



Uniper – SSLNG Trade Platform POC Proposal

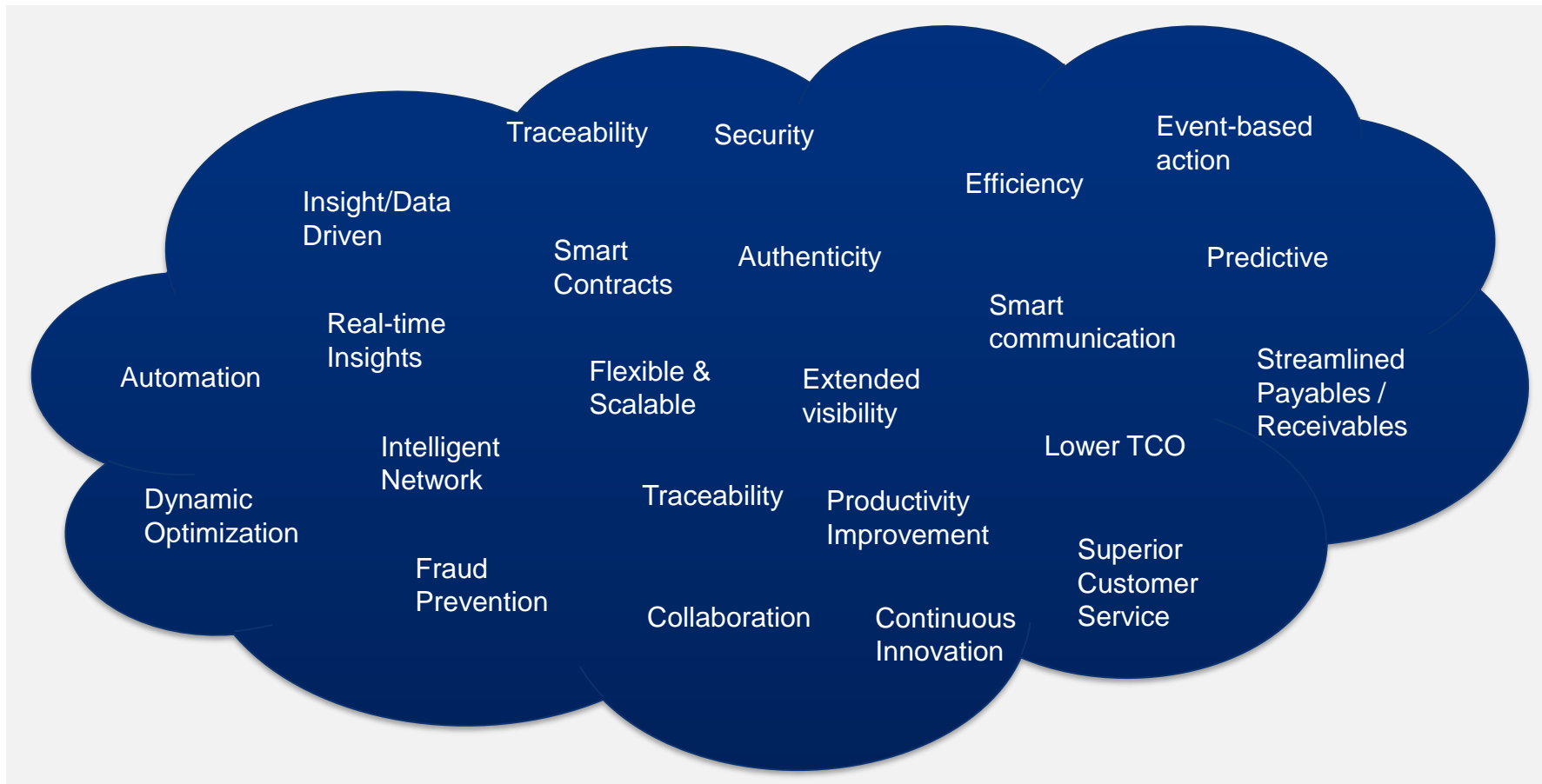
27 Nov 2017



SSLNG Value chain



What looks like a good Value chain



Our Understanding

Overview

- It is an effort from Uniper to bring to reimagine the LNG Trade ecosystem by driving constructive collaboration and address a set of common opportunities and challenges.
- The objective is to improve Small segment Liquefied natural gas trade ecosystem:
 - Engage as a unified community on a common platform
 - Bring visibility of steps in trade
 - Eventually reduce turn around time, effort and inefficiencies

Challenge

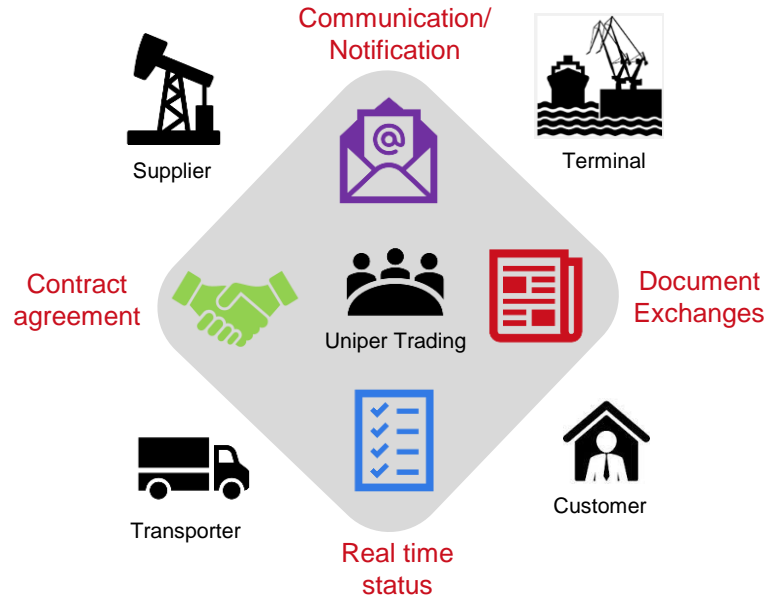
- Uniper hopes to address following key challenges faced today by the trading partners & stakeholders in the ecosystem :
 - Disparate parties interacting and reconciling on Trade & voyage details
 - Confusion in Invoice processing
 - Disparate ways of communication and notification
 - Little or no visibility to the stakeholders on status of delivery & timeline
 - Huge effort is required from Uniper's side in coordinating the stakeholder and managing activities

Solution

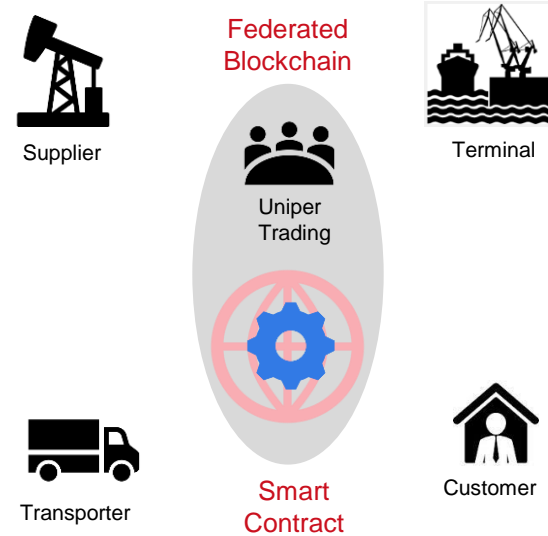
- Blockchain is being considered as one of the solution options for management of Trade details in a consortium based model. This response contains Wipro's point-of-view comprising of solution options, which includes components for trading, rules engine and smart-contract based DLT platform.
- Along with Blockchain technology considerations, Scope and approach/plan for executing proof-of-concept of this DLT based solution is provided along with high-level approach.

Current ecosystem Vs Future ecosystem

Current State



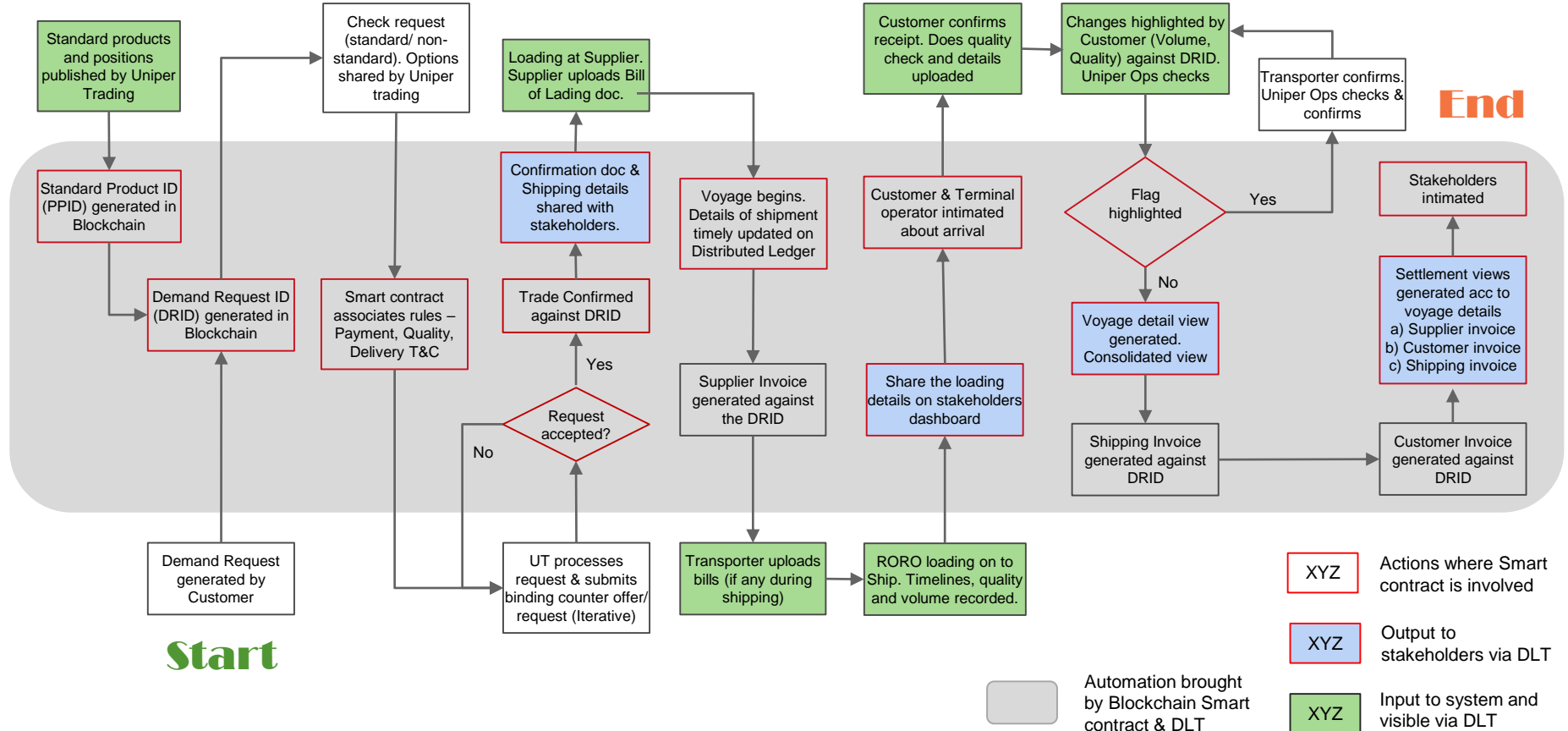
Future State



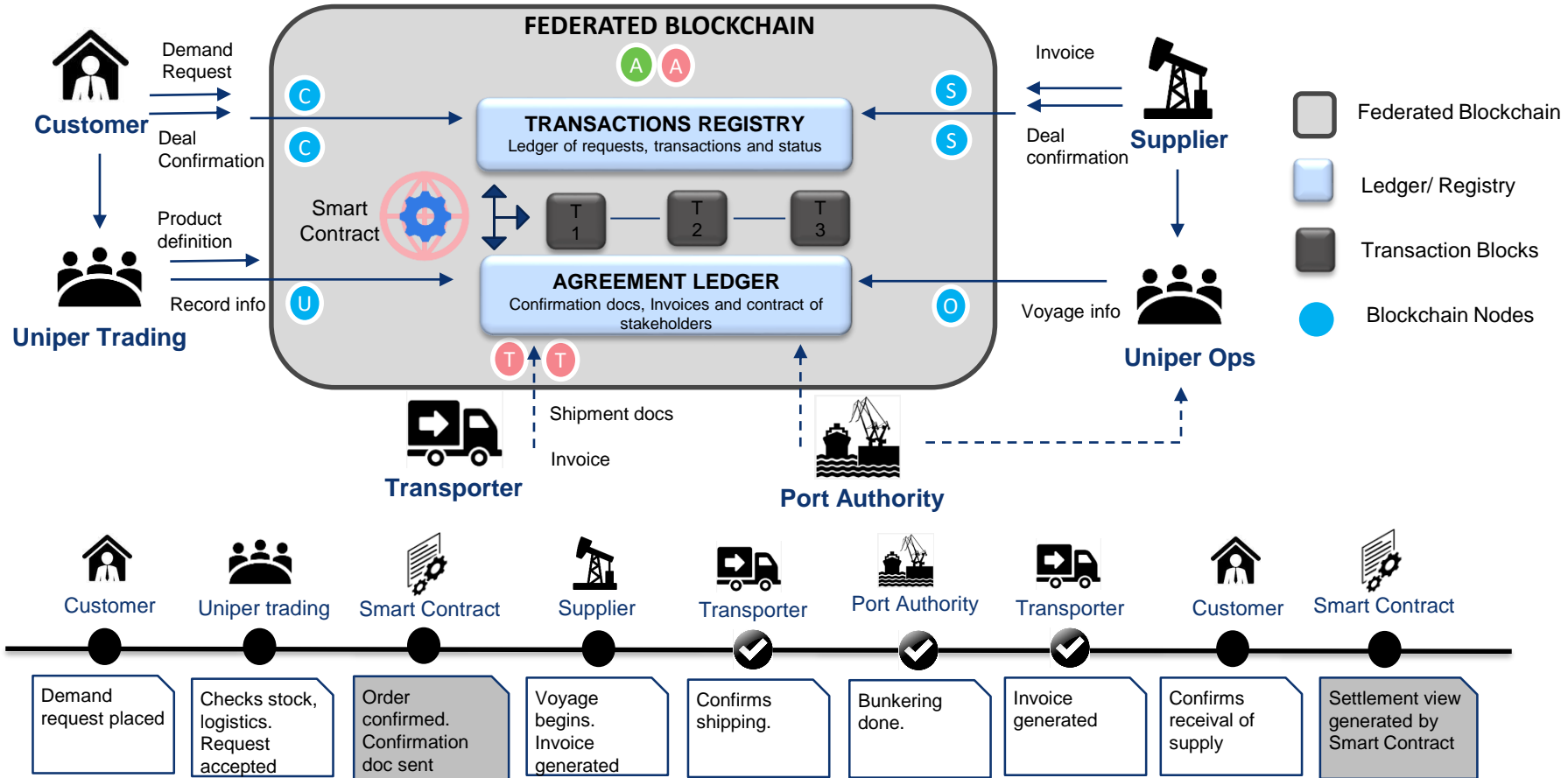
POC Process Flow, Functional and Technical Architecture



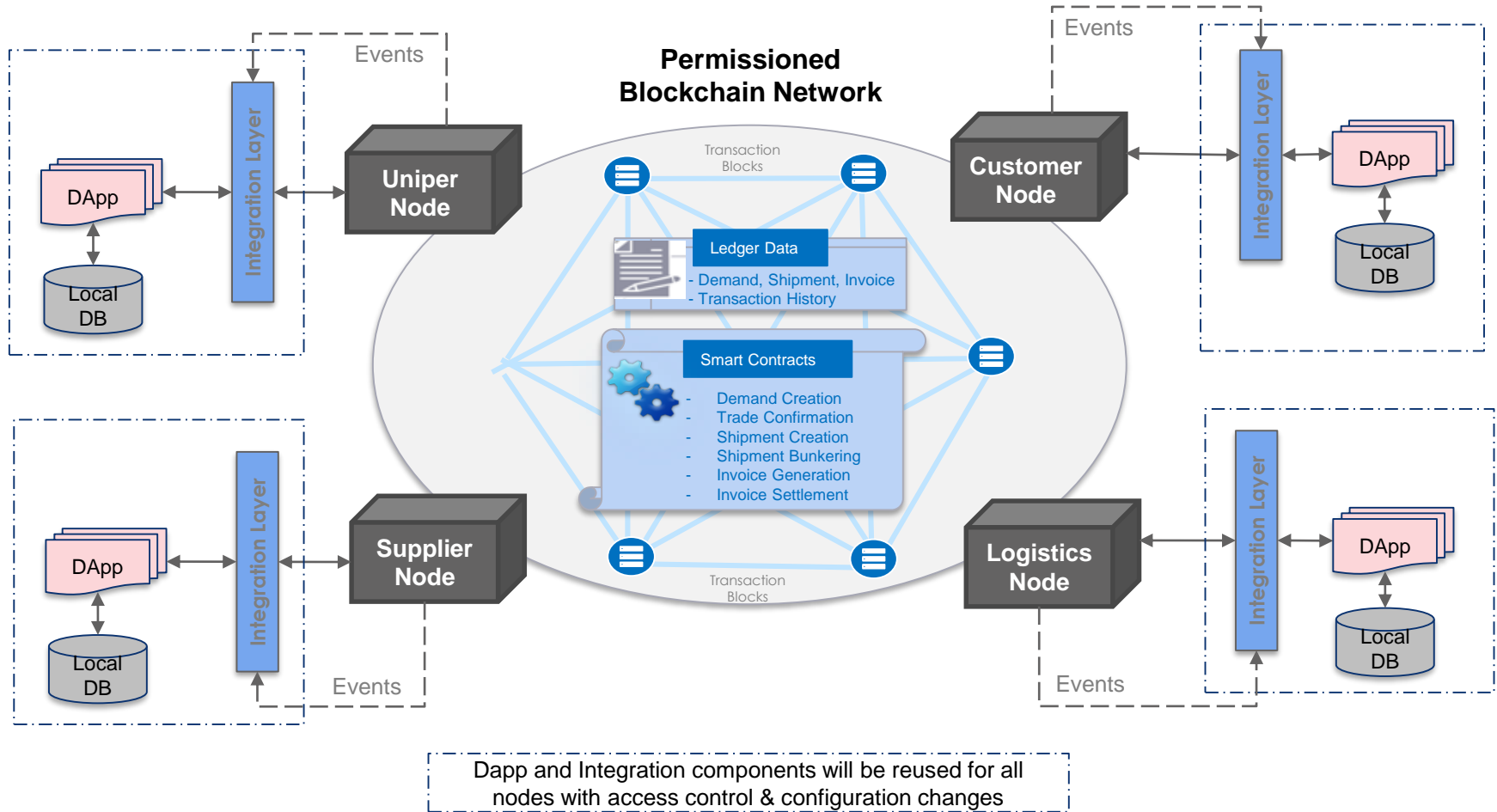
POC Process flow



POC Functional Diagram





















POC Technical architecture






POC Success Criteria



Why Blockchain? And how it helps

Entities	Key activities	Blockchain component	Benefits
Customer	<ul style="list-style-type: none"> Demand request generation Reconfirmation Document submission 	<ul style="list-style-type: none"> Demand request into Blockchain DLT sharing info & docs and alerts Audit trail - All activities against DRID 	  
Supplier	<ul style="list-style-type: none"> Product update and loading Status update Document submission 	<ul style="list-style-type: none"> Docs uploaded and shared via DLT Audit trail - All activities against DRID 	  
Transporter	<ul style="list-style-type: none"> Loading and unloading, Bunkering Capture & update voyage details Documents scrutiny, verification & submission 	<ul style="list-style-type: none"> Docs uploaded & shared via DLT Verification and confirmation to SC Audit trail - All activities against DRID 	  
Uniper Trading	<ul style="list-style-type: none"> Acknowledgement of requests and Reoffer Deal docs management. Sharing of information Invoice and settlement view 	<ul style="list-style-type: none"> Verification and confirmation to SC All alerts & contract details via DLT Audit trail - All activities against DRID 	  
Uniper Ops	<ul style="list-style-type: none"> Documents scrutiny and verification Confirmation on services provided Coordinating offline with stakeholders 	<ul style="list-style-type: none"> Relevant information verification Transaction entry to Blockchain for other stakeholders (if required) 	  
Others	<ul style="list-style-type: none"> Acknowledgement of activities Communication to Uniper Ops 	<ul style="list-style-type: none"> Acknowledgement of activities Communication to Uniper Ops 	  

 Turnaround Time reduction
  Increased visibility
  Reduced reconciliation

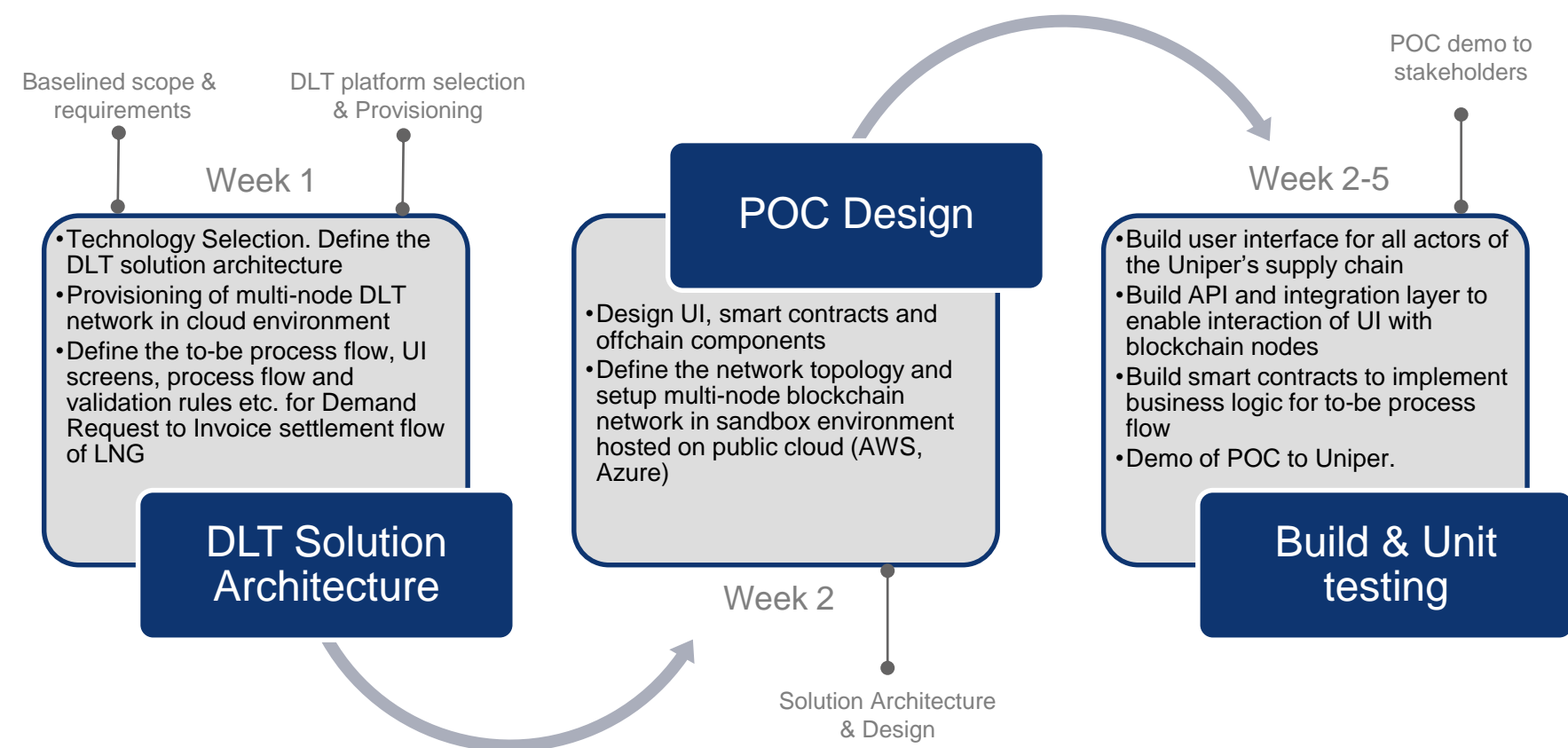
POC: Success Criteria

Category	Success Criteria
Business	<ul style="list-style-type: none">▪ Real-time process view for each actor into Uniper's supply chain which aids in faster and informed decision making▪ Provenance as proof of acceptance / approval for critical steps from relevant stakeholders is available on shared ledger▪ Single source of truth for visibility of digital representation of demand requests, trade confirmation, shipments, invoices etc.▪ Transparency of the business rules enforced via smart contracts
Technical	<ul style="list-style-type: none">▪ Provides insight into how DLT can be leveraged for building a decentralized business network for Uniper's supply chain▪ Design aspects of how to leverage smart contracts for managing a process in a multi-party ecosystem

POC Deliver Plan, Commercial and Assumptions



POC Delivery Approach & Plan



Note:
Technical assets and templates for user interface, blockchain integration and smart contract will be leveraged from Wipro's Trade Finance industry solution

Commercials

We propose a fixed price cost towards defining and building the POC .

The total cost for delivering the POC would be **EUR 39,926**

****** At the end of POC development the POC source code would be delivered to Uniper.

Commercial Assumptions

- The fixed price is inclusive of infrastructure, network and access costs
- The price quoted by Wipro is for the scope discussed with Uniper and documented in slide 7 of the proposal. Any changes to the scope either in nature of work or in the baseline quantities will require re-pricing.
- Wipro price quote excludes VAT, Tax, Consumption taxes or any other levies, which shall be charged to Uniper at actuals.
- All rates are quoted in Euros
- Any change in schedule due to non-availability of Uniper resources would have an impact on the overall schedule and effort.
- The cost and timelines are limited to 1 use case and POC development
- The price is valid for a period of 30 days from the date of submission.

Assumptions

- Wipro would provide the infrastructure, network and access required for this POC
- The POC would be developed and implemented in Wipro lab and Uniper would be provided access to the POC
- At the end of POC development the POC source code would be delivered to Uniper.
- The cost does not include implementing the POC in Uniper data centers
- The infrastructure would be available to Uniper for 2 months post the demo date.
- Does not include detailed business and functional specifications and enterprise wide architecture/design for a production roll out of the base lined use case.
- POC development and build will be done from offshore
- POC will be delivered on 31st Dec 2017
- POC will not require any integration with existing systems in Uniper
- Participation of different actors will be simulated via UI
- Uniper stakeholders will be available for demo and sign-off of POC

Blockchain Training Plan



Blockchain Training Plan for Uniper

Program Schedule	Topics Covered
Day1 <ul style="list-style-type: none">Blockchain Primer	<ul style="list-style-type: none">Bitcoin Concepts & ArchitectureComparing Ethereum, Hyperledger & BitcoinPermissionless vs Permissioned BlockchainConsensus Mechanisms
Day 2 <ul style="list-style-type: none">Ethereum or Hyperledger Deep Dive	<ul style="list-style-type: none">Ethereum or Hyperledger ArchitectureAccounts, Contracts, Transactions & MiningSecurity conceptsSetting up of Ethereum or Hyperledger Private Network
Day 3 <ul style="list-style-type: none">Smart Contract Fundamentals	<ul style="list-style-type: none">Structure of a contractTypes / Expressions / Control StructuresVisibility / Inheritance / Abstract ContractsCommand Line Compiler / Optimizer
Day 4 <ul style="list-style-type: none">Smart Contract Programming	<ul style="list-style-type: none">Contracts and TransactionsBasic Smart Contract TutorialUnderstand & manage persistence in ContractsEvent handling / Error handlingCommon Patterns / Best practices / Guidelines
Day 5 <ul style="list-style-type: none">Blockchain Application Development	<ul style="list-style-type: none">Interfacing using Web3 APIIDE and Testing toolsExample with UI, Web3 and Smart Contract integratedQ&A

- 5 day training session, conducted remotely over webex.
- Training would be instructor led (3 hours daily), followed by exercises/case studies given to participants
- Maximum participant size is 8
- 25 hours availability of Wipro's Ethereum or Hyperledger experts post training, for any questions and clarifications which may arise
- **Total cost for training will be EUR 5000**

Appendix



Wipro is a leader in global blockchain services

50+
Client Initiatives



150
Advisory and
Consulting staff



800+
Technology
Specialists



9
Wipro IP /
Solution Assets



14
Enterprise and niche
partners



4
Integrated solutions



84
Use cases



30+
Speaking opportunities
In global blockchain
events



30+
Thought Leadership
publications



Our blockchain offerings

Ecosystem services



- Business Consortia Services
- Construct & Operate blockchain network
- Government & Industry bodies Advisory
- Developer Community & Talent build
- Open Source Strategy development for start-ups
- Cryptocurrency ecosystem strategy development
- Joint academia research services

Advisory & Consulting



- Business Strategy Consulting
- Executive Workshops
- Design Thinking Workshops for use case definition
- Business Case development
- Technology Consulting & Blueprint
- Open Innovations & Hackathons
- Co-Innovation Engagements
- Platform Evaluation

Industry solutions



- Delivery v/s Payments (DvP)
- Tri-party collateral management
- Skip Trace Consortia
- Trade finance
- P2P insurance
- Cross Border Remittance
- Loyalty Rewards Management
- Anti-counterfeit solutions
- Air Worthiness certificate

Platform services



- Platform as a service
- Cyber Security Services
- Digital Identity Services
- Platform Engineering Services (Tarang)
- Scalability Framework
- Blockchain Innovation Lab

Application services

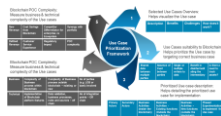


- DLT Architecture & Design
- Smart contract application development
- Dapps (Distributed Apps) development
- POC and Pilot Development
- Scalability Evaluation
- Solution Development
- Independent Validation Services
- Production Readiness Services

Ready solutions and assets

Blockchain Consulting Frameworks

Blockchain Use Case Prioritization Framework



Blockchain Platform Evaluation Matrix

The table lists various blockchain platforms and evaluates them based on their features and performance. The columns are Platform, Features, and Evaluation. The platforms listed include Bitcoin, Ethereum, Hyperledger, and others.

Blockchain ROI (Return of investment) / Business Case Assessment



Blockchain Execution Priorities

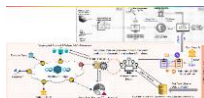
The table lists the top priorities for blockchain execution, categorized by priority level. The columns are Priority, Description, and Action.

Blockchain Smart Contract Test Assurance Framework



Industry Solutions

Tri-party Collateral Management



P2P (Peer-to-peer) Insurance



Delivery vs Payment



Airworthiness Certificate Tracking



Loyalty/Rewards programs



Anti-counterfeit Solution



Skip Trace Consortium



Cross-border remittances



Trade Finance

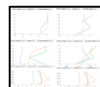
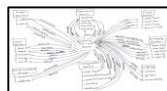


Technology Assets

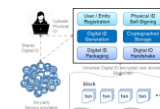
Blockchain Innovation Lab



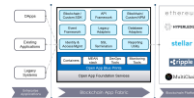
Scalability Experiment Framework



Digital Identity Services



Blockchain App Fabric



Blockchain Innovation Lab

Accelerates the clients blockchain journey

- Bringing together business know-how & technical conversion capabilities, delivered through a “Lab-as-a-Service” model in our Blockchain Innovation Lab.

- Auto-provision customized blockchain networks in cloud environment
- Leverage lab services for learning, experimentation, development and NFR tests
- Analyse and compare results to determine the performance & scalability of blockchain platforms



Solution pillar



Description



Service levers

Lab As A Service



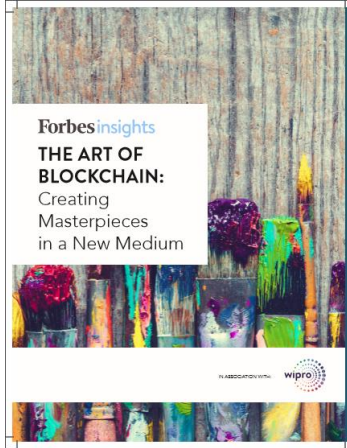
Accelerated and Continuous Integration - Blockchain Innovation Lab to enable our clients and partners to design and build blockchain utilities while ensuring assured outcomes.

Wipro offers its clients and partners to make optimal use of the blockchain Lab-as-a-service offering to co-develop solutions and competencies in Distributed Ledger technology

- Flexibility in technology selection & unbiased approach
- On-demand environment and infrastructure
- Industry specific use cases
- Techno-functional talent pool trained on blockchain
- Consulting frameworks and advisory on governance models

- Pay as you use commercial cloud usage:** Save costs on technology and infrastructure investments – readily available.
- Blockchain SME support:** On-demand and readily available trained subject matter experts with accurate mix of technology experts and domain consultants with industry expertise.
- SDLC accelerators:** Scientifically defined requirements gathering frameworks and complexity matrices to enable accelerated POC cycles.
- Best Practices / Consulting & Technology Advisory:** Jointly define blockchain governance models for adoption and bring in best practices and thought leadership through our participation in industry and technology forums

Wipro's blockchain industry/thought leadership



An exclusive blockchain insights report by Wipro and Forbes Insights -
“The Art of Blockchain : Creating Masterpieces in a New Medium”



Exclusive India launch of the Wipro-Forbes report by Hon. CM – Mr. Nara Chandrababu Naidu along with Wipro COO & India Head at Blockchain Business Conference Vizag



Wipro in conversation with industry thought leaders (Alex and Don Tapscott):
Special blockchain feature in the company's WOOL magazine



Featured among the Top 6 vendors in CR's ShortList for Synchronous Ledger Technology Labs



Chairperson of ASSOCHAM's National Council on Fintech, Digital Assets and Blockchain Technology



Winner at the hackathon for retail payments organized by the nodal agency for payments in India



Thank
You

