



The Standards People



Permissioned Distributed Ledgers

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For: **Joining Forces for Blockchain Standardisation Webinar**

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Blockchain Industrial Applicability

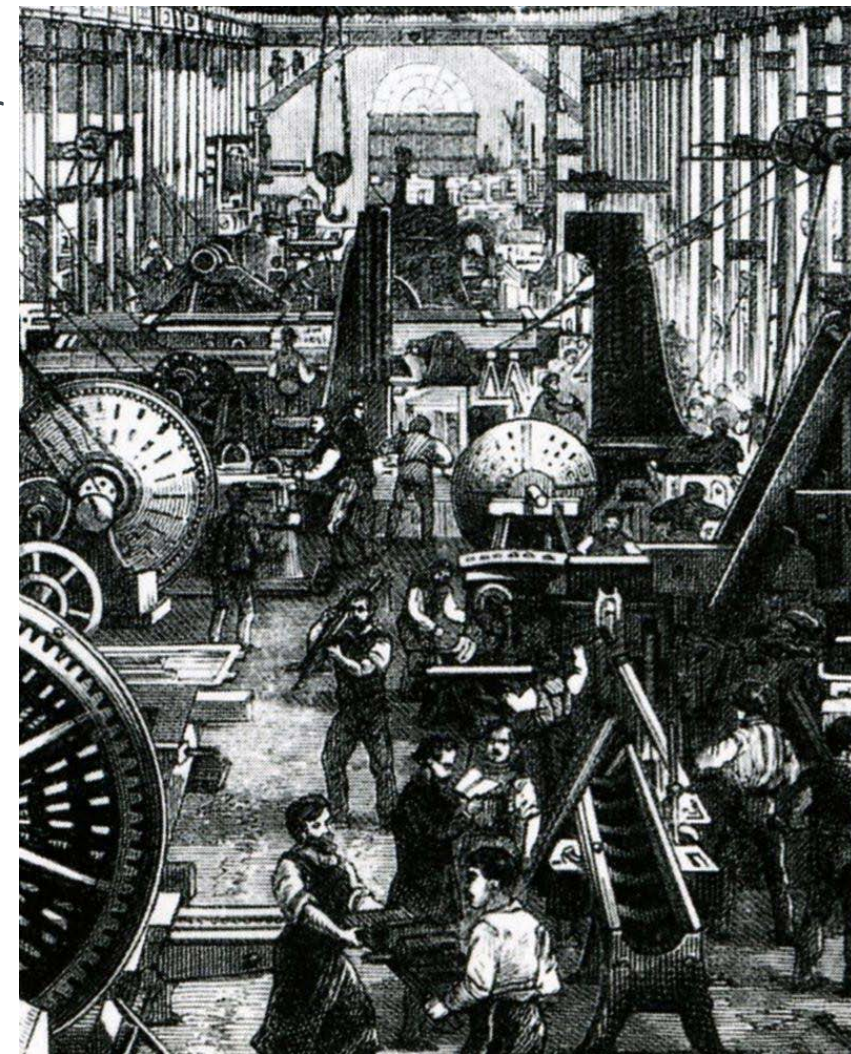
- ✔ Need to go beyond the unconstrained environments that built the distributed ledger case
 - ✔ Manageability
 - ✔ Scalability
 - ✔ Time and energy efficiency
 - ✔ Fairness
 - ✔ Legal implications
- ✔ A permissioned approach
 - ✔ Seeking for multi-sector environments
 - ✔ Telco and beyond
- ✔ First industrial implementations mostly in one-headed solutions
 - ✔ As many other *cloud services*
 - ✔ With some advantages, but not real **distributed** environments



An Industrial Focus

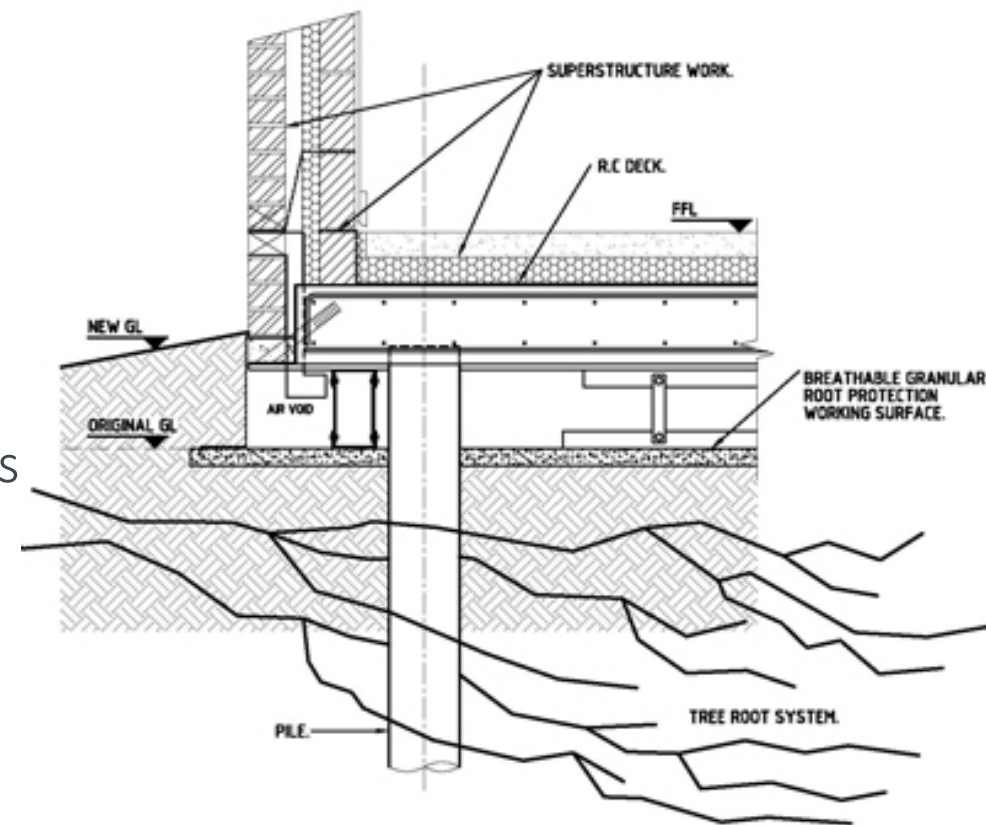
- ✔ Initial attempts to build (permissioned) distributed ledger solutions among different entities got stuck
 - ✔ Accountability
 - ✔ Performance predictability
 - ✔ The need for *carrier grade service* (or their equivalent)
 - ✔ Service level implies going beyond functioning code

- ✔ The infrastructure must be operable and scalable before being marketable
 - ✔ Governance can be agreed in different manners
 - ✔ Technical governance must be based on solid technical specifications



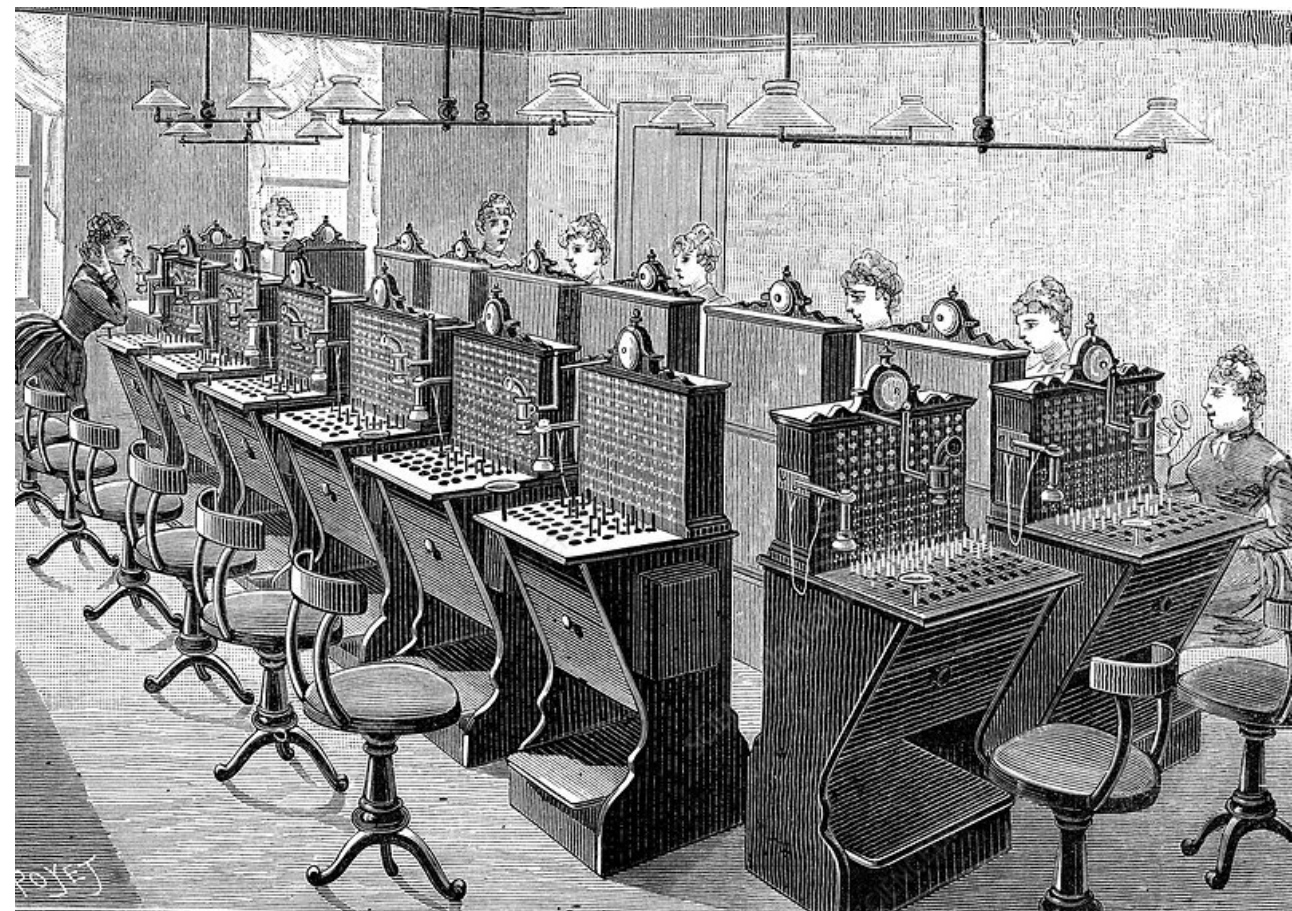
The ISG PDL Goals and Scope

- ✔ Provide the foundations for the operation of permissioned distributed ledgers
 - ✔ Create an open ecosystem of industrial solutions
 - ✔ Deployable by different sectors
- ✔ Foster the application of the technology
 - ✔ Start from already available experiences
 - ✔ Coordinate with existing initiatives
- ✔ Define a set of well-known open operational mechanisms
 - ✔ Support their demonstration
 - ✔ Facilitate interoperability assessment
- ✔ More than thirty members from industry (telco and not telco), public sector and academia



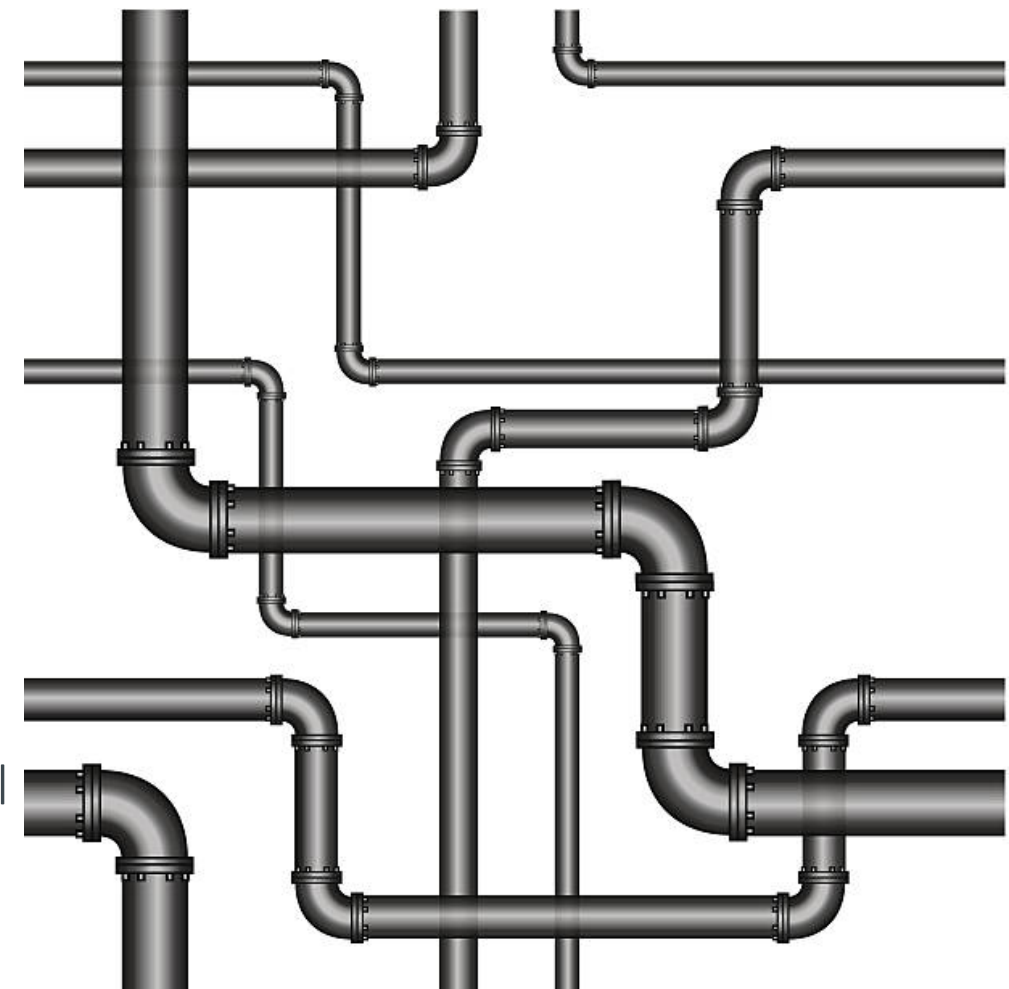
Open and Well-Known Operational Mechanisms

- ✔ Validate participant nodes
- ✔ Decide consensus among the participant nodes
- ✔ Publish and execute operations regarding the recorded transactions
- ✔ Facilitate the automation of node management and operation
- ✔ Communicate events relative to node operation
- ✔ Assure the ledger incoming data flows
- ✔ Verify the execution of smart contracts
- ✔ Establish trusted links among different ledgers using these mechanisms



Data Conduits and Proofs of Conformity

- ✔ Essential data processing requirements in terms of trust and security of the data conduits connecting to ledgers
 - ✔ Effective conformity assessment
- ✔ A specific requirement for the mechanical industry, relying on Original Equipment Manufacturers
 - ✔ Requirements and tools to be able to track what is connected to a machinery to make it safe.
 - ✔ PDL combined with certification process will provide trust to the end user while insuring openness to inter-connect other equipment
 - ✔ An open environment for tracking industrial certified IoT devices
- ✔ Standardized and trustworthy APIs for data conduits at all layers
 - ✔ Sensors-to-edge, edge-to-cloud and cloud-to-cloud connectivity



The ISG at Work

- ✓ Keep the process open and agile
 - ✓ Open access to drafts
 - ✓ Apply development tools whenever possible
- ✓ Sharpen the practical edge
 - ✓ Early PoC framework and interoperability demos
 - ✓ Take advantage of open-source collaboration
- ✓ Zero in on the operational aspects
 - ✓ Let others explore algorithms or business models
 - ✓ Framework plus models and/or APIs
 - ✓ PDLaaS
 - ✓ Management
- ✓ Interoperability (at all levels)



The Work Program

- ✓ PDL-001 - Landscape of Standards and Technologies
 - ✓ Relevant activities in standardization and research
- ✓ PDL-002 - Applicability and Compliance to Data Processing Requirements
 - ✓ Analyze the essential data processing requirements
- ✓ PDL-003 – Application Scenarios
 - ✓ Potential application scenarios for the operation of PDLs and governance aspects
- ✓ PDL-004 – Smart Contracts Permissioned Distributed Ledgers System Architecture and Functional Specification
 - ✓ Planning, designing and programming frameworks
- ✓ PDL-006 – Inter-Ledger Interoperability
 - ✓ Key elements for the exchange and use of the information available across DLs
- ✓ PDL-007 – Research Landscape
 - ✓ Facilitate the exchange of information with related research projects



The PoC Framework – PDL-005

- ✓ Build awareness and confidence, and encourage development of an open ecosystem
 - ✓ Demonstrative deliverables
 - ✓ In addition to informative and normative ones
- ✓ Look for practical results
 - ✓ Explore technology options
 - ✓ Facilitate gap analysis
 - ✓ Contribute to guide the future ISG activity
- ✓ Lightweight process
 - ✓ Few (objective) requirements to file a PoC proposal
 - ✓ Run PoC project
 - ✓ Openly report results to the community
- ✓ And further collaboration with research initiatives



As Conclusion: The ISG PDL Intent

- ✔ Address a gap in the luxuriant landscape of DLT/Blockchain/Cryptocurrency/...
 - ✔ Challenging as it is
 - ✔ Avoid the temptation of reinventing wheels (or levers)
- ✔ Three essential concepts
 - ✔ Permissioned distributed ledgers
 - ✔ Operational aspects (minimal requirements and best practices)
 - ✔ Matching physical assets within digital world
- ✔ Intended for any service (not limited to telco or network services)
 - ✔ PDL-as-a-service
 - ✔ PDL as a network service
 - ✔ PDL as a network service enabler

