

Is your favourite stock IoT ready?

How companies should prepare for
the next information revolution

July 6 2017

View the full webinar @ <http://bit.ly/2uyDxi0>

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Insight for
Technology
Investors



Michael Horne

Deputy GM, IoT, ARM



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Technology
Investors



Michael Horne

Deputy GM, IoT, ARM

- Started career in EDA and chip design
- Later VP Business Development for ARM Physical IP
- Now leading ARM's entry into IoT cloud services

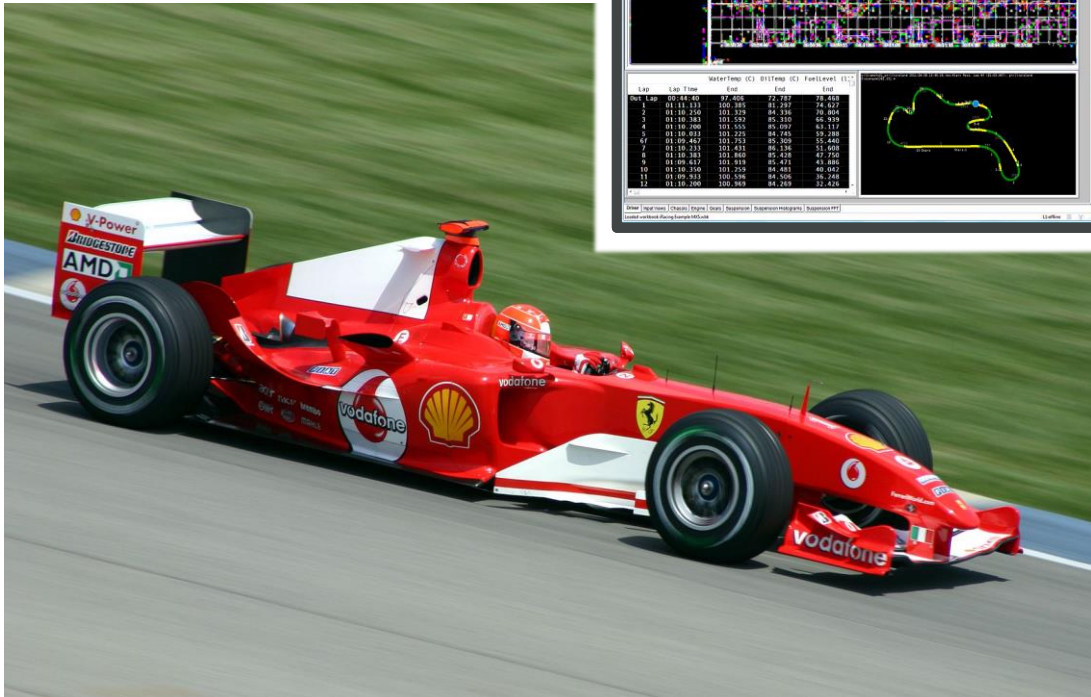
The Information Profit Margin

IoT gets deployed when:

Value of Data > Cost of Data

The Information Profit Margin

1997



Early machine-to-machine systems used **proprietary** technology

- **Bespoke** and application-specific
- **Expensive** to design and implement
- Suitable only for high value assets.
Does not scale to high volume markets

The Information Profit Margin

2017



Modern IoT systems are based on **open standards** and interfaces

- Competition encourages products that are **innovative and affordable**
- Components from different vendors are **simple to integrate** into complex systems
- Can **scale** to millions of low-cost devices

Preparing for an IoT project

Two routes to higher profits

Boost revenues

- Transform business model
- Enhance customer loyalty
- Extend order book
- Personalize products
- Monetize data and analytics

Increase efficiency

- Reduce waste
- Improve asset turn
- Eliminate accidents
- Inform investment decisions
- Reduce risk

Identify the business objective



Create a new
product or service



Optimize a
process



Analyze customer
behaviour

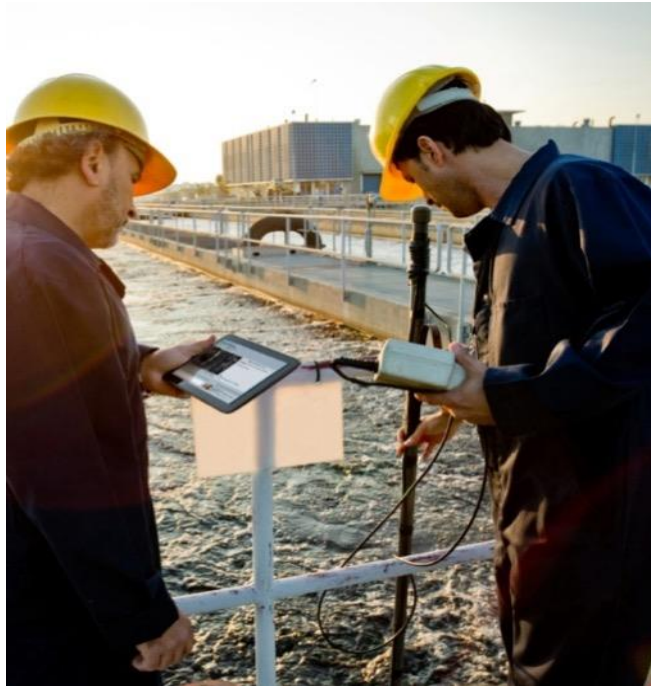
Identify the data you need to achieve your goal



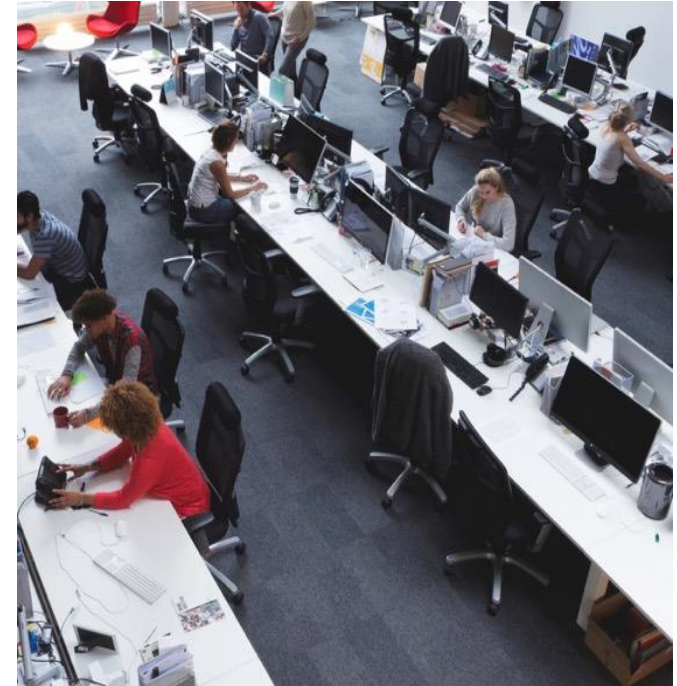
Avoid the pitfalls that will hinder scalability

Software:
OEM_OS
Version:
1.0
Release Date:
13 Jan 2013

Unconfigurable
devices



Proprietary
protocols



Data silos

Select your technology partners

Device software

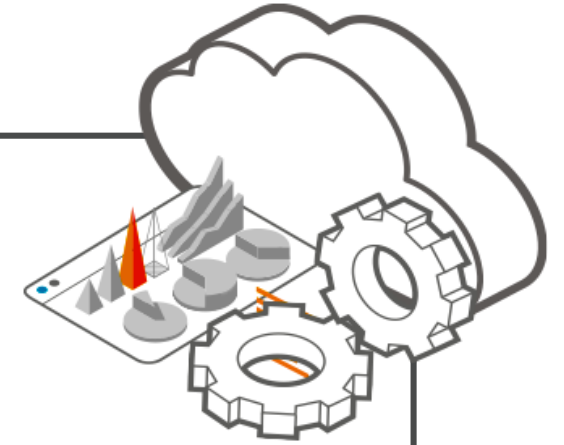


IoT device application

Device OS

Device silicon and hardware

Cloud services



Update

Analytics and rules

App management

Provision

Web servers

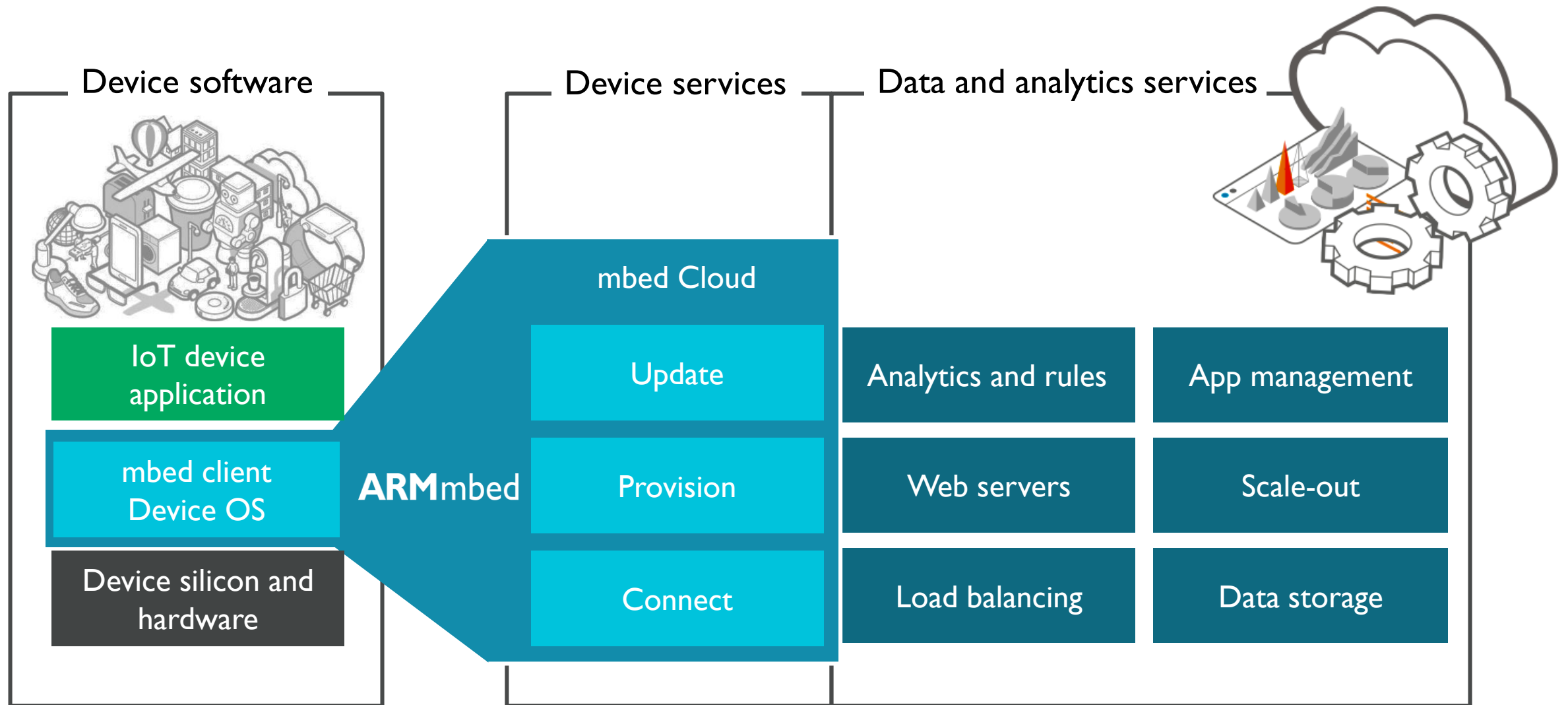
Scale-out

Connect

Load balancing

Data storage

Select your technology partners



How to identify an 'IoT-ready' company

Questions for the CEO

1. Is IoT as an opportunity or a threat?
2. What new information could increase your profit?
3. What is your company doing to implement IoT?
4. How far is your company prepared to scale IoT?

Is your favourite stock IoT ready?



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Look for secure OS that support evolving standards



- Platform OS with built-for-IoT features

- RTOS Kernel

- Cortex-M processors and Radio IP supported



- Unified support for key IoT connectivity standards

- Designed for integrated radio SoCs and Modules

- Leading innovation on Thread and LoRa



- Industry leading device to cloud security

- Tied to hardware security

- mbed TLS widely adopted

IoT devices can be in the field for up to ten years. Designers should use future-proof software that can evolve over time

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Goods as a service Real-time yield management

- WASH improves asset utilization with live prices that shift demand to off-peak periods



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IoT designers can use standard hardware and software components to build unique systems

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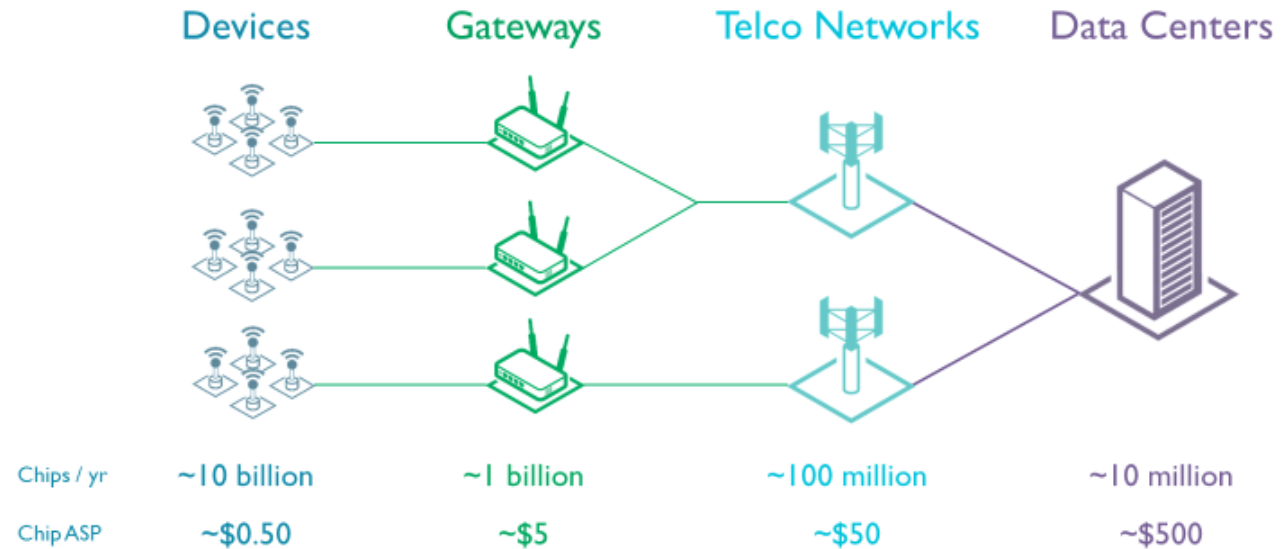
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Internet of Things – simplified schematic



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Every IoT system involves data collection by 'things', data transport via networks and data processing in servers

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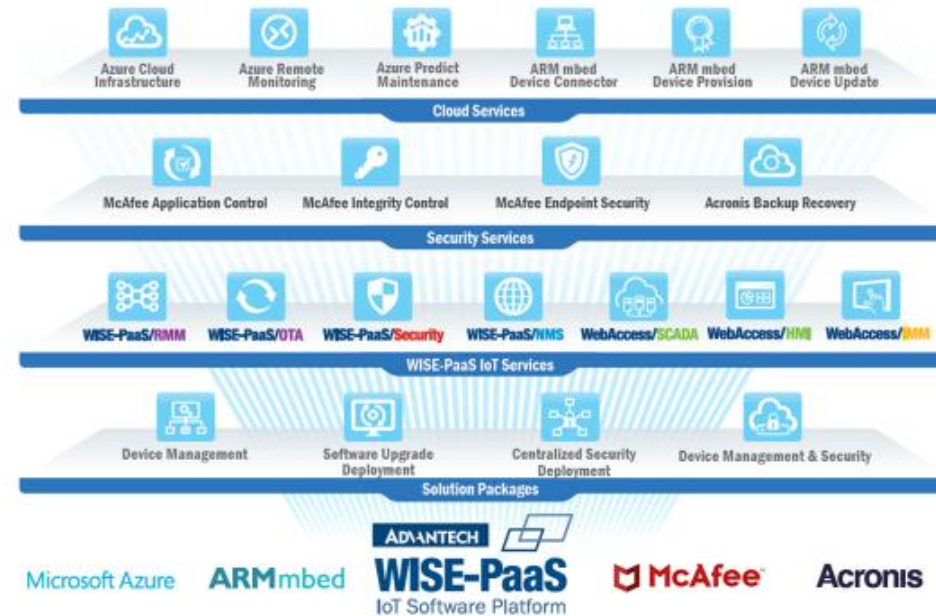
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Advantech's IoT platform integrates ARM mbed services



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IoT systems integrate multiple software components from multiple vendors

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IoT enables the transformation of business models. This brings opportunities for revenue growth, and the threat of disruption

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Modern executives should understand the value of information

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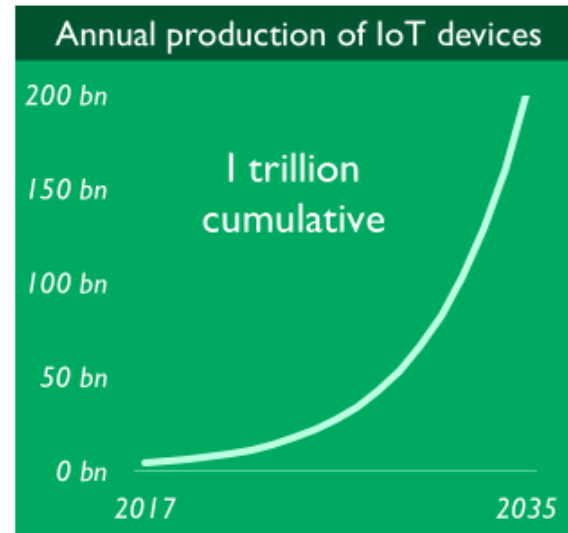
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A trillion devices, a trillion dollars per annum by 2035



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- Deployment of IoT systems adds **3% to global output by 2035** equivalent to **\$5 trillion pa**
- Spending on IoT system technology to reach **\$1tn pa** by 2035
- Cumulative spending on IoT modules between 2017 and 2035 surpasses **\$750bn**

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The information revolution will redefine all industries

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An operating system to enable the Internet of Light

The **OpenAIS** project will create an open ecosystem to enable a wider community to deliver the smartness of light.

Standardizing on **mbed OS**
for device architecture

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University of Technology Eindhoven,
Netherlands

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ARM

Embedded Systems Innovation
BY TNO

NXP
NXP Semiconductors

TNO-ESI, Netherlands

ARM mbed OS helps OEMs design IoT products with
low-cost, power-efficient compute and connectivity

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Connected asset intelligence solutions

ARMmbed
IoT device platform

A photograph of a Zebra Technologies ambulance at night with its rear door open, showing medical equipment inside. The Zebra Technologies logo is in the top left corner of the image.

“Our patient flow solution, leverages ARM mbed Cloud to improve patient safety, care compliance, workflow and efficiency - critical performance indicators for hospitals.”

Tom Bianculli, CTO,
Zebra Technologies.

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ARM mbed Cloud services helps companies scale out
secure and cost-effective IoT systems



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