



NAME: Syed Wahaj Haider Kazmi
ID: 101496909
ROLE: Blockchain Developer
(Chaincode, Network Setup)



Lawrence Ley

AIRPLANE MRO

using Hyperledger Fabric

By Athika, Wahaj, Faizan and Shehzroz

REMEMBER THIS?



▶ NEW TONIGHT

PORTION OF PLANE BLOWS OUT MID-AIR

On January 5, 2024, An Alaska Airlines' nearly new Boeing 737 MAX 9 in flight lost a 60-pound "door plug" that blew out at 16,000 feet, leaving a gaping hole in the fuselage.

PROBLEM?

The aerospace industry has a vast and complex supply chain involving hundreds to thousands of companies and millions of parts. Not only is it hard to keep track of maintenance but also, ensuring that these tracks are not manipulated is very crucial.



SOLUTION

A supply chain using Hyperledger Fabric that provides a targeted solution for airline companies and the required maintenance, repair, and overhaul (MRO) cycle for purchased aircraft.

The goal is to digitize maintenance and parts provenance records in a manner that increases trust when the aircraft is sold, saves money through a more streamlined process, and most importantly, increase the safety of air travel.



REDUCE COST AND MAINTAIN SAFETY

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Revolutionising the industry with
Blockchain Technology.

Paradoxical Business problem for any industry

Even more so after COVID-19, and given the financial climate

Especially for Aerospace industry

- Flight reductions upto 90%
- Global \$113B drop in revenue

REVOLUTIONIZE THE INDUSTRY

- \$838bn aerospace industry [1]
- Entire supply chain and aircraft lifecycle on blockchain
- Notorious for slow change
- Naive solution

TARGET THE AIRLINE MRO SECTOR

- \$81.9bn airline maintenance, repair, and overhaul (MRO) sector [2]
- Parts provenance and aircraft maintenance on blockchain
- Smaller industry subset = easier change

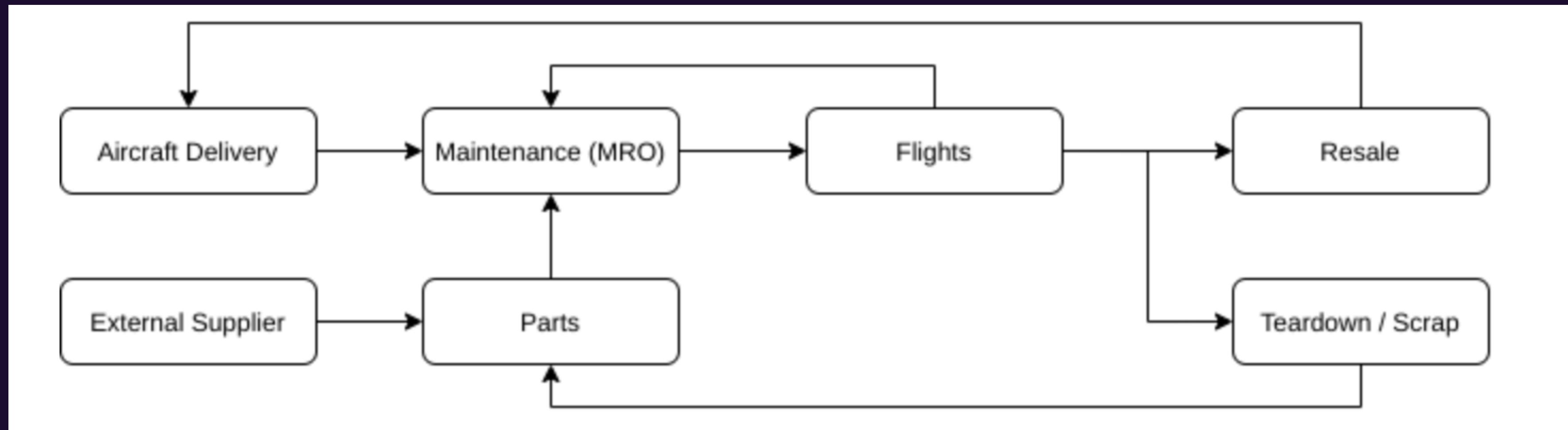


BLOCKCHAIN TECHNOLOGY REDUCES COST

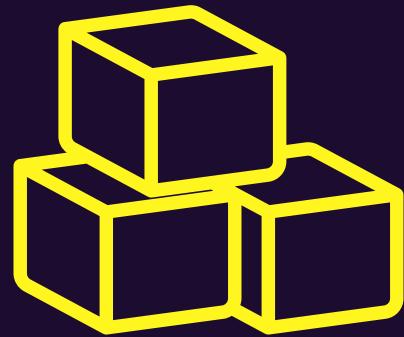
- International Air Transportation Association (IATA) recommendations [1]
- Hyperledger Fabric benefits
- Better procurement with greater knowledge
- Immutable transaction record for parts and aircraft
- Additional technology integration (IoT, machine learning, etc)
- Optimized inventory with seamless transactions
- Digitally tracked assets
- Elimination of paper records

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AIRCRAFT LIFECYCLE



TECHNOLOGY USED



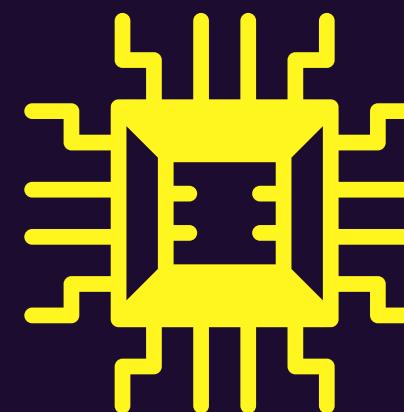
Blockchain Technology

Track maintenance records + parts provenance on distributed ledger



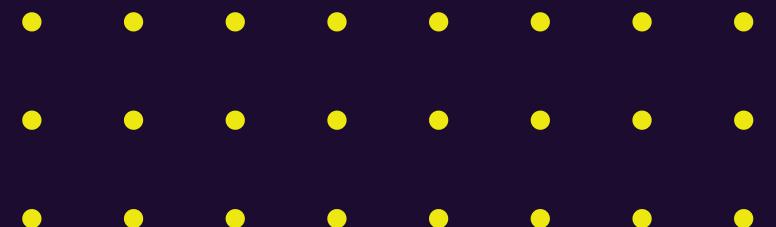
IoT Devices

Devices that automatically monitor aircraft conditions

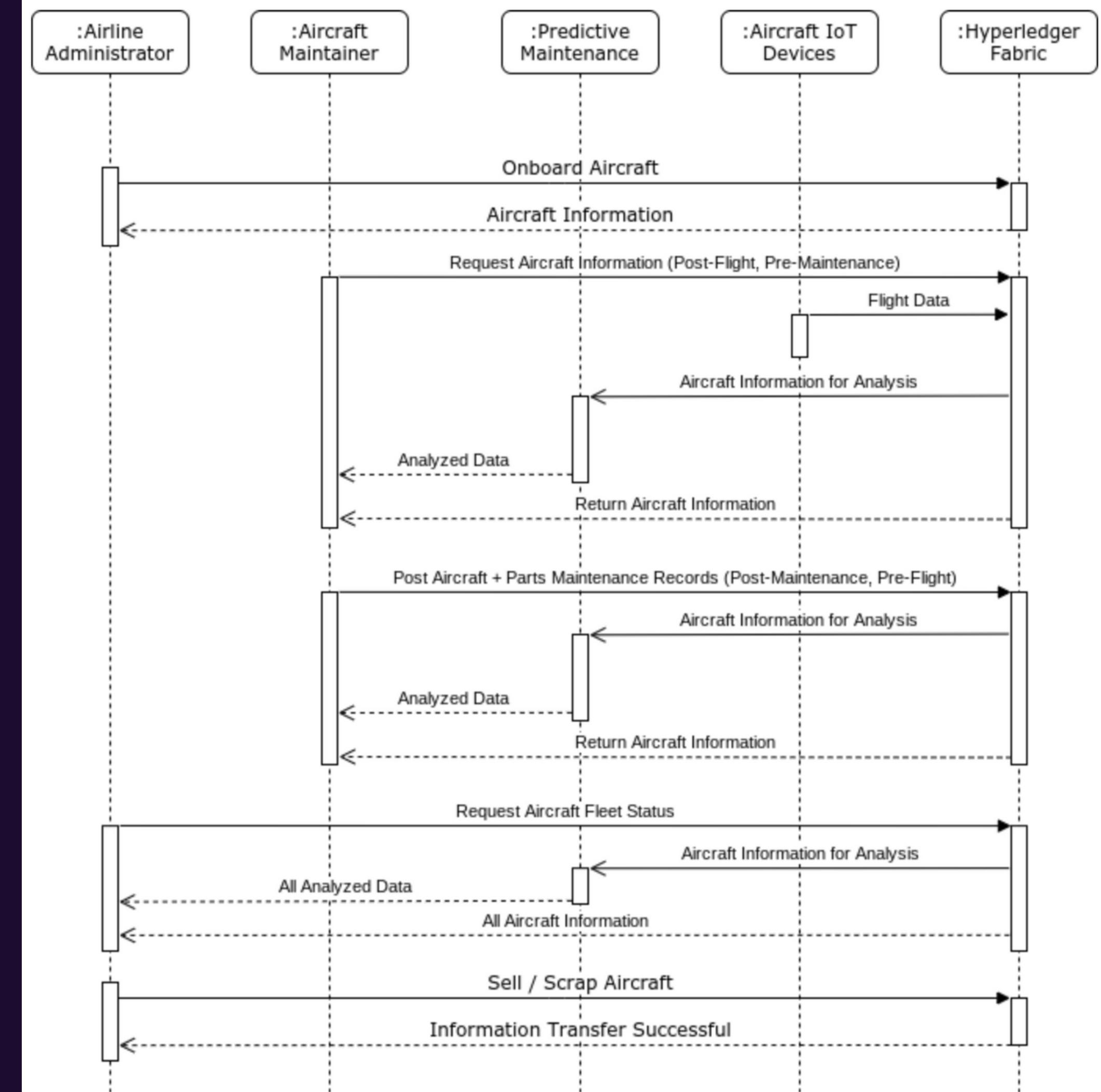


Machine Learning

Algorithms to analyze maintenance + IoT data

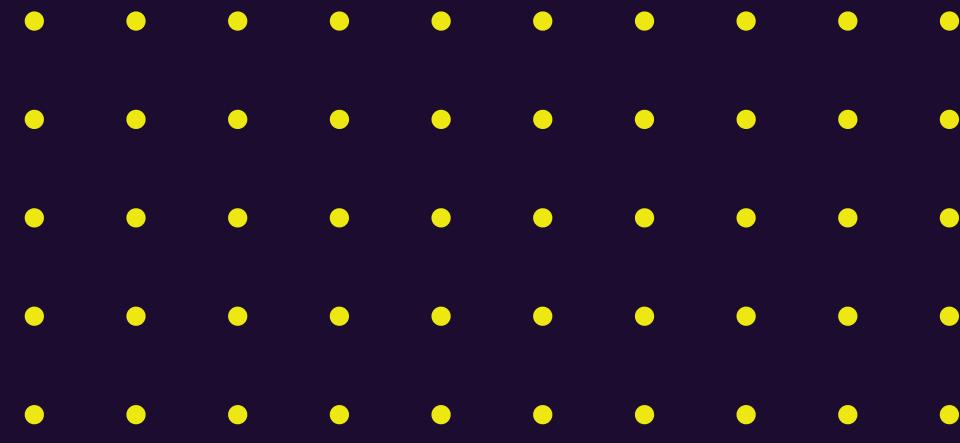


SOLUTION ARCHITECTURE





PRODUCT DEMO



LET'S REVOLUTIONIZE THE AEROSPACE INDUSTRY!

Thank you! <3