EUROTECH
Imagine. Build. Succeed.

# Integrating IoT into your Enterprise

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# Agenda

- Eurotech quick intro
- Use cases
- IoT as a new tool for the Enterprise
- IoT products
- Eurotech IoT founding elements

# Eurotech's Essence

- **Behind the products of more than 20 Global 500**
- **World top player in the Embedded Computers market**
- **One of two European producers of High Performance Computers**
- **True global footprint spanning over 3 continents**
- **Public Company, in the STAR segment of Borsa Italiana**
- **Core competences: Miniaturization, Ruggedization & Interconnection of computing devices**
- **2 Strategic Business Units:**
  - NanoPC SBU: Pervasive Computing Devices & Device Data Management
  - HPC SBU: Green Petascale Supercomputers

# Eurotech Overview

## Some of our Customers

GENERAL DYNAMICS

MONSANTO

TOSHIBA

ARISTON THERMO GROUP

Sensis CORPORATION

leidos

Alcatel·Lucent

DUKE ENERGY

kapsch

DRS TECHNOLOGIES

Selex ES A Finmeccanica Company

Nikon

markem·imaje a DOVER company

Wabtec CORPORATION

HITACHI MEDICAL CORPORATION

THALES

MEIDEN

CUBIC CORPORATION

Medtronic Alleviating Pain · Restoring Health · Extending Life

SOUTHERN COMPANY

JOHN DEERE

BAE SYSTEMS

Astronautics Corporation of America

JÜLICH FORSCHUNGSZENTRUM

DynaVox Mayer-Johnson Advancing human expression and learning.

Nebula connect

MITSUBISHI HEAVY INDUSTRIES, LTD.

ALSTOM

GE Healthcare

ZOE Medical

Johnson Controls

CINECA

Sensuss

GE Transportation

# Proven Applications

## Cross-fertilization among several vertical markets

**Industrial & Commercial**

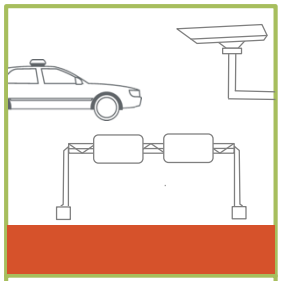
- Building Automation
- Machine Automation
- Vending Machines
- Kiosks
- Smart Energy Smart Grid

**Logistics & Networking**

- Handheld and Wearable Devices
- Mobile mounted devices
- Integrated RFID Readers

**Medical & Healthcare**

- High-end Diagnostic Equipment
- Portable Medical Devices
- Home Medical Gateways



**Security & Surveillance**

- Banks and Institutions
- Homeland Security
- Border control
- Highway /Parking lots / Gates

**Defence & Aerospace**

- Armored Vehicles
- UGVs
- Helicopters
- Aircrafts
- Future Soldier

**Transportation & Mobility**

- Public Buses
- Trains & Underground
- Toll gates
- Digital Signage / Customer Information



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# M2M / IoT Examples

## Use Case: Industrial Air Conditioning System Monitoring

**Application:**

The customer, a leading manufacturer of industrial grade air conditioning (chiller) systems was looking for a solution that would allow them to monitor constantly the status of deployed Air Conditioning Chillers world wide. The main data monitored in real time: pressure, temperature, power consumption, efficiency

Data should be transferred via different transports (including 3G, Ethernet, WiFi) using Internet connections in real time to operations (and R&D).

**Product:**

**ReliaGATE 50-21**

**Key Factors:**

- Short time to market due to EDC approach
- Modbus / PLC support in ESF
- Flexible powerful hardware platform

# M2M / IoT Applications

## Medical Systems & Devices Remote Management & Diagnostics

### Application:

The project involved a large manufacturing enterprise, global leader in Medical Systems. Its objectives were to perform on a global scale the most secure remote device management, remote diagnostics, remote predictive & preventive system maintenance, with no impact in the existing asset of devices used at the point of care.

Device Diagnostics was carried out via reuse of their existing software application, connected to Everyware Cloud via RestAPI and VPN. Everyware Cloud, holds the secure connection with the edge controller, ReliaGate, attached to the Medcial System at the point of care.

### Product:

**ReliaGate Programmable Edge Controller**

ESF

**HW / SW Development Services**

**Support**

### Key Success Factors:

- Eurotech chosen out of 40 alternative offers by global competitors
- Short time to market due to Everyware Device Cloud approach
- Flexible & fit-for-purpose business model
- Eurotech M2M/IoT knowledge and experience
- Flexible & multipurpose hardware platform
- No Impact on existing Medical assets
- Highly secure

# Vertical Market Example Use Case

## Use Case: Boilers & Heaters

**Application:**

The customer a leading company in the global market for heaters and boilers required an IoT solution that would allow them to develop and offer new services. One goal is for end users to remote control their own thermo-devices but also for technical assistance operators to perform remote diagnostics. In addition valuable data for the R&D, service, marketing departments of the Customer to develop & sell new products and services.

**Product:**

3rd Party Gateway

ESF

SW
Dev.
Services

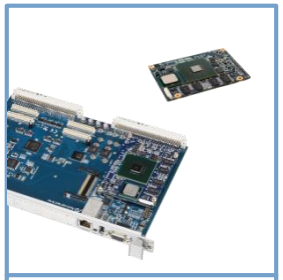
**Key Success Factors:**

- Service-oriented business model
- Open and industry standards based solution
- ESF hardware abstraction, Java/OSGi
- Remote device & embedded applic. management
- Real time data
- M2M / IoT know how in Eurotech
- Eurotech worldwide footprint

# Product Portfolio

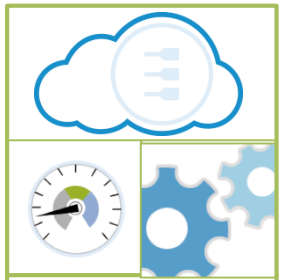
## Software & Services

High Performance Computing



Boards & Modules

Devices & Systems



Software & Services

OS

BIOS

Operating Systems Support

ESF

IoT Device Application Framework

Everyware Cloud™

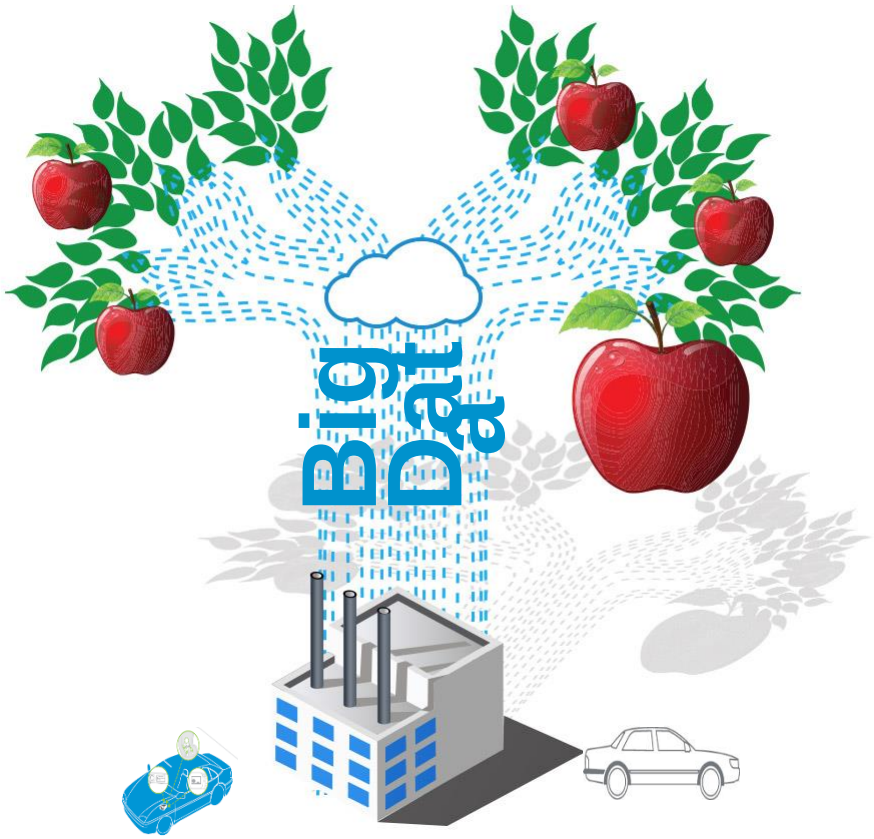
IoT Integration Platform

Professional Services

# Do you know that...

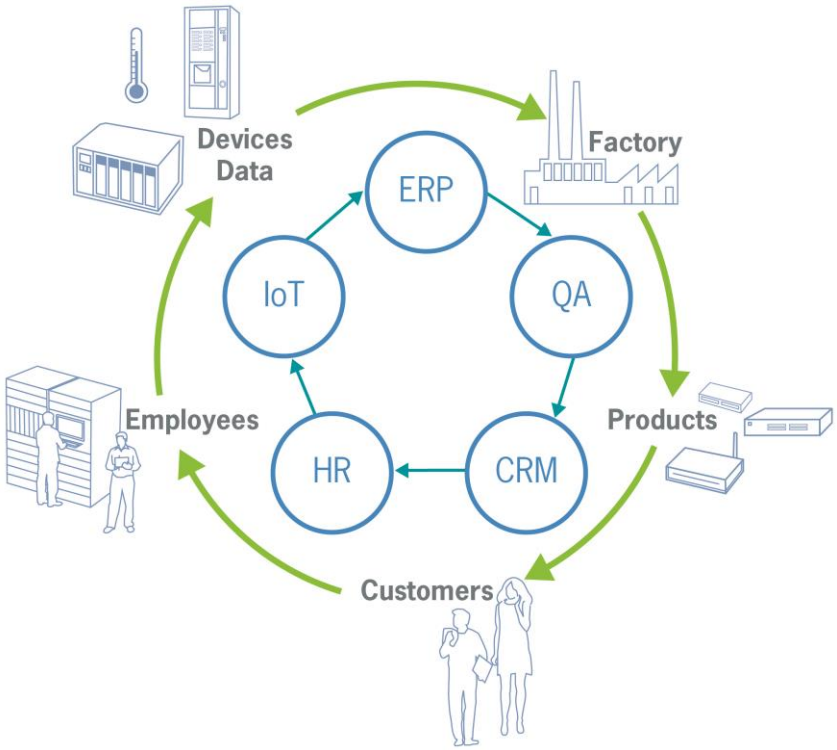
- A Boeing 787 produces 40TB per hour of flight
- A supermarket produces 10 GB of data per hour
- An automated manufactiring plant produces 1TB of data per hour
- A mining plant produces 2.4 TB of data per minute
- …

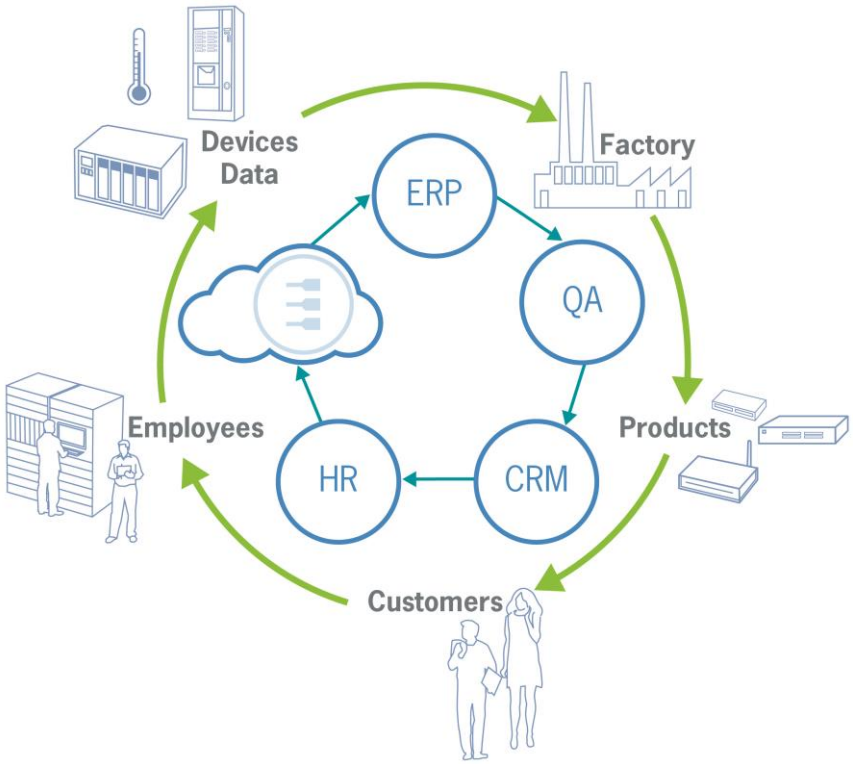
# More data More services



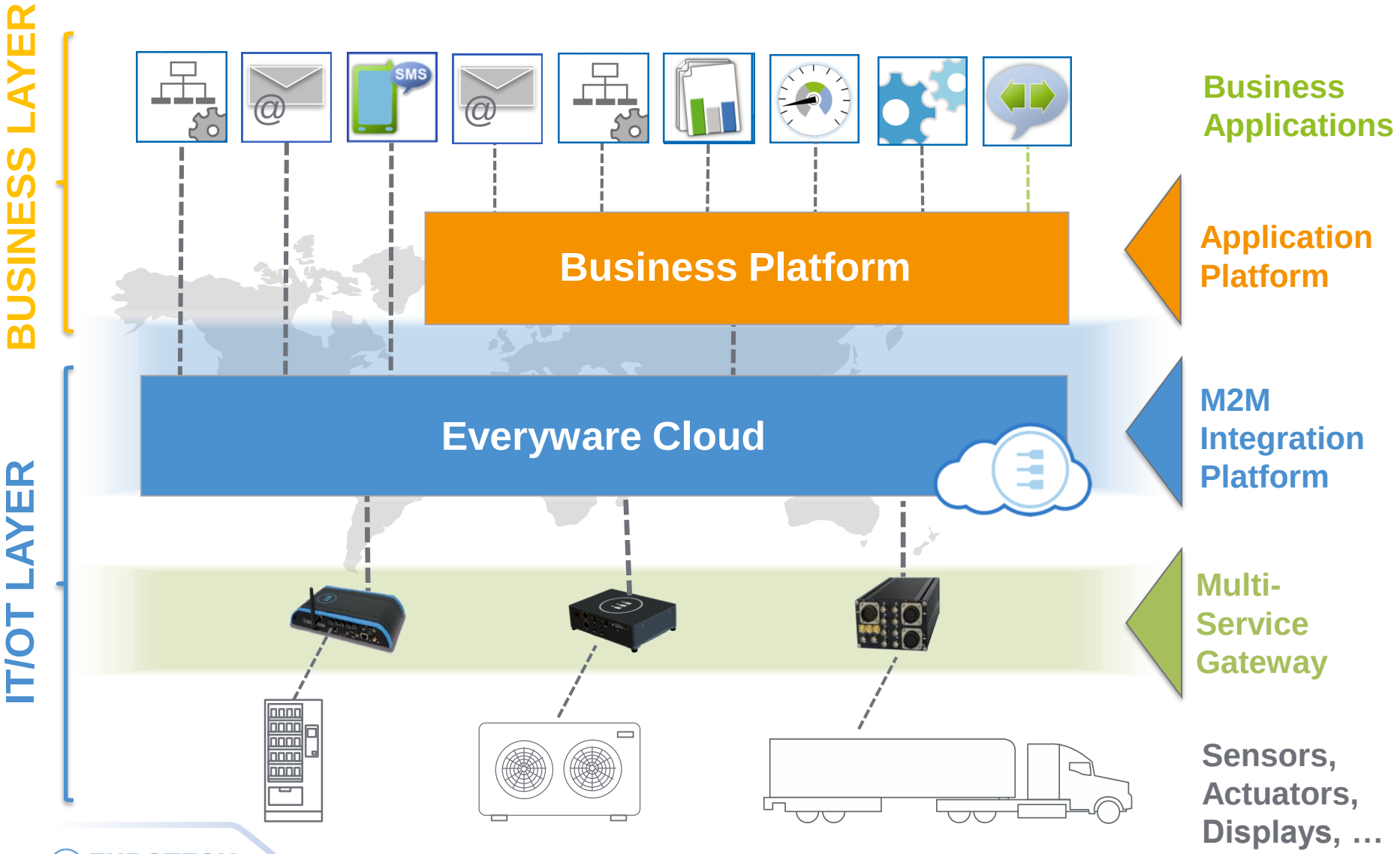

**Every business today is producing a lot of Data that can be turn into very valuable Information.**

# An Enterprise tool



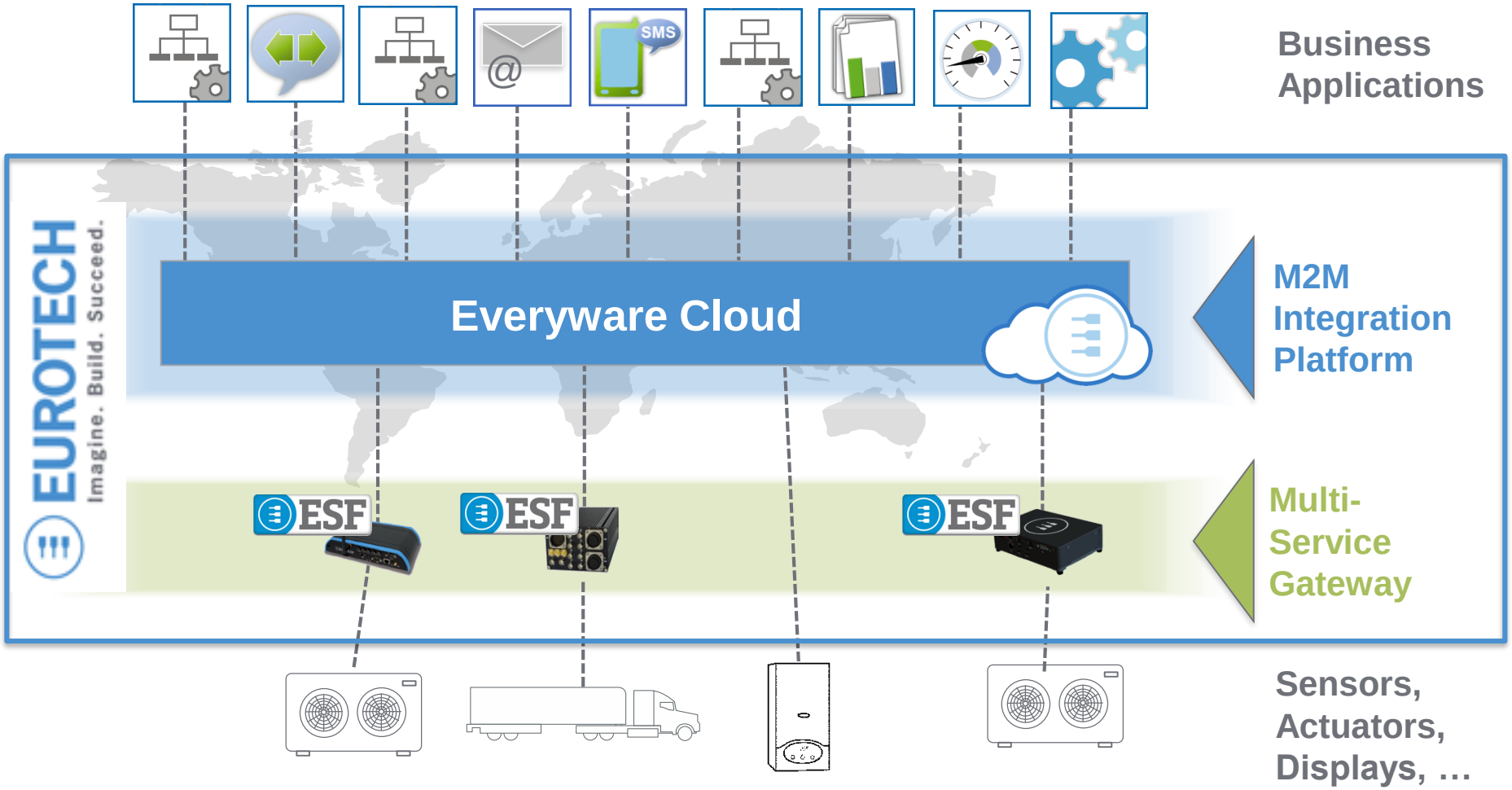



# A Layered Approach



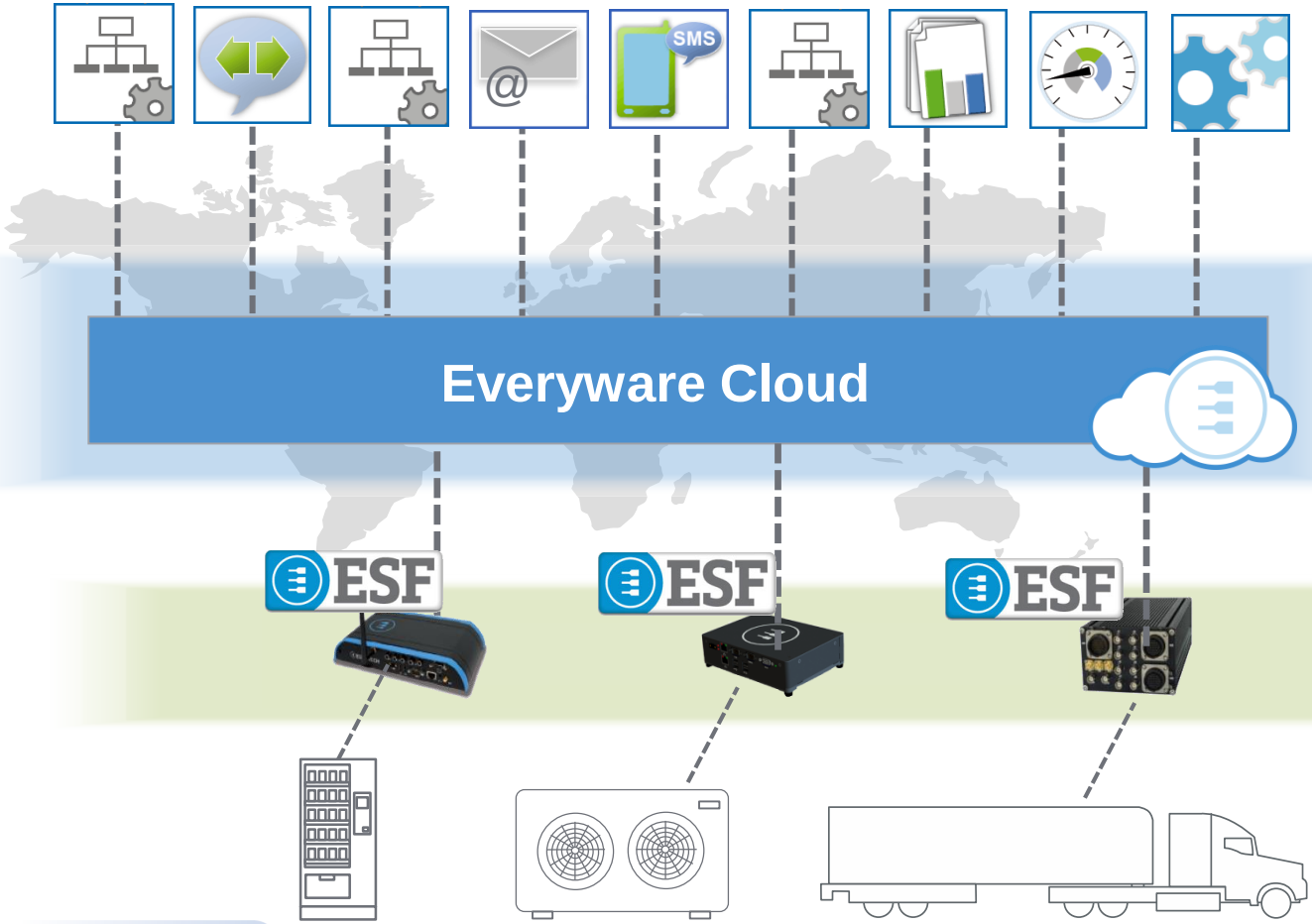
# Eurotech's approach to IoT

## Building a bridge between real world and business apps



# Everyware Software Framework

## Main functionalities



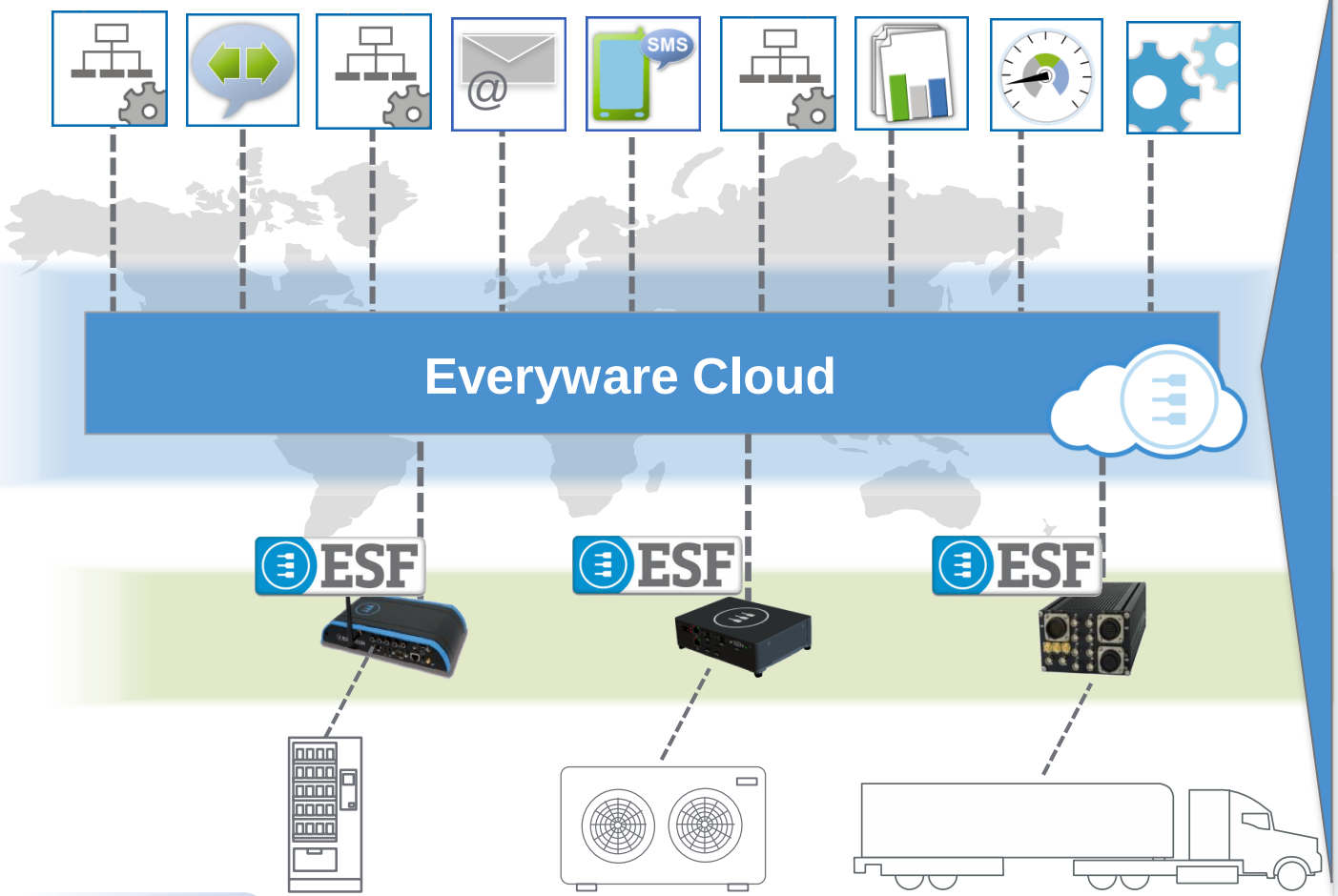

ESF

- M2M specific framework
- Java and OSGi based
- Full HW abstraction
- Portable
- Field protocol support
- MQTT support
- VPN
- Network configuration
- Available in open source

kura

# Everyware Cloud–M2M integration platform

## Main functionalities




Everyware Cloud™

**Data Mgmt.**
- Data Collection,
- Data Storage,
- Data Analysis
- Data Access (REST, Websokets)

**Device Mgmt.**
- Device Config
- Device Access (VPN)
- App Config
- App Update

**Integration**
- SIM Mgmt.
- Enterprise connectors

**Platform Mgmt.**
- Web Console
- Health Check Monitor
- Device Provisioning

# Product Introduction

## Eurotech's IoT Vision

### Agnostic
Deploying a platform that is hardware and application agnostic giving customer freedom of choice

### Open Approach
Using open and widely available protocols and interfaces to ensure ease of integration on the field and into the entrprise

### Holistic View
Enabling the deployment of multiple solution types to allow the platform to grow within the customer

### Ease of Entry
Building out a cost model that allows customers to build out and grow the solution to meet current and future needs

### Security
As a strategy enforced and integrated throughout the infrastructure

Whosoever desires constant success must change his conduct with the times.

*Niccolò Machiavelli*