BLOCKCHAIN IN THE
AIR TRANSPORT
INDUSTRY

Kevin O’Sullivan, Lead Engineer, SITA Lab
SITA PAST WORK ON BLOCKCHAIN

- 2016 – Project to store biometrics on blockchain (presented at IT Summit)
- 2016 – Drone ownership registry on blockchain
- 2017 – Flight Information on blockchain
- 2017 – Drone flight tracking & authorisation on blockchain
WHAT IS BLOCKCHAIN?
And why do I care
“Today, we google for everything, mostly information or products. Tomorrow, we will perform the equivalent of “googling” to verify records, identities, authenticity, rights, work done, titles, contracts, and other valuable asset-related processes.”

*William Mougayar*
BEWARE OF THE HYPE

Source: Gartner (July 2016)
PRODUCTION DEPLOYMENTS ON BLOCKCHAIN
BLOCKCHAIN TYPES

Public Blockchain (Permission Less)

Private Blockchain (Permissioned)

(bitcoin, ethereum, HYPERLEDGER PROJECT)
# WHAT A CAN YOU DO ON A BLOCKCHAIN

<table>
<thead>
<tr>
<th>Store Digital Records</th>
<th>BagDrop – Scan BagTag</th>
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<tbody>
<tr>
<td>Transfer ownership of digital assets</td>
<td>Transfer bag to connecting flight/airline</td>
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</table>
| Execute Smart Contracts | – WorldTracer Record  
– Compensation to passenger  
– Pro-rata bill to airline |
WHERE DOES THIS FIT IN MY TECH STACK?
HOW DO I RE-ENGINEER MY BUSINESS PROCESSES?
HOW DO I RE-ENGINEER MY BUSINESS PROCESSES?
UBER IN A POST-BLOCKCHAIN WORLD

Registration (identity)
Credit Rating
Payment
Location & desire to hire

UBER

Registration (identity)
Licensed to drive for hire
Payment Receipt
Location & availability for hire

$70bn
UBER IN A POST-BLOCKCHAIN WORLD

Gov digital id blockchain (or Apple, Google, Facebook)

Gov Blockchain

Digital Currency

Apps built with open APIs

$70bn
FLIGHT INFO ON BLOCKCHAIN

Just one version of the truth, please
SITA, LHR, IAG – JOINT RESEARCH PROJECT

• Build a permissioned blockchain which uses Smart Contract to merge data and arbitrate when there is conflicting data

• Data from airline and airport AODB systems is merged and stored on blockchain

• Blockchain nodes exist at SITA, IAG and LHR data centres

• There is a SINGLE version of the truth on the blockchain
THE FLIGHT STATUS PROBLEM...

- BA 274, LHR to GVA
- Scheduled flight data, estimated & actuals
- Departure terminal & gate information
- Arrival terminal, gate, baggage carousel information
CONCLUSIONS
CONVERGING ON DISRUPTION

- IoT
- Automation
- Digital Identity
- Blockchain

CHANGE
CONCLUSIONS

• There is lots of hype and a lot of potential, but blockchain is 5-10 years from maturity

• It's 1993 all over again, when World Wide Web just started – what do we do with it?

• The internet changed B2C engagement model. Blockchain has potential to disrupt the B2B engagement model

• Strategic thinking required
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Source: presentation of Kevin O’Sullivan, SITA Lab at the 2017 SITA Air Transport IT Summit, Brussels.