

ATA E-BUSINESS
FORUM &
\$1000D USER FORUM

June 12-14, 2017
Amsterdam



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@jackshaw

Airline Digital Transformation at the Intersection of Emerging Technologies

13 June 2017





PAN AM

N43504

PAN AM



Blockchain
EXECUTIVE
AMERICAN BLOCKCHAIN
COUNCIL



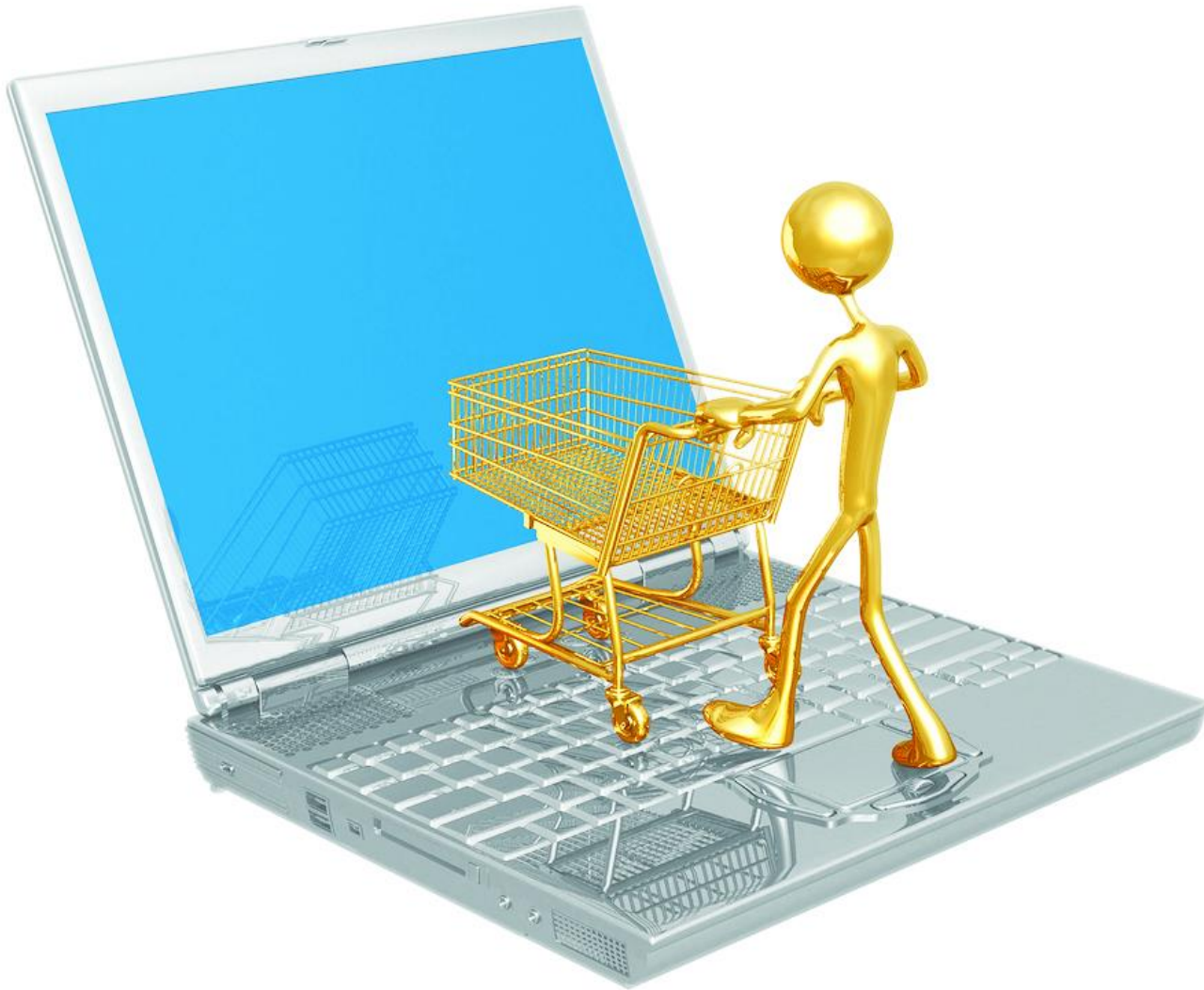
Yogi Berra

Making predictions is
very hard,

especially about the
future.







Blockchain
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Blockchain

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Blockchain

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INNOVATION



Digital Transformation

- Digital Transformation is NOT about force fitting new technologies into your business.
- It's about rethinking the entire model/ecosystem
- Then using any and all technologies needed to implement the new vision.

World's Smallest Lithium Ion Battery



400 lb. Bioplastic Cornerstone



for Canal House in Amsterdam



GE's Printed Jet Fuel Nozzles

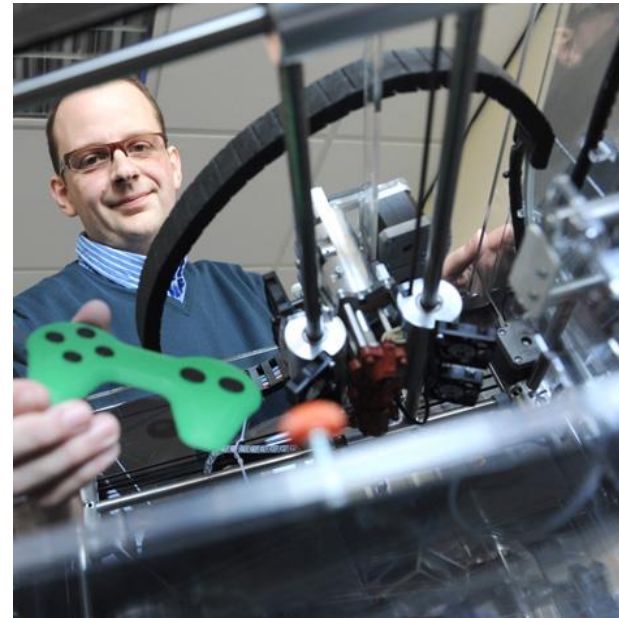
- One part instead of 18.
- 5X as durable as regular one
- Runs cooler with internal cooling structures
- 25% lighter
- Overall, lighter 3D Printed Titanium Parts expected to save Boeing \$3MM per 787



Printing Electronic Devices

- 3D printed working electronic devices printed with a new type of plastic, called "Carbomorph", that conducts electricity.
- Printed a simple computer, a glove containing flexible sensors and a mug that knows how full it is.

Research group leader Dr. Simon Leigh
University of Warwick, UK



Intelligent Agents Can Replicate Expert Decision-making

*Think, Decide, Act
to solve a Business
Problem*

Machine Learning

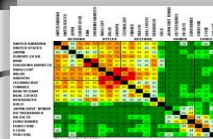


Learns



Intelligent Agents

Associative
Memory



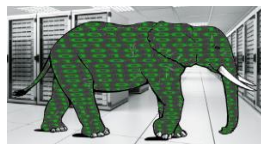
*Provides
Input*

*Continually
Processing*



Business
Infrastructure

Generates



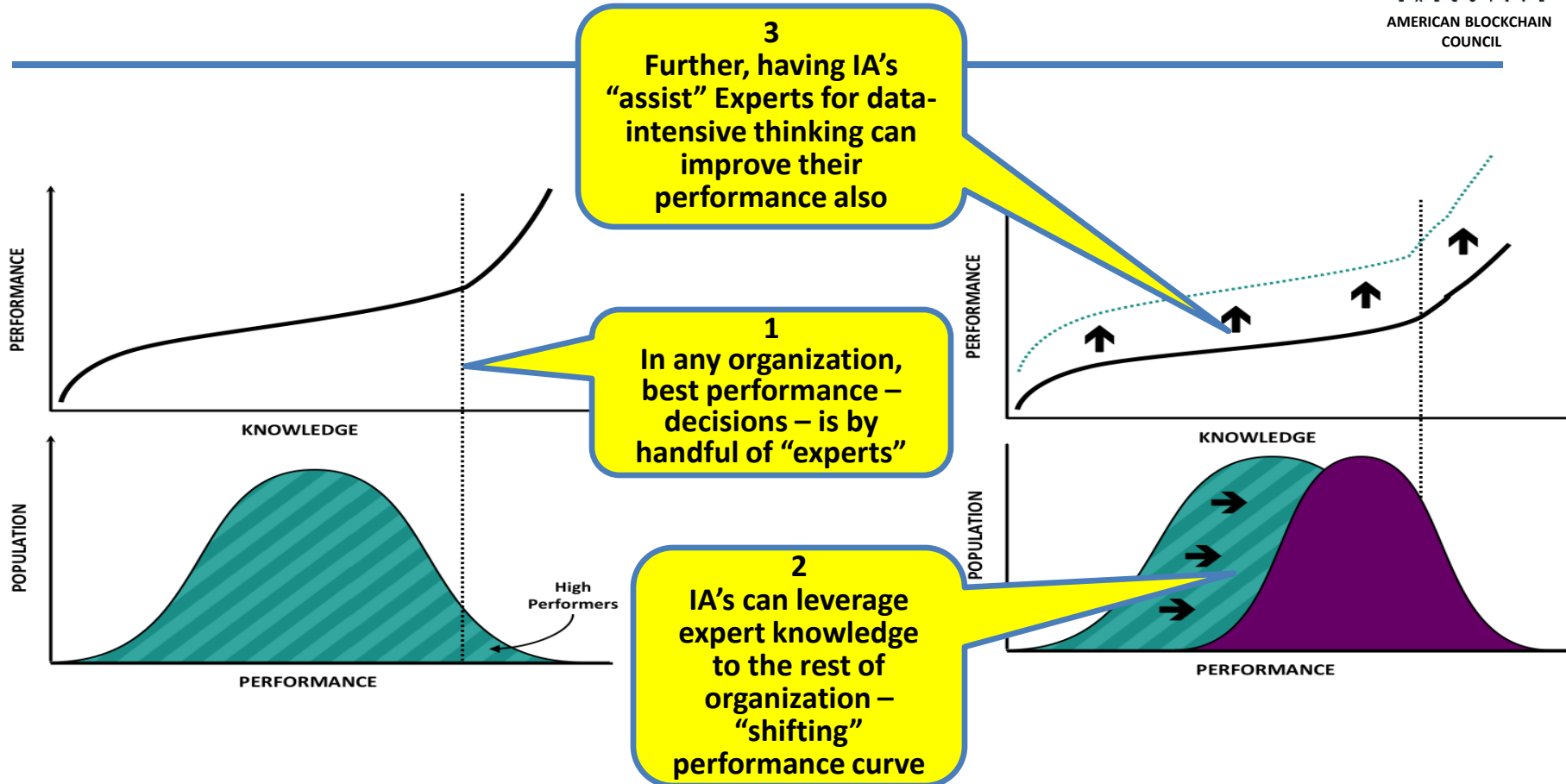
Big Data

*Must be
processed*



Natural
Language
Processing

Intelligent Agents can improve performance



Blockchains: The Promise

HUFFPOST BUSINESS

Blockchain is a Disruption We Simply Have to Embrace

🕒 05/10/2016 01:34 pm ET | Updated 4 hours ago

By SHANIKA GUNARATNA / CBSNEWS.COM / May 9, 2016, 7:22 AM

Inside the tech that could "change the face of modern finance"

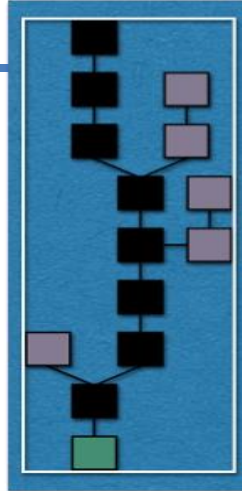


NATO Innovation Contest Seeks Military Blockchain Applications

Stan Higgins | Published on May 10, 2016 at 17:21 BST



Schools are recording students' results using bitcoin tech



The Meaning of Blockchain



“Wherever people, processes, businesses, governments, or the social good requires proof of identity, ownership, transactions, or commitments; Blockchain technologies promise to meet those needs with a degree of trust and integrity never before possible.”

– [Jack Shaw, Executive Director](#)
[American Blockchain Council](#)

Blockchains Provide



An Immutable, Time-stamped Record

Blockchains Provide



Shared Information – between Entities

Blockchains Provide



Complete Transparency – for Those Authorized

Blockchains Provide



Unhackable Security against Those Unauthorized

BUT, Why Just Money?

STATE OF CALIFORNIA
CERTIFICATE OF TITLE VEHICLE HISTORY

62006 XXXXX

AUTOMOBILE

VEHICLE ID NUMBER: 1C4GP64LX XXXXXXXX
BODY TYPE MODEL: SV
MOTORCYCLE ENGINE NUMBER: _____

VAL. NOTES: 1997 CHRY
ADMT. PLATE NUMBER: 5SU XXXX
REGISTRATION EXPIRATION DATE: 03/08/2007

CLASS: AN
YEAR: 2006
REGISTRATION FEE: \$77
ISSUE DATE: 04/02/06

REGISTRATION CLASS: MR
SECURITY/TRAFFIC MANAGER: _____
ISSUE DATE: 03/01/2006
ODOMETER DATE: 03/01/2006
ODOMETER READING: 115576 MI
ACTUAL MILEAGE: _____

REGISTERED OWNER(S)
Name and address of owner(s)
appear here

I certify under penalty of perjury under the laws of the State of California, that THE SIGNATURE(S) BELOW RELEASES INTEREST IN THE VEHICLE.

To: Today's date Write owner's signature here.
Signature of registered owner

To: _____ If the title lists 2 owners, the second owner signs here.
Signature of registered owner

Federal and State law requires that you state the mileage upon transfer of ownership. Failure to complete or providing a false statement may result in fines and/or imprisonment.

The odometer now reads: Odometer reading here (in tenths, miles and to the best of my knowledge reflects the actual mileage unless one of the following statements is checked).

WARNING: Odometer reading is not the actual mileage. Mileage exceeds the odometer mechanical limit.

I certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Today's date Owner's signature here Do not write in these spaces. Leave them blank.

Do not write in these spaces. Leave them blank.

IMPORTANT READ CAREFULLY

Any change of Lienholder (holder of security interest) must be reported to the Department of Motor Vehicles within 10 days.

EMALERS

If a lien holder is listed here,
an original of the Lien Release letter from the
lien company will be required for title processing.

2 Do not sign here.
Signature releasee (interest in vehicle. Company
names must be countersigned)
Release Date: _____

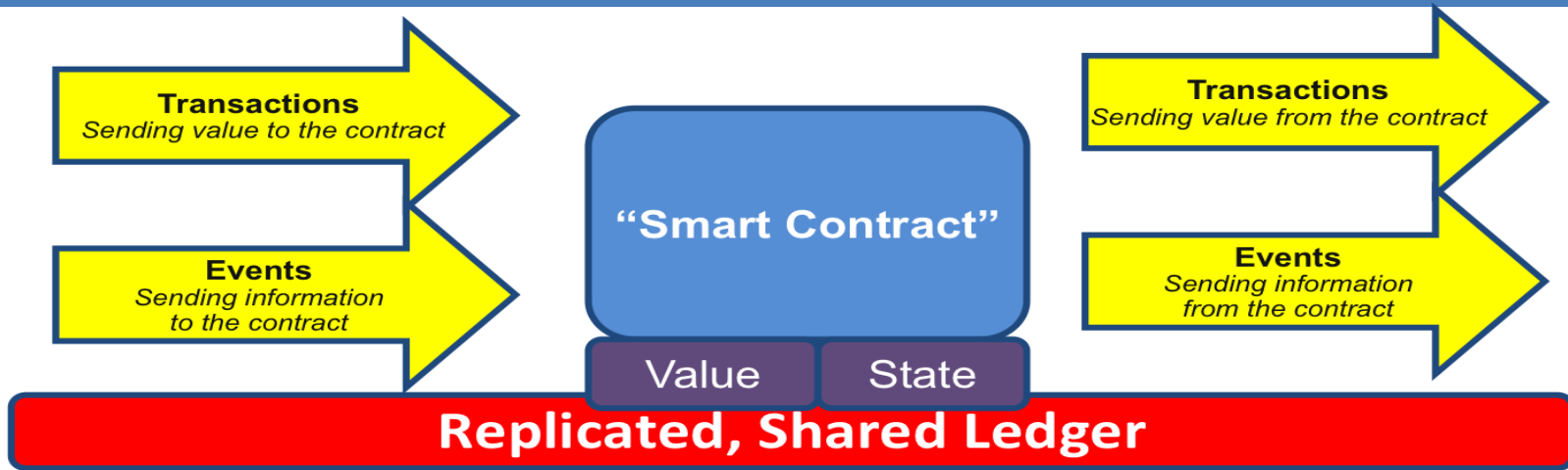
CA 9444
005665 REG. 17.309 (REV. 10/06)

VOID WITHOUT BEAR WATERMARK. HOLD TO LIGHT TO VIEW

Why Not 3D Printing Blueprints?



Smart Contracts on the Blockchain



- A smart-contract is a computer program,
- which runs on a Replicated Shared Ledger, i.e., a Blockchain,
- which can control assets on that Blockchain,
- which can track what has happened to date, and
- which can respond to incoming information or events.

Port of Qingdao



Maersk HyperLedger Project

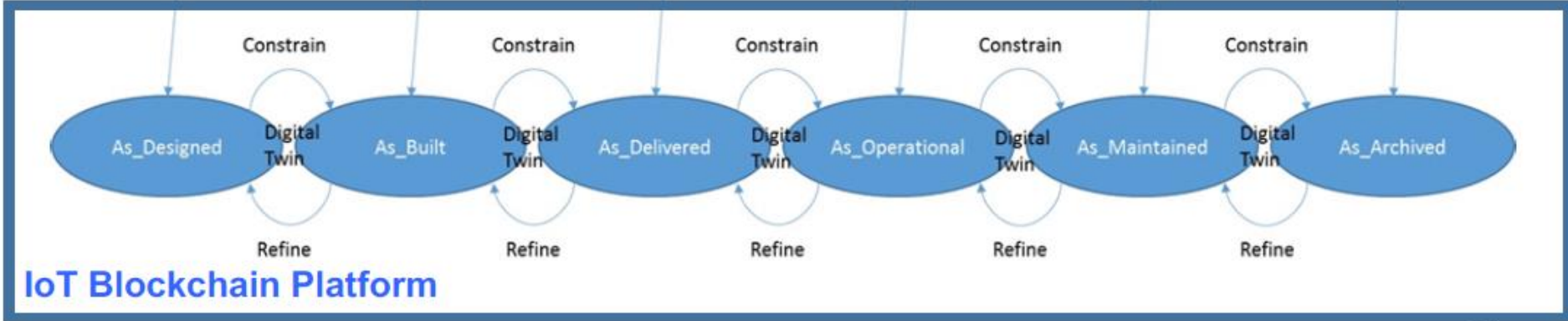
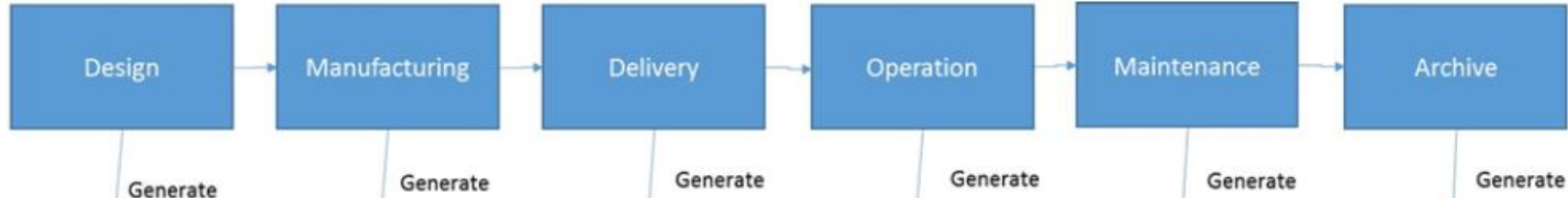


- Linux Foundation's open-source Hyperledger platform
- Replace paper-heavy manual processes with blockchain
- Blockchain gives each participant in the trade increased visibility.
- Supply chain ecosystem can view the progress of goods with customs status, bills, and data.
- Supply chain events and documents are exchanged in real time.
- Transparency will cut fraud and reduce time in transit.

Everledger Diamonds



Boeing IoT / Blockchain / Digital Twin



Ewingz



EWINGZ
unfolding aviation.

Unfolding Aviation

*Your solution for
global digital
collaboration*

EwINGZ Solutions

Seamless Data Exchange Evolution – 2:00PM



eID



eTRACE



ePUB

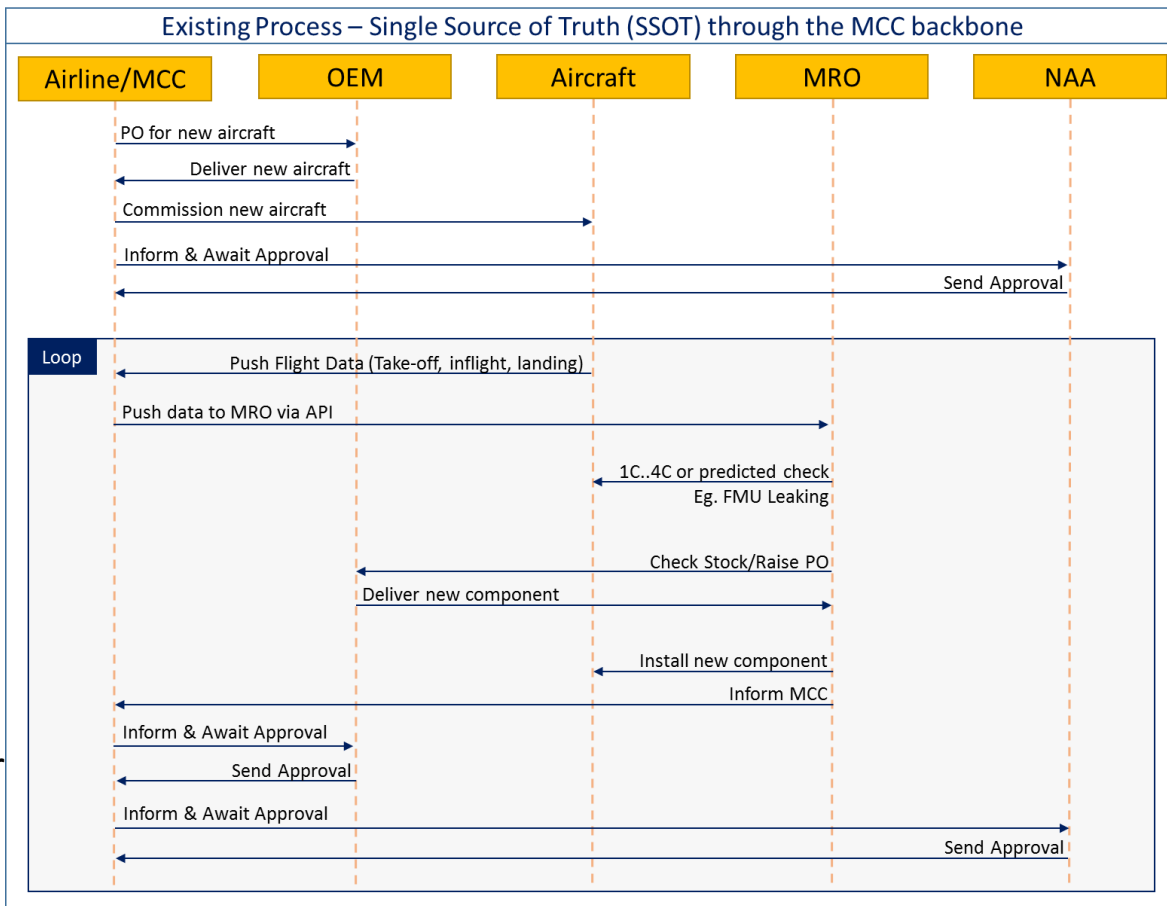


eREC

Existing Process for Aviation Maintenance

Current Model

Existing aviation maintenance process showcasing complex interactions between the Airline, MCC, OEM, Aircraft, MRO and NAA.



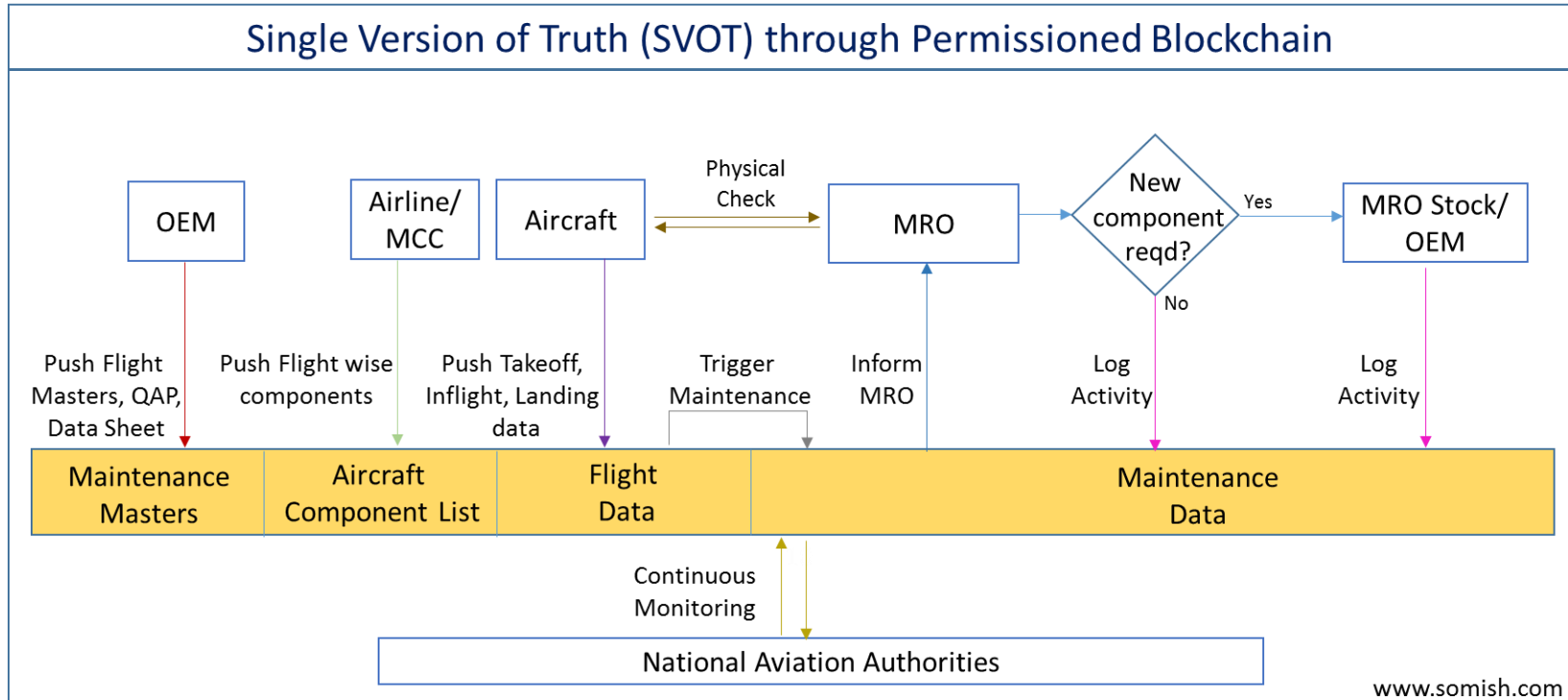
MCC – Maintenance Control Centre

OEM – Original Equipment Manufacturer

MRO – Maintenance, Repair & Overhaul

NAA – National Aviation Authorities

Proposed Model



Summary

- 1. Reduced Layover Times** as a result of real-time information sharing amongst Airlines, Airports, OEMs, MROs and Aviation Authorities on a single open platform.
- 2. Predictive Analysis of Maintenance Activities** based on current flight data and historic data for minimized spare stock holding and maximized maintenance grouping.
- 3. Delay in C/D Checks** – Aviation authorities can grant approval for delay in C/D checks based on the performance of the aircraft and its maintenance log recorded on the blockchain.
- 4. Accuracy in Calculating Training Hours of Aircraft Mechanics**, thereby making it easy for the authorities to conduct audits and provide approval. This also enables a global search for skilled mechanics.



Airline Blockchain Applications

- **Maintenance**
- **Passenger / Crew Identity Management**
- **Ticketing**
- **Loyalty**
- **Security**
- **Ancillary Revenue / In-Flight Entertainment**
- **Luggage Chain of Custody**
- **Air cargo**
- **Customs Clearing**
- **Airport Collaborative Decision Making (ACDM)**
- **Flight Planning**
- **Smart Contracts and Compensation**

Digital Transformation Strategic Planning Process

- **Digital Transformation:**
Planned and executed in three parts.
- **3rd Horizon Planning:**
The long-term vision of the Digital Enterprise.
- **1st Horizon Planning:**
Evolution of Core operations expected to be retained within the long-term vision.
- **2nd Horizon Planning:**
Components of the Digital Enterprise that don't yet fit within current Core operations.

Executive Seminars: Developing Your Blockchain Enabled Strategy for Digital Transformation

Target Audiences include:

- C-Level Executives
- Other Senior Business Decision Makers
- Accountants, Auditors, and Attorneys
- Senior IT Management

Executive Seminars: Developing Your Blockchain Enabled Strategy for Digital Transformation

Key Topics include:

- What is Blockchain technology? How does Blockchain work?
- What about identity and security?
- What is a smart contract? What are the legal and accounting issues?
- How do we integrate Blockchain with IoT, AI, 3D Printing, Augmented Reality, and other emerging technologies?
- How will this impact our industry? Role of the ATA?
- What opportunities are presented for our business?
- How do we develop our overall Digital Transformation Strategy?

Change & Progress



“Change does not necessarily assure progress, but progress implacably requires change.”

Historian Henry Steele Commager

Follow Up



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- [Blockchain Executive LinkedIn Group](#)