should not be developed in isolation.
 - Each DTN service / application needs to be mapped through the entire matrix in order to fully understand deployment requirements.
 - The DTN involves cooperation and connectivity between stakeholders, applications & systems (i.e., extends beyond technology).
 - This includes cooperation and interoperability between all transport sector stakeholders (regulators, public sector bodies, private sector bodies) and between sectors (specifically Automotive and Telecommunications sectors but also extends to other sectors)



Real Solutions for Real Needs

Identifying Needs

- Data is at the core of digital transformation of the transport network
- there are emerging National and EU policies geared towards empowering people, businesses and organizations to make better decisions based on insights from data
- In Europe, there is a raft of new and emerging policy and regulatory requirements incl.:
 - [Directive \(EU\) 2019/1024](#) on open data and the reuse of Public Service Information
 - Data Governance Act ([DGA](#))
 - ePrivacy Regulation ([ePR](#))
 - General Data Protection Regulation ([GDPR](#))
 - EU Sustainable and Smart Mobility [Strategy](#)
 - EU Data [Strategy](#) and associated [white paper on AI](#) are key pillars of the EU Digital Strategy
- Numerous EU-funded Pilots are identifying new requirements and processes.
- Other regions such as the US are grappling with similar challenges
 - Less focus on 'Regulation First' but still developing similar Data Ecosystems
- Mobility Authorities and Operators are faced with capacity challenges to develop / implement their own data strategies as well as:
 - Knowing which infrastructure to invest in
 - Knowing where to start



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Identifying Real Solutions – Mobile Payment Integration

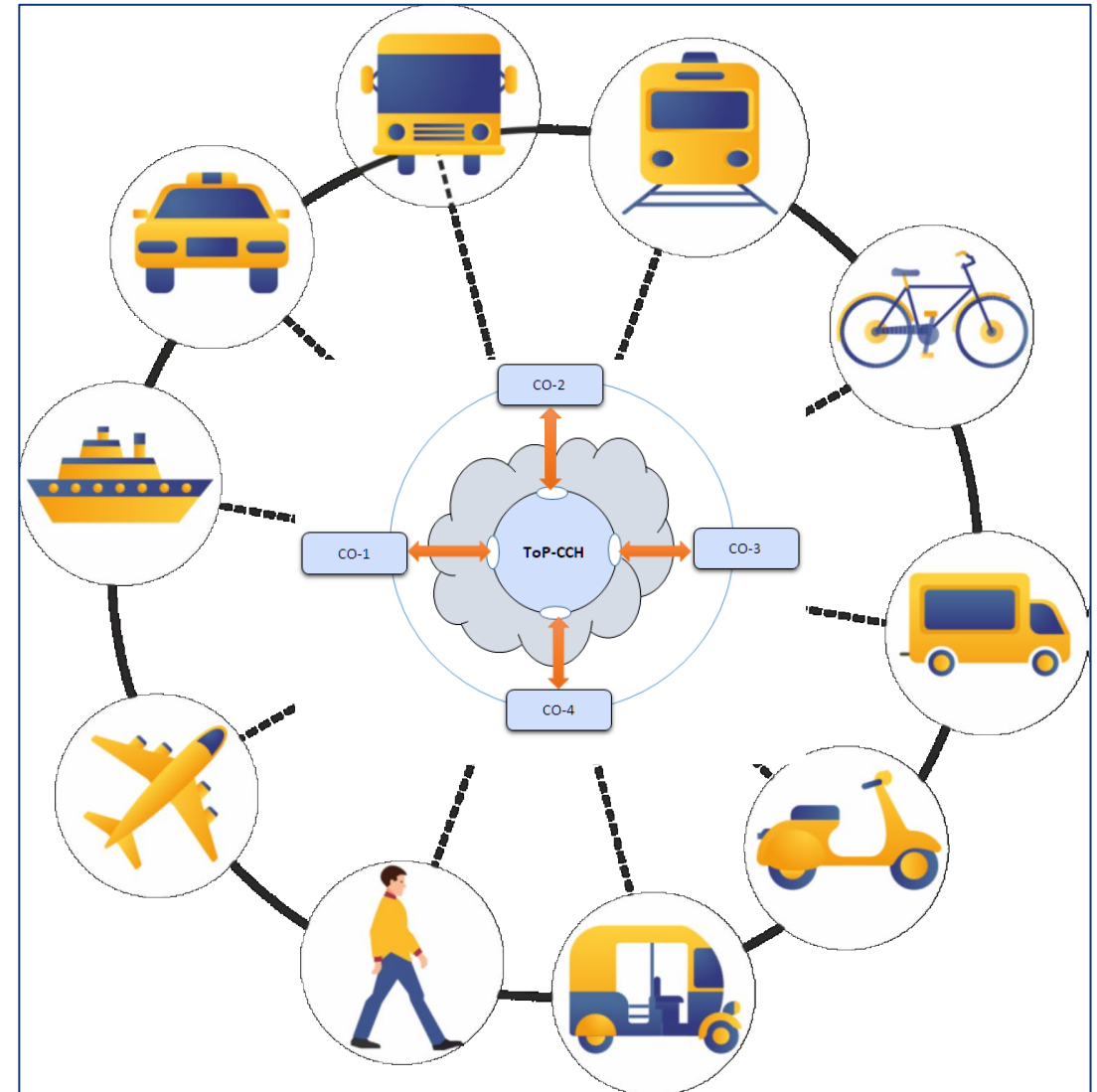
- Fintech industry is rapidly evolving with disruptive modes of payments through various open and closed loop channels to increase convenience and ease of use for customers
 - TollPlus has embraced this trend in supporting multiple modes of payments
 - Traditional bank accounts, ACH, and debit/credit cards
 - Mobile wallets such as Apple Pay, Google Pay, Amazon Pay, WhatsApp, and Paytm
 - Peer-to-Peer wallets including PayPal, ZellePay, and Venmo
- Integrate with retail payment service providers at nationwide retail outlets like CVS, Walmart, and Western Union
 - through payment providers like BancPass and CheckFree
- In India, we interface directly with Google Store and Amazon Store to enable customers to purchase their tags via those media
- Innovative financial module assures robust reconciliation and revenue realization across multiple interfaces



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Identifying Real Solutions – Central Clearing House Platform

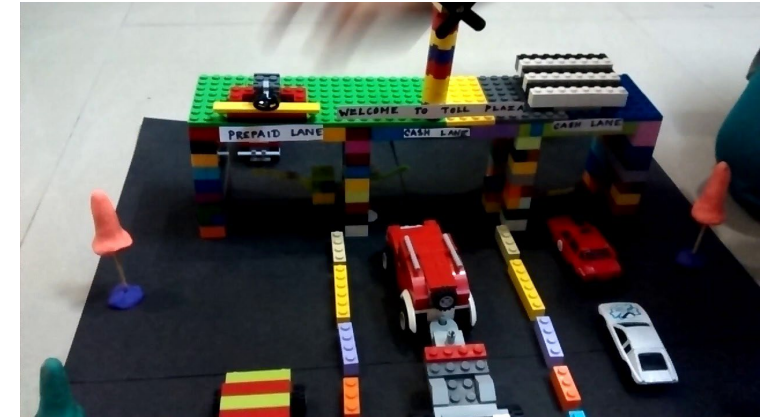
- TollPlus Back Office is ‘Transaction Focused’
 - Transaction can be for any service
 - Tolls, parking, transit, fast food, fuel, EV charging etc.
 - Supports multiple modes of payments
- TollPlus ToP-CCH Platform
 - Developed as a complete Digital Transport Network Hub
 - Supports interoperability for transaction management, data exchange, and financial settlement
 - Between different operators utilizing different technologies across different transport modes
 - Unique data adaptation/transformation layer enables secure processing of multiple data exchange protocols within a blended mobility ecosystem
 - Architecture is readily scalable and extensible to facilitate emerging technologies
 - Integrate EDGE Gateway Interface to facilitate enhanced Internet-of-Things (IoT) applications and services
 - Integrate C-ITS / CV2X Adaptor to seamlessly facilitate real-time information exchanges with connected vehicles



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Identifying Real Solutions – Modularity

- Modularity is the Key
 - Our product suite is built on a proprietary, low latency framework that features robustness, flexibility and modularity
 - Modules are interchangeable while still adhering to rigorous financial governance, information security, and data protection requirements
- Modularity enables ToP-BOS to dock with ToP-CCH to provide an immensely-powerful interface brokerage
- This enables an operator to:
 - Perform standalone peer-to-peer or peer-to-hub information exchange, transaction management, and financial settlement
 - Operate seamlessly in a federation with individual mobility operators, service providers, and/or with other mobility Hubs
 - Assure accurate revenue collection irrespective of who owns the customer
 - Minimize the overhead of managing interfaces with multiple service providers
- **Modularity is the glue that sticks together the interfacing, ERP, CRM, GRC, and Financial Reconciliation irrespective of stakeholder, technology, or applicable data exchange standards**



It's like playing with LEGO: once you have a set of pieces to work with, you can put them together in all sorts of interesting ways.

~ Josh Kaufman, Bestselling Author

Real Solutions for Real Needs

Summary

- Digital Transformation is happening everywhere
 - Leading to an Internet of Things (IoT) where everybody and everything is connected
- Emerging ITS technologies such as Mobility-as-a-Service (MaaS) and Connected and Autonomous Vehicles (CAVs) are leading to an “Internet of Transport Things” (IoTT)
- Digital transformation is providing a myriad of choices around adapting:
 - Emerging technologies
 - Emerging cooperative business and operational models
 - Changes in customer ownership
 - How can such changes be safely adapted on top of legacy systems and operations?
- Transitioning to a Sustainable Digital Transport Network is very similar to the tolling sector’s transition to interoperability
 - Was a long journey but we got there whilst technology was the easy part
- A Sustainable Digital Transport Network is **Interoperability on Steroids**
- Innovation lies in delivering modular, scalable, and flexible systems that are built for today’s current world and tomorrow’s future world



Thank You for Listening

TOLLPLUS

ADVANCED TOLLING SOLUTIONS



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