

press kit

Orange Business Services

from M2M to the Internet of Things



press contact:

Elizabeth Mayeri, Orange Business Services, elizabeth.mayeri@orange.com



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I. Orange Business Services & M2M - Overview

Machine-to-Machine (M2M) technologies handle automatic real-time data exchanges between devices – without any human intervention. M2M is a major IT innovation providing double-digit growth opportunities through the accelerated development of new applications and the emergence of a structured value-chain and a dynamic ecosystem. Since 2005, Orange Business Services has built an extensive M2M expertise and is now the preferred partner of major enterprises implementing industrial and international M2M platforms.

Based on its exclusive knowledge of performance, network coverage and integration issues supported by an extended network of partners, **Orange Business Services provides its global carrier/integrator services to both international corporations and start-ups** to help them reduce their time-to-market on this fast growing segment.

Since its inception, M2M has remained a strategic development focus for Orange Business Services and one of the strategic pillars of its “Conquests 2015” Plan. With more than 3 million SIM cards already deployed in 2012, Orange Business Services plans to deploy more than 10 million SIMs before 2015.

Through its own mobile network covering 32 countries and more than 500 roaming partnerships, Orange provides seamless connectivity in 220 countries and territories. Therefore Orange Business Services’ customers can deploy global M2M applications without facing any coverage, capacity or compatibility issues.

As a leading carrier and IT integrator, Orange Business Services supports its customers throughout the lifecycle of their M2M implementation strategy.

Delivering both packaged solutions and consulting services on new business and service models, Orange Business Services leverages an expert team focused on integration and monitoring of M2M solutions and related technologies (network provisioning, connectivity solutions, equipment and application deployments, consulting services, etc.).



Orange Business Services focuses its efforts on five key promising areas, where M2M will be a critical component of the value chain or will even “revolutionize” business models and processes: **connected vehicles, transportation and fleets, intelligent utilities metering (water/gas/electricity), e-healthcare and consumer electronics**. Through its **Smart Cities program** created in 2011, Orange addresses the needs of cities and local authorities, namely fleet management of vehicles or remote meter reading.

According to a recent study^{*1} by Analysis Mason, M2M will benefit from an average annual growth rate of 50% by 2021.

Orange Business Services intends to be a core player of the M2M global ecosystem not only by implementing technology standards, but also by increasing the number of roaming agreements with major operators in order to promote a seamless M2M experience across the world and to support industrial partnerships to design joint solutions.

According to Orange Business Services estimates, with an average annual growth rate above 15%, **the cell connectivity M2M market will reach 1.2 billion Euros in Europe** by 2015 (with 82 million SIM cards). With related hardware and services sales, this market will grow above 10 billion Euros.

In fact, there is not “One” M2M market but multiple markets. Beyond B2B applications, consumer applications are skyrocketing! According to a recent study by GSMA, in 2022 more than 18 billion connected terminals will be deployed worldwide – including cell phones, vehicle integrated devices, intelligent metering devices, consumer electronics products (such as tablets, gaming devices, etc.).

¹ M2M device connections, revenue and ARPU : worldwide forecast 2011 – 2021, Analysis Mason, juin 2012

II . the vision of an expert



Emmanuel Routier, M2M Global Vice President, Orange Business Services, defines his vision of the current state of the M2M global market.

How would you define M2M?

ER: M2M refers to a set of applications providing, without any human intervention, communication services between various devices and “objects” ranging from pacemaker monitoring to preventive maintenance, automated meter reading, vehicle positioning, etc. Such applications leverage various technologies: microelectronics for sensors, chips and smart cards for devices, IT for data production, broadcasting, capture and processing, and finally telecommunications to transport information and provide connectivity to the relevant systems.

Such connectivity is generally handled by mobile networks, requiring each device to be equipped with a SIM card – which explains the key role of mobile operators and integrators on this market. Today, with a global mobile network covering 32 countries, more than 500 roaming partnerships, and a seamless connectivity service in 220 countries and territories, Orange is a connectivity leader.

What were the major steps of M2M development and what is the current state?

ER: During its initial phase, M2M was mostly implemented to improve processes and reduce costs in various activities (equipment monitoring, vehicle positioning, fleet management, etc.). In other words, in this “industrial” era, M2M was mostly focused on B2B implementations.



During the second and current stage of M2M, implemented technologies cover a larger scope including the “connected community” – ultimately reaching the general public. For example, through an intelligent device, in case of breakdown, a vehicle can provide immediately its location to the closest mechanic; an intelligent meter starts heating when electricity is less expensive; a pacemaker alerts the patient’s physician in case of incident; an e-book reader remotely and seamlessly downloads a new e-book, etc. The size of this market and the increasing number of heterogeneous devices require another approach to handle increasingly complex projects, requiring a pervasive industrial methodology. In other words, we enter the new era of “B2B2C”.

The end of this decade will inaugurate the third phase of M2M maturity, the Internet of Things where all sorts of devices (home equipment, cities, workplaces, transportation, payment methods, sustainability, information, health, etc.) will interact to improve our comfort and reduce service costs.

How would you define Orange Business Services M2M positioning?

ER: Orange Business Services provides personalized support through tailored solutions in every project area. To industrialize their application processes, and lead their respective market, companies require global partners, technical network experts and advanced M2M technologies and need to be aware of business issues impacting their own clients. Through its global presence and its expertise of business challenges, extensive partner network, and unique vertical expertise since 2005, Orange Business Services is the preferred strategic partner of companies to accelerate industrialization and globalization of their M2M projects.



III. a scalable approach to deliver customized M2M solutions to each enterprise

According to Orange Business Services, the strength of M2M relies in its alignment with enterprises' business processes and challenges and its capacity to develop new services and innovative usages.

Providing advanced solutions to various vertical markets not only requires a proven expertise of connectivity and network technologies, but also to provide upstream consulting, project management, application development, deployment, change management, and maintenance services.

Within the same business sector, the key indicators and the major business issues differ from one application to another. The level of reliability and processing speed can also greatly differ depending on the emitting device (a pacemaker, a consumer tablet, etc.). In order to fulfill the specific needs of each customer – irrespective of its size or business sector – Orange Business Services' solutions leverage both a **portfolio of packaged solutions** (such as Fleet Performance, a turnkey fleet management solution for the transportation industry,) and **end-to-end customized solutions**.

an end-to-end, “à la carte” approach

The deployment of a new generation of M2M applications generates changes and updates to major business processes and IT systems – requiring expert teams to support these evolutions throughout the project lifecycle.

With Orange Business Services, corporate customers have access to a comprehensive range of M2M technologies:

- Hardware selection of compliant modules, meters, devices, sensors, etc. to fulfill the company's requirements (even under extreme environmental conditions). Orange is the preferred partner of major equipment manufacturers.
- Provisioning of mobile network, satellite capacity or other connectivity to transport collected data. With domestic networks in 32 countries and its global network



(Orange is the market-leader in terms of roaming agreements) and its dedicated M2M SIM cards, Orange offers the best network, the widest coverage and the best M2M connectivity.

- SIM card support: lifecycle management, orders, maintenance, activation/deactivation, etc.
- Management of incoming data, retrieving and processing data from numerous connected devices – before integration into the client business IT systems.
- Development and implementation of business applications that process, consolidate and deliver to end-users information transmitted by equipment.
- Development of customized portals to monitor M2M solutions (number of connected devices, sending/receiving data, maintenance, analysis, reporting, device management, etc.).
- storage and management of data collected from the m2m devices, leveraging Orange's cloud solutions
- Project support to implement M2M solutions. Appointment of a Customer Service Manager responsible for end-to-end QoS and reporting.

Throughout the project lifecycle, Orange Business Services also provides consulting, project management and IT integration services.

With this unique end-to-end approach, Orange Business Services offers to its corporate customers not only tailored global M2M solutions, but also the required platform and tools to build the M2M application and integrate it into the customer's back office.



dedicated organization and expert teams

Since 2005, Orange has developed a proven expertise with more than 300 M2M certified experts in its R&D Division (Orange Labs), Technical Teams (integration, IT & Networks), and Sales Departments.

Orange Business Services also provides its global customers and partners with an exclusive **International M2M Center**, aggregating the collective expertise of the Orange Group – and continuously updated by Orange Labs innovations.

COTECNA

customs monitoring and traceability for tracking goods in transit in Africa

- **implemented solution:** COTECNA develops secured customs and fraud management solutions. Within this partnership, Orange Business Services supplied to Cotecna a remote transit monitoring solution. The data are sent from the on-board devices (attached to the vehicles) to the central monitoring system via GPRS. Orange Business Services deployed and integrated this solution within network environments. The dedicated real-time monitoring platform displays visual alarms to inform customs officers of potential exceptions.
- **client benefits:** the position of each vehicle is retrieved in real-time and registered in COTECNA databases. The Customs Authorities rely on real-time data on commodities transit and incidents. This system reduces frauds and facilitates international trade.
- **why choose Orange Business Services:** *"The capacity of Orange to deliver a key set of best-of-breed technologies on a global scale is a key enabler of Cotecna's international development"*, indicated Pierre-Olivier Pellegrin, Senior VP Security & Inspection Technology at Cotecna.



an innovative maintenance and after-sales M2M solution for coffee machines deployed within enterprises, restaurants and hotels all across Europe

- **implemented solution:** Orange Business Services provides managed mobile connectivity to two different types of B2B machines to manage access and data exchanges with Nespresso's CRM Center. This fully customized solution was entirely designed by Orange M2M International Expertise Center.
- **client benefits:** this remote diagnosis solution accelerates preventive maintenance workflows.
- **why chose Orange Business Services:** *"We quickly realized that Orange Business Services was the best operator to fulfill our expectations in terms of international coverage and to support our business goals,"* added Marco Zancolo, B2B Manager, Nestlé Nespresso SAS. *"It was equally important that we could rely on a local Swiss team with an extensive experience of M2M technologies."*



IV. a key market player

Orange Business Services focuses its efforts to simplify and federate the M2M community through strategic partnerships.

build and innovate in common

Over the last few years, the M2M ecosystem complexity has accelerated dramatically with emerging new suppliers of systems and connected devices on a more mature market (application developers, integrators, service operators, connectivity platform hosts, mobile carriers, etc.). In this context, Orange Business Services focuses on entering into new partnerships with technology and industry leaders in order to integrate its exclusive know-how.



m2o city specialized in remote water meter reading partners with Veolia Water

- **implemented solution:** m2o city offers local communities and water management sub-contractors an end-to-end packaged solution for remote meter reading, based on an ultra-low power radio network*, collecting both meter and environmental sensor readings (noise level, pollution, etc.).
- **client benefits:** improvement of the quality of service delivered to consumers, improved performance of water management services, improved sustainability. Through their joint-venture Orange & Veolia Water promote an emerging European standard for remote meter reading. m2o City currently operates approximately 700 000 water meters.
- **why chose Orange Business Services:** advanced expertise in designing and managing networks. especially through M2M technologies.



toward the Internet of Things

Orange Business Services Research & Development (including Orange Labs) provides companies with expert services and innovations to anticipate their future needs. Orange R&D has been a major player of highly innovative projects:

- **Orange designed and developed vehicle embedded connectivity** solutions accessing to any available network at any time (Wifi, satellite, 3G, 4G, etc.) even at a very high speed (TGV) through a mobile router. This solution has been deployed for a number of years on the eastern TGV lines (SNCF's "Box-TGV" service) and is currently extended to city buses (real-time video surveillance, etc.).
- **Through the "Wings" project**, Orange builds the foundations of a new object naming architecture for the Internet of Things. This standard will allocate to each object a unique identifier and manage its source/nature/traceability in order to combat counterfeiting.
- **Within the TACITES project**, Orange Labs and its partners anticipate new uses of the Internet of Things by leveraging advanced technologies such as RFID (Radio Frequency IDentification) and NFC (Near Field Communication); The greatest challenge of this project resides in tracing all interactions of a given object during its whole lifecycle: manufacturing, daily use, distribution, maintenance, etc. The main objective is to bring to market (manufacturers/distributors) new use cases and service opportunities for high-value items (luxury leather, home appliances, etc.) and improve customer satisfaction.



M2M interoperability & QoS beyond borders

Orange is a member of the "Global M2M Association" (GMA), a joint initiative with Deutsche Telekom, TeliaSonera, and Telecom Italia. The main objective of this association is to bring to market seamless, high quality, international M2M connectivity services and to streamline the international deployment and management of M2M solutions.

Through the combined networks of its members and their partners, the GMA provides a unique global coverage, and especially in Europe, where the GMA members possess their own infrastructure in 28 countries , representing 94% of the European population.

With the GMA, four of the major European mobile operators improve quality and security of roaming and interoperability services, implement partnerships and bring to market innovative solutions.

This common approach improves incident reporting and correction workflows and optimizes network components interoperability through a joint certification program.

a major standardization player

In the Orange Business Services vision, M2M will reach its full capacity when end-to-end service definition standards have been fully implemented. Therefore, the Orange Group plays a major role in many M2M Standardization initiatives and committees – including radio and wired connectivity protocols, collection and management of data received from remote sensors, etc. as well as the transport of the information through the telecommunications infrastructure up to the customer's IT system. Orange also participates to various workgroups within the GSMA (GSM Association) to make recommendations for 2G and 3G mobile networks usages. **Orange is also involved in the** Embedded UICC (Universal Integrated Circuit Card) standard, implementing processes to remotely manage and update M2M SIM cards. Orange is also a member of numerous Commissions within the European Standard Telecommunications Institute (ETSI) which has defined the form factor of M2M SIM cards.

- In addition to its contribution to the work done on 4G mobile networks within the 3GPP organism (3G Partnership Project), Orange is also involved in the specification of new communication infrastructures for long-range communications within cities. These will



enable to connect “objects” which are out of range of current 3G or 4G networks, with costs adapted to M2M usages.

- In terms of services, Orange also joined the OneM2M standardization body aimed at deploying global standards for open and interoperable M2M service platforms GUI.



V . new services for new vertical markets

To help companies and organizations design new services for their customers and users, Orange Business Services chose to focus its development efforts on five key vertical markets: **connected cars, transportation and fleet management, intelligent commodities metering (water/gas/electricity), e-health, and consumer electronics.**

The strong growth potential of these segments will provide further opportunities for new value-added services for their customers – and potentially new income sources.

more and more applications...

The connected car, with its embedded communication device, informs its owner of traffic conditions, diagnoses potential failures, communicates its precise location in case of emergency (accident), etc.

In the e-health field, the communication to physicians of vital statistics on the condition of their patients with diabetes or high blood pressure reduces the cost of treatments and noticeably improves the comfort of patients – being treated at home instead of spending a few days in a hospital.

The automated reading of commodities meters (water/gas/electricity) improves the precision of data and avoids potentially numerous missed appointments with the subscriber.

In the transportation and logistics fields, M2M technology can be used to improve cold chain compliance through sensors issuing real-time alerts in case of temperature changes in a refrigerated truck.

Environmental and energy saving strategies also benefit from M2M innovations.

Intelligent buildings, for example, automatically regulate lighting, air conditioning, energy recycling without human intervention. It will soon be possible to warn people suffering from asthma or allergy in case of a high pollution or pollen level in their environment. Sensors alongside rivers are currently deployed to issue alerts in case of abnormal water level – so that the residents can safely move to another place in due time.



focus on real-world use cases

e-Health



remote monitoring of heart devices for the Sorin Group

The Sorin Group, a leading supplier of cardiovascular technologies, and Orange Business Services developed Smartview, a remote monitoring solution for patients with implanted pacemakers for the treatment of cardiac arrhythmias. Through its Web GUI, the attending physician can access data and alert messages 24X7 – without requiring the patient's presence on site to diagnose any potential problem – long before a life-threatening situation might occur. This application is hosted by the e-Health platform designed by Orange Business Services. Patients' data are collected all over Europe and stored within Orange's secured dedicated datacenters.

To learn more: <http://www.orange-business.com/en/press/sorin-group-and-orange-business-services-launch-a-remote-monitoring-solution-for-patients-with>

Orange's strong healthcare and M2M expertise recognized by Frost & Sullivan

Orange has been awarded the 2013 Frost & Sullivan Customer Value Leadership Award for M2M in Health, Europe. This award recognizes the work of Orange and its ability to provide its leading MtoM managed services to the healthcare industry.



Orange Business Services and Weinmann develop homecareONLINE a very innovative M2M solution that improves health care services for sleep apnea patients

In close cooperation, Orange Business Services and Weinmann, a global manufacturer of therapeutic system solutions in sleep medicine and ventilation, have developed homecareONLINE, a fully-integrated, end-to-end connected medical device solution for sleep therapy. This solution will be first commercialized in France starting October 2013.

In order to meet Weinmann's targeted market launch, Orange Business Services helped to develop homecareONLINE in six months relying on its wide expertise in both machine-to-machine (M2M) solutions and e-health. The solution is based on a communication module integrated into Weinmann CPAP devices which sends device usage and clinical data information via the secure Orange network to a "Connected Health Center". This cloud platform enables the seamless, automatic and secure flow of data from patients to care providers who can access them via a secure Web portal. The efficient development of the solution was also permitted by Intelligent Apps Enabler, Orange Business Services' platform to develop M2M applications.

To learn more: <http://www.orange-business.com/en/press/orange-business-services-and-weinmann-develop-homecareonline-an-end-to-end-telemedicine>



Connected car



Designing the connected car in partnership with Renault and Atos

Renault and Atos partner to add a secured purchase feature to the new R-Link connected tablet implemented in various Renault models. For this project, Atos Worldline relied on Orange Business Services' global connectivity expertise to deliver the M2M SIM cards embedded into Renault devices and related subscriptions. The data exchanged between vehicles and the Atos Worldline platform is securely transported, via Orange's and Orange partners' mobile networks in Europe. Based on its seamless international network and its leading global roaming partnership portfolio, Orange Business Services will offer Renault customers R-Link services throughout Europe and beyond. Atos Worldline chose Orange Business Services, a leading global integrator of communication solutions for multinational corporations, to implement the connectivity components of this new solution.

transportation and fleet management



optimizing and securing Sosucam fleet management

Sosucam produces and markets sugar for the Cameroonian market and needed a solution to improve vehicle management and reduce downtime, fuel consumption, and accidents. To achieve these goals, Sosucam deployed Orange Business Services M2M Fleet Performance on all its vehicles. A customizable device (implemented below the vehicle's dashboard) transfers real-time information to the fleet manager. Huge progress was made against the overall project plan: improved speed limit compliance, lower fuel consumption,



reduction of “uncontrolled” mileages, less severe accidents, etc. This M2M platform also improved preventive maintenance workflows for the entire fleet.

openmatics

Openmatics simplifies the daily life for fleet managers of buses and trucks

Orange Business Services provided Openmatics, a designer of manufacturer-independent open telematics platforms, a scalable, seamless, and reliable M2M communication platform. Orange Business Services will implement for Openmatics a managed connectivity service to streamline SIM cards ordering/activation/monitoring through a dedicated portal. Openmatics embedded device, integrating Orange M2M connectivity services, acts as an innovative communication gateway for each vehicle: the data recorded and received from embedded devices are securely exchanged with a dedicated portal through Orange mobile networks. This new service improves location and management services; vehicle manufacturers and third-parties can also design new applications – downloadable from Openmatics webshop.

To learn more: <http://www.orange-business.com/en/press/orange-business-services-builds-global-m2m-communications-infrastructure-for-openmatics>



The city of Vallauris, France

Improve the safety of its citizens and the cleaning and sanitation services in urban areas

In order to optimize the workload of its cleaning agents, to streamline police interventions, and ultimately to improve the quality of service provided to its citizens, the Municipality of Vallauris implemented a solution to monitor and improve the management of its fleet (cleaning vehicles, municipal police, etc.).

Fleet Performance provides real-time information on the location of garbage collection vehicles to accelerate decisions in case of emergency and to improve long term fleet management (route management). Citizens benefit from more frequent maintenance services and ultimately a better QoS. Besides, the service allows real-time responses in case of improper behavior by assigning the mission to the closest police vehicle.