Supply chain evolution from horseless buggies to driverless cars

Val Bercovici Founder & CEO @valb00 @Pencil_DATA
Context

- 105 years old
- Global manufacturing
- Broad supply chains
- Highly regulated
- ~ 100M Cars

Will soon never be same

http://www.scotsusa.com/heritage/on-this-day-100-years-ago-henry-t-ford-installed-the-first-moving-assembly-line/
Complexity to Date

Suppliers to the Porsche Cayman S

Suppliers wanted
If you are a supplier and have questions or want your information considered for our category features, contact Alex Ghulam at automotivesupplier@tmsbusiness.co.uk

Image courtesy: Automotive News Europe
Tectonic Auto Industry Shifts

Autonomous
From horseless to Driverless

Connected
5G enables peer to peer communications at scale

Electrification
Disrupts massive Oil Industrial Complex

DATA, DATA, DATA
Captive Audience = Unprecedented Marketing

Disrupts massive Oil Industrial Complex

5G enables peer to peer communications at scale
Data Hierarchy of Needs

- Teachable
- Raw & Filtered
- Connected - eventually
- Heterogeneous
- Compliant
Tools

- Software supply chain:
  - Aggregation
  - Verification &
  - Distribution

- Data:
  - Provenance
  - Lineage
  - Immutability as needed
  - Valuation
Software 2.0 = Teaching Algos with Data
Blockchain Nodes on fleet of vehicles

Natural deployment model. Secure the genesis block and create distributed set of nodes with mining Proof of Work as:

- Miles / Kilometers driven
- Regenerative braking energy gained
- Roads mapped via LIDAR
- Images classified from cameras
- Incident / Event info exchange over 5G

One Chain to Bind Them
Digital Supply Chain

- Software
- Config
- 3D Printing
- Data

(left to right)
Ecosystem

- Rideshare
- Loyalty
- Service (incl Preventative)
- Connectivity
- Security (Public & Private)
- Insurance
- Registration
Decentralized Supply Chain

Do you need blockchain?

- **Multiple parties share data**
  - Multiple participants need views of common information

- **Multiple parties update data**
  - Multiple participants take actions that need to be recorded and change the data

- **Requirement for verification**
  - Participants need to trust that the actions that are recorded are valid

- **Intermediaries add complexity**
  - Removal of intermediaries can reduce cost and complexity

- **Time sensitive interactions**
  - Reducing delay has business benefits

- **Transactions interact**
  - Transactions created by different participants depend on each other

---

**Value Add**

- Digital Ownership Certificates
- Asset & Assembly Tracking
- Proof of Origin
- Trusted Maintenance Tracking
- Integrated Financial Transactions
- Collaborative Product Master Data

**Enabler**

- Integration in existing manufacturing process
- Trusted Devices
- Asset Management System
- In the field interface
Business Metrics

Loyalty Program
- Hidden Gem – New MRR / ARR
- Partner / Ecosystem Heavy

Compliance (Right to Repair)
- Optimize for Superset of Legal Jurisdiction
- Adapt to evolving L3-L5 Autonomous Regulations

Global Manufacturing
- Robotic Assembly Optimizes for Location
- Raw Material Supply Chain (Li-on, Cobalt, …)

Recalls & Fines (DieselGate)
- Avoidance via Machine Learning Predictions
- Efficient Recall Processing via Gaming Theory
Supply chain evolution from horseless buggies to driverless cars

Val Bercovici
Founder & CEO

@valb00
@Pencil_DATA