



MobiquiThings
Connecting Objects

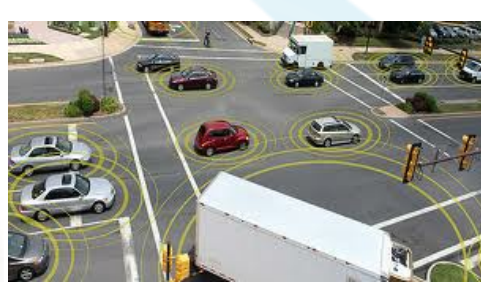
Contact:
cyril.hullin@mobiquithings.com
+336 12 74 52 48

Breaking the paradigm of Machine to Machine Connectivity

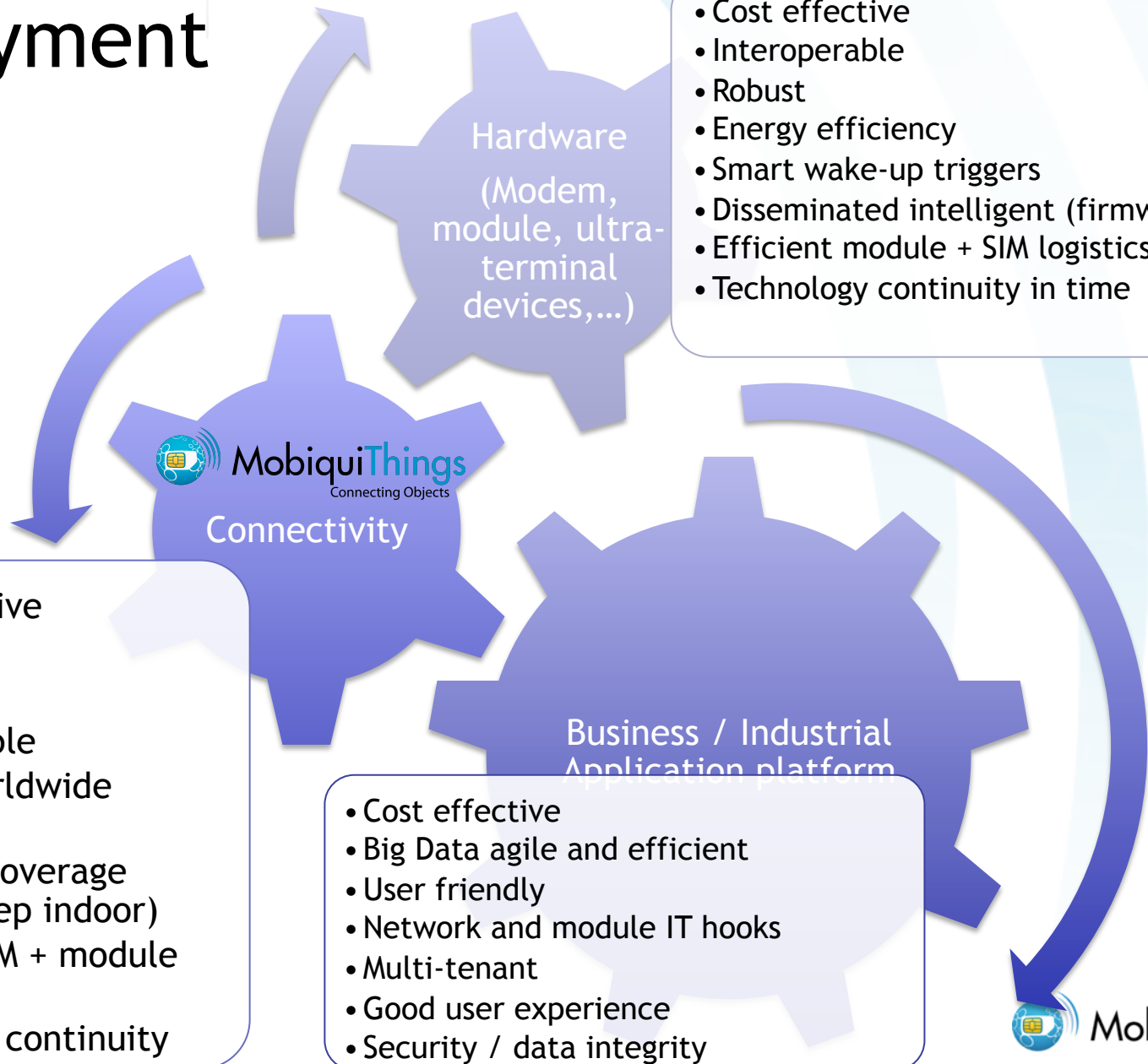


MobiquiThings:

- Une Spin-off de Alcatel-Lucent
- Un opérateur mobile global
- Un Pure Player de la connectivité M2M (Data, Voix, SMS, CSD)
- Un Cœur de Réseau Mobile en propre opéré par le personnel MobiquiThings. Redondance géographique France + Allemagne
- 60+ lients (directs + indirects) dans le monde entier
- 20 à 35% de croissance mensuel les 18 derniers mois
- > 120k SIM déployées dans le monde en 24 mois



Cooking Recipe for a successful M2M deployment



Wireless Public network / wireless Private network / fixed access / ...

| Network type | Weaknesses | Strength |
|---|---|--|
| Private radio network PMR, Tetra, Sigfox, Neul, ... | <ul style="list-style-type: none"> - Cost and variety of hardware ecosystem - Session based - Often unlicensed spectrum (-> QoS) - Poor / no interoperability - Poor coverage (in-country / global) | <ul style="list-style-type: none"> - Closed E2E system design (RAN Infrastructure + Modems) - Low maintenance costs ... - Low Energy consumption |
| Public radio network 3GPP (GSM, 3G, LTE) | <ul style="list-style-type: none"> - Session based - Rural / indoor coverage | <ul style="list-style-type: none"> - Cost and variety of hardware ecosystem - Overall Coverage - Network resilience - Worldwide interoperability - 3GPP & SIM authentication + encryption |
| Fixed Access DSL, ISDN, PSTN, PLC, ... | <ul style="list-style-type: none"> - Physical link fragility - Requires heavy civil works | <ul style="list-style-type: none"> - "Always on" mode (versus session based) - Deep indoor reach |
| + ultra terminal access: RFID, Zigbee, 6LoWPAN, WiFi, ... | ... | ... |

Always On vs Session based; session / idle management
 IPV4, IPV6 ... public addressing ... DHCP ... complex issues
 Carrier grade voice in some cases
 Spectrum interoperability across countries

Market segmentation

| | Utilities | Transport | Retail | Security | Healthcare | Industrial |
|---------------------------------|--|---|---|---|--|---|
| Applications | Smart Metering (AMR - Automated Meter reading) in Electricity, Water, Gaz Turbines, Wind and Solar Farms, Generators, ..., Smart Grid monitoring and metering Remote Asset tracking and management | - Location Based services, maintenance records, Toll payment, Navigation, Eco-driving assistance and incentive, Fleet and asset management, Vehicle telematics, Theft prevention and recovery | - PoS Payment, ATM, Vending machines, Advertising (Digital Signage), - Customer / passenger Information, - Goods tracking | - Surveillance (CCTV), - Home security (alarms), - Fire security, SCADA, - Metering, - Remote probes, Prisoner monitoring | - Remote Patient Monitoring, - Drug tracking, - Asset tracking, - Remote workers Safety, - Telemedecine, | - Telemetry (probes, meters, alarms, pumps, Valves, ...), - Asset Tracking (assembly lines, Gaz tanks, logistics, ...), - Complex facility management and security - Dangerous area monitoring, |
| M2M Benefits | - Virtuous consumption incentives - Reduced waste and customer bill - Production load balancing | - Improved asset utilisation, - Improved tracking information, - Reduced cost of ownership | - Quicker transactions, - Contextual mediation, (payment, advertising, ...), - Refrigeration monitoring, shelf space optimization | - Increased safety and security, - Lower TCO with improved efficiency, | - Improved asset utilisation, - Transportation savings, - Fraud detection, - Improved Patient comfort, | - Improved cost of plant management, - Alert management, - Security improvement, - Improved supply chain |
| Mobiquithings Value Proposition | - Enhanced radio network coverage and QoS (urban and rural) - Flexible TCO over time - Embedded soldered SIM - Device Life Cycle management | - Enhanced Coverage (Urban, Rural & accross borders). - Cross boarder TCO redution. - Embedded soldered SIM reducing fraud risk and vibration + heat issues | - Improved coverage (Urban mainly). - Enhanced connectivity, TCO reduction over time. - Payment device Life Cycle Management over time. | - Improved coverage (Urban and Rural), - Enhanced connectivity TCO over time, - Embedded soldered SIM | - Improved coverage (Urban and Rural) and Quality of Service. - Device Life Cycle management accross geographies. | - Improved coverage (urban and rural), - Flexible TCO over time, - Embedded soldered SIM, - Device Life Cycle management |

Challenges of the traditional offering

Customer pain points...

Devices suffer white and grey zones from mobile operators and data availability

Hectic Coverage
& QoS

Lack on visibility on 2G / 3G continuity

Long term
risk

Pricing &
flexibility

Lack of tariff flexibility for M2M connectivity +
International roaming, bundle offers, ...

Poor Extranet
and back end IS

Lack of control over fleet and devices life cycle
– Lack of connectivity hooks for smart IS



+ embedded SIM challenges

Embedded soldered SIM = M2M catalyst ... yet need for multi operator proposition

- ✓ Miniaturization
- ✓ Reliability
- ✓ Manufacturing Process
- ✓ Logistics
- ✓ Fraud Avoidance
- ✓ Design Integration

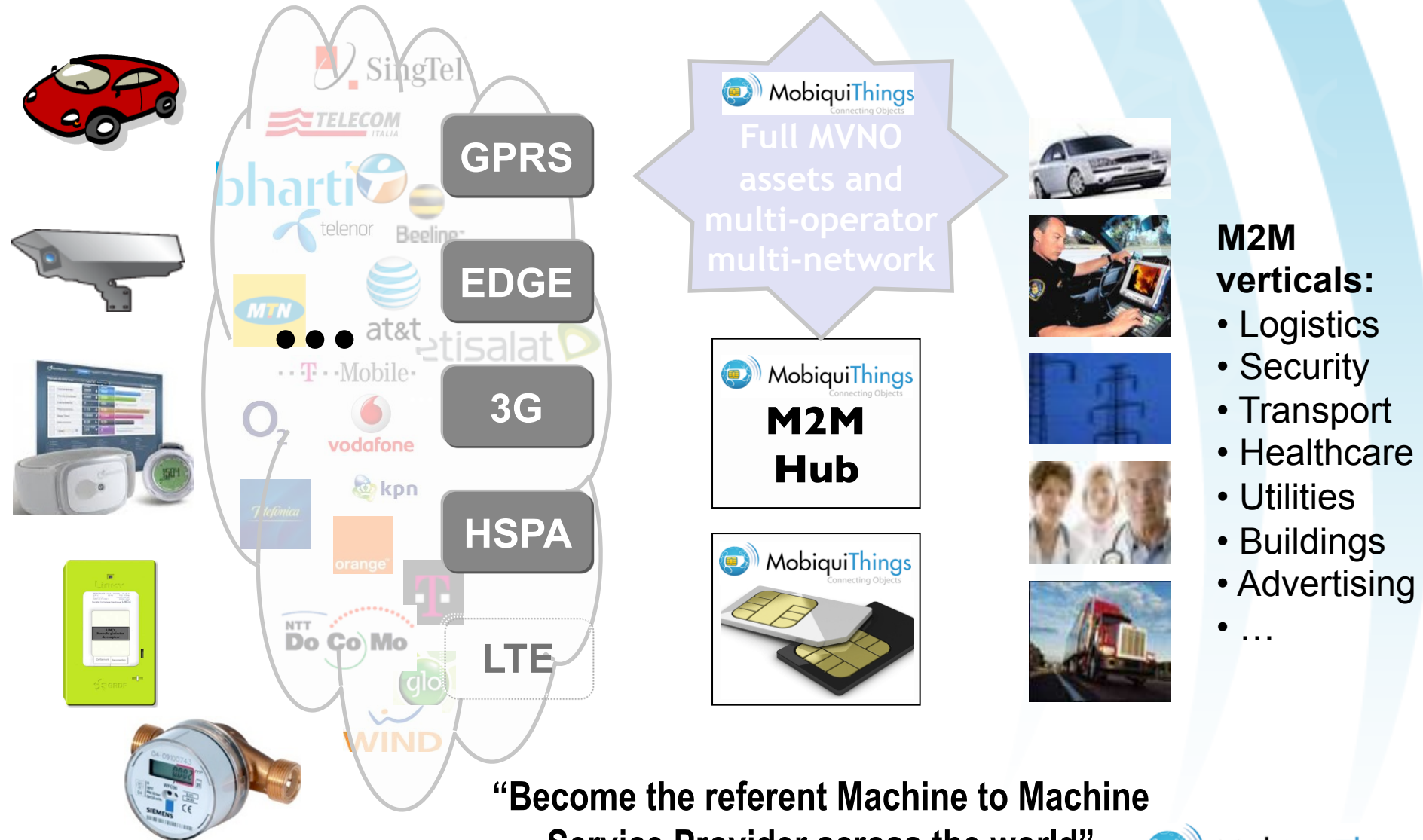


Standard compliant
ETSI M2M UICC TS 102.671
JEDEC-STD-020-022 Indust. Electronique

**Downside:
Intimacy with MNOs**

- Coverage
- Roaming
- Pricing
- Features
- Quality of Service, SLA
- Long-term evolution

The Solution – M2M enablement



“Become the referent Machine to Machine Service Provider across the world”

Accrochage Dynamique de réseau



Focus M2M

Toujours la meilleure connexion:

Couverture radio maximisée
Qualité de service et taux de disponibilité optimisée

Accélérateur Business grâce au coût total de possession optimisé pour les cas d'usages M2M multi-pays ou locaux + catalyseur de revenus



Système d'information orienté Services

Extranet, API réseau et SI, Web Services, ...


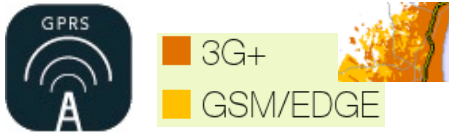
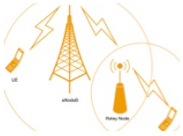
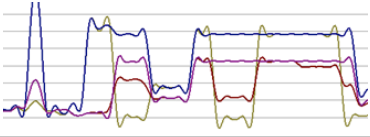


Continuité de la technologie:

Connectivité Multi-opérateur – permet de réduire drastiquement les risques d'extinction des réseaux 2G/3G

« Guichet unique » pour des besoins de connectivité M2M globaux

Smart SIM - Smart Steering on-SIM applet

Dynamic Network Attachment : make sure the SIM attaches dynamically to the best giving network according to the business/ operational logic of the object

| | | |
|---|------------------------|---|
|  | Signal strength | A |
|  | Services availability | B |
|  | Signal Stability | C |
|  | Latency | D |
|  | Data throughput | E |
|  | Optimized traffic cost | F |

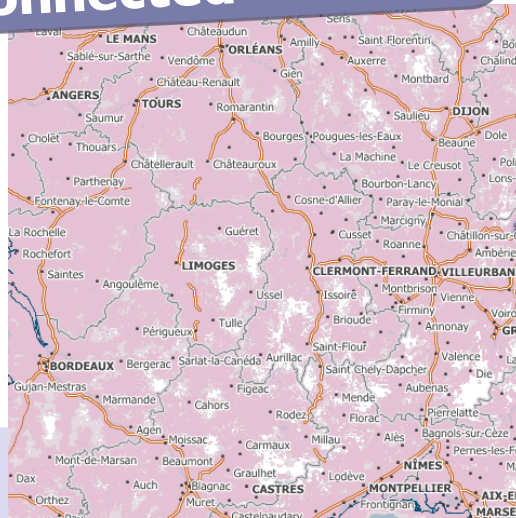
Visited Network arbitration rule = weighting of use case specific QoS criteria.

$$P = A\alpha + B\beta + C\gamma + D\delta + E\varepsilon + F\zeta$$

Multi-operator “Smart Steering” Quality of Service differentiation

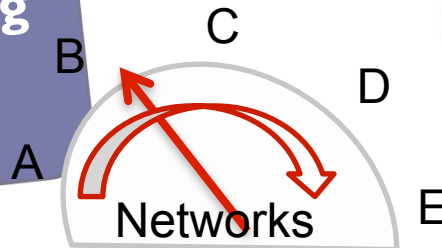


**Optimized Radio coverage and Quality of Service across geographies
Always best connected**



White / grey zones: Sub-Urban and rural areas

Reduces Technology risks by agile and dynamic switching according to device fleet operation logic



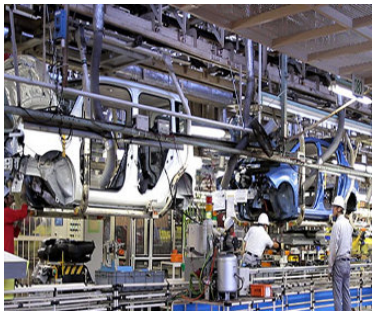
White/ grey spots in Urban Canyons

Cost savings and operation/ logistics simplification for our customers - **One global SIM**

Production

Shipment/
logistics

Usage /
Cross border usage



Scattered
prod. sites



Drastic logistic simplification – Distribution and Operational cost savings

Next Gen ... : « 0G » over public networks

- Why: address needs for
 - Low throughput / small messages
 - Low energy consumption
 - Massive devices densification - Network congestion
 - IPV6 addressing
 - Robust traffic compared to data (GPRS, 3G...) in poor radio conditions
- What: USSD transport... & ...6LoWPAN encapsulation
 - USSD bearer on multi-operator global SIM
- Applications:
 - Specific track and trace (LBS) on batteries (Containers...)
 - Smart metering
 - Transactions (gaming, betting...)