



IoT for Insurance Industry: Opportunity and Challenge

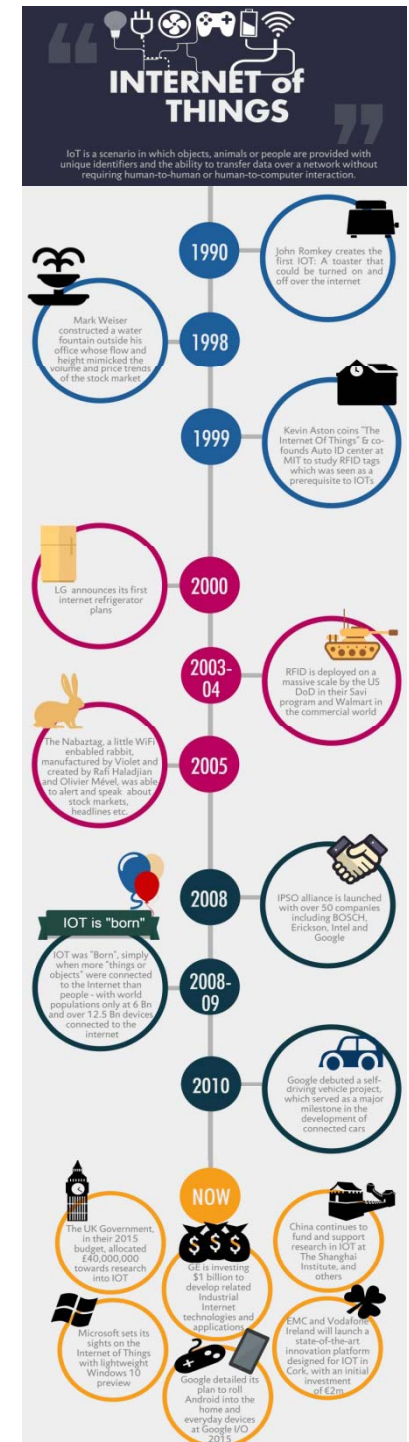
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Things

- Definition #1: mass-produced consumer device, communicates via a network, primary purpose is not computing
 - Home thermostats & light bulbs with 802.15.4
 - AC plugs with Wi-Fi
 - Heart rate monitor with radio





Insurance Use Case #1: Transportation

- Past: position tracking, geofencing
- New trend: history of speed, distance, turning & braking pattern, time of day, load, ...
- Lower premium for responsible driver



Insurance Use Case #2: Building and Home Automation

- Homes, office buildings, warehouses, factories: sensor to detect temperature, smoke, toxic fumes, mold, earthquake motion, ...
- Early warning -> accident prevention -> lower claim



Insurance Use Case #3: Medical and Healthcare

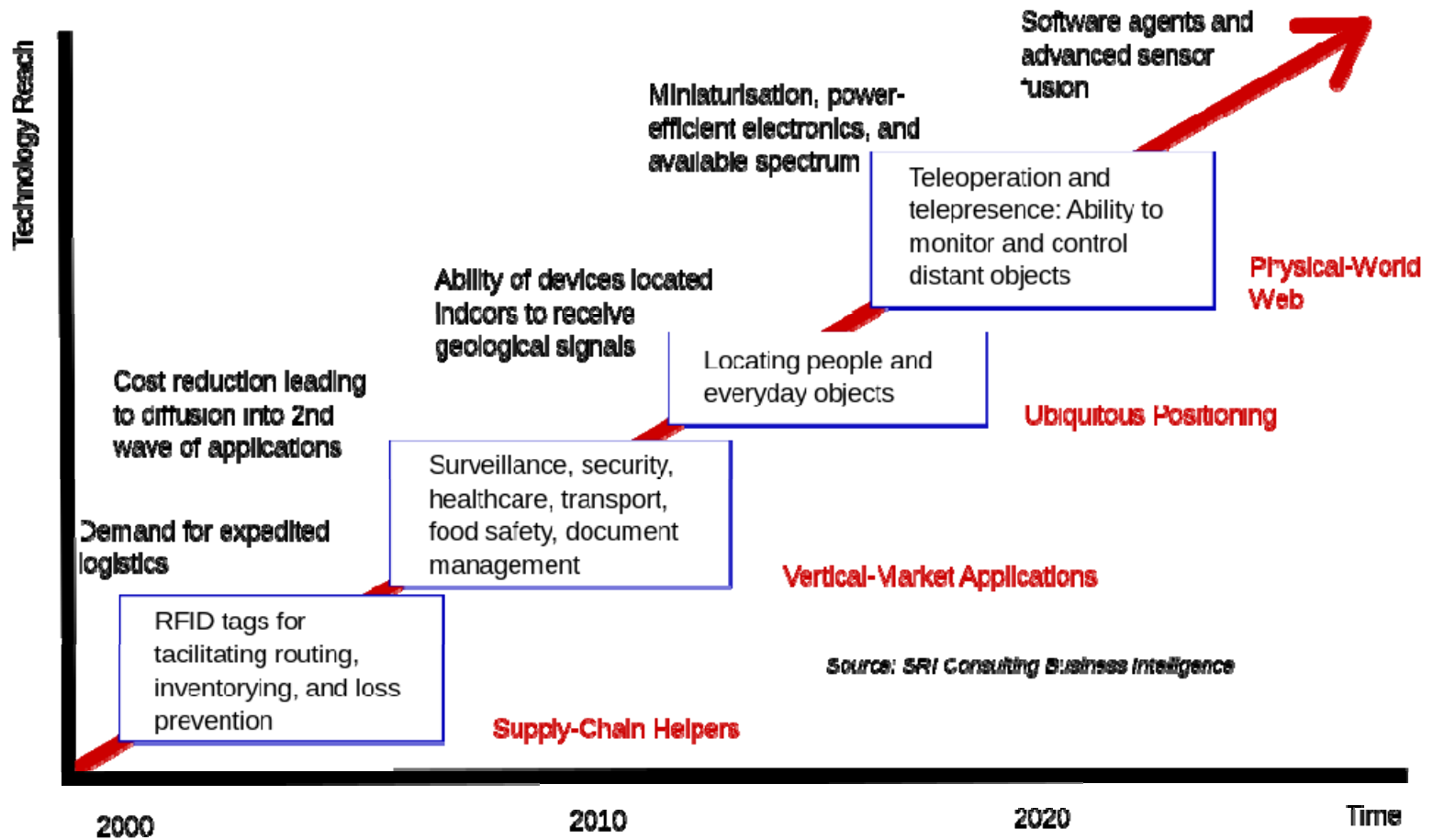
- blood pressure & heart rate monitors, pacemakers
- Fatality prevention -> lower claims



Insurance Use Case #4: Agriculture

- Temperature, rainfall, humidity, wind speed, pest infestation, soil humus content or nutrients, ...
- Yield prediction, minimise risk

Technology roadmap: The Internet of Things





... but



Problems

- Lack of technical standards
- Platform fragmentation
- Huge data: storage & analytics
- Security



More devices, more problems

- 2015: Chrysler recalled 1.4 million vehicles due demonstrated remote hijack a Jeep's digital system over Internet
 - Paralyze the car remotely!
 - Disable car's brake at low speed!
- 2016: Same car, laptop connected to a port in dashboard
 - Unintended acceleration
 - Slamming car's brakes
 - Turning vehicle's steering wheel at any speed



Updates, updates, updates

- Companies do not update their devices enough or at all
 - IoT device which was safe when bought can become unsafe when new vulnerabilities are discovered



DDoS by IoT

- Mirai botnet