

# IoT in Agriculture

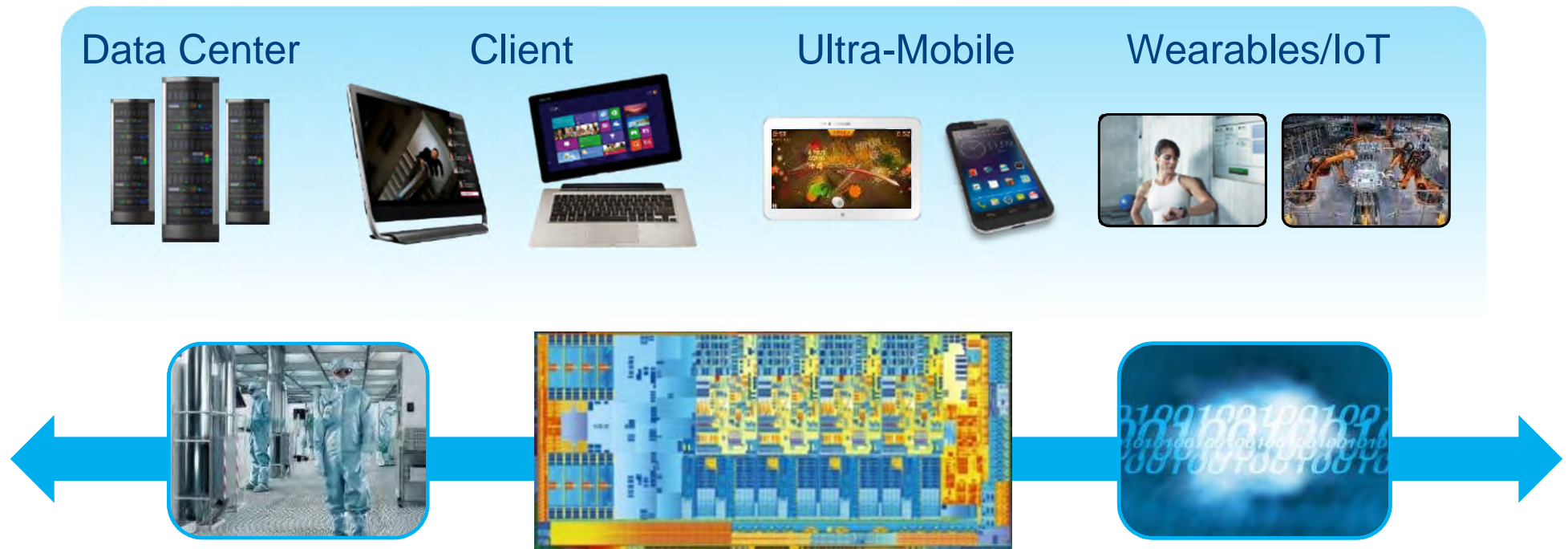
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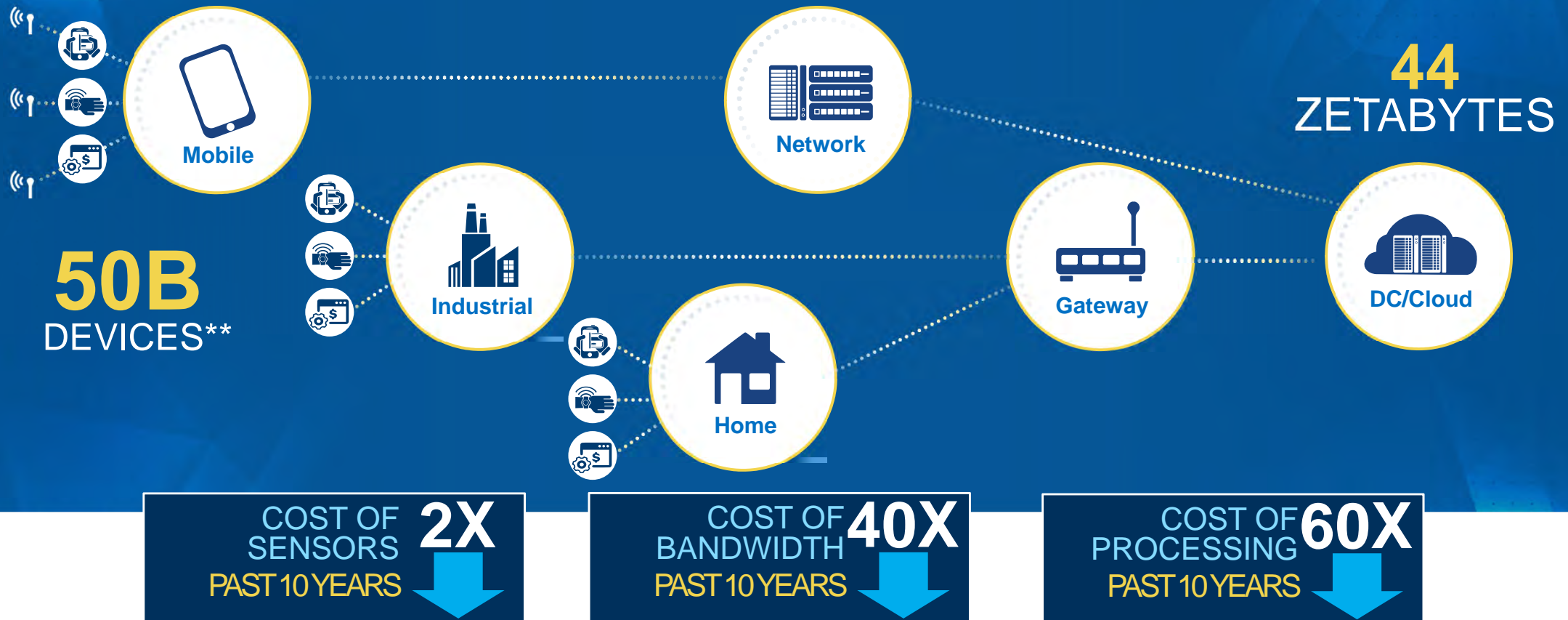
@intellabseurope  
@charlo\_ballivo

# Intel's Strategy

If it is smart and connected, it is best with Intel.



# The Internet of Things: Delivering Pervasive Real-Time Intelligence



# Agriculture Evolving Toward a Greater Use of IT

## AGRICULTURE 1.0

**1900–1950**

**Family farm:** Labor intensive, low productivity, lots of small growers

## AGRICULTURE 2.0

**1950–2012**

**Agribusiness:** Economies of scale, large-scale use of nutrients and pesticides, hybrid seeds

## AGRICULTURE 3.0

**2012–2050**

**Precision Agriculture:** Sensors, data platforms, analytics to increase yields, lower costs, increase product differentiation, address environmental conditions (pests, weather)

# Why IoT in Agriculture?



## Monitor



Monitoring conditions: nutrients, growth patterns; detecting diseases



## Control



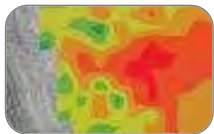
Using information to control application of fertilizer or pesticide



## Optimize & Benchmark



Sharing historical and real-time information



**INCREASE YIELD,  
PREDICTABILITY**



**REDUCE  
ENVIRONMENTAL  
IMPACT**



**LOWER COSTS,  
OPTIMIZE  
PRODUCTION**

# IoT in Farming: The Intel Model

## CONNECTED EDGE

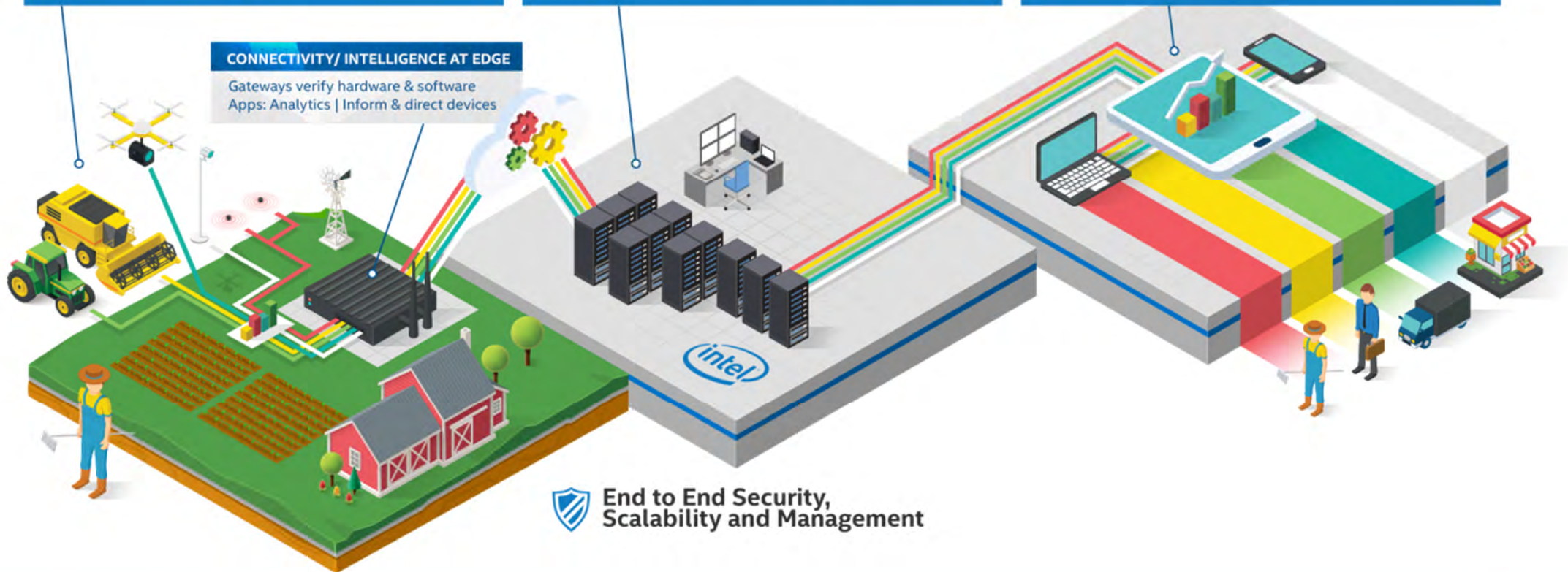
Devices & equipment capturing sensor data, taking action

## TURN DATA INTO INSIGHT

Process, store data. Cloud analytics. Manage devices, policies, networks.

## PRECISION AGRICULTURE

Actionable Information | Automate Operations



# Intel IoT in Action: Improving Farm Yields

## Challenges/Opportunities

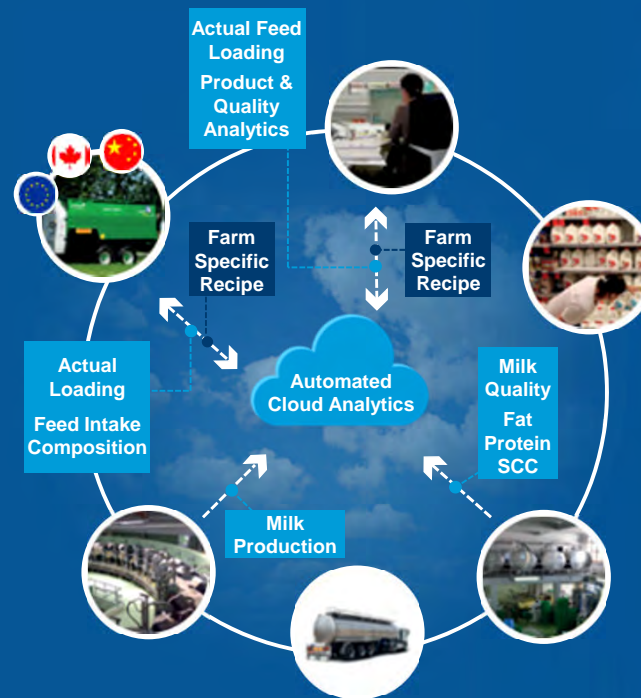
- Improve delivery of nutrition to help farmers optimize yields
- Deliver real-time feedback and advice on feeding regimes
- Minimize manual data inputs

## Solution

An IoT system that automates the collection and transmission of feeding data

## Solution Components

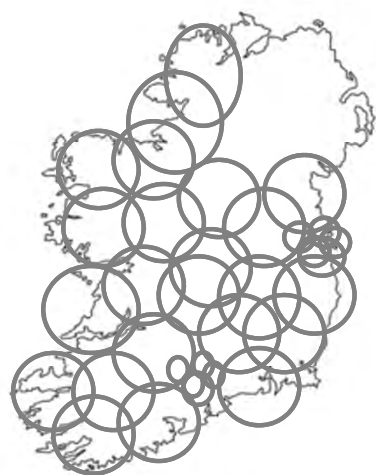
- Keenan inTouch\* platform
- Intel® IoT Gateways connected to feeders
- Analytics algorithms on gateway and cloud provide actionable real-time insights



## Business Outcomes

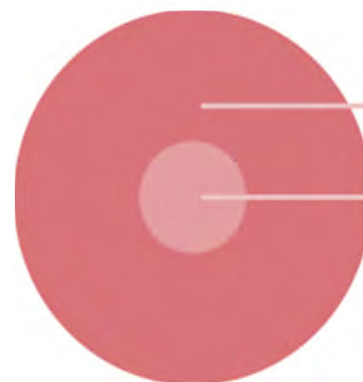
- Up to 25% improved yield without extra feed
- Increased farm productivity and profitability
- New service-driven business models with recurring revenue
- More secure and manageable solution with high performance

# Pervasive Nation



**RTE Networks**  
**The Gardai**  
**An Post**  
**enet MANs**  
**HEAnet**  
**Lighthouses**

**+REGULATORY ENVIRONMENT**



Co-creation

Co-design



**No Urban-Rural Divide**

**Leverage Irish Assets**

**Build a co-creating, co-designing ecosystem**

**Recognize New Value Chains**

# INTERNET OF THINGS

Technology for Global Challenges



**Social**

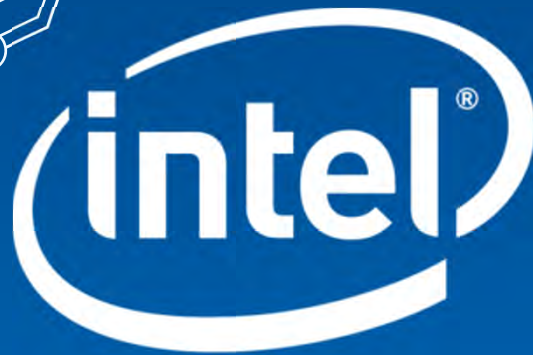


**Environmental**



**Productivity**

**SCALE REQUIRED TO MAXIMIZE IMPACT**



experience  
what's inside™

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