

Introduction to Blockchain and Airport Operations in a COVID-19 Environment

Amadeus Blockchain Technical Experimentation

August 4, 2020



BLOCKCHAIN

Emerging Blockchain technology raises questions to the travel industry



Cryptography



Consensus



Control

No monopoly

Secure

Transparent

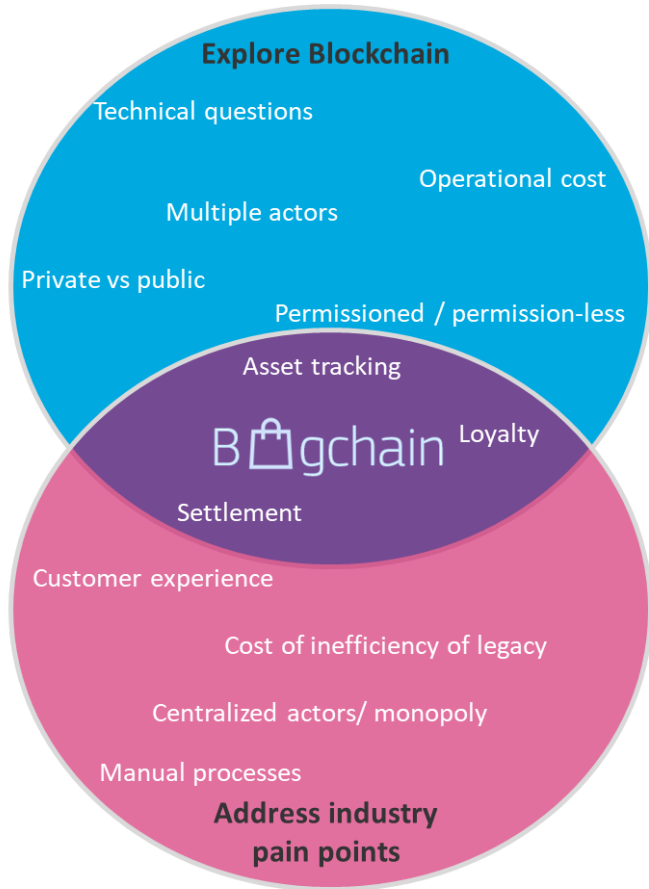
Trust

What does that mean for the travel industry?

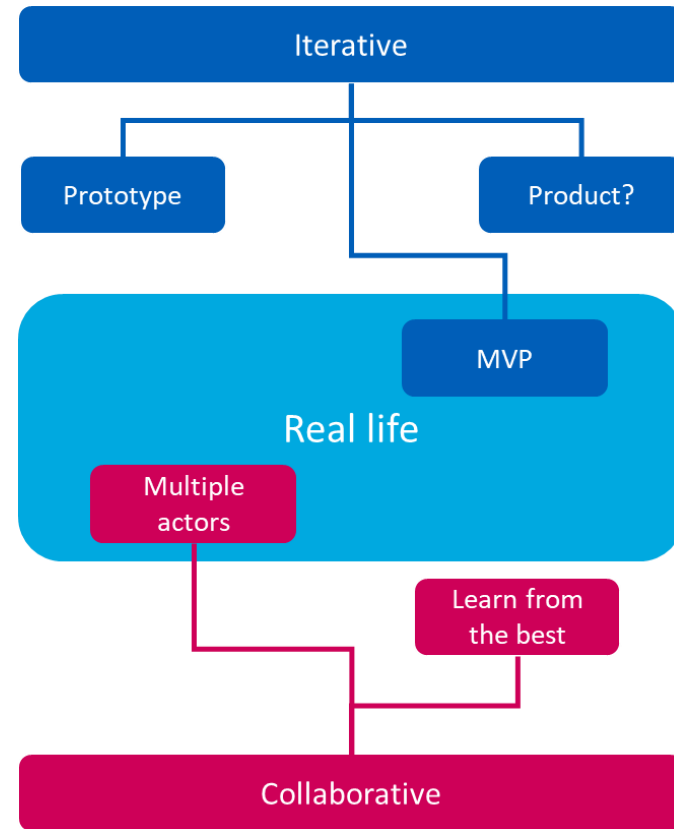
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The bag messages use case to explore Blockchain technology

Our objectives



Our approach



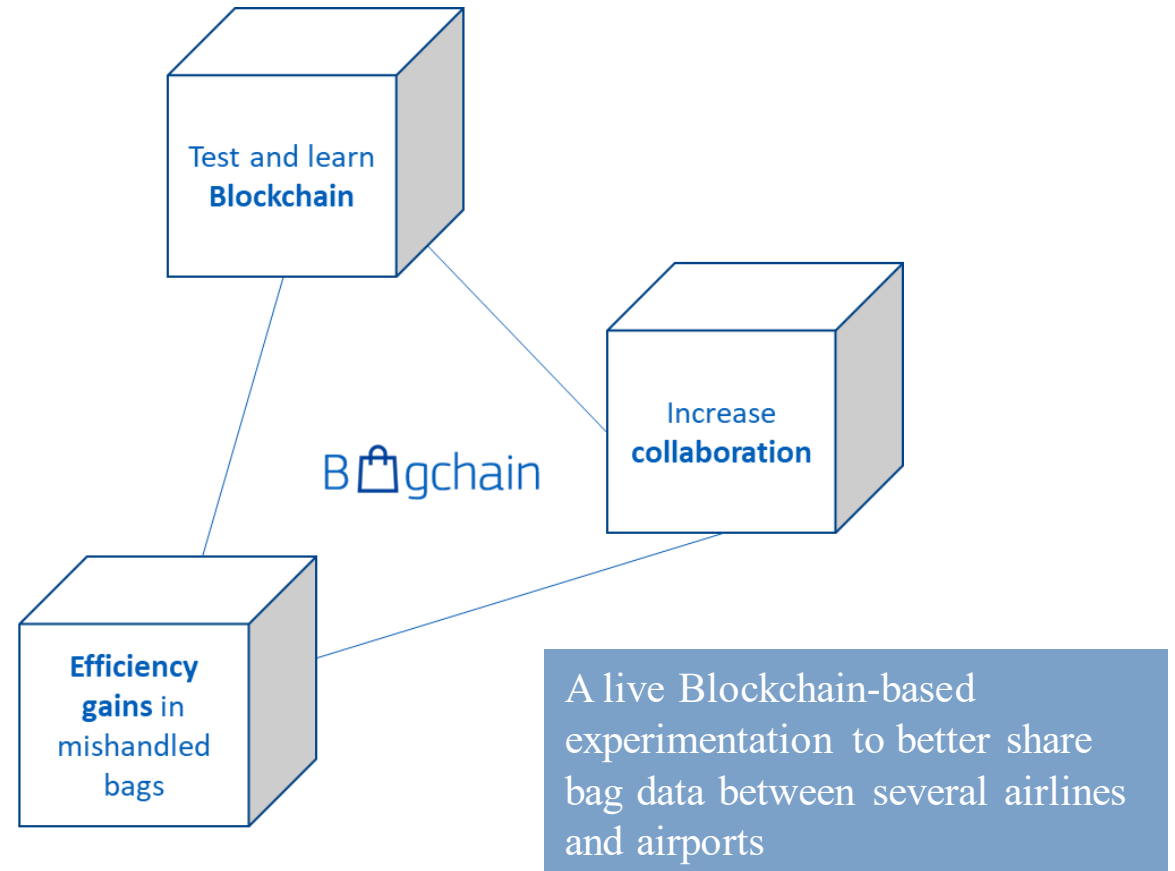
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Favorable conditions for a technological experimentation

Airlines and airports share a need for better bag data sharing

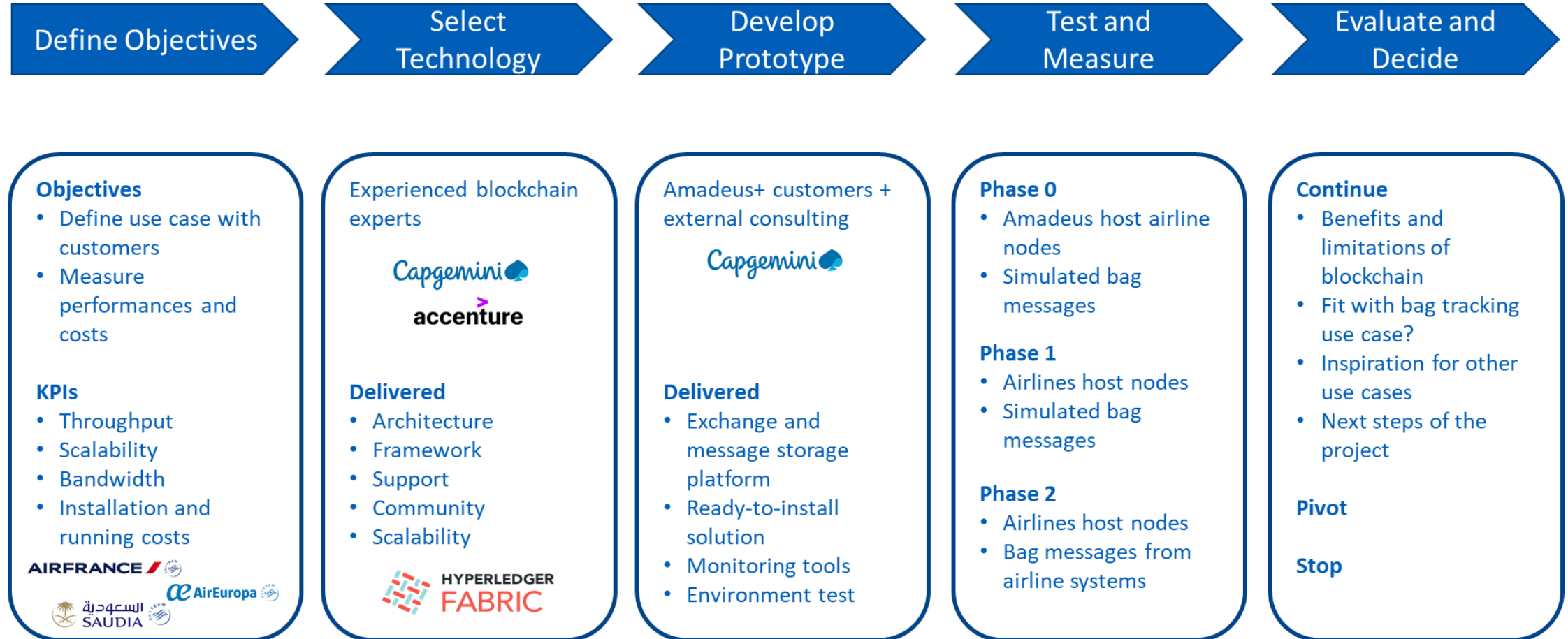
IATA New resolution 753 mandates airlines to improve their bag trackability

Blockchain promises



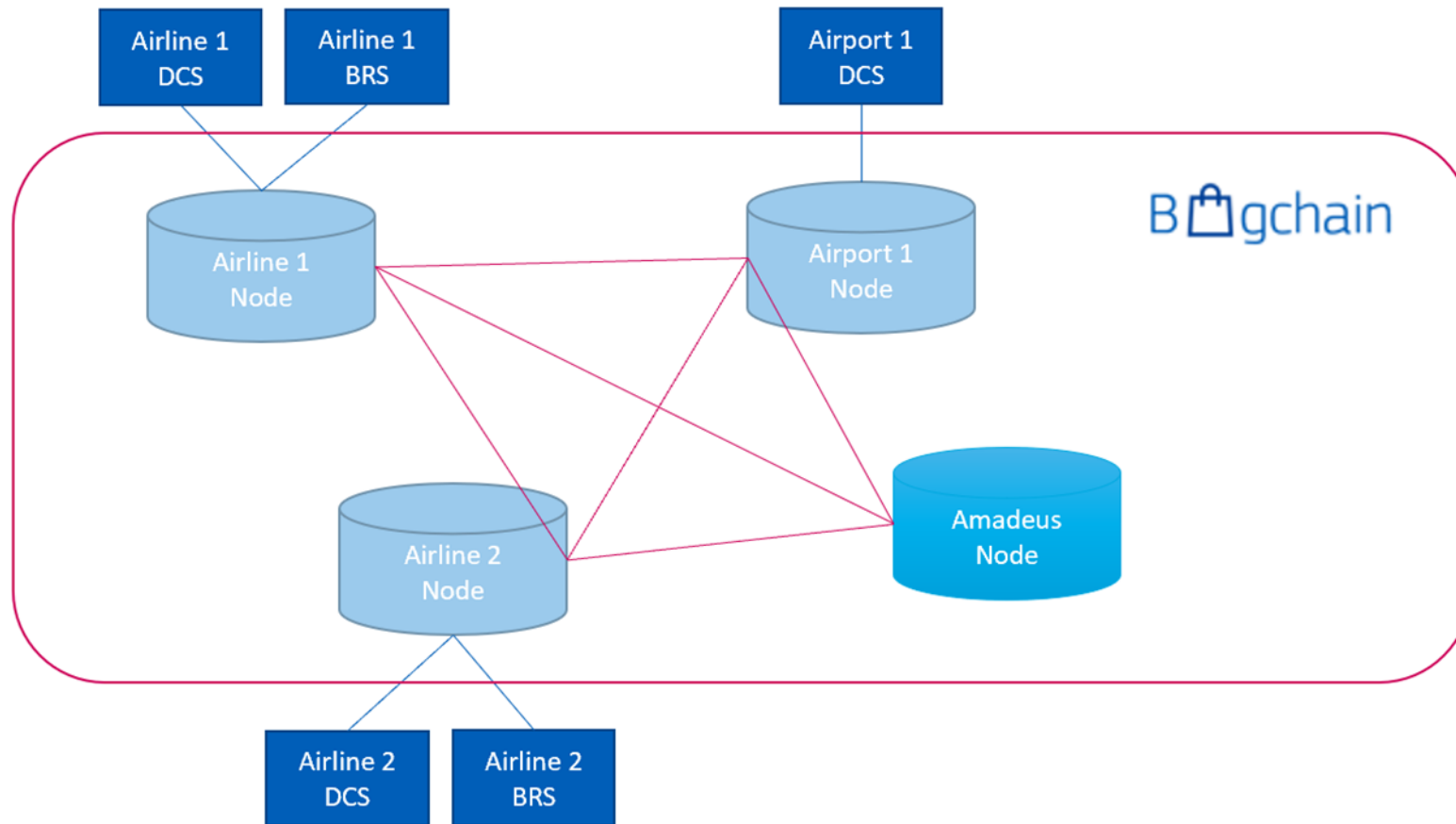
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What a technical experimentation means



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Bagchain network and test objectives



Tests of the experimentation

- Functional tests
- Storage (size of the ledger)
- Network (impact of nodes)
- Performances (throughput)

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Technical key learnings








Hyperledger Fabric is not very easy to use
(Documentation, community, support is limited.)

Time to setup the test-network from scratch is huge (30-45 minutes for AWS + 30-45 minutes (per node) + 60-70 minutes for simulator setup + ~90 minutes per performance measurement test)

Storage scalability is not a big issue, as long as data is not being stored on-chain. Network bandwidth requirements are shared across participants, instead of one system requiring full bandwidth

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Key desirability and feasibility insights

- D** Customers rely on technology providers to develop blockchain solutions 
- F** Blockchain technology progressing fast but not enterprise ready 
- D** Customers love decentralization 
- F** Blockchain can be  compliant 
- D** Potential for an airline-airport data sharing platform 
- F** Participant scaling is key 

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