

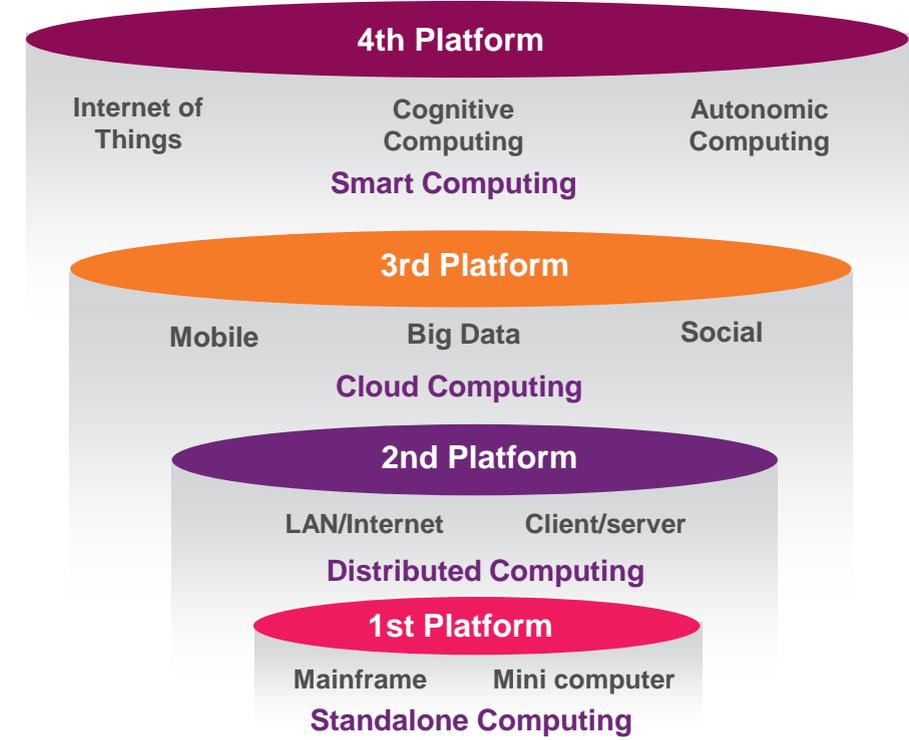
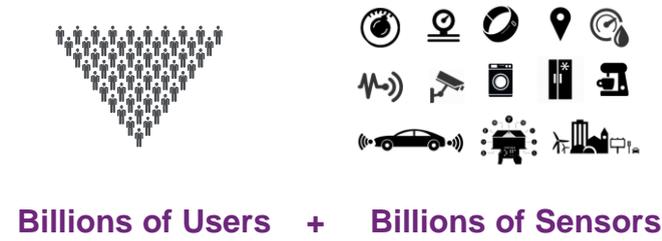
# Stepping into Emerging Horizons

---

Madhusudhan KM  
Chief Technology Officer



# Emergence of fourth platform



# Recap from last year



Internet of Things



Cognitive  
Computing



Autonomic  
Computing

# IoT enabled Connected Traveler



Hotel Check-in



Passenger informed about Taxi



Taxi to airport



Airport staff informed about passenger's arrival 10min before



Smart Check-in



Smart trolley for Duty-free shopping



Indoor navigation for shopping & directions



Pre-ordered movie and personal juke-box onboard



Taxi to home

# IoT Enablement for Hearing Aid

- Hearing Aid Companion App
- Remote setup by audiologists
- IFTTT integration for user driven recipes
- Environment data analytics to automatically suggest mode changes

- Integrates with Hearing Aid via Bluetooth
- Phone acts as gateway to enable internet connectivity
- Machine Data analytics for audio & settings data from device combined with phone data to recommend settings

- Improves usability for users while allowing them to maintain discretion
- Allows users to interact well with other smart devices

# IoT Possibilities – Our Point of View

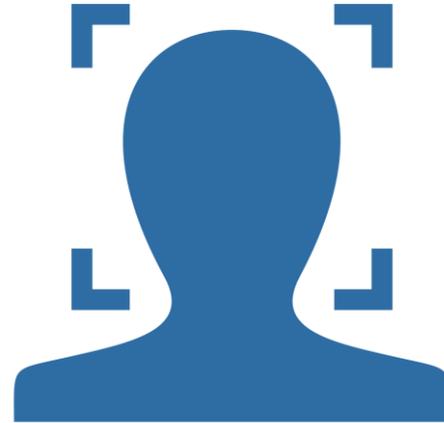
<b>Smart Premises</b> 	<b>Smart Vehicles</b> 	<b>Smart People</b> 	<b>Smart Assets</b> 
<ul style="list-style-type: none"><li>▪ Safety &amp; security</li><li>▪ Indoor navigation</li><li>▪ Home automation</li><li>▪ Energy monitoring</li><li>▪ Office automation</li></ul>	<ul style="list-style-type: none"><li>▪ Safety &amp; security</li><li>▪ Condition based maintenance</li><li>▪ Dynamic pricing models</li><li>▪ Connected Infotainment</li><li>▪ Autonomous vehicles</li></ul>	<ul style="list-style-type: none"><li>▪ Workplace safety</li><li>▪ Health &amp; Fitness</li><li>▪ Wellness management using implantable</li><li>▪ People tracking at workplace</li></ul>	<ul style="list-style-type: none"><li>▪ Leasing &amp; operating high value assets</li><li>▪ Predictive maintenance of industry machinery</li><li>▪ Near real time monitoring and provisioning of movable assets</li></ul>

**Value Proposition**  
Operational efficiency | Revenue maximization | Customer engagement | Safety & Security

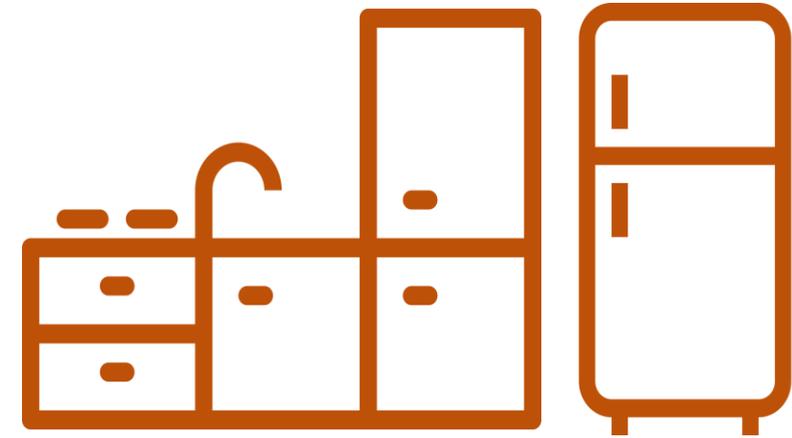
# Computer Vision



Visual Commerce

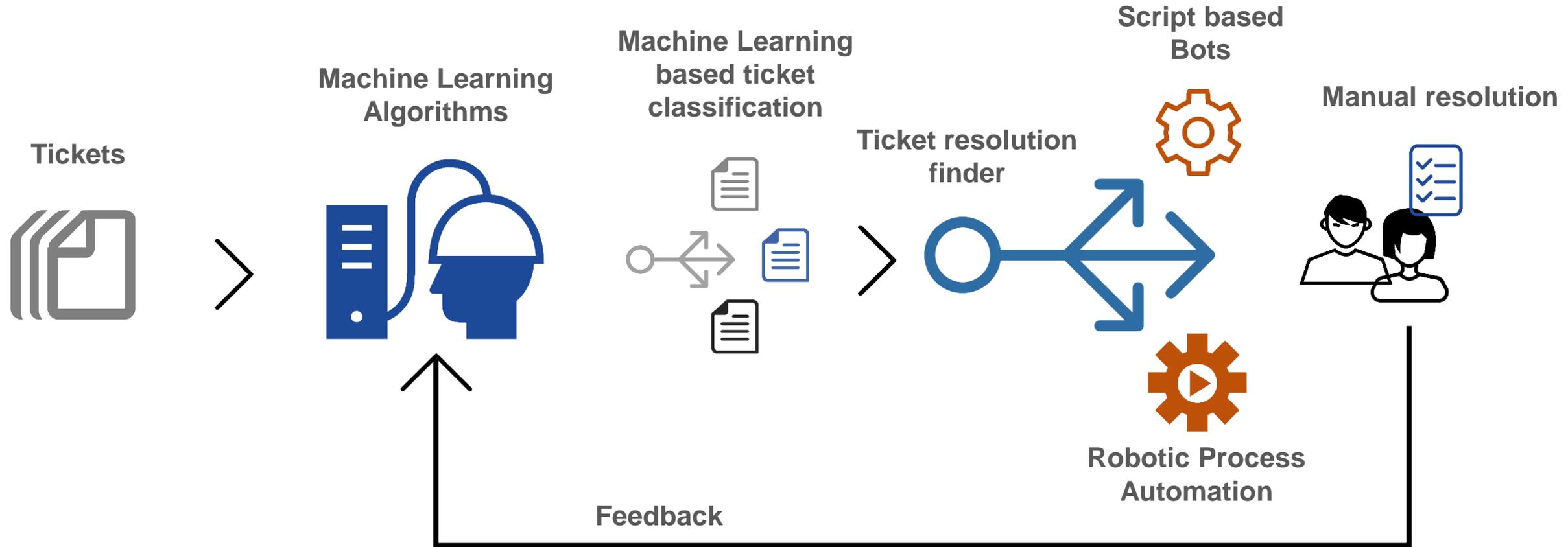


Face Recognition



Scene Detection

# Cognitive Automation

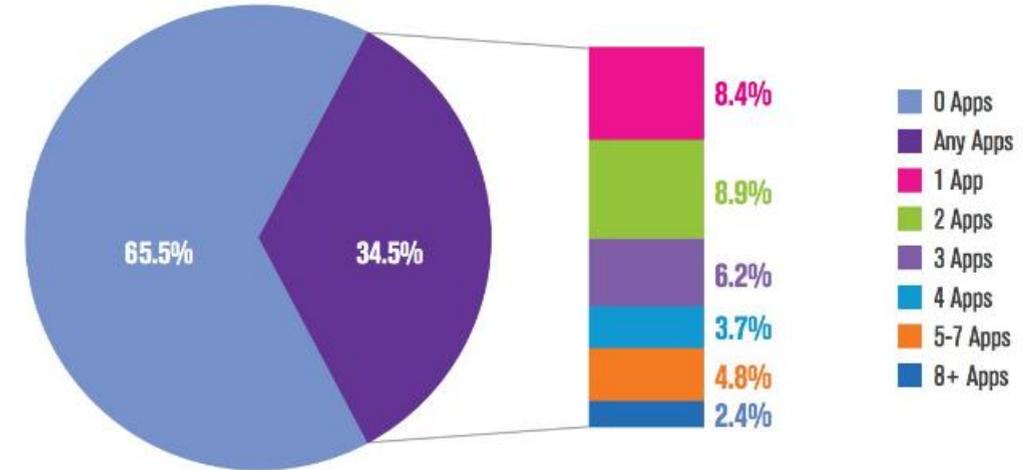


# App Fatigue



## Smartphone Users' Number of App Downloads Per Month

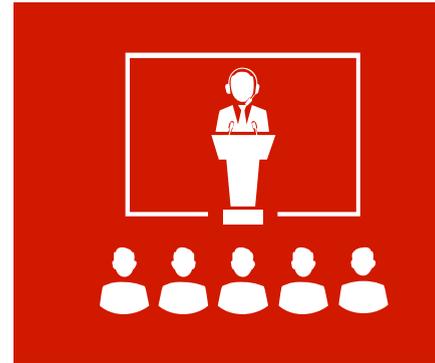
Source: comScore MobiLens, U.S., Age 18+, 3 Month Average Ending June 2014



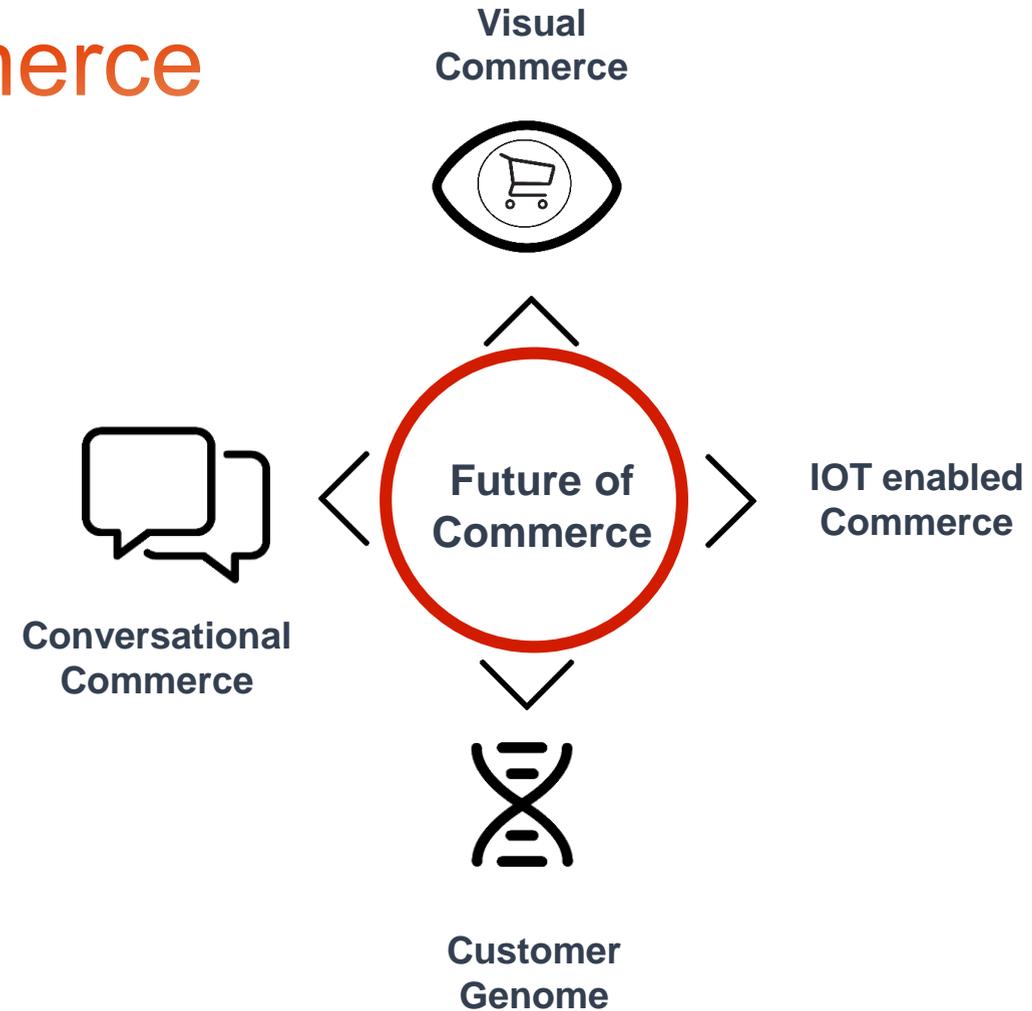
## Most widely used mobile apps



# Possibilities with Chat Bots



# Re-imagining Commerce



# Possibilities with Cognitive Computing



## Travel

- Prediction of Airline Disruption
- Prediction of Hotel booking
- Dynamic pricing
- Personal Travel Manager



## Retail

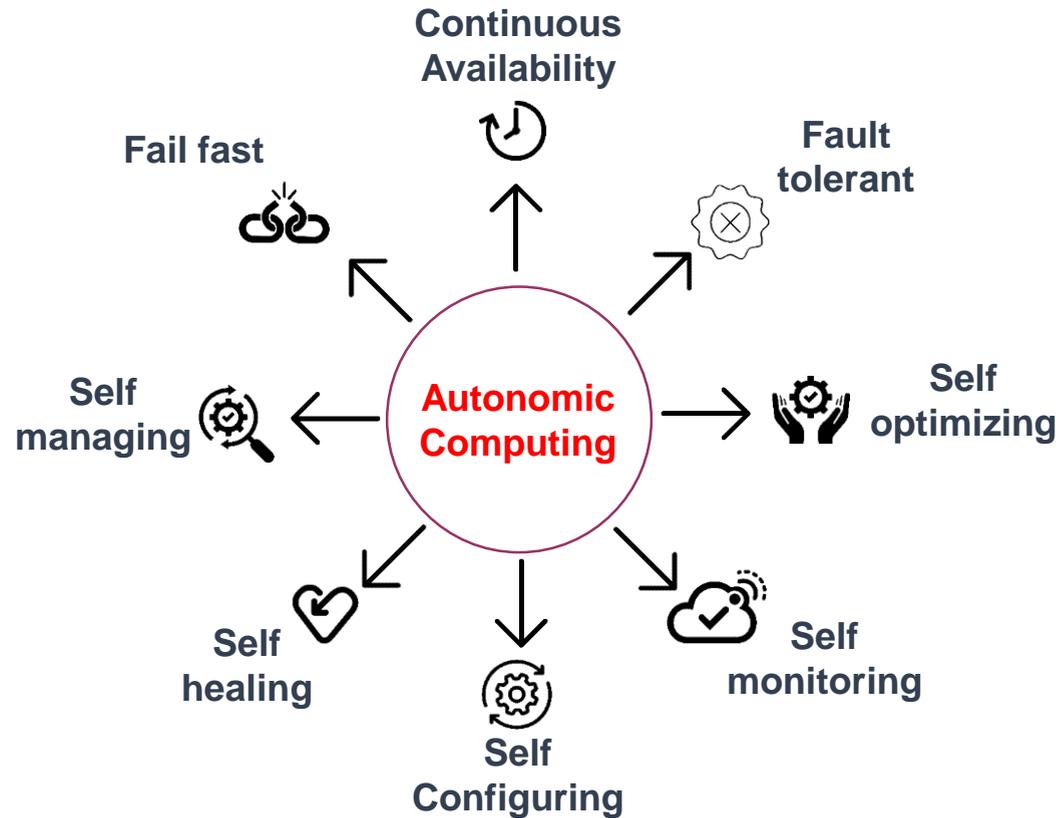
- Visual Commerce
- Clickable commerce
- Recommendation Engine
- Conversational Commerce



## Finance

- Fraud Detection
- Prediction of loan defaulters
- Robo-advisors
- Conversational Banking

# Autonomic Computing



**Fault tolerant & Fail fast**

Circuit Breaker pattern using Netflix Hystrix | Apache Chronos

**Self managing & Self optimization**

Resource management frameworks like Apache Yarn | Apache Mesos

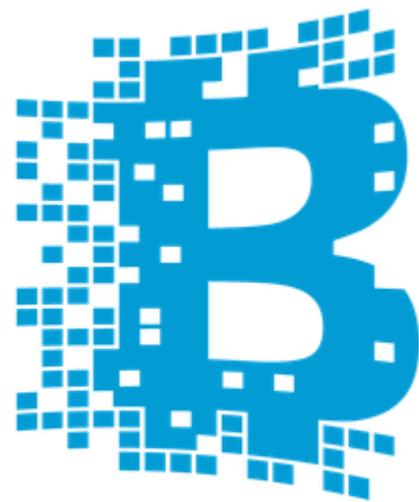
**Self healing & Self monitoring**

Process management frameworks like Marathon

**Continuous Availability**

Distributed Computing

# Future Trends

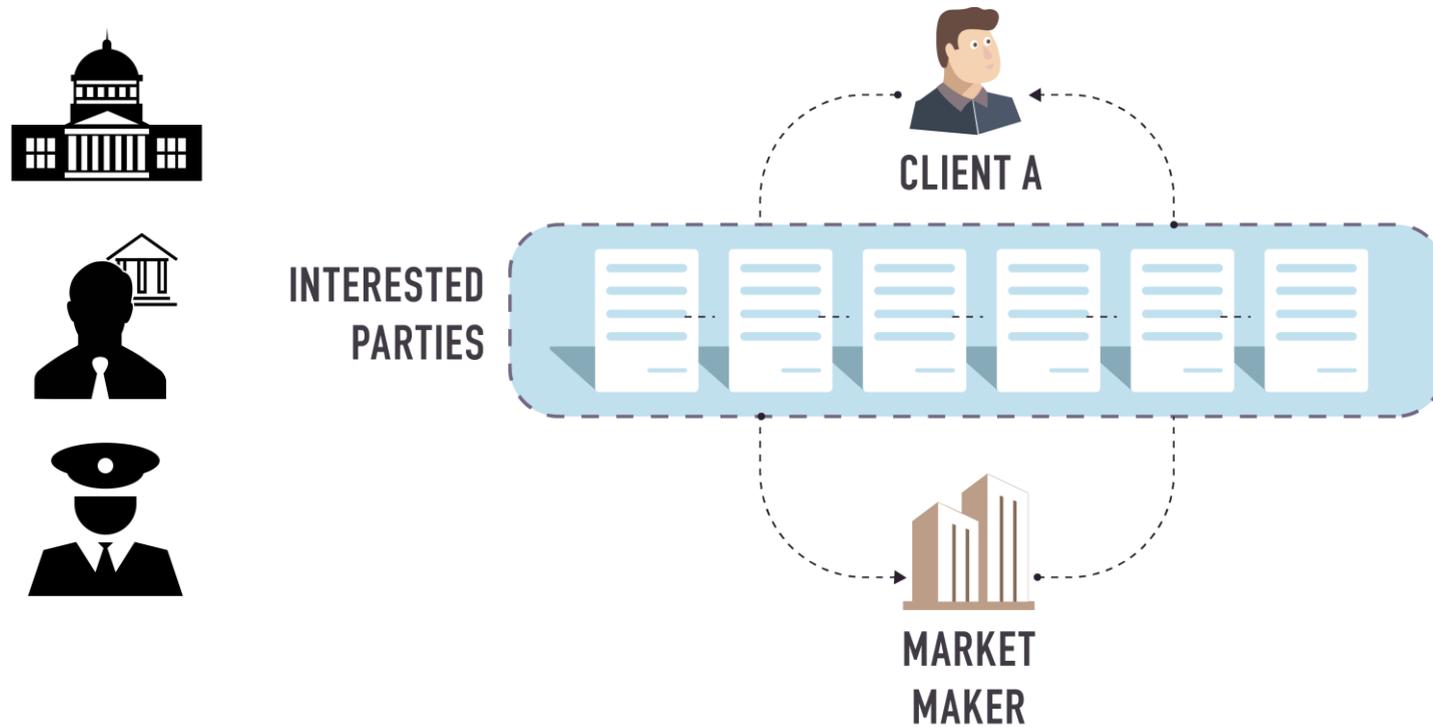


Blockchain



Virtual Reality  
& Augmented Reality

# Blockchain – Value proposition



## Technical benefits

- Distributed & decentralized
- Transparent & immutable
- Secure
- Efficient

## Business benefits

- Increased transparency
- Lower cost per transaction
- Speed of execution
- Inherently fraud resistant

# Blockchain – Possibilities



## FINANCE

- Securitization and risk transfer
- Real-time gross settlement systems
- Cross border payments
- Post-Trade processing & settlement



## REAL ESTATE

- Records of property ownership
- House rental agreement & payments
- Property tax reconciliation & management



## IDENTITY

- Digital ID verification (KYC documents)
- Content stamping system
- Notary services
- E-Voting
- Machine-to-machine commerce (digital identities)



## CONTRACTS

- Intellectual property agreements
- Collaborative commerce
- Self executing wills

# Virtual & Augmented Reality



Education



Travel



Real estate



Architecture

# Summary - Stepping into new horizons

