



Orange Business Services Global Industrial IoT Services

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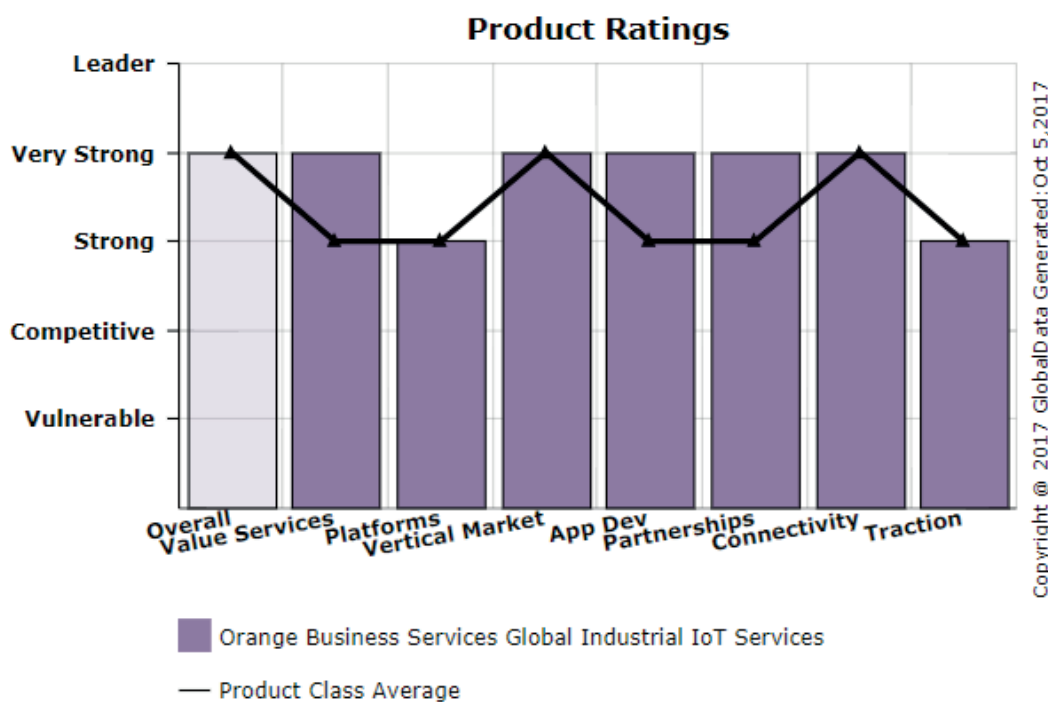
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PRODUCT ASSESSMENT REPORT - GLOBAL INDUSTRIAL IOT SERVICES

REPORT SUMMARY:

Orange has a very strong, comprehensive end-to-end approach to IoT, with platforms, data analytics, application development and systems integration resources. With diverse access options, it has 12.4 million connections and a large LoRa user base.

SUMMARY



WHAT'S NEW

- May 2017 - Orange Business Services is supporting UK-based start-up Stonelin Communications in launching a trio of tracking devices to tap into diverse opportunities. The services will improve automotive, patient and worker safety and performance.
- February 2017 - Orange announces it will deploy LTE-M technology in Spain and Belgium, with rest of Europe to follow.

- February 2017 - Orange announces three new customers for IoT: Hertz, Viasat and Embelin.
- January 2017 - Ericsson, Orange and PSA Group to partner on 5G connected car.

PRODUCT OVERVIEW

Product Name	Datavenue B2B	
Description	<p>Orange has been offering IoT services since 2009. In 2015, a group initiative brought together all Orange IoT and analytics expertise, structured to find profitable and addressable growth with the right value proposition, verticals, and geographies, leveraging Orange organic assets and partners. Orange launched the Datavenue suite of services for developers, startups, and enterprises. It offers a comprehensive set of building blocks for IoT, with connectivity management, object integration, data and app platforms, and professional services. It features solutions to Select, Connect, Manage and Control. Within Datavenue, Orange targets four main verticals - automotive, smart territories and transport, industry and logistics, and healthcare/daily life - with a dedicated go-to-market strategy for each.</p>	
Components	<ul style="list-style-type: none"> • “Select” provides customers with a catalogue of objects (devices) and data plans. • “Connect” provides connectivity services including gateways, RFID, LoRa, LTE-M, and cellular 2G and 4G including roaming relationships with alliance and competitive roaming partners. • “Manage” includes Orange-developed LiveObjects and Flexible Data platforms, provided on-premise or via a SaaS platform to capture, manage, visualize and analyze IoT data. • “Control” includes Orange local systems integration services, spanning security, IT integration, and application development build/run capabilities. 	
Key Customers	<ul style="list-style-type: none"> • City of Alba Lulia, Romania • City of Marseille (SmartSeille) • City of Qatar (Meeza / Msheireb- Downtown Doha) • Cotecna 	<ul style="list-style-type: none"> • e.l.m. leblanc • Hertz • LivaNova • Renault • Viasat
Key Rivals	<ul style="list-style-type: none"> • Telefónica Business Solutions • Vodafone Global Enterprise • Verizon Enterprise Solutions • Deutsche Telekom • AT&T 	

ESSENTIAL ANALYSIS

Strengths

- **Comprehensive Portfolio:** Orange's Datavenue, launched in France in 2015, was expanded globally in 2016; it offers a comprehensive set of building blocks for IoT, with connectivity management, object integration, data and app platforms, partner solutions, and professional services.
- **Technical Resources:** Orange has a growing set of app developers, analytics experts, R&D engineers, and regional resources, representing over 700 employees dedicated to IoT and data analysis. In addition, Live Objects is a framework allowing businesses to design and implement IoT projects by connecting objects and machines, extracting data from connected objects, presenting the data and transforming it into relevant information.
- **Wide-Ranging Connectivity:** Orange has a mobile network in 28 countries, global MPLS connectivity, 500+ roaming agreements, WiFi, satellite, radio/mesh networks and a LoRa network in France in 120 urban areas (2,600 towns) as of January 2017. It will also be launching LTE-M in Spain and Belgium with rest of Europe to follow, in 2017.
- **Strong Growth:** Orange's IoT business has grown to more than 12.4 million connections, a growth rate of 35%. Connections are split into automotive/transport (41%), smart territories (37%), industry (9%), and daily life/B2B2C (12%).

Limitations

- **Strong Competition:** Vodafone remains the European leader with over 50 million connections, leveraging its large wireless network, dedicated IoT BU, internally developed SDP, and acquisitions of integrators and connected car specialists.
- **Competitive Differentiation:** While Orange has many strengths, other operators and large SIs are differentiating with end to end vertical solutions; others have a more global customer base. Others are blending cognitive/machine learning into analytics engines.

CURRENT PERSPECTIVE

Very Strong

Orange Business Services holds a very strong position within the global IoT services market. Orange targets four main verticals - automotive, smart territories and transport, industry and logistics, and healthcare/daily life - with a dedicated go-to-market strategy for each, including vertical partnerships.

Orange has a number of key benefits in offering IoT services: it has its own IoT service delivery and application enablement platforms; offers widespread network coverage across fixed, cellular, and local access technologies (with a LoRa-based LPWAN network in France that has 2.8 million objects in the pipeline); has a BU (Orange Mobile Enterprise) dedicated to mobile and IoT connectivity solutions for MNCs (in addition to local enterprise solutions from Orange operating companies); has experience in many vertical industries; and differentiates with Orange Applications for Business (OAB), dedicated to application development. Orange has also made a stake in the data analytics market empowered by its Flux Vision flexible data platform that provides indexing, prediction, log correlation, and collaboration tools. It has 700 employees dedicated to IoT and data analytics.

In 2015, a group initiative brought together all Orange IoT and analytics expertise, structured to find profitable and addressable growth with the right value proposition, verticals, and geographies,

leveraging both Orange organic assets and partners. Orange launched the Datavenue suite of services for developers, startups, and enterprises, providing professional services, systems integration, security and identity management, and co-innovation enablement. Datavenue was expanded globally in 2016. Orange also introduced Live Objects, a framework allowing businesses to design and implement IoT projects by connecting objects and machines, extracting data from connected objects, and transforming this data into relevant information.

Orange provides integration and end-to-end IT solutions. It helps select compliant modules, devices, sensors, etc. from a large catalog to fulfill the customer's requirements. Orange develops and implements business applications that process, consolidate, and deliver information and offers storage and management of data collected from IoT devices, leveraging its cloud solutions. Throughout the project lifecycle, Orange Business Services provides consulting, project, and service management.

COMPETITIVE RECOMMENDATIONS

Provider

- **End to End Vertical Solutions:** While Orange has end to end fleet management solutions and many case studies to illustrate engagements it does not have a portfolio of vertical, re-playable solutions. Orange should note that for mature use cases it can offer packaged offers. This could keep custom development costs down and allow it to offer more solutions to SMEs.
- **Missing Platform Partner:** Orange has LiveObjects and FluxVision but it is not clear it also has an all-purpose application enablement platform (AEP) that customers can use to develop their own solutions. It can, however, highlight that it offers both horizontal (API mode) development and supports verticalization, derived from uses cases from its LoRa customer base.
- **Alliance Traction:** Orange and the GMA do not disclose IoT customers that use multiple access providers in the alliance. Orange should note that this does not mean there are not reference customers; rather, Orange and other GMA partners are not authorized to disclose this kind of information.

Competitors

- **MNCs:** Other global operators can note that they have more multinational deals compared to Orange. They can note that the majority of Orange IoT engagements appear to be in-country and are also mostly for connections within the same countries.
- **Application Development:** Orange has unusually extensive systems integration and application development capabilities. Competitors should delve more deeply into app dev and analytics or lose business to Orange and to traditional ITSPs.
- **End-to-End Security:** Many operators only provide security that touches their network or end-devices, although lack of security is a primary deterrent to IoT deployment. They should use partnerships if they don't have their own resources to provide IoT security solutions that span end-devices, edge computing, networks/cloud services, data centers, and applications.

Metrics

VALUE-ADDED SERVICES

Rating	Very Strong
Consulting Services	Orange has end-to-end expertise in IoT including information systems integration, project management, and security and privacy management. It has 200+ IoT consultants and 5,000+ R&D researchers. Specific consulting capabilities include: definition of ecosystems, business analysis, analysis of enterprise value chain, evaluation/ideation process, use cases identification, development of business case and business plan. Also provides connectivity and smart technical solutions, help in choosing relevant partners, expertise in IT integration and network design, and standardization. Consulting services is also part of the “Select” Offer within its Object Partnership program for device manufacturers.
Pro Services	350 people in IoT development & delivery teams; leverages local integrators to provide security, integration, and application development and management as part of Control function within Datavenue.
Security Services	End to end IoT security approach throughout Connect, Manage and Select phases of Datavenue, with focus on objects and perimeter security. Performs 50 industrial plant security audits per year, provides security advice to device manufacturers, runs secure data center and operations with ISO 27001 certification, monitors 15 million security events per minute. Identity management of employees and customers is a prerequisite to support GDPR privacy requirements in Europe.
Data Analytics	Orange Experts include a big data consultancy team, data architects, data scientists, data analysts, developers, and big data integrators. Uses Flexible Data platform, a global secure service environment to implement big data projects. Platform allows customers to build and host their infrastructure and big data tools in a secure cloud environment. Also offers Flux Vision tool to measure population movements and attendance at specific areas by analyzing technical data points from Orange’s mobile network.

PLATFORMS

Rating	Strong
Connectivity Platforms	IoT Managed Global Connectivity portfolio has two product lines: IoT Connect Express and IoT Connect Advanced. Offer includes access to the Orange global mobile network enhanced by alliance of operators and roaming agreements. SIM and connectivity management includes: IoT dedicated SIM cards portfolio, Web-based connectivity management tools (portal, APIs) to manage and monitor mobile lines; flexible billing models. Provides SIM lifecycle management, traffic monitoring, subscriptions inventory and customized alarms.

App Enablement Platforms Datavenue App Enablement Platform is called Live Objects. Communication layer includes: SMS, Mail, SIM, LPWA Manager, MQTT/REST bridges, cloud to cloud platforms adapters, protocol adapter. Application layer includes: admin, billing, user management; device, data and message management, application tools (dashboards, visualization, rules, event processing). Provides APIs for developers, integrators, professional services.

Differentiators Orange IoT Platform is both horizontal (API mode) and supports verticalization, derived from use cases from LoRa customer base. It has over 90 LoRa customers with 2.8 million objects in the business pipeline. Use cases are: 1/3 smart cities, 1/3 metering, 1/3 industry. Orange also invests in its national and international coverage (for instance, In France with 2,500 LoRa gateways for indoor coverage in 120 cities + 1,500 gateways for national outdoor coverage). It has a roadmap for international coverage with a new international LPWA/LoRa on-premise offer to be launched in June 2017.

VERTICAL MARKETS

Rating Very Strong

Target Verticals Automotive and transport, e.g., cars, buses, trains, planes (41% of connections); smart territories, e.g., cities, utilities, offices, stores (37% of connections); industry, e.g., manufacturing and field operations (9% of connections); Daily Life & B2B2C - e.g., healthcare, smart home, personal IoT (12% of connections).

Partnerships for Verticals Different kinds of partners for each of Datavenue functions. Select: data & objects providers with vertical relevance or standards and security expertise; Connect: operators with complementary & competitive roaming; Manage: platform providers with recognized leadership, in country presence, or vertical expertise; Control: integrators/ consultants with local recognized skills. Key partners by vertical: Fleet/OEM: Renault, PSA, Meitrack, Abeeway, Ergogener. Smart territories: Fludia, Connit, One Situ, Adeunis. Asset tracking/monitoring: Meitrack, Ergogener, TMI, Eolane, Sagemcom, LoRa Alliance, Microsoft. Senior Care: Geotonome; Banking/retail: Splunk.

APP DEV

Rating Very Strong

App Dev Capabilities Orange Application for Business develops applications to help customers build the digital experience with on-premise, hybrid or cloud applications. It has 2,300 employees and builds 950 applications per year, with 700 experts dedicated to IoT and analytics.

Application Examples

Hertz 24/7 is a car sharing service to rent vehicles by the hour. Orange provides Hertz a global SIM along with its connectivity management platform. All Hertz affiliates in Europe managed via single point of contact with continuous technical and commercial support. Orange provides end-to-end logistics and project & service management.

City of Alba Iulia, Transylvania, Romania: Orange LoRa WAN IoT architecture and Business Retail Analytics solution. Public Wi-Fi at the Cital and on buses. Bus/traffic management. Pedestrian optimization, Beacons for Smart Tourism, Intelligent Lighting Solution, Waste Management. Consultancy & Project Management.

Harmonie Mutuelle health insurance: remote assistance for elderly patients. Orange provided end-to-end solution relying on all of Live Objects bricks: Select, Connect, Manage and Control. Orange contributed in all stages of the project from the innovation phase to delivery. Orange designed and built the objects with the help of specific partners.

Developer Resources

Approximately 700 dedicated experts for IoT & Analytics. Provides third-party data sources: data catalog, outdoor and indoor mobility data; management platform for data collection and processing; end-to-end expertise: IS integration and project management, with data scientists, security and privacy experts. Has solid UX/UI expertise and tested methodologies.

PARTNERSHIPS**Rating****Very Strong****Application Partners**

Different kinds of partners for each of Datavenue functions. Select: (data & objects providers with vertical relevance or standards and security expertise). Connect: (operators with complementary & competitive roaming. Manage: platform providers with recognized leadership, in country presence, or vertical expertise. Control: integrators/consultants with local recognized skills.

Key partners by vertical: Fleet/OEM: Renault, PSA, Meitrack, Abeeway, Ercogener. Smart territories: Fludia, Connit, One Situ, Adeunis. Asset tracking/monitoring: Meitrack, Ercogener, TMI, Eolane, Sagemcom, LoRa Alliance, Microsoft. Senior Care: Geotonome; Banking/retail: Splunk.

Service Provider Partners

Partners with operators with complementary and competitive roaming. Member of the Global M2M Association along with Deutsche Telekom, Telecom Italia, Telia, SoftBank, Bell Canada, Swisscom. GMA and Bridge Alliance provide cellular connectivity in 77 markets.

CONNECTIVITY

Rating	Very Strong
Cellular Footprint	2G in Europe with 98% coverage. 4G 100 Mbps and 4G Cat-M. Supports over 9.8 million devices (end of 2016). GMA and Bridge Alliance provide cellular connectivity in 77 markets.
LPWAN Support	LoRa in 120 French cities and on-premise. Supports over 2 million connections.
Other Access Options	RFID for asset tracking, Home Gateway (e.g., Live Intercom), Bluetooth/zWave/ZigBee. The IoT Device Catalogue has 70 devices, including 45 for LoRa, and is part of the Datavenue offering which includes devices, gateways, modems, modules and starter kits for numerous applications: asset tracking, smart metering, smart operations, smart buildings and daily life.

TRACTION

Rating	Strong
Number of Connections	End of 2016: 12.4 connections (cellular and non-cellular). Connections by Vertical: Automotive and (41% of connections); smart territories (37% of connections); industry (9% of connections); Daily Life & B2B2C (12% of connections).
Named Customers	LivaNova, Qualcomm Life, Medical Objects (healthcare); SITA, Splitsecnd, Transics (connected transportation); flaik, Cotecna (track and trace); IntraTone (security systems); Renault, PSA, SNCB, Tesla, Peugeot (connected car); SIA (point of sale); m2o city (JV with Veolia Water), Lubomierz (utilities); Dacom (smart agriculture); Manitowoc (remote crane monitoring solution); EMT Malaga (fleet management and connected buses); WayRay (automotive aftermarket); C&P Rental (fleet management, Singapore); Tractive, Yummypets (GPS + cellular trackers for pets); Smartseille (eco city in Marseille), Qatar, Alba Lulia Romania (Smart City); Harmonie Mutuelle (insurance, remote assistance). Hertz, Viasat (service providers); Vinci Autoroutes (asset management); e.l.m. leblanc, Securitas (daily life).

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