# FORUM& s1000D USER FORUM

June 12-14, 2017 Amsterdam





Jack Shaw @jackshaw

Airline Digital Transformation at the Intersection of Emerging Technologies

13 June 2017











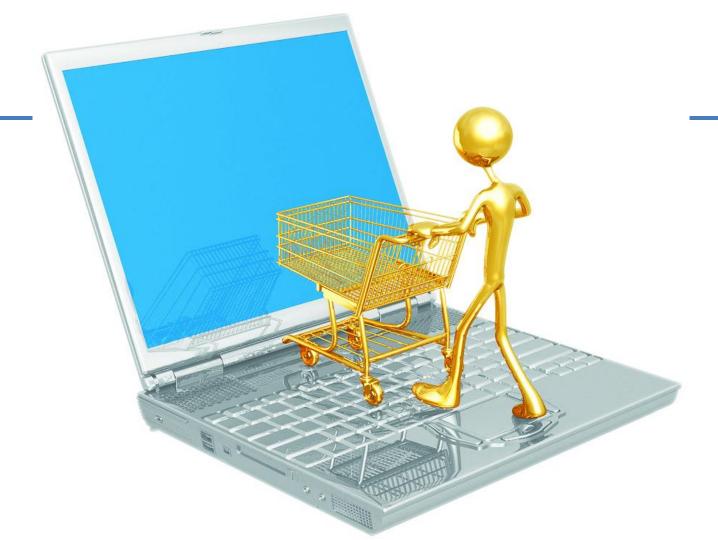
Yogi Berra

# Making predictions is very hard,

especially about the future.











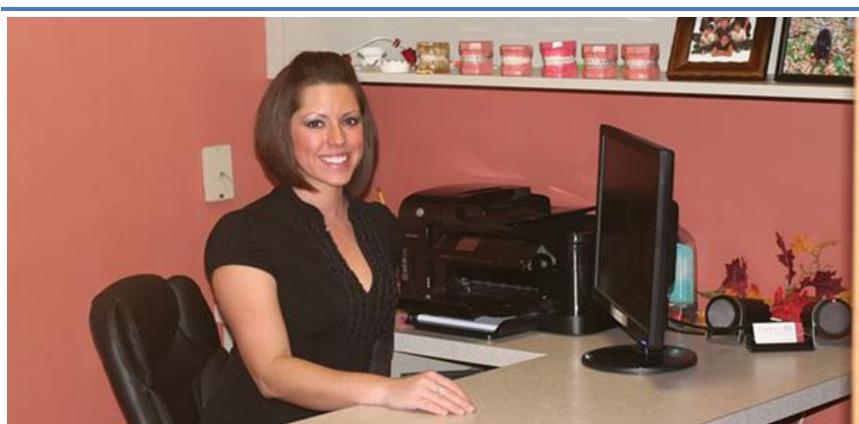






















## **Digital Transformation**



- 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 Blockchain





#### 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

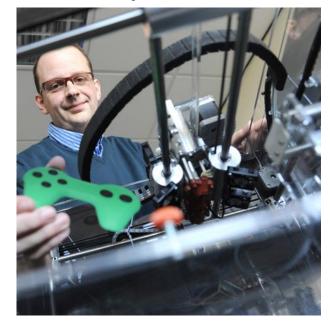


### **Printing Electronic Devices**



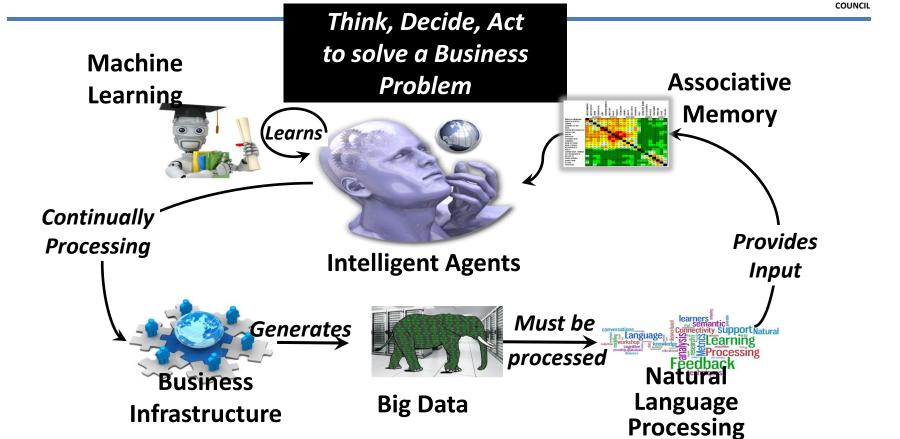
- 3D printed working electronic devices printed with a new type of plastic, called "Carbomorph", that conducts electricity.
- Printed a simple computer, a glove containing flexible sensors and a mug that knows how full it is.

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



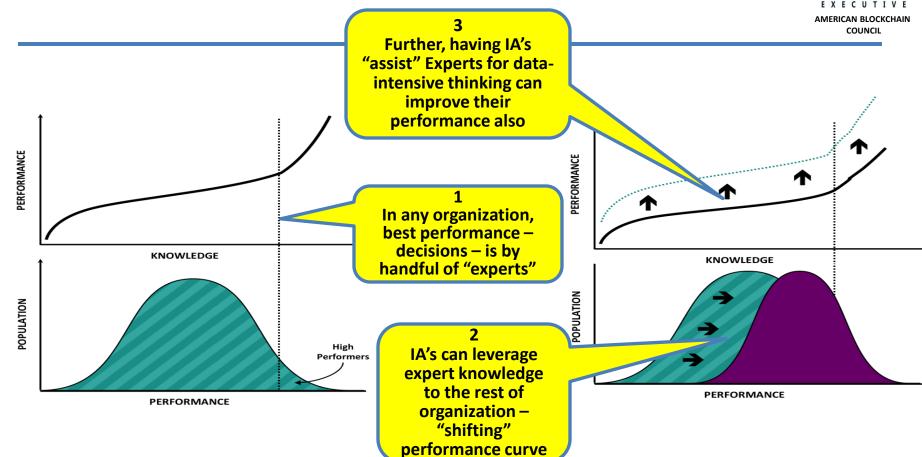
#### Intelligent Agents Can Replicate Expert Decision-making





#### Intelligent Agents can improve performance





#### Blockchains: The Promise



#### **HUFFPOST BUSINESS**

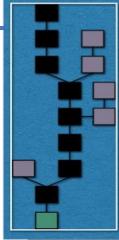
**Blockchain is a Disruption We Simply Have to Embrace** 

() 05/10/2016 01:34 pm ET | **Updated** 4 hours ago

Bu 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



CoinDesk

Schools are recording students' results using bitcoin tech

South China Morning Post

INNOVATION

#### The Meaning of Blockchain

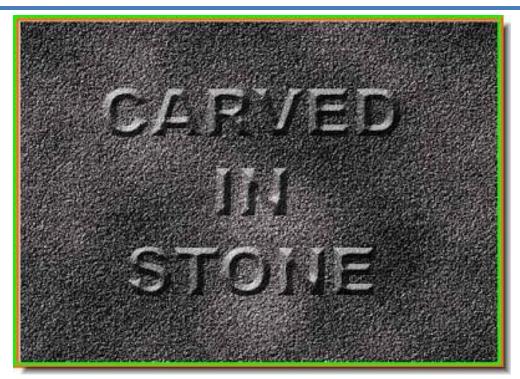




"Wherever people, processes, businesses, governments, or the social good requires proof of identity, ownership, transactions, or commitments; Blockchain technologies promise to meet those needs with a degree of trust and integrity never before possible."

Jack Shaw, Executive Director
 American Blockchain Council





An Immutable, Time-stamped Record





Shared Information – between Entities





Complete Transparency – for Those Authorized





Unhackable Security against Those Unauthorized





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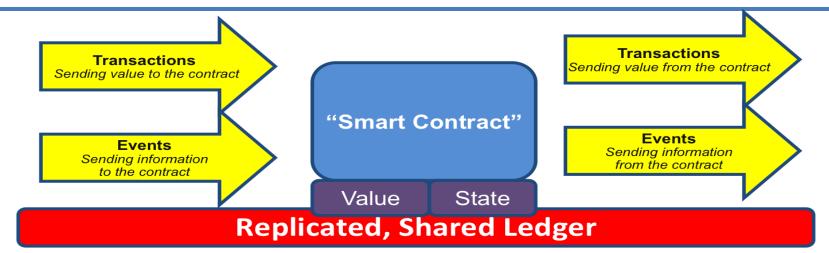
## Why Not 3D Printing Blueprints ROCKCHAIN





#### Smart Contracts on the Blockchain

Blockchain
E X E C U T I V E
AMERICAN BLOCKCHAIN
COUNCIL



- 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.

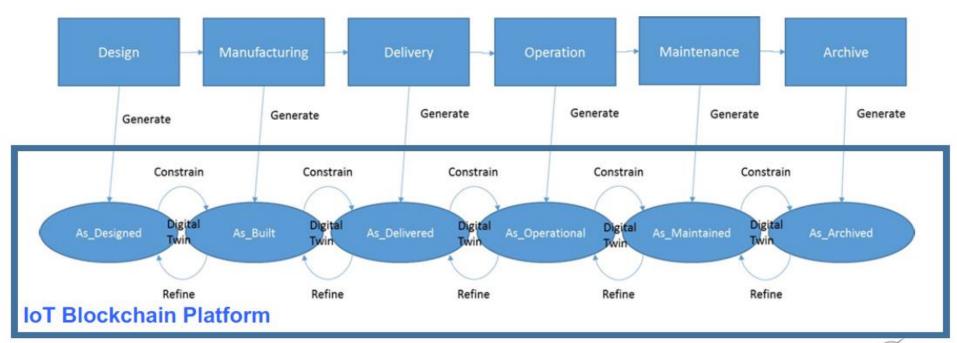
## **Everledger Diamonds**





### Boeing IoT / Blockchain / Digital Twin







## **EWINGZ**







## **Unfolding Aviation**

Your solution for global digital collaboration



#### **EwINGZ Solutions**

#### Seamless Data Exchange Evolution – 2:00PM



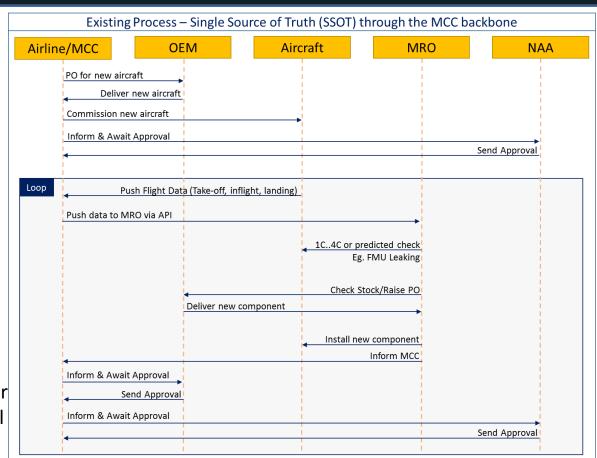
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#### Existing Process for Aviation Maintenance

#### Current Model

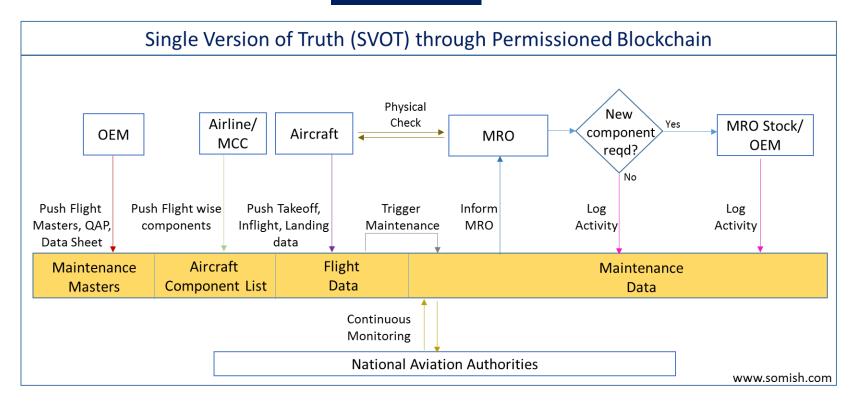
Existing aviation maintenance process showcasing complex interactions between the Airline, MCC, OEM,
Aircraft, MRO and NAA.

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.

#### • 3<sup>rd</sup> Horizon Planning:

The long-term vision of the Digital Enterprise.

#### • 1<sup>st</sup> Horizon Planning:

Evolution of Core operations expected to be retained within the long-term vision.

#### • 2<sup>nd</sup> 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





Historian Henry Steele Commager

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

## Follow Up





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- Blockchain Executive LinkedIn Group