#IoT=$martwatches
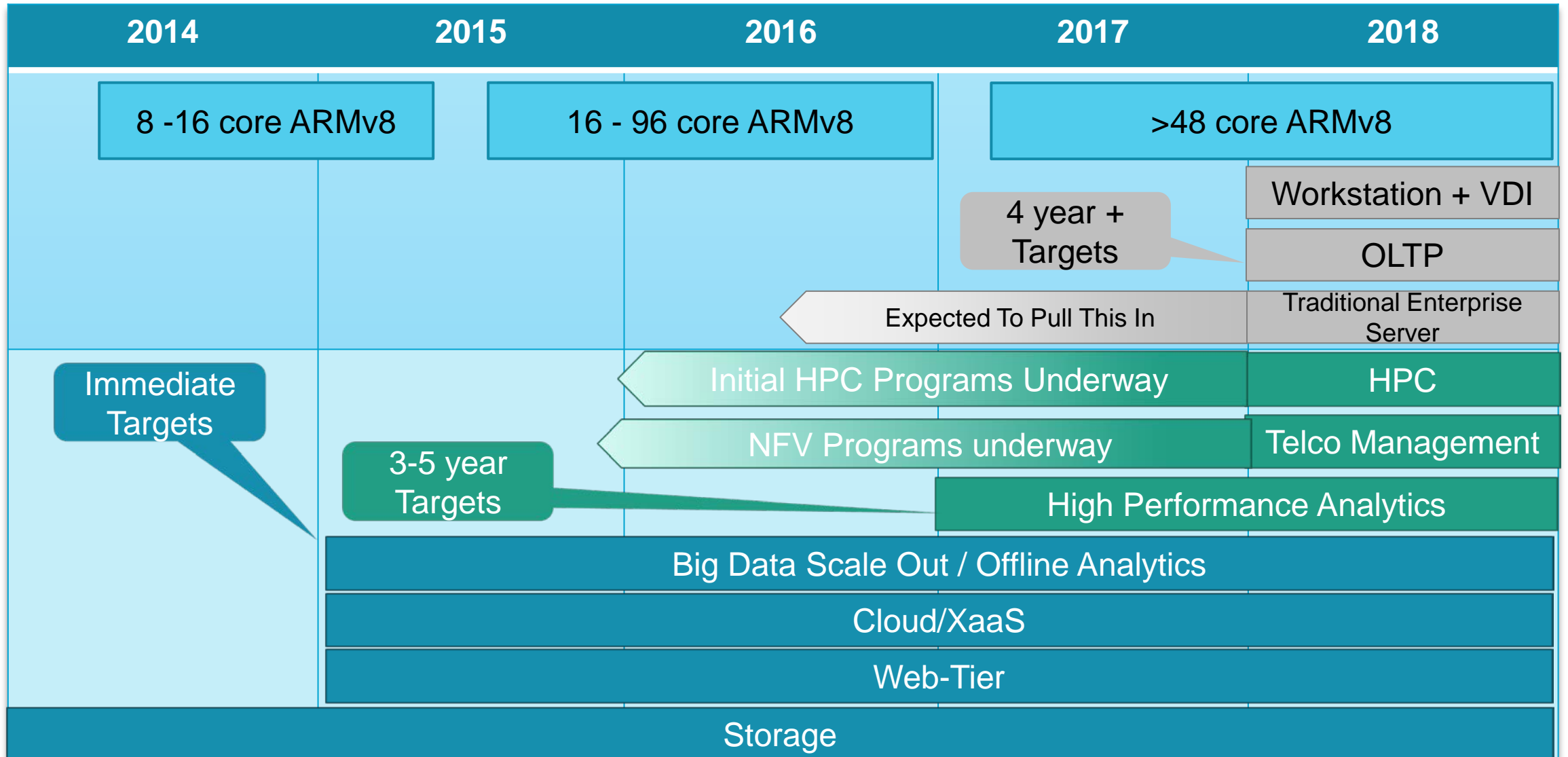
Ian Ferguson
VP Corporate Marketing and Strategic Alliances
Ian.Ferguson@arm.com
@fergie_arm

The Architecture for the Digital World®   **ARM**

Applicability of ARM for Server Workloads

2014	2015	2016	2017	2018

8 -16 core ARMv8

16 - 96 core ARMv8

>48 core ARMv8

Workstation + VDI

4 year + Targets

OLTP

Expected To Pull This In

Traditional Enterprise Server

Immediate Targets

Initial HPC Programs Underway

HPC

NFV Programs underway

Telco Management

3-5 year Targets

High Performance Analytics

Big Data Scale Out / Offline Analytics

Cloud/XaaS

Web-Tier

Storage

2

ARM

ARM-based chips for more efficient servers

Shipping in 2015

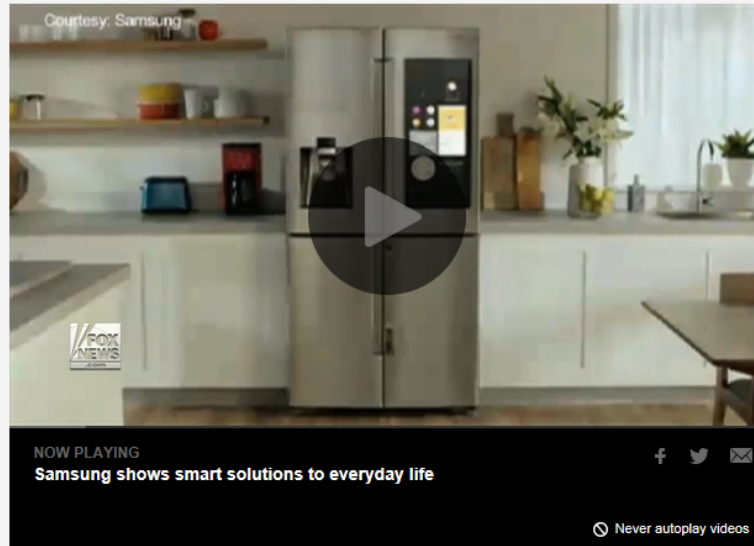....More 64-bit solutions on the horizon

ARM

The Connected Fridge is Back........

CES

CES: Would you pay $5,000 for a Samsung smart fridge?

By Aalia Shaheed · Published January 06, 2016 · FoxNews.com   f 486   y 0   💬 26   ✉ 🖨

Courtesy: Samsung

NOW PLAYING
Samsung shows smart solutions to everyday life

🚫 Never autoplay videos
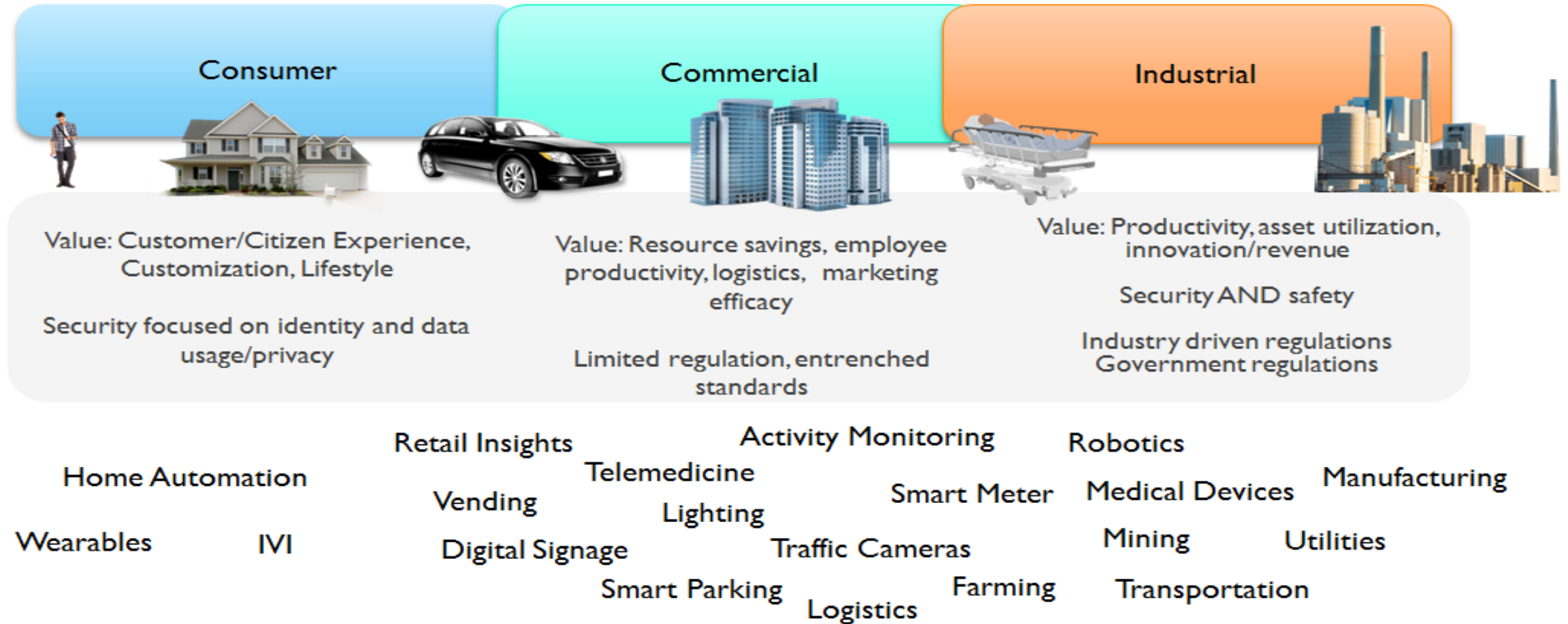
If you're the type of person that needs technology to permeate almost every aspect of their life, then Samsung has just the thing for you – if you've got $5,000 burning a hole in your pocket.

The show stealer of the technology giant's CES press conference Tuesday was

ARM

Our View On IoT

Consumer

Value: Customer/Citizen Experience, Customization, Lifestyle

Security focused on identity and data usage/privacy

Commercial

Value: Resource savings, employee productivity, logistics, marketing efficacy

Limited regulation, entrenched standards

Industrial

Value: Productivity, asset utilization, innovation/revenue

Security AND safety

Industry driven regulations Government regulations

Retail Insights

Activity Monitoring

Robotics

Home Automation

Telemedicine

Smart Meter

Manufacturing

Vending

Medical Devices

Lighting

Wearables   IVI

Digital Signage

Traffic Cameras

Mining   Utilities

Smart Parking

Farming

Transportation

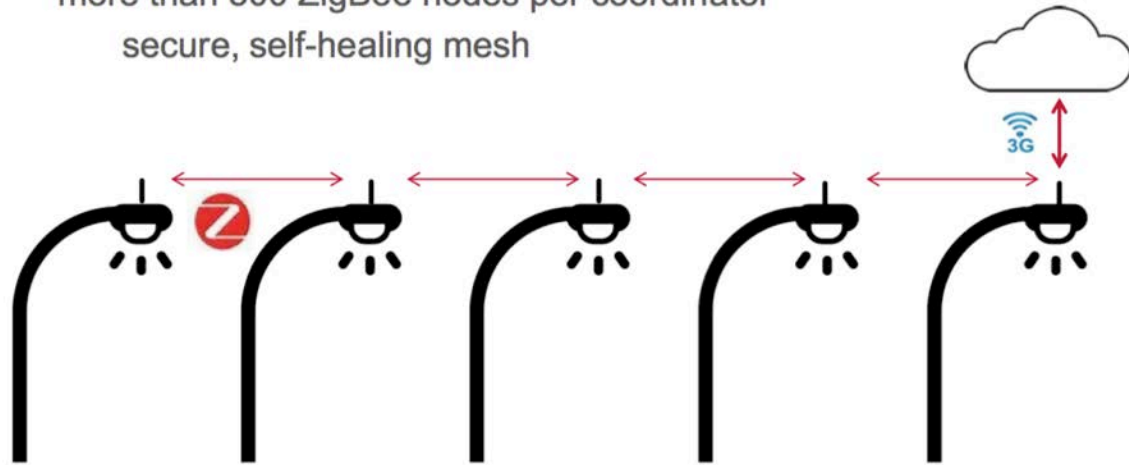Logistics

ARM

Big Data Starts with Little Data

ARM

When Is A Light Not A Light…….

- 180,000+ in street lights across the UK
- 700k opportunity in Sao Paolo alone
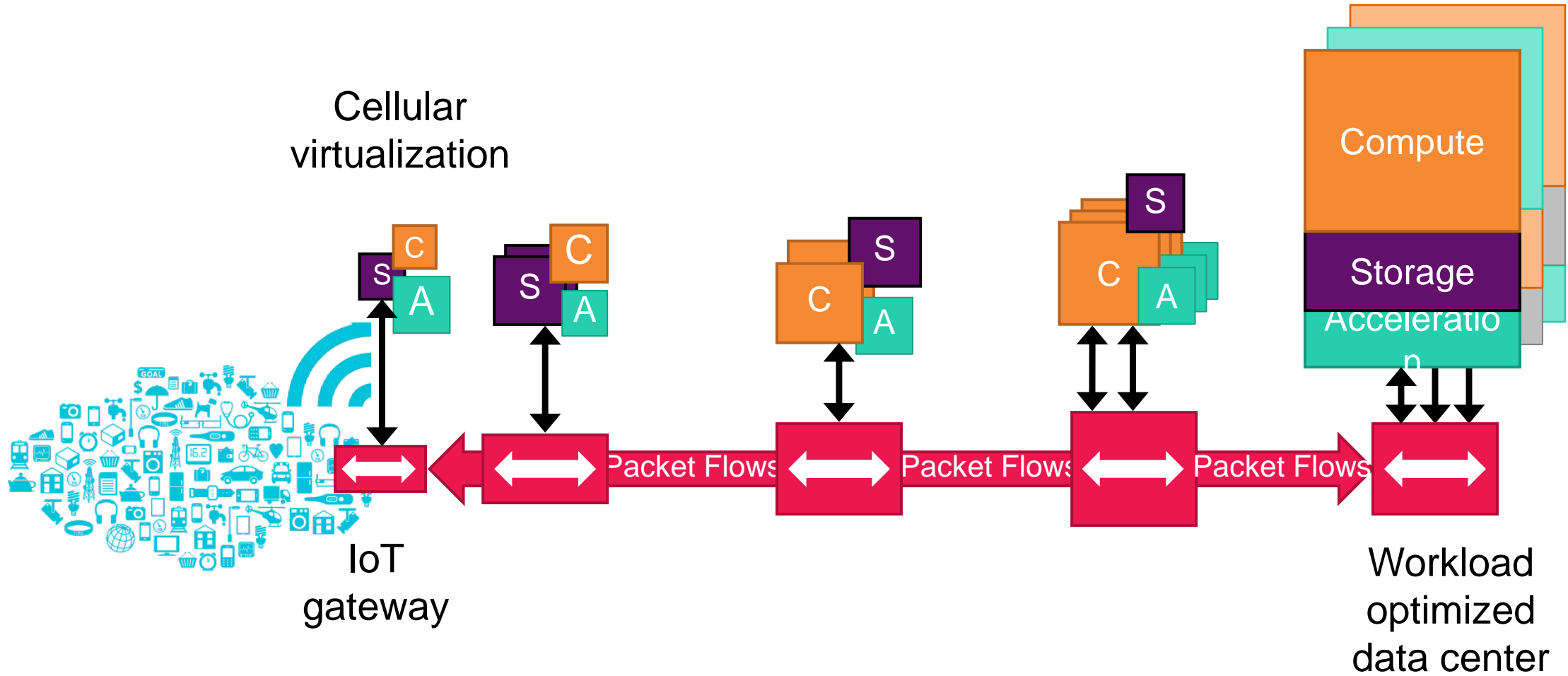
radio architecture

3G modem provides connection to the cloud

more than 500 ZigBee nodes per coordinator

secure, self-healing mesh

Longer term. the lightpole will become a gateway……

ARM

The Cloud Has To Come to the Data....

Cellular virtualization

IoT gateway

Packet Flows

Packet Flows

Packet Flows

Compute

Storage

Acceleration

Workload optimized data center

ARM

Reaching the next billion….

One Size Does Not fit All:

Heart Sounds: Using low cost smart phones to remotely monitor cardiac signals with accuracy of electronic stethoscope. Trialing in South Africa
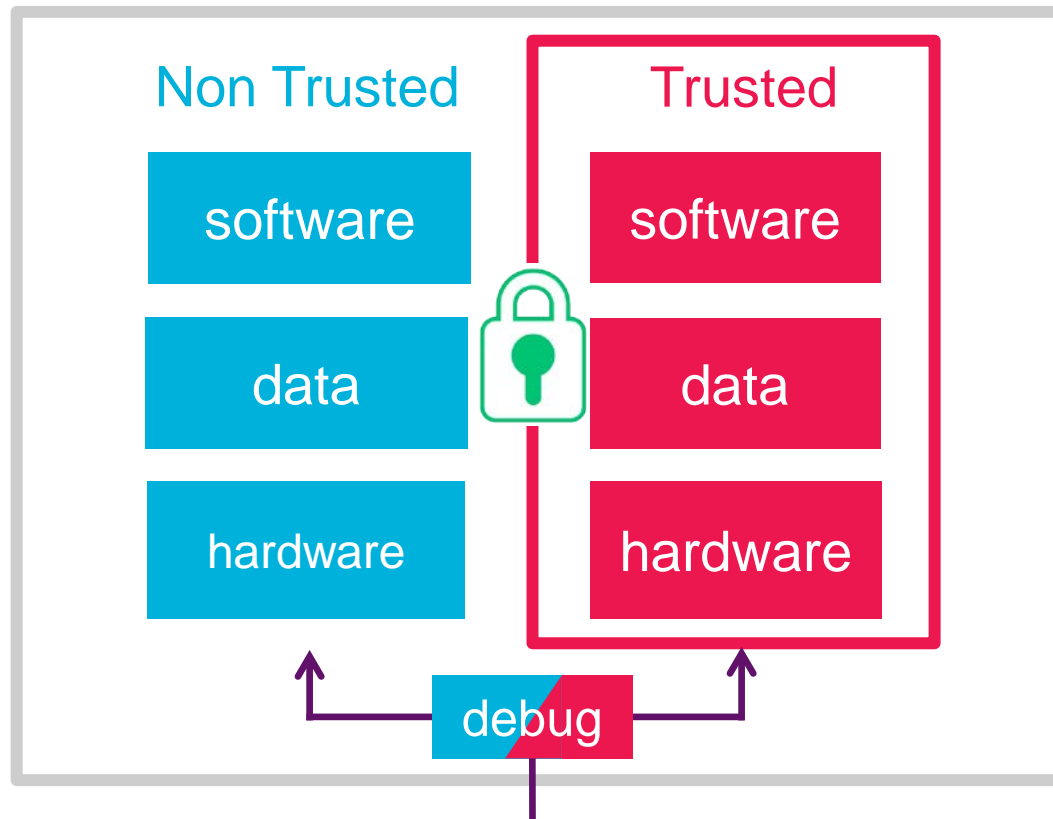
X2 Biosystems: Impact Sensing Skin Patches

Kanega Watch: SmartWatch for seniors that requires no smartphone

ARM

IoT Security Foundation with TrustZone

Isolates trusted software, data and hardware

Enables device integrity and system recovery

Non Trusted	Trusted
software	software
data	data
hardware	hardware

debug

- Example use cases:
  - Protection of critical assets
  - Safe crypto implementations
  - Secure remote firmware update
  - Firmware IP protection
  - Secure debug

ARM

Broad Software and Tool Ecosystem for IoT

Java	WR Helix
IoT Cloud Services (AWS, Xively, Parse etc)	Microsoft
	Linaro (Linux)
3rd Party RTOS	IoTivity
Brillo/Weave	Yocto
Android	Ubuntu JuJu

- Broad ecosystem support across OS, RTOS and languages
- Cloud connectivity services with all major cloud providers
- Open source community support
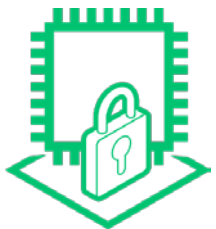
ARM

Security Foundation for IoT

Lifecycle Security

mbed Device Server

Communication Security
Encryption, Authentication, OTA updates

mbed TLS,
TrustZone CryptoCell

Device Integrity
Secure Identity, Software Identity,
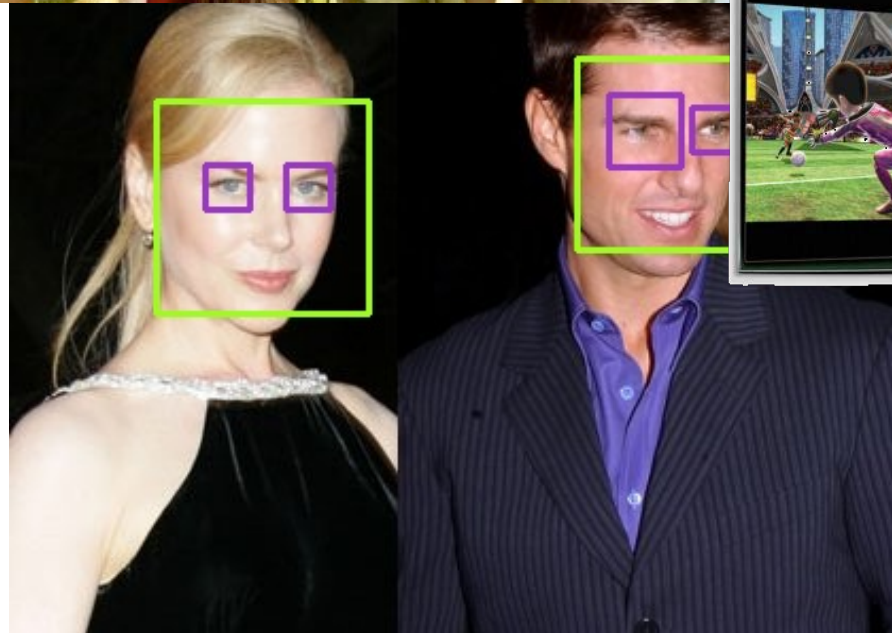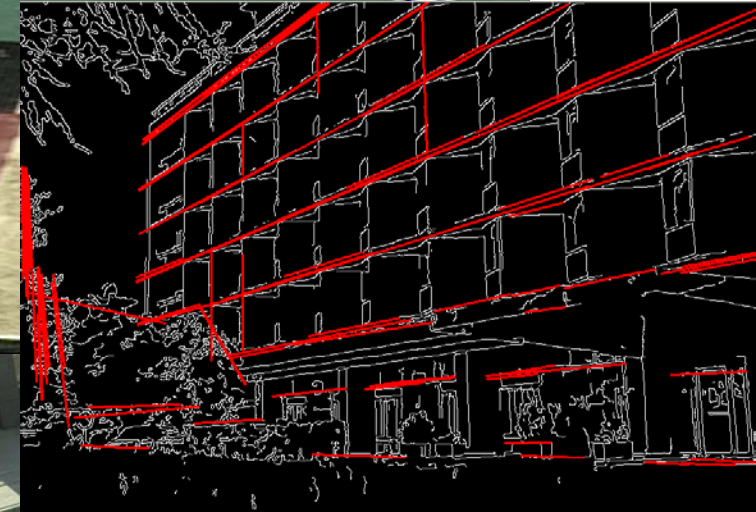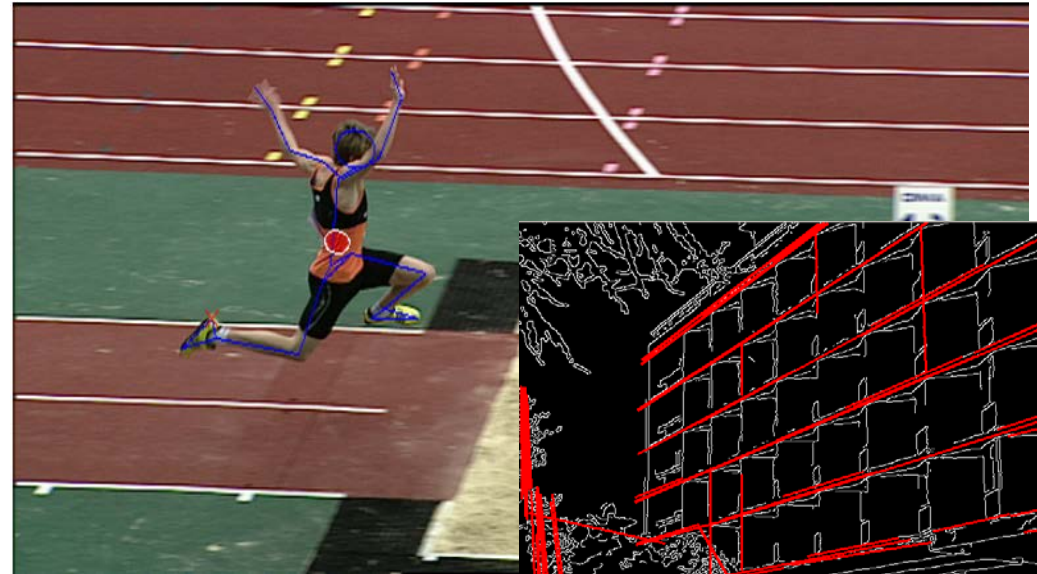Isolation, Tamper Detection

TrustZone, mbed OS,
TrustZone CryptoCell,
SecurCore

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3 Personal Beliefs Of Hot Areas in 2020

ARM

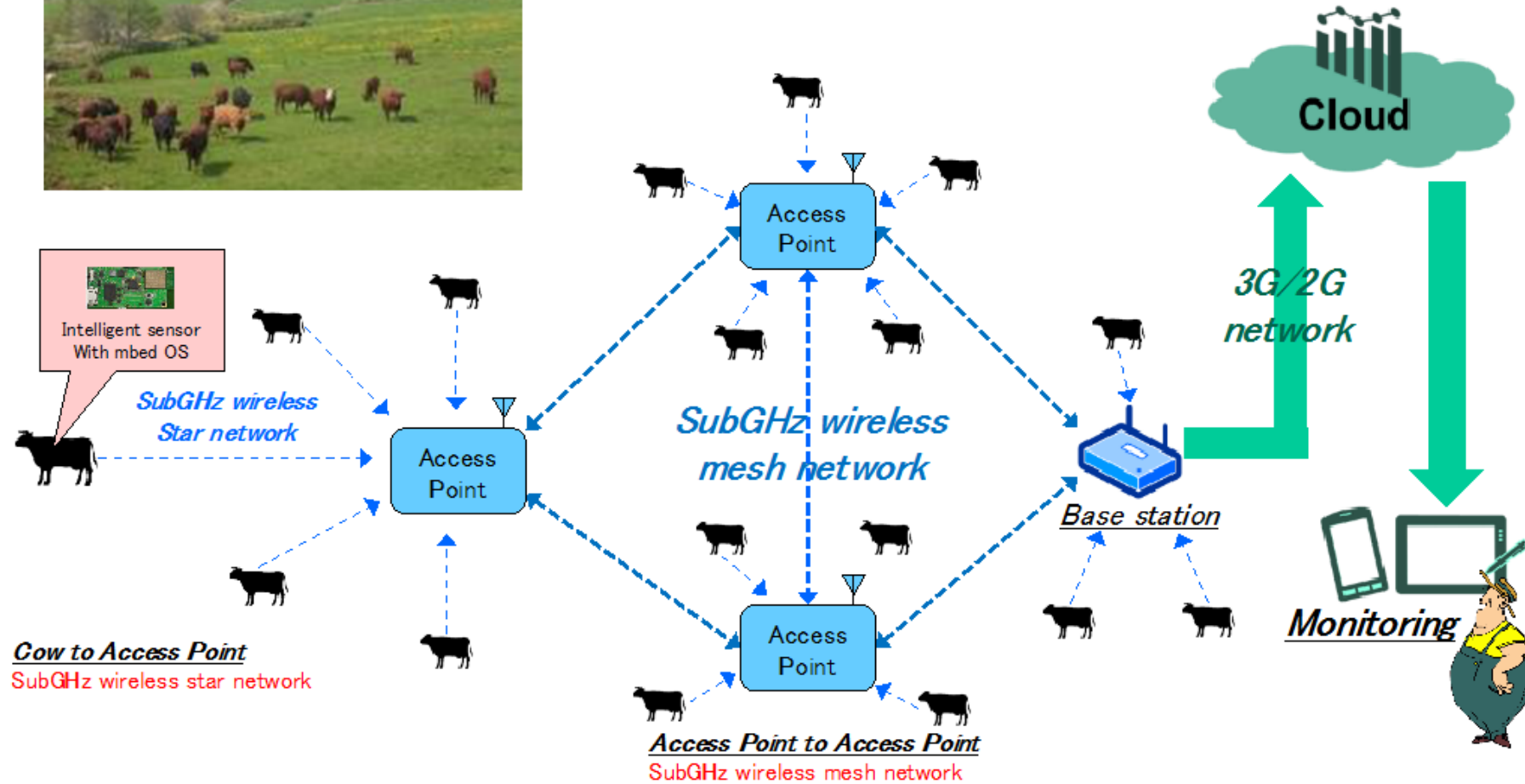Ingestible Sensor

Wearable Sensor

Personal Computing Device
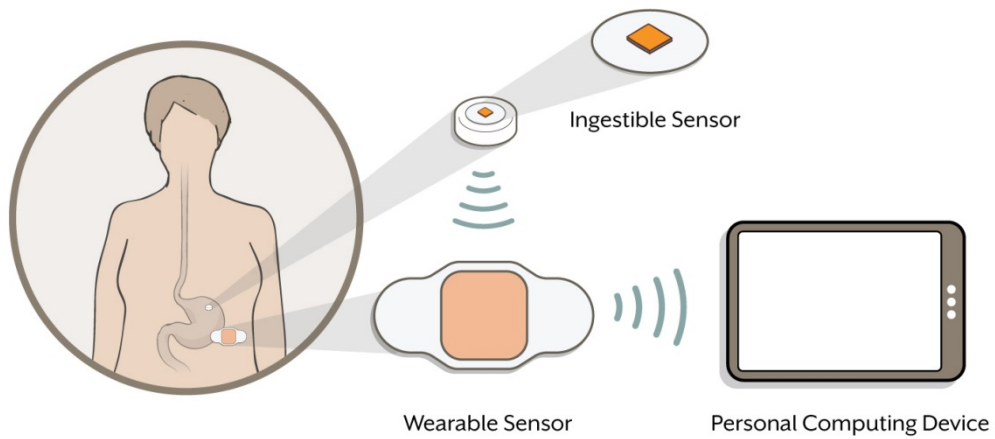
proteus
DIGITAL HEALTH

Computer Vision/AR
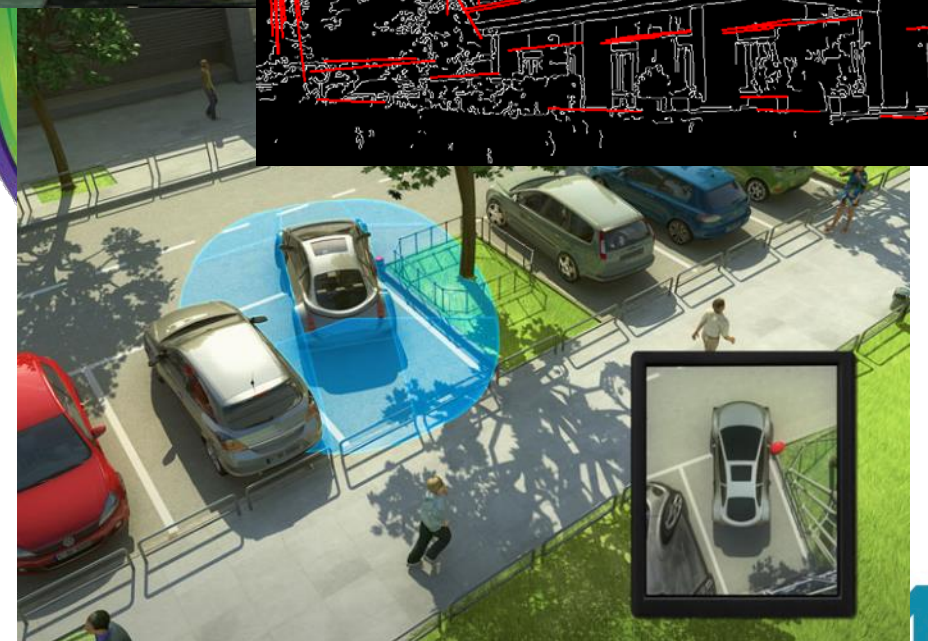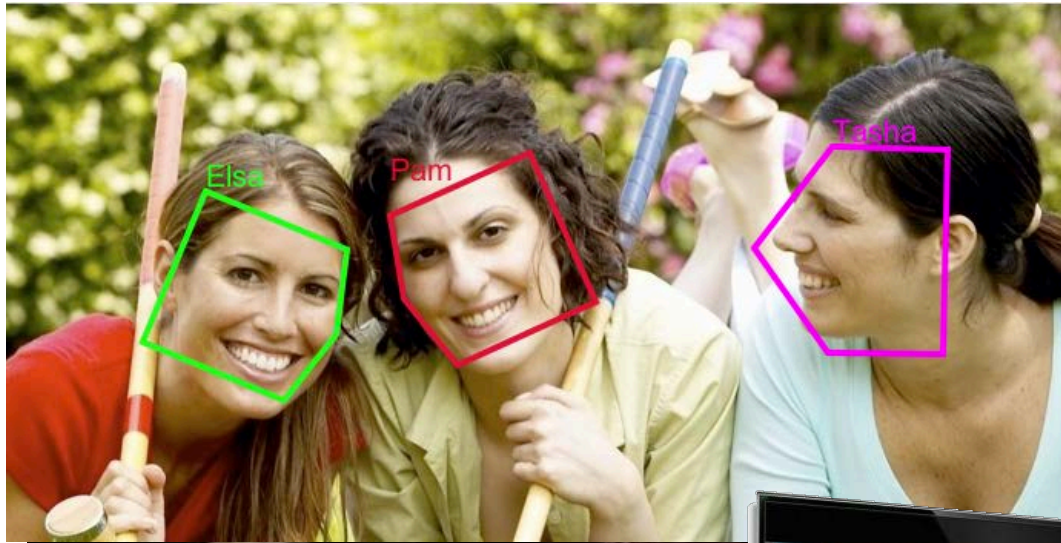
Agriculture

Reason For Nervousness?

Hospital Supercomputer In Boston Predicts Death With Almost 96% Confidence

The Huffington Post UK | By Nitya Rajan ✉ 🐦 👍

Posted: 14/09/2015 15:57 BST | Updated: 14/09/2015 16:59 BST

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Summary

- The growth in several consumer areas are slowing but innovation is alive and well elsewhere

- Infrastructure must be upgraded
    - Bringing the cloud to the data

- Customization is key

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