

TELEKOM ROMANIA

CLOUD & M2M

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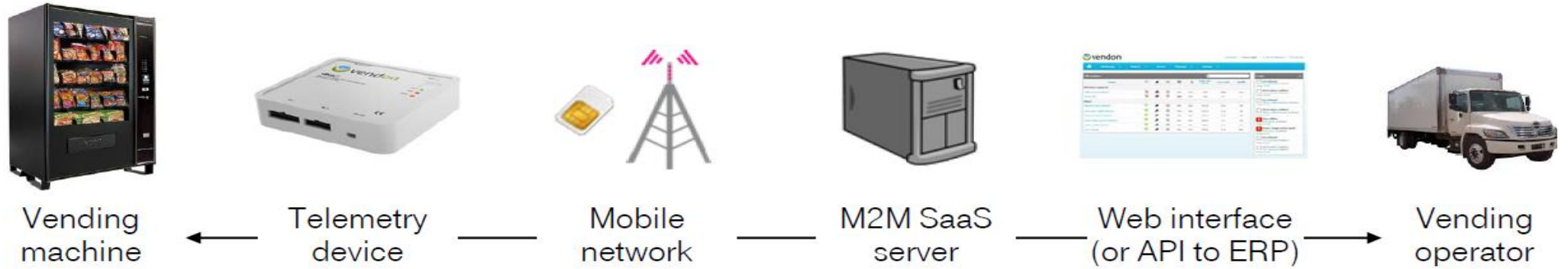


EXPERIENȚE ÎMPREUNĂ.

# M2M Solutions from Telekom Romania

- Vending Machine
- SIM Management Portal (Marimba)
- GPS Tracking
- M2M Channel

## M2M - Vending Machine



### Description

Machines continuously report their status.

In case of pre-configurable events (e.g. out-of-stock, jams, payment module errors, telemetry device errors, power failures, connectivity faults, no sales, no restock) an alarm is sent in real-time, via SMS, on web portal and via email

### Customer benefit

- Higher sales per vending machine due to increased availability: sufficient stocking and minimized machine down-time
- Easier inventory management

- Always on-line and in control
- Software as a Service (SaaS) – no installation required
- Proven and intuitive user interface

- Monitor the availability of your machines
- Track sales and cash in real-time
- Optimize your setup via smart analytics
- Streamline your field operations



### THE CONVENIENT CONTROL CENTER FOR YOUR M2M SIM CARDS

Machine-to-machine communication – or M2M – stands for automated data transmission between machines.

Complex processes can be controlled more easily, administration costs are reduced, media discontinuity is avoided and data quality is improved. The key technology for M2M solutions is mobile communications.

The M2M Service Portal is an online portal which is accessible worldwide via a secure Internet connection or a programming interface (API). Manage your own M2M applications or any machines that are used by your customers. The transparent website provides you with all important information on the card status in real time.

Configure the views as required and manage your SIM cards easily and effectively with just a few clicks.



#### HIGH AVAILABILITY

- Online SIM Management Portal
- State-of-the-art API for smooth integration into your business processes and systems
- High-availability M2M infrastructure with optimum service level agreements
- Local language and currency supported
- E-mail and telephone product support available



#### HIGH SECURITY STANDARDS

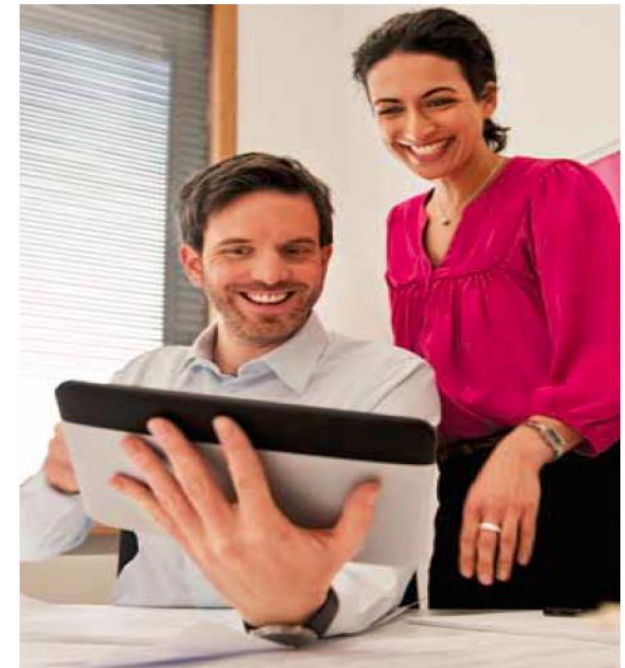
- Tried and trusted security standards
- Data Retention in accordance with EU Data Protection Laws
- Secure https connection
- Dedicated APN or IP VPN
- Rights and role concept with multiple users



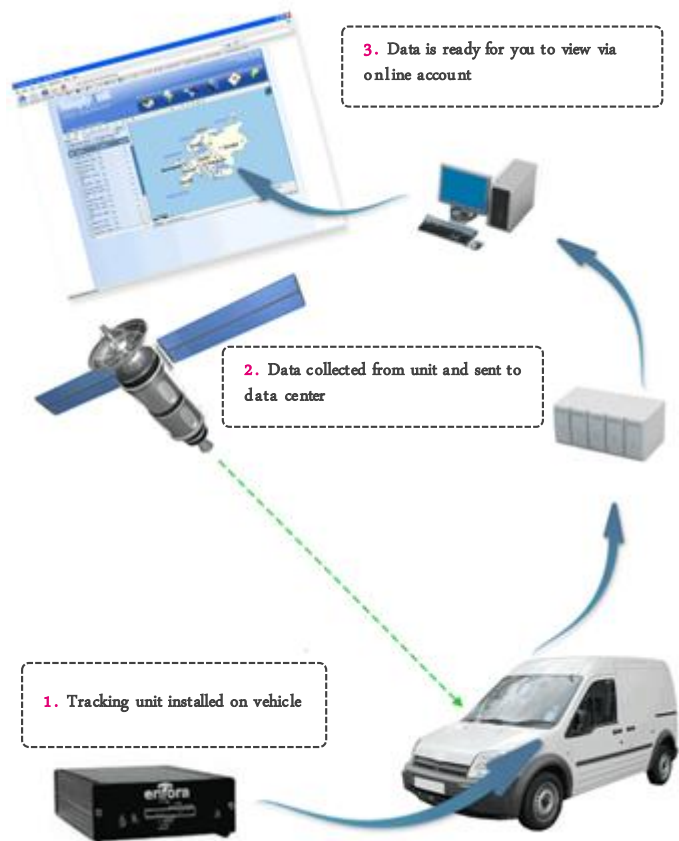
#### MAXIMUM CONTROL

- Advanced self-service management of the SIM cards
- Real-time monitoring and incident notification
- Administration of all access and connection parameters
- Overview of all user activities and alarms raised

Report creation at the click of the mouse



## GPS Tracking



### 1. VEHICLE LOCATION:

- Where one or more vehicle is located
- What route did they use
- Advanced routing capabilities

### 2. REPORTING:

- Stop / start engine, Speed reports
- Fleet reports
- Activities detailed report
- Fleet state / alerts report
- Fuel consumption reports

### 3. ALERTS:

- Arrive / depart location
- In / out of zone
- Movement / Speeding

### 4. DISPATCH:

- Closest vehicle to a location
- Messages module

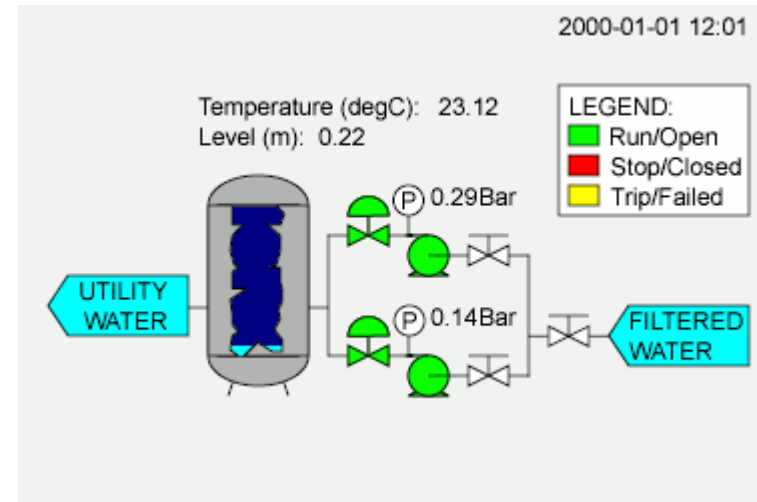
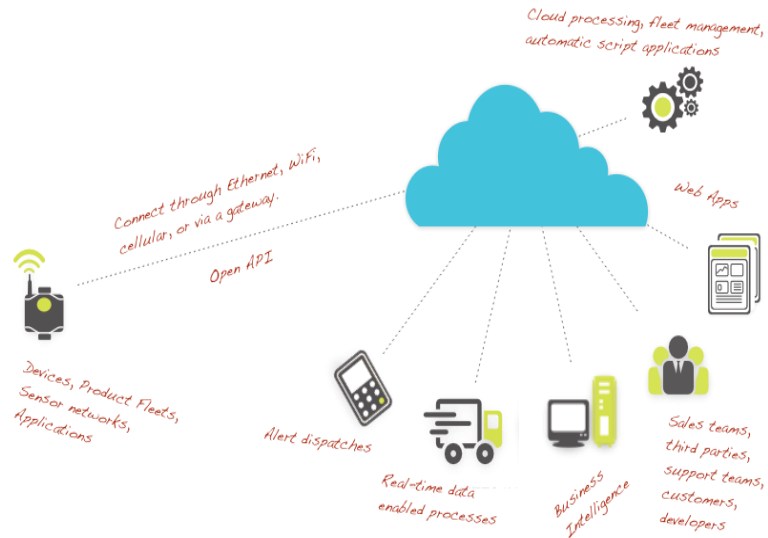
### 5. MAINTENANCE:

- Define service / maintenance alerts based on no. of km or time

## M2M Channel

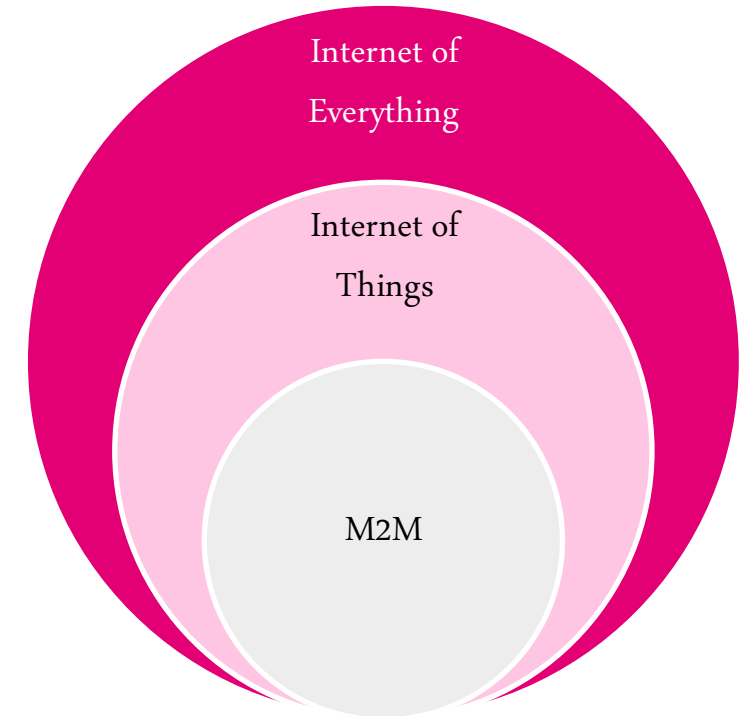
**Monitor Channel** Service provides real-time monitoring of a parameter through a customized web interface. It allows additional modules for metering, for advanced automatic calculation function based on the acquired data and for sending alerts by email or SMS.

**Monitor Channel** is based on data platform which is hosted on supplier server-based system that makes it easier for developers to connect and manage products and applications using web service APIs. The platform's simple interface and portals web dashboards makes it easy to monitor, log and analyze data from a single sensor. The Platform's architecture and scripting interface make it powerful enough to manage fleets of product deployments.



# M2M < IoT < IoE

- **Machine to Machine (M2M)** : Technologies that allow both wireless and wired systems to communicate with other devices of the same type. Applications: telemetry, automation, SCADA, telematics.
  - Sensor → Network → Application
- **Internet of Things (IoT)**: network of physical objects or "things" embedded with electronics, software, sensors and connectivity to enable it to [...] exchange data with the manufacturer, operator and/or other connected devices.
  - Uniquely Identifiable Devices → Internet
- **Internet of Everything (IoE)**: IoT (M2M) + People2People (i.e. Social Media, collaboration) + People2Machine (our responses to connected devices)

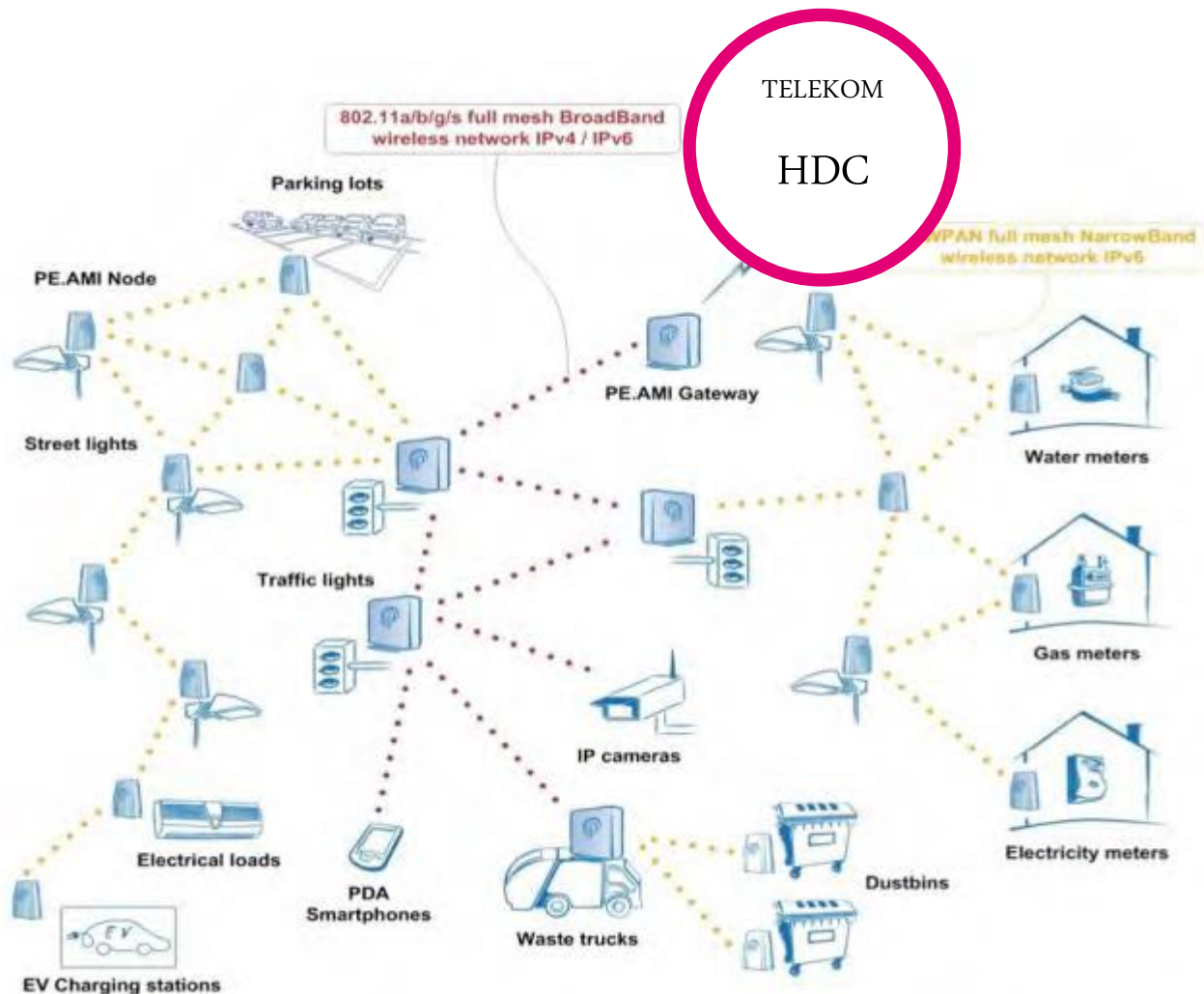


# THE INTERNET OF EVERYTHING CHALLENGE (And Opportunity)

- By 2020, Cisco estimates that:
  - there will be **10 billion** connected things shipped annually
  - a total of **50 billion** things in use
- Data-driven companies outperform competitors by **6%** and are up to **26%** more profitable (MIT Sloan Center for Digital Business)
- As a result, 80-90% of enterprises are now considering big data and data-driven strategies (Gartner)
- Is your infrastructure ready to handle the massive data generated by IoT/ IoE?



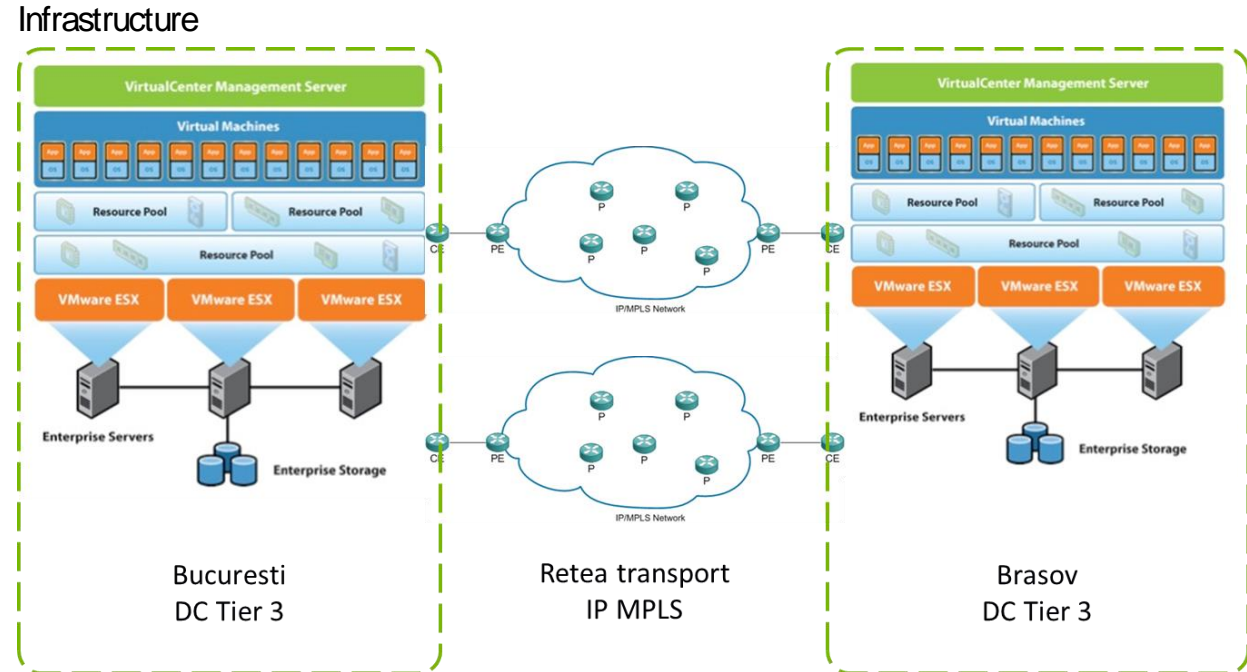
# TELEKOM HOSTING DATA CENTER



- Maybe the largest in Romania – 1400 sqm in 6 data rooms
- Geographically distributed in Bucharest and Brasov
- Tier 3 compliant and exceeding
- ISO 9001, 14000, 20000, 27001
- Directly connected to Telekom IP MPLS core network
- Proven track record of 99.999% uptime
- **NEW!** 300 sqm dataroom to be launched soon in Bucharest DC

# TELEKOM VIRTUAL DATA CENTER (IaaS)

- Based on **VCE Vblock** integrated architecture:
  - Cisco UCS computing and networking
  - EMC storage
  - VMware virtualization
- Geographically distributed in Bucharest and Brasov
  - The only such platform in Romania
- 99.999% demonstrated uptime



- **NEW!** (announced yesterday): Telekom is the first Romanian provider that locally achieves **Cisco Powered Cloud Service** certification for IaaS



EXPERIENȚE ÎMPREUNĂ.