

Snelle ontwikkeling van applicaties in het Industrial Internet of Things (a.k.a. M2M)

Rutger van Dalen, AnyBridge

Topics

- “ What does the IoT hold in store?
- “ The big picture
- “ The big question(s)
- “ Development flow and application example

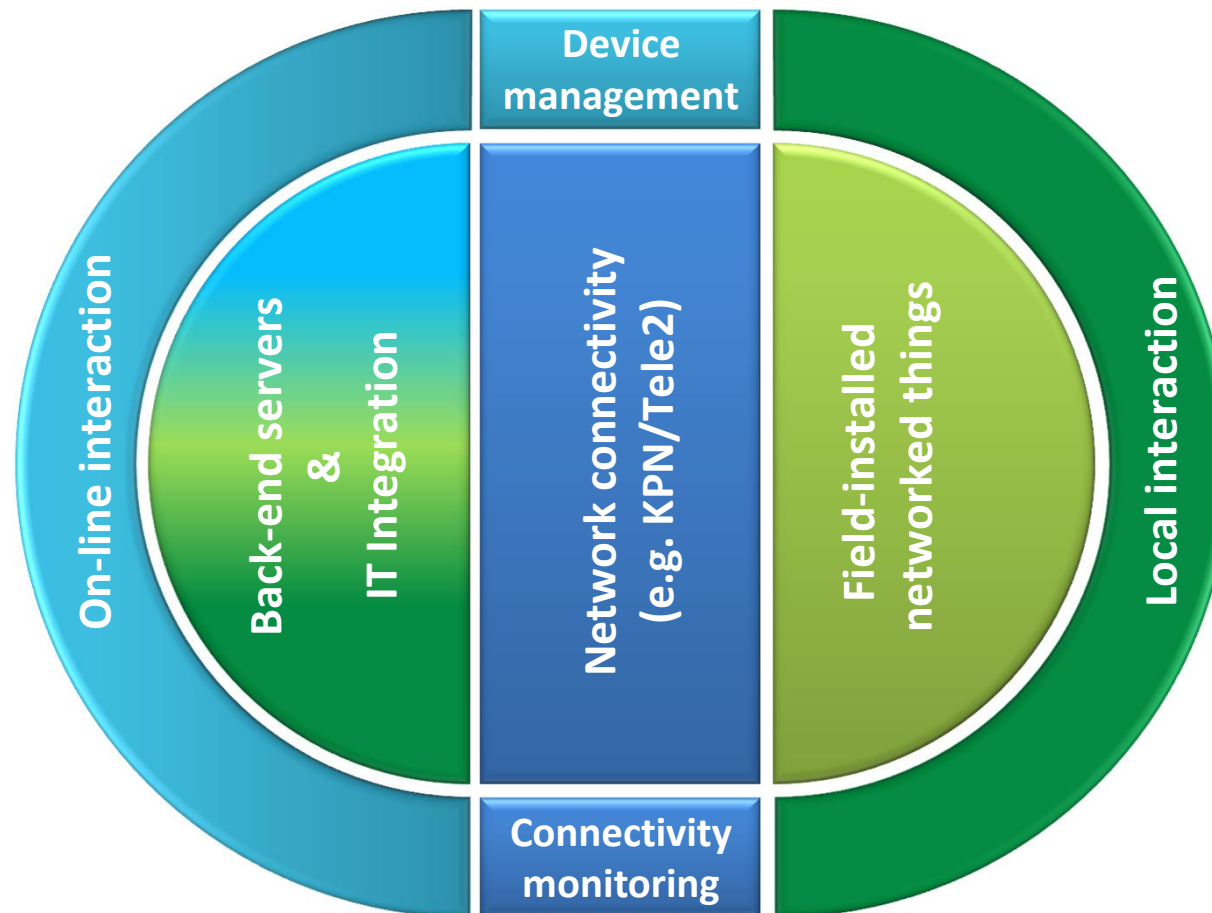
What does the IoT hold in store?

- “ Trillions of sensors/actors interacting through ubiquitous network connectivity
- “ Think in thousands and millions, not in tens and hundreds
- “ From *Business Intelligence* to *Intelligent Business* (Industry 4.0)
- “ Cross-vertical integrated applications

The big picture (1)

- ” An IoT solution consists of:
- . A front-end user interface (BI, portal)
 - . A back-end communication and storage server
 - . A form of network connectivity
 - . Field-installed networked ‘things’ connected to sensors and actors
 - . Possibly, integration with back-office applications (e.g. ERP)

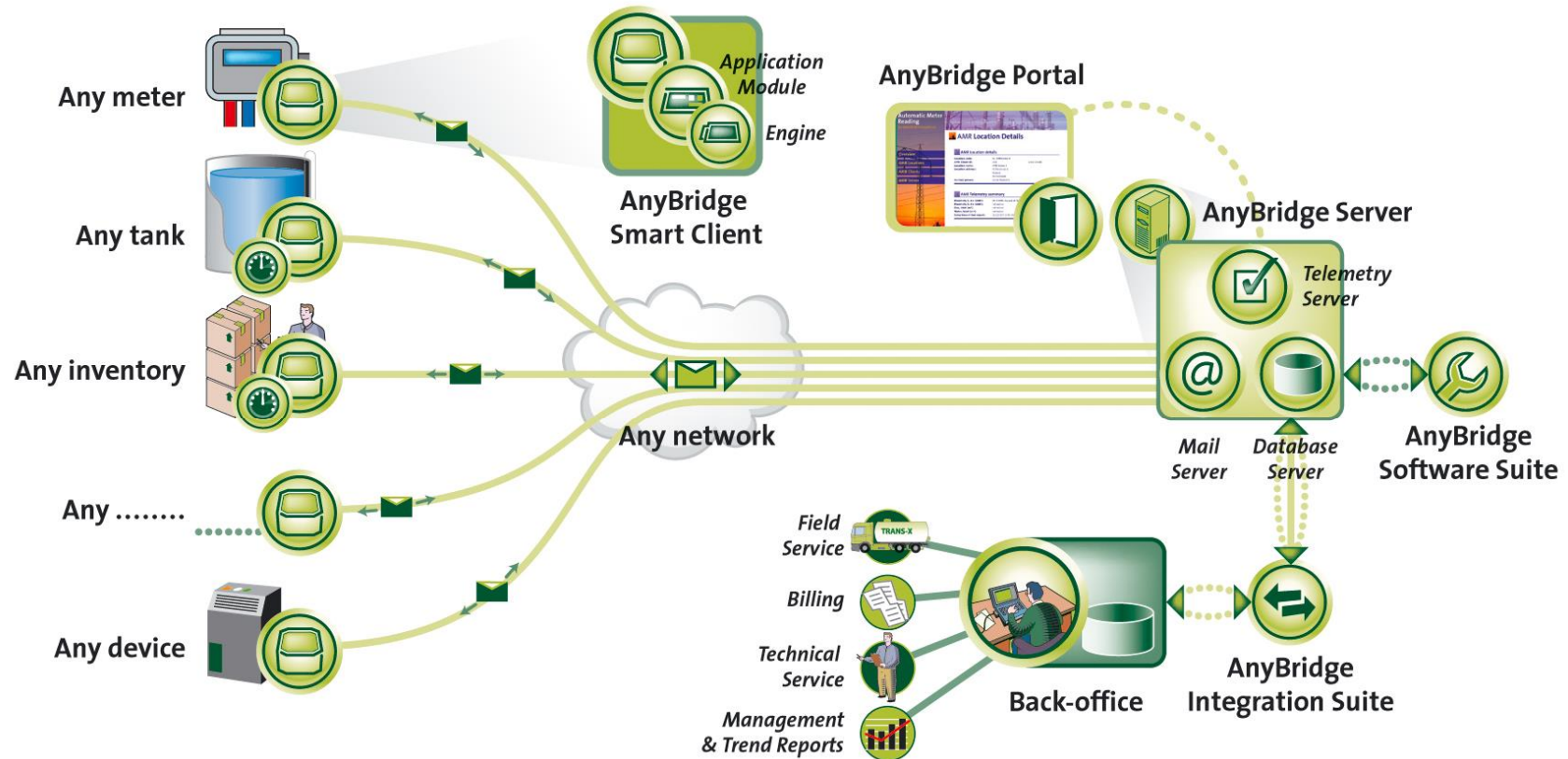
The big picture (2)



The big picture (3)

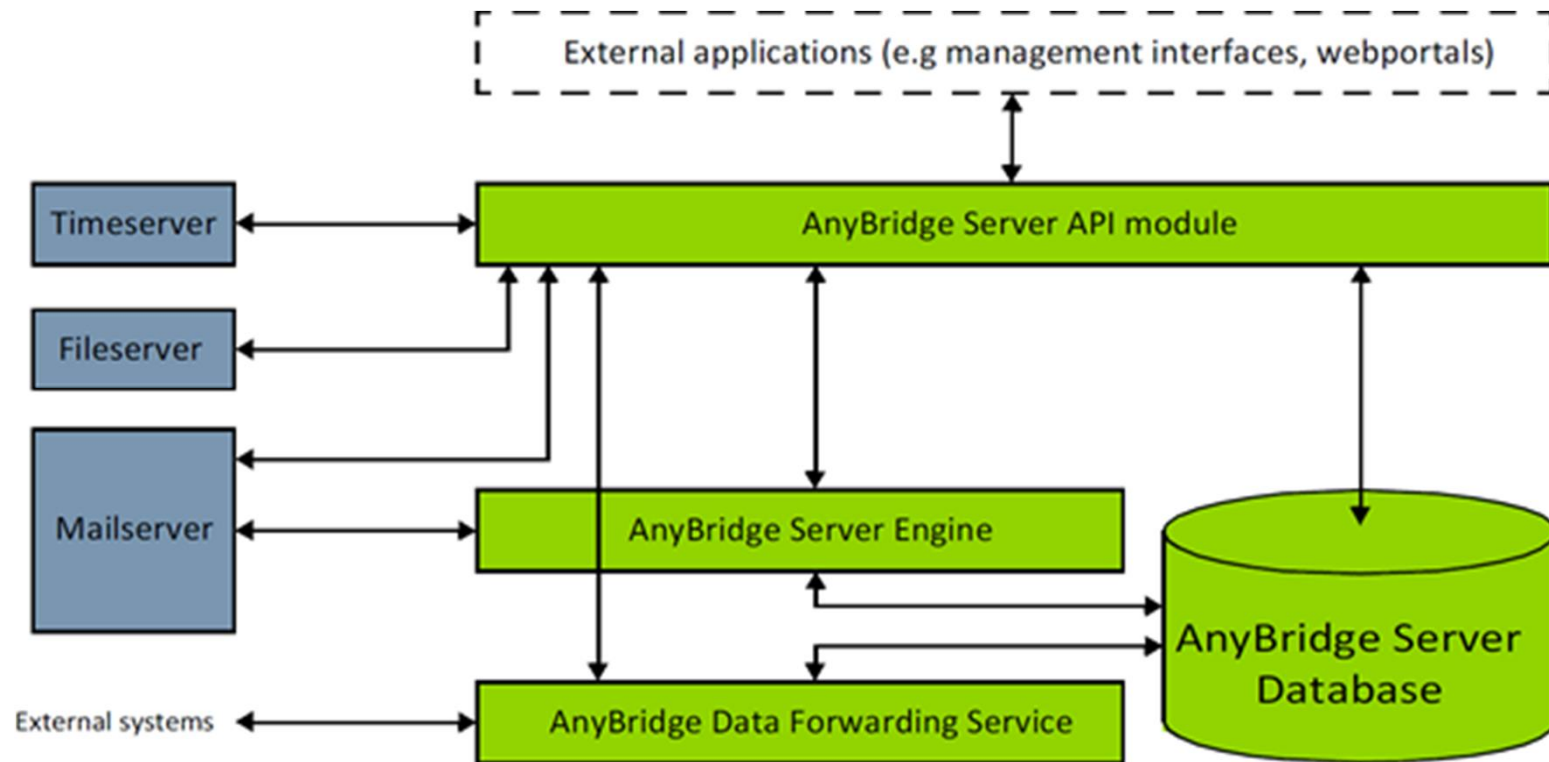
- “ Most solutions have a few things in common:
 - . Logging of measured results
 - . Application configuration
 - . Command processing
 - . Device management
- “ It makes sense to use platforms and frameworks as the basis of an IoT-design

The big picture (4)



AnyBridge™ Platform

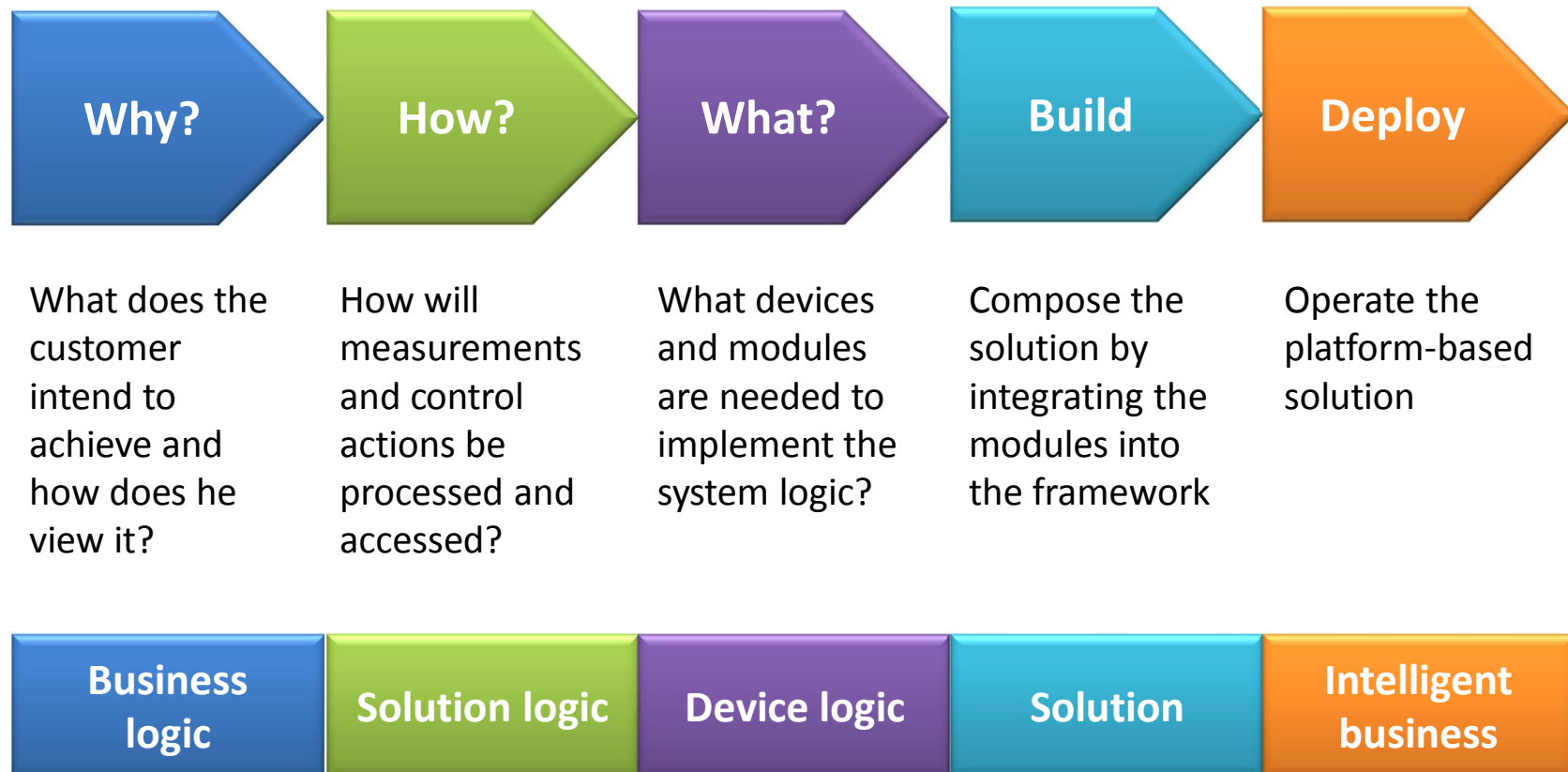
The big picture (5)



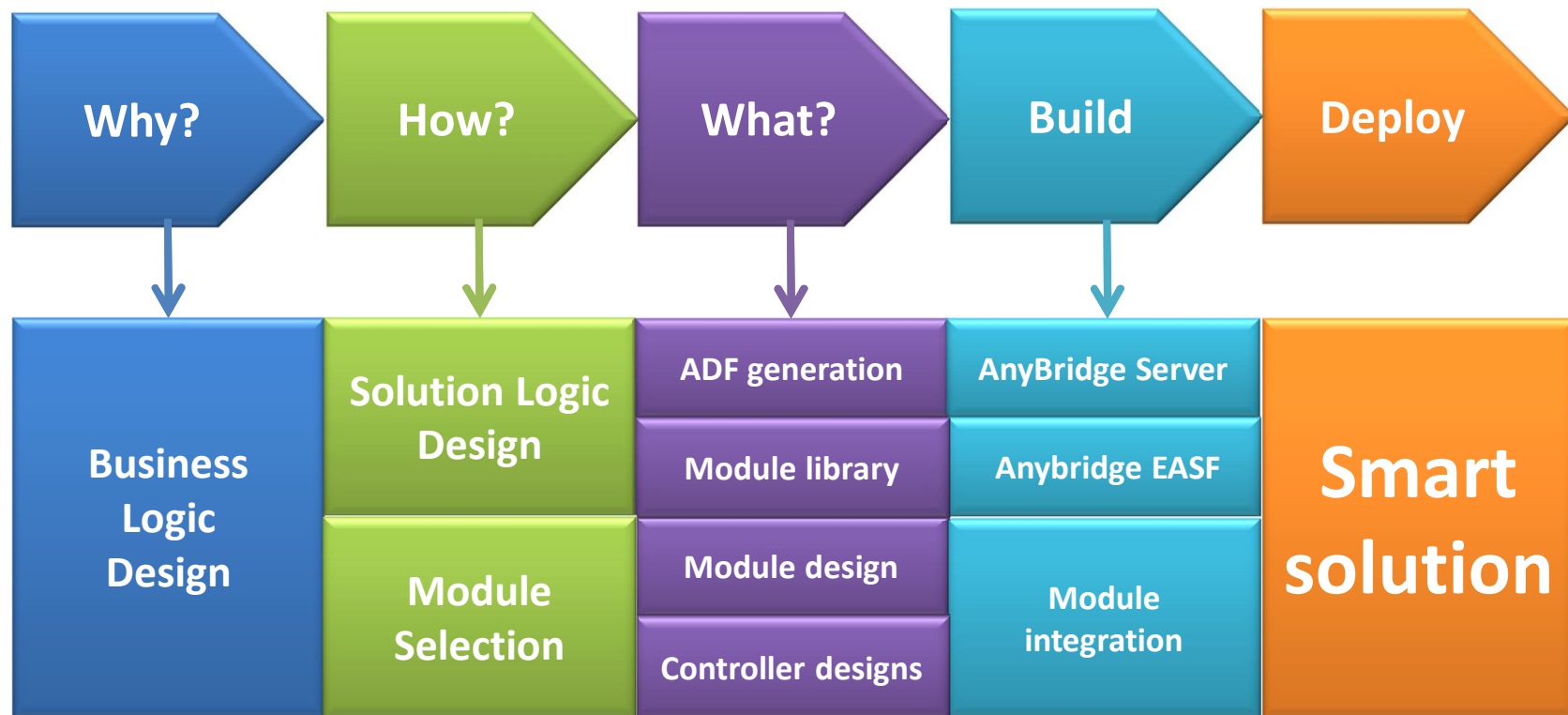
The AnyBridge platform in a nutshell

- “ In the AnyBridge philosophy, all things are created by integrating modules in frameworks
- “ The communication architecture is controller-server based
- “ The Embedded Application Software Framework supports all generic controller IoT-functions
- “ The Application Definition File (ADF) defines all solution-specific datasets, configuration parameters and command instructions
- “ The AnyBridge development flow leads from business idea to smart solution

Development flow



The AnyBridge building blocks



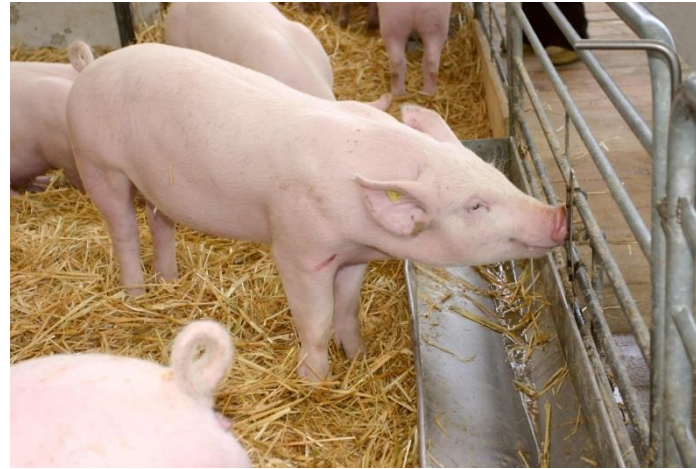
Start with the why!

Maritime Fuel Control



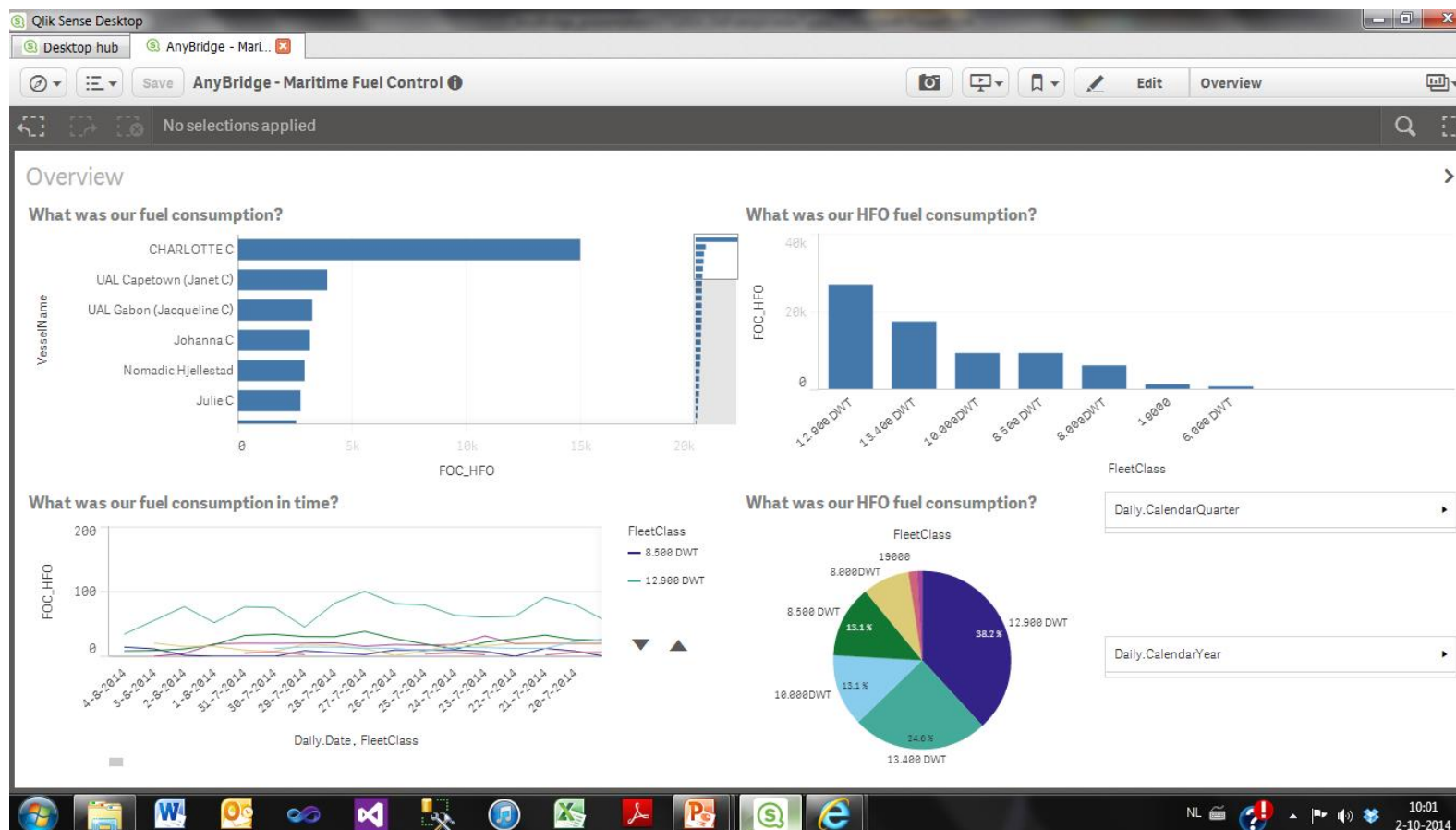
“Optimize a fleet’s fuel performance.”

Agriculture



“Improve the production yield.”

Business Logic



Solution Logic

- “ Determine how the solution measures and controls, processes data and presents information
- “ This includes sensor selection, specification of interfaces with peripheral devices
- “ By following the framework-approach, the solution leads to the selection of the required modules, or specification of new ones...

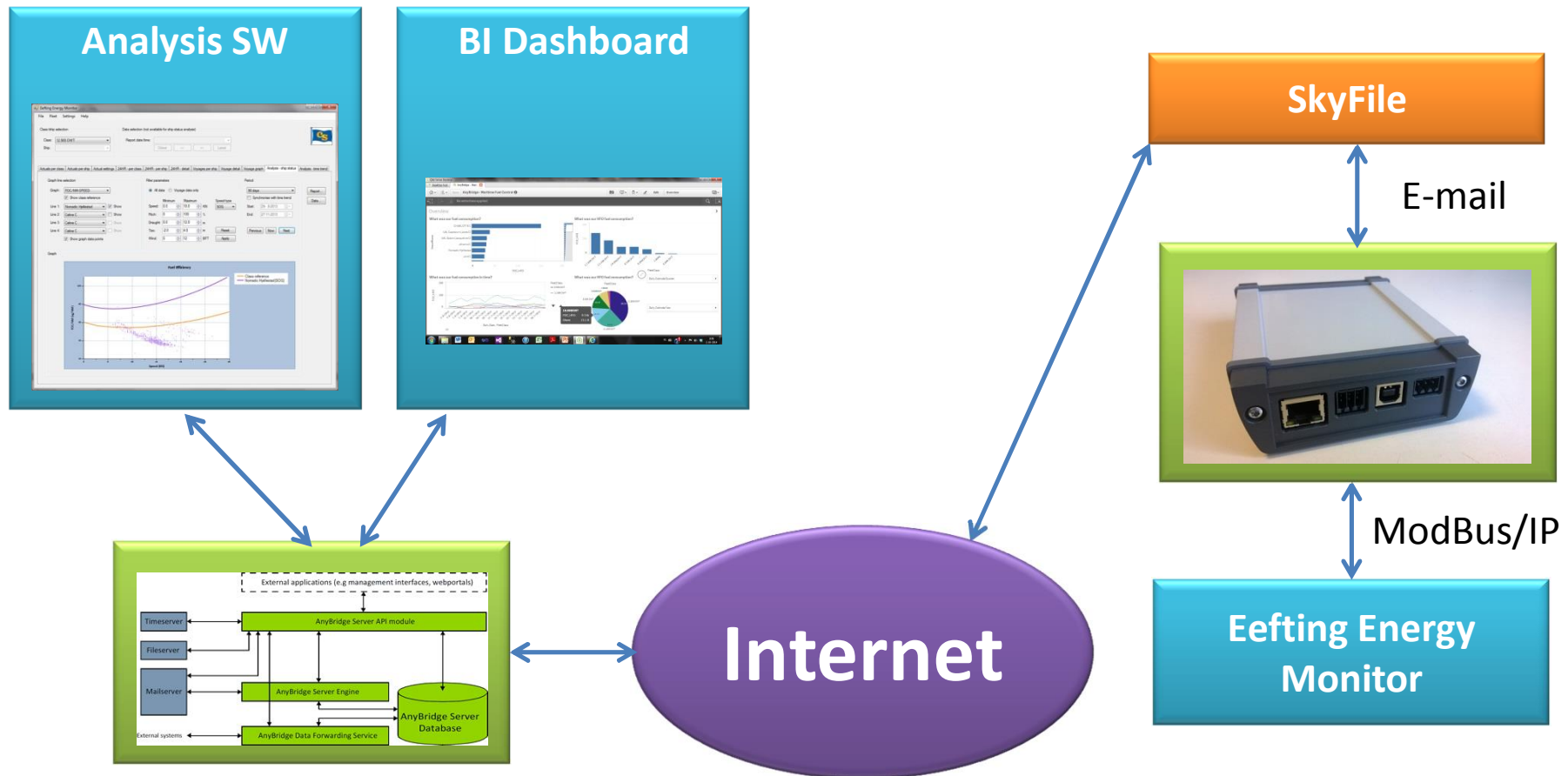
Device Logic (or Application Logic)

- “ Starts with the creation of an Application Definition File (ADF)
- “ New EASF-based controller modules, using the framework interfaces, are built
- “ The ADF is loaded to generate the server environment
- “ The ADF is used to integrate controller modules into the EASF and perform all solution-specific definitions

The Application Definition File

```
<?xml version="1.0" encoding="utf-8" ?>
- <AnyBridgeADF xmlns:xsd="http://www.w3.org/2001/XMLSchema" Version="5">
- <ApplicationDefs>
  <Applicationid>1</Applicationid>
  <ApplicationName>DeHoeve</ApplicationName>
  <ApplicationVendorId>1</ApplicationVendorId>
  <ApplicationClientInfoTable>APPL_clientInfo</ApplicationClientInfoTable>
  <ApplicationEventLog>ANYBRIDGE_eventLog</ApplicationEventLog>
</ApplicationDefs>
- <ANYBRIDGEemailTableMap>
- <tableMapping tableType="1">
  <emailSubject>econs</emailSubject>
  <databaseTable>APPL_energy</databaseTable>
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  <databaseTable>APPL_vaporizeLog</databaseTable>
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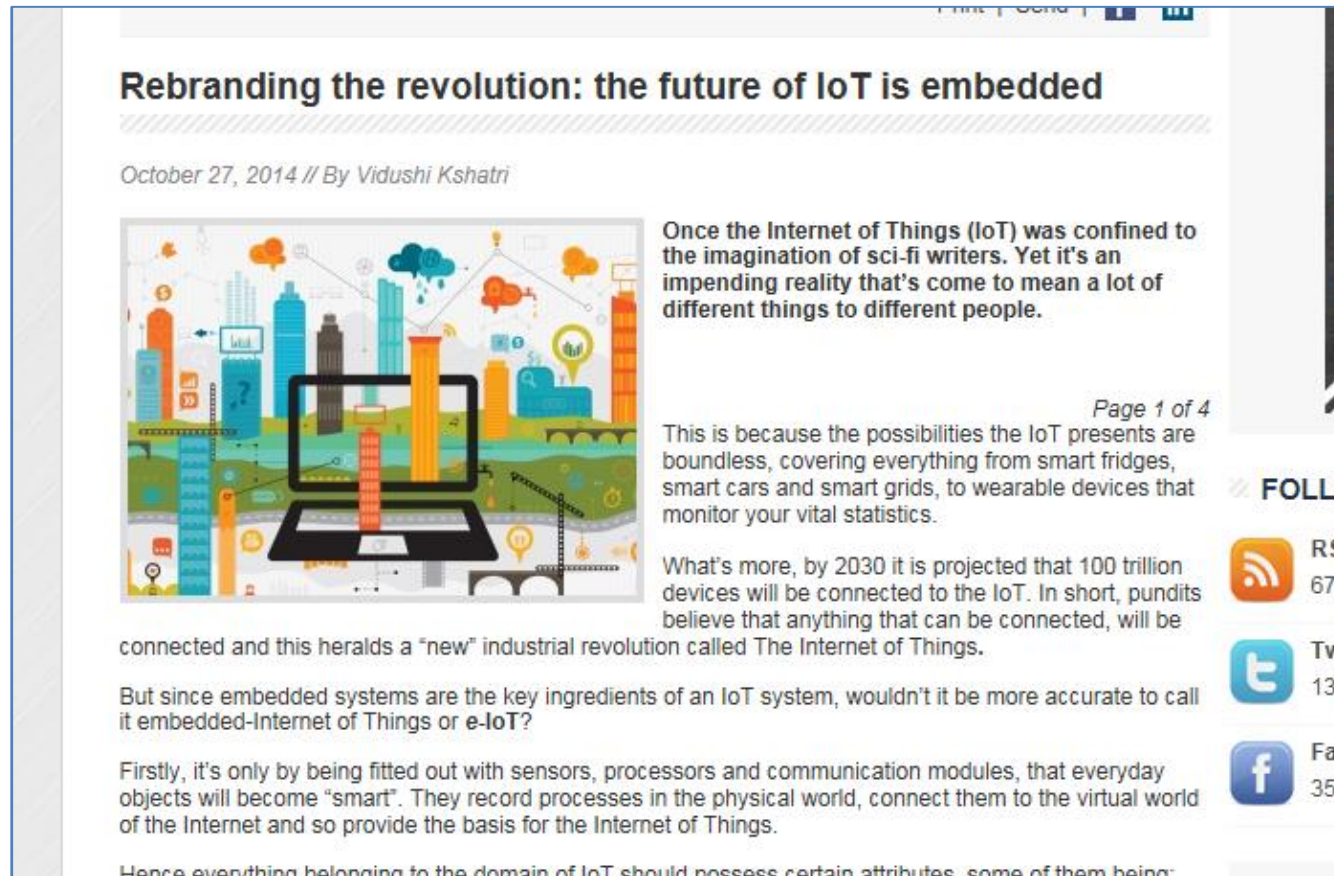

Build the solution



Wrap-up


- “ The IoT is coming, big-time!
- “ Be prepared for anything!
- “ Use a platform!
- “ Use a design flow!
- “ Start with why!

Your future is bright!



Rebranding the revolution: the future of IoT is embedded

October 27, 2014 // By Vidushi Kshatri



Once the Internet of Things (IoT) was confined to the imagination of sci-fi writers. Yet it's an impending reality that's come to mean a lot of different things to different people.

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This is because the possibilities the IoT presents are boundless, covering everything from smart fridges, smart cars and smart grids, to wearable devices that monitor your vital statistics.

What's more, by 2030 it is projected that 100 trillion devices will be connected to the IoT. In short, pundits believe that anything that can be connected, will be connected and this heralds a "new" industrial revolution called The Internet of Things.

But since embedded systems are the key ingredients of an IoT system, wouldn't it be more accurate to call it embedded-Internet of Things or e-IoT?

Firstly, it's only by being fitted out with sensors, processors and communication modules, that everyday objects will become "smart". They record processes in the physical world, connect them to the virtual world of the Internet and so provide the basis for the Internet of Things.

Hence everything belonging to the domain of IoT should possess certain attributes, some of them being:

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- RS: 679
- Tw: 130
- Fac: 357

Source: EE Times

Thank you and good luck!

www.anybridge-m2m.nl