

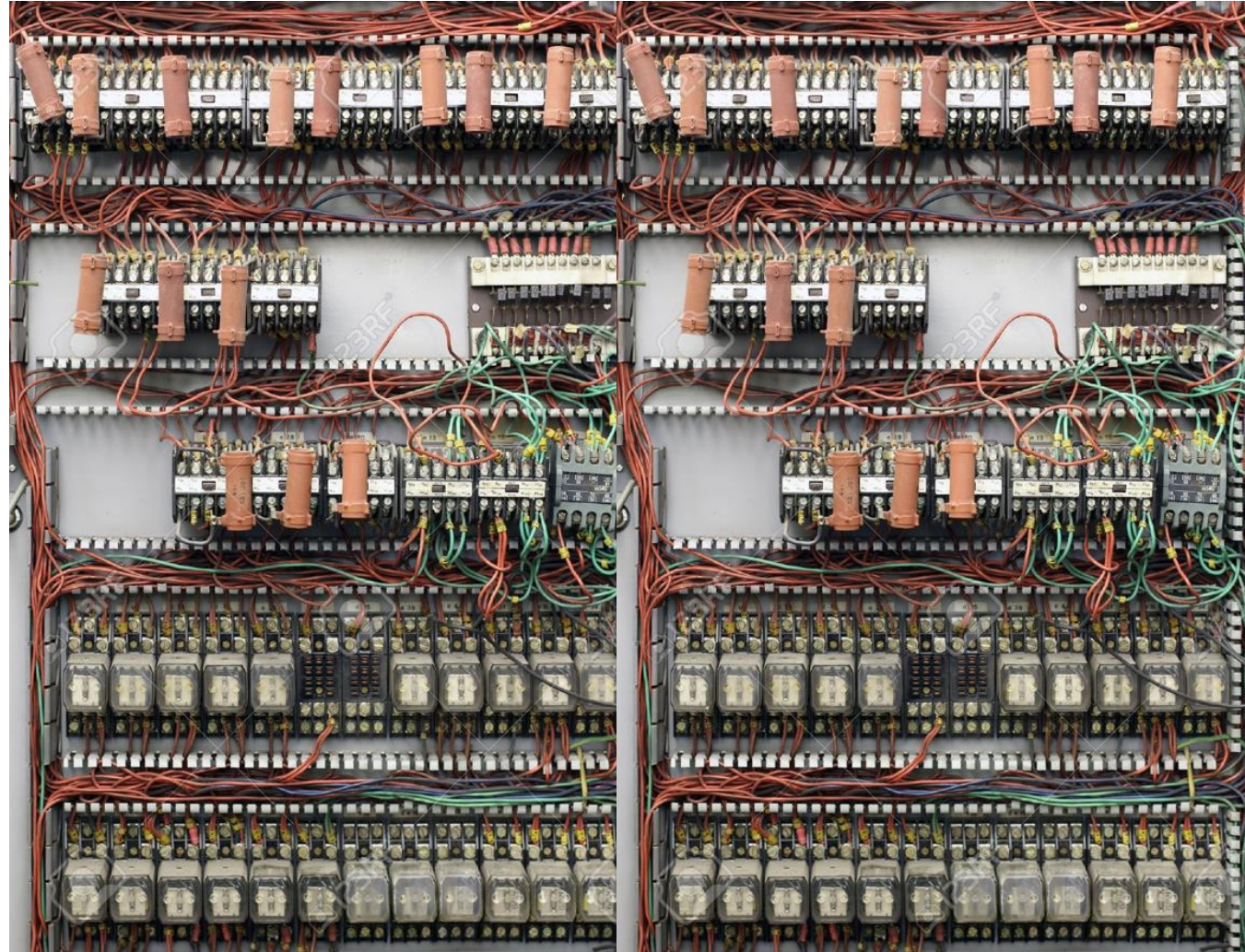
Building the next generation IoT for a global ecosystem

ARM

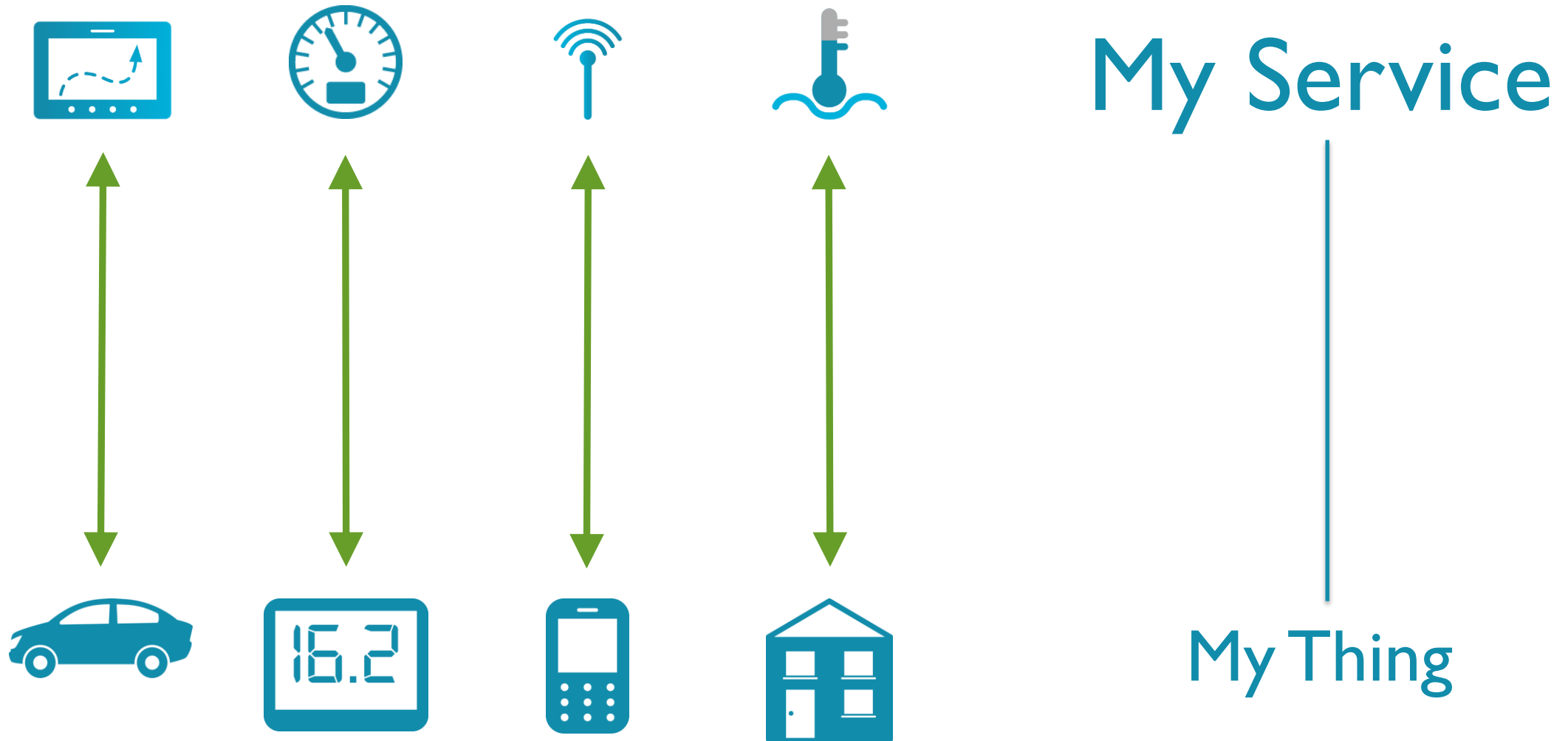
Michael Horne
Deputy GM
VP Marketing & Sales
IoT Business Unit

ARM mbed Connect / Shenzhen, China
December 5, 2016

Internet of Nerdy Things – 1960s-1990s



Internet of Silo Things – 2000s



Internet of Web Things – 2010s



Services

The Web

Things

From Embedded to Connected



2000s

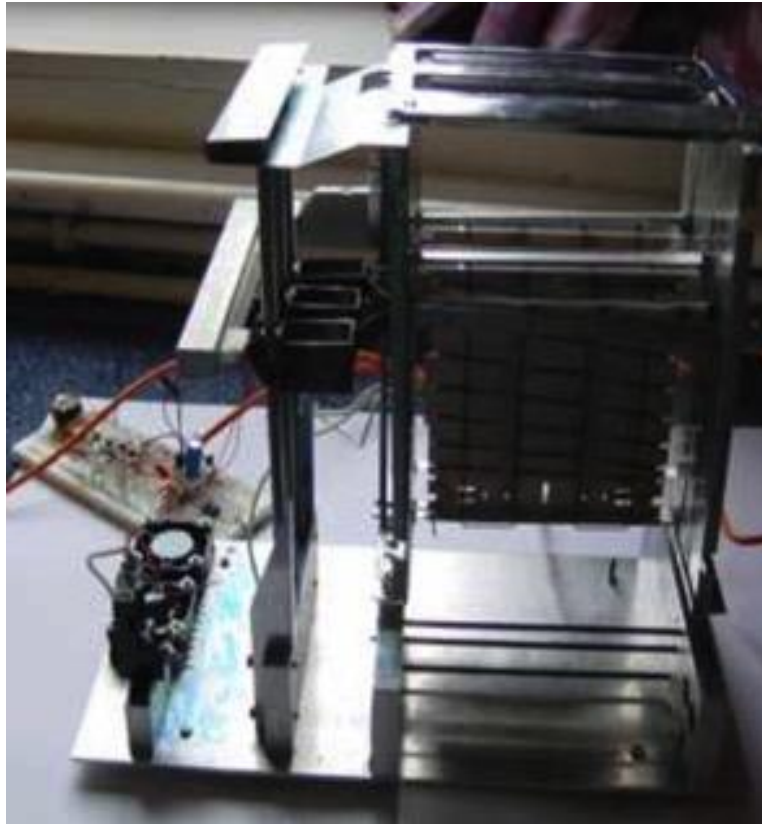


2010s



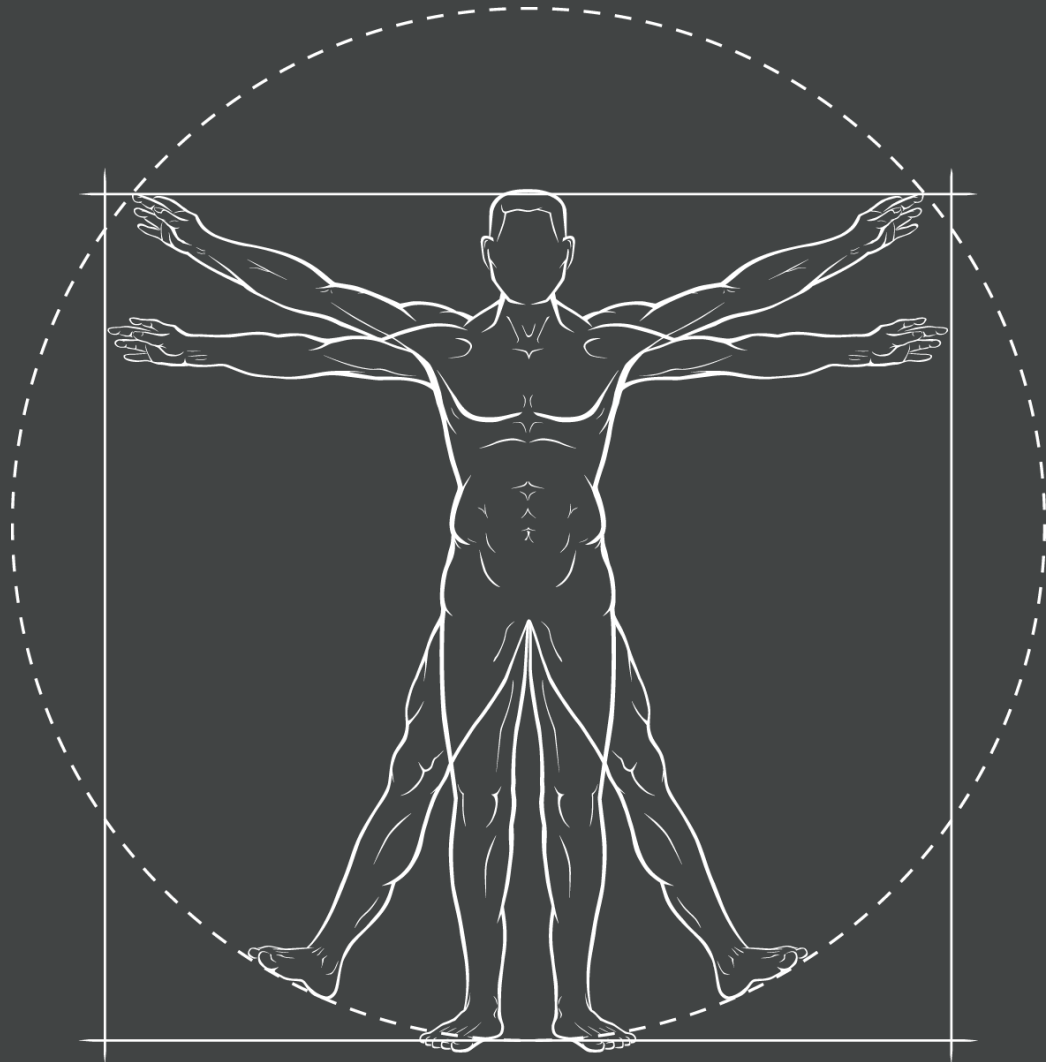
Back to the Beginning

Our Favorite “Thing” in 2001



Shao Bing 燒餅 Fortune Telling?
Information Delivered on a Plate





“Learn how to see.
Realize that
everything
connects to
everything else”

- Leonardo da Vinci

Reaching Millions of New Devices

1990s

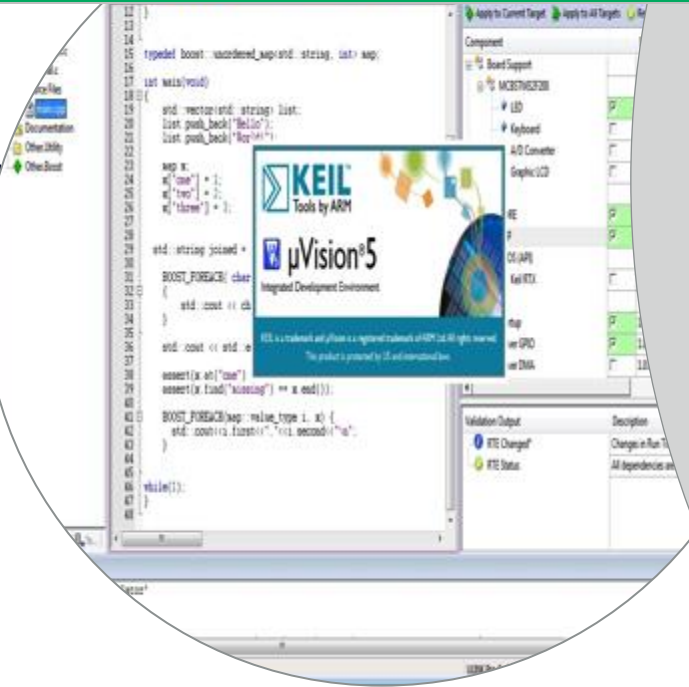
1 000's

2000s

1 00,000's

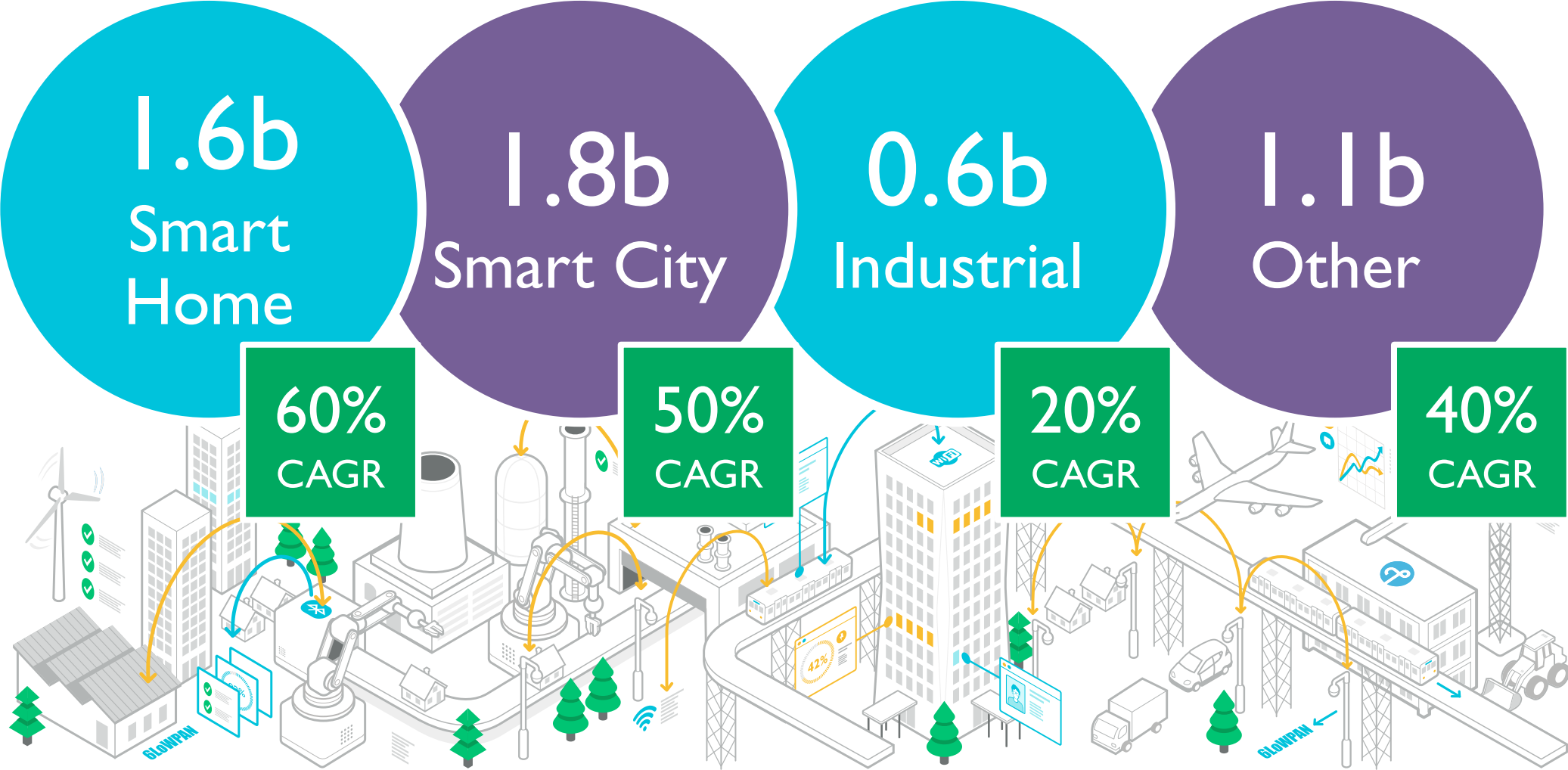
2010s

Billions



IoT market opportunity

Expected number of IoT devices shipped in 2020



Transforming lives with distributed intelligence



Logistics



Precision farming



Energy grid



Home automation



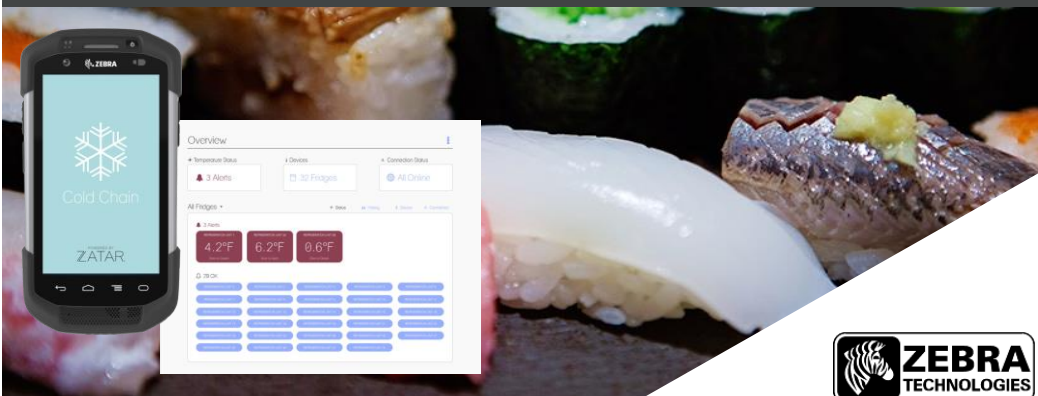
Environmental

15 Bn chips

shipped in connected devices by
ARM partnership in 2015

IoT deployments are starting to scale out

Meet new food safety regulations



ZEBRA
TECHNOLOGIES

Rapidly deploy new customer experiences



TRIDONIC

Transform B2B services markets



SmeshLink
EXPERT OF IOT

Transforming living



SilverSpring
NETWORKS

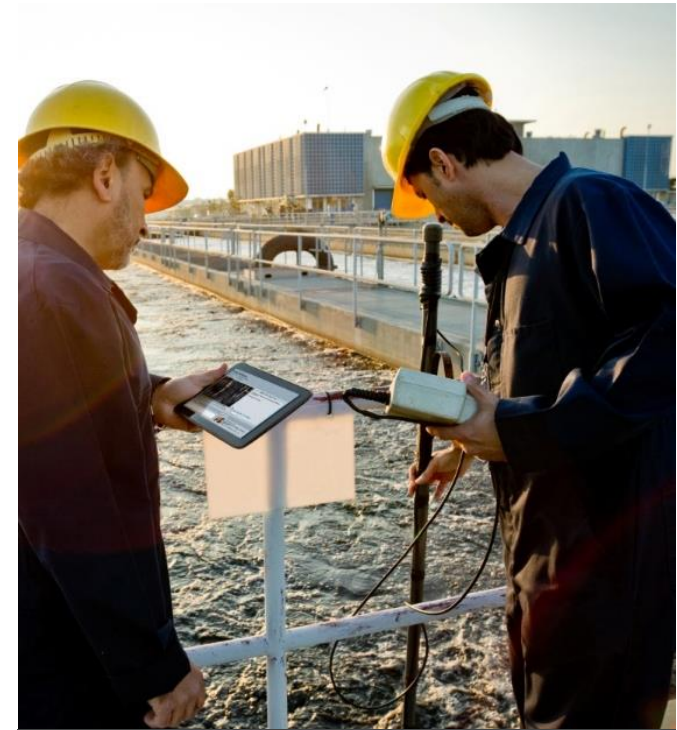
Consider the larger lifecycle of device



Suppliers and users
need authentication






Need to be updated
in field






Tricky to access and
conserve battery

Mission: Enable success to IoT developers

Managing IoT devices

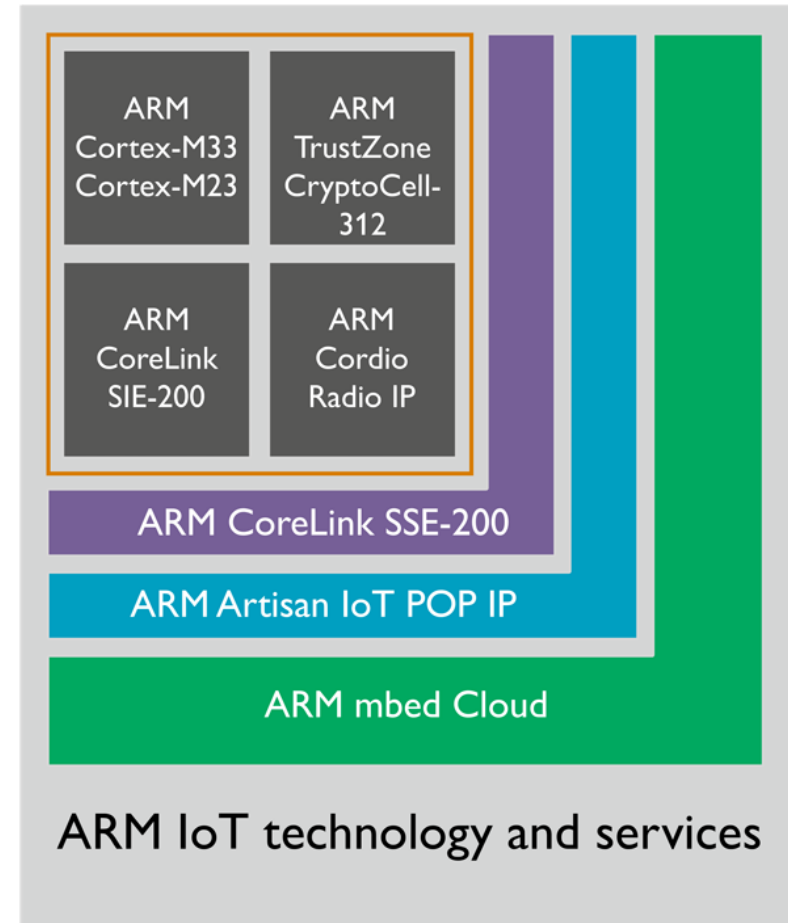
-  Connectivity
-  Management
-  Productivity

Developing IoT devices

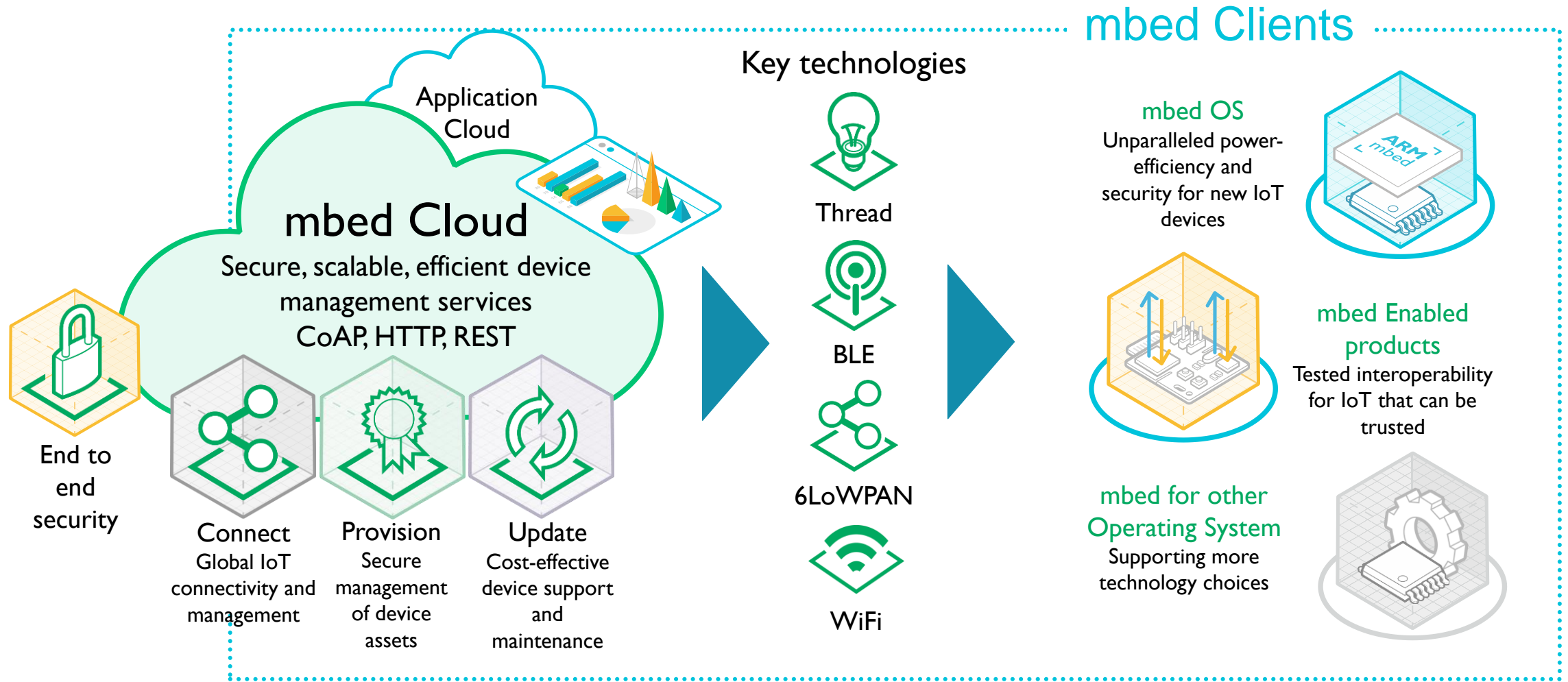
-  Efficiency
-  Security
-  Productivity

Faster route to secure IoT from chip to cloud

- The most comprehensive suite of technologies to accelerate IoT deployment at scale
 - Simplifying design of secure SoCs
 - Cloud SaaS to manage IoT devices
 - End-to-end security
- Rapidly develop, deploy and manage secure connected devices



ARM mbed: Bridging IoT cloud and device security



mbed Cloud: Any device, any cloud

First ARM secure device management services, delivered as SaaS



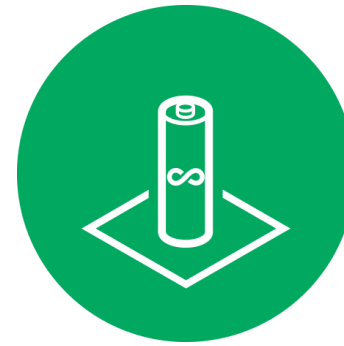
Flexibility

Multi-cloud
capable



Coverage

Any device



Optimizations

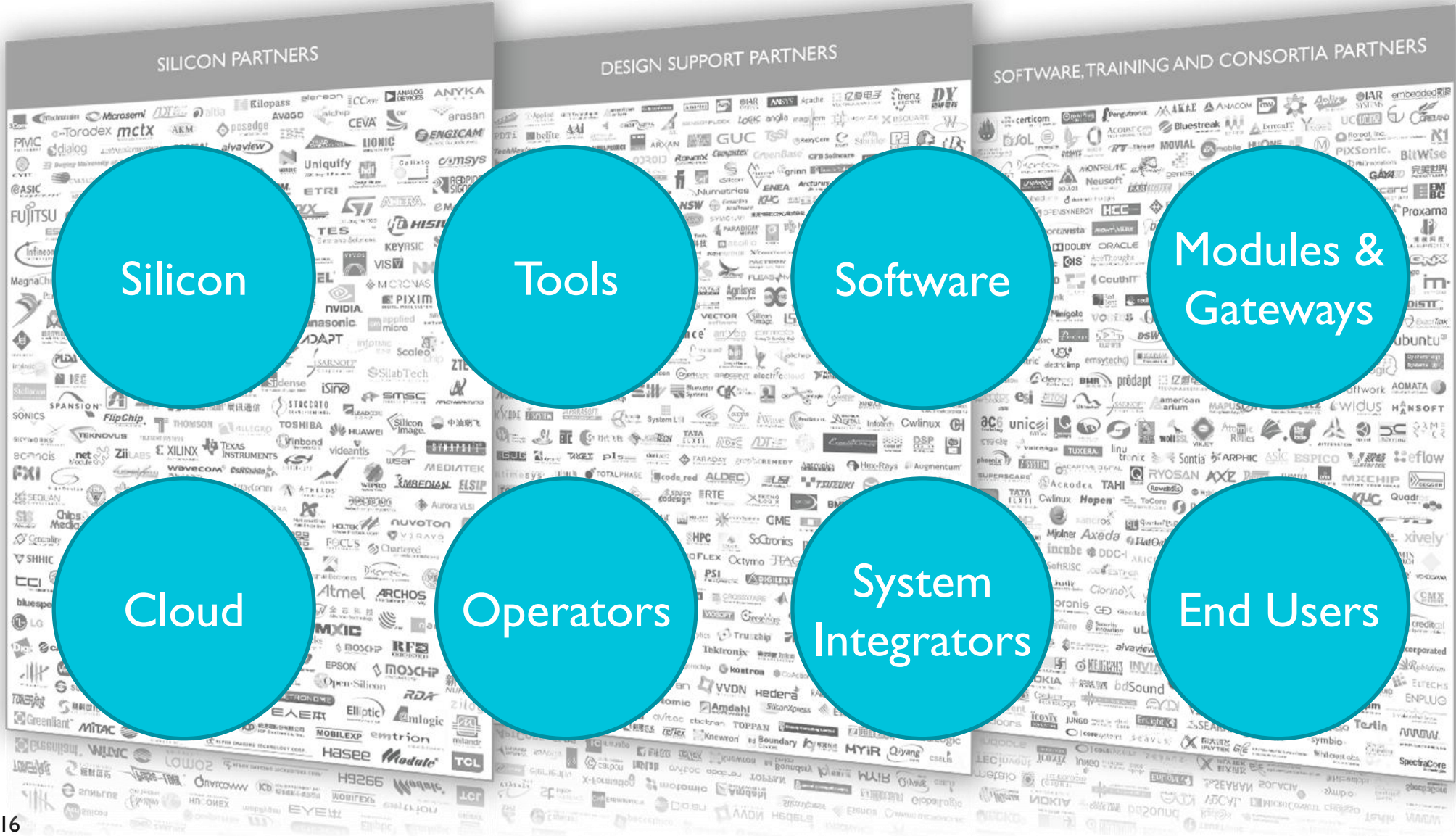
Energy
efficiency



Trust

Every transaction
secured

IoT Requires an Ecosystem





It's all about the pace of innovation which you bring



www.kickstarter.com/ARM

...and connectivity interplay is key

Delivering greater coverage

5x

Increase of coverage in Bluetooth 5.0



Enabling mission-critical services

1ms
latency
achieved
with 5G

Connecting long-range devices and networks

15-30

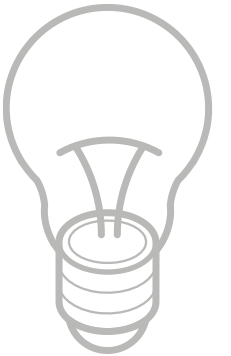
miles
distance supported
between nodes
with LoRA



Simon Ford
Senior Product Director, mbed OS

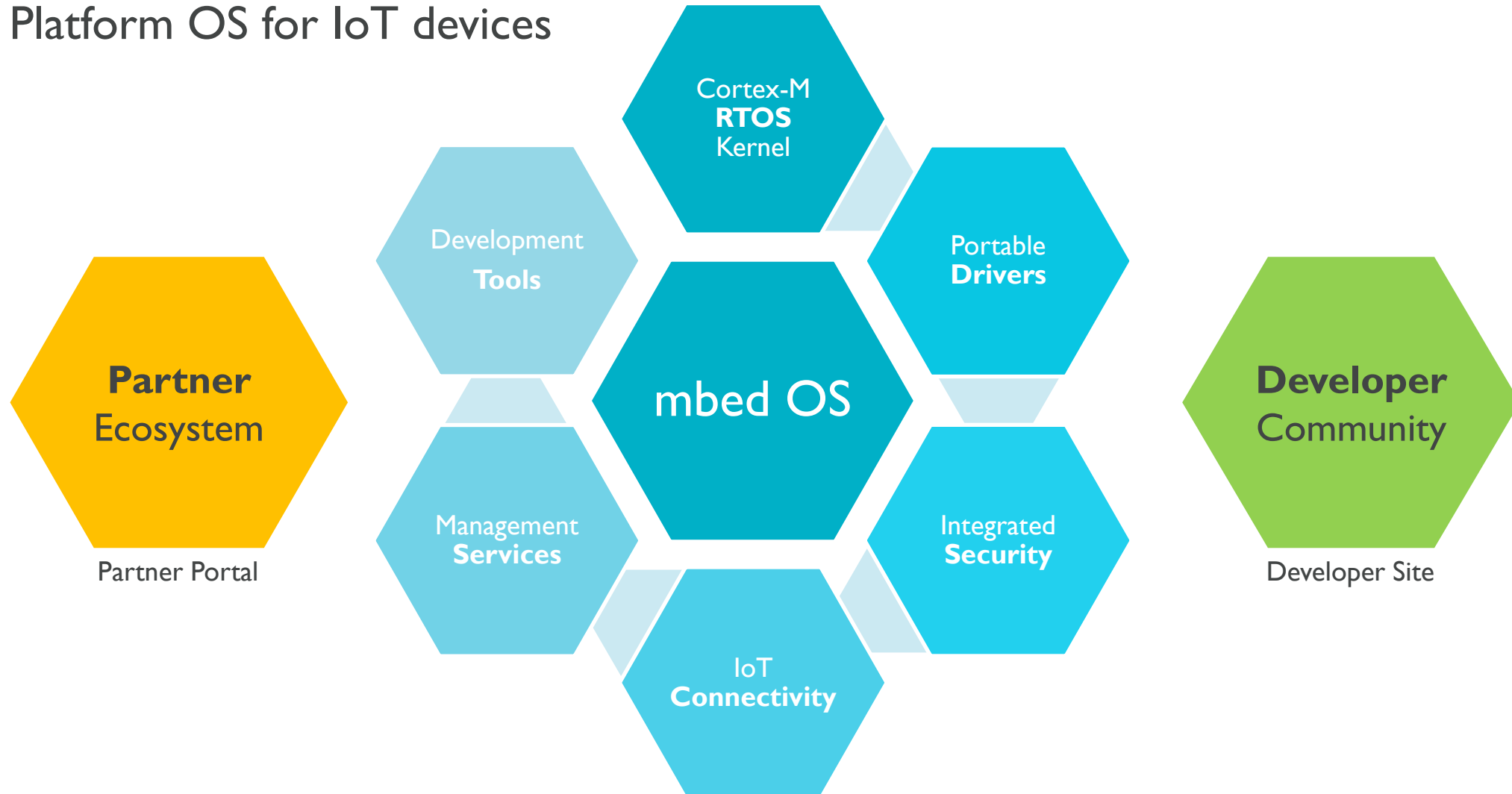
OS platforms for IoT and embedded

- IoT is a **disruptive jump in complexity** for embedded software
 - Requirements for Connectivity → Security → Management
- **Adoption of OS platforms** is necessary for industry success
 - The cost and risk of projects building from scratch is too high
 - A platform OS lowers the barrier to entry for new entrants
- IoT products **require device management services**
 - Will become essential components within a platform OS



mbed OS 5

A Platform OS for IoT devices



mbed OS product diversity



mbed OS 5.2 headline features

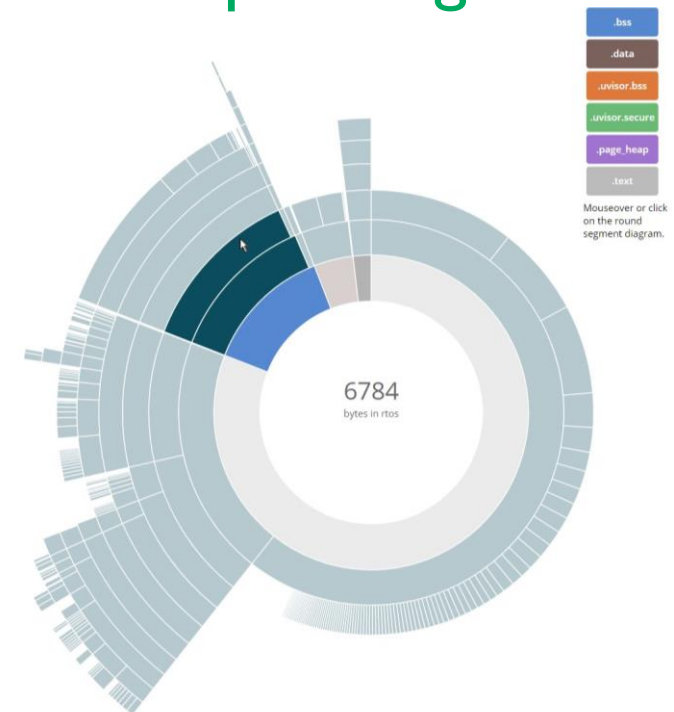
Wi-Fi SoC and module support



Hardware entropy support



Memory footprint profiling



Now available @ <http://www.mbed.com>

400+ Contributed components



Not just easily available hardware,
but **software, applications and trust**
are critical to unlocking the value of IoT

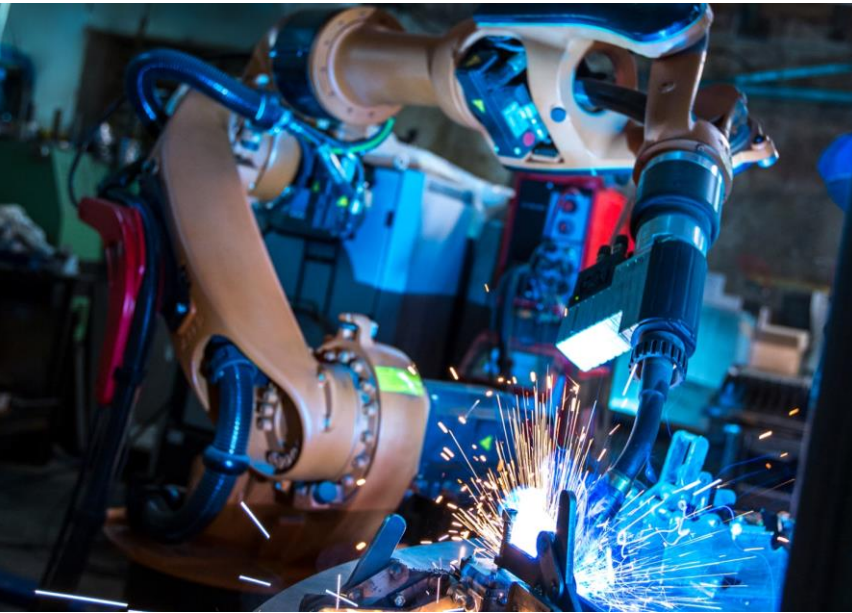
Unlocking the transformative value of IoT

Solutions in

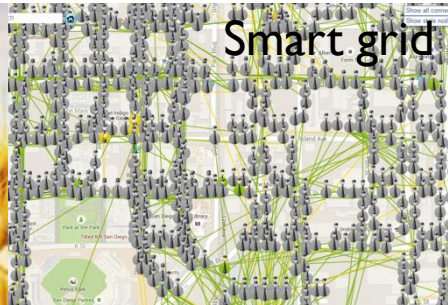
Health and safety

Industrial IoT

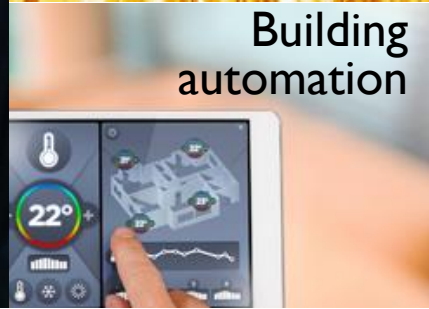
Inventory Management



Agriculture



Smart grid



Building automation



Commercial lighting





ON Semiconductor®



ARM

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