Connected Living

SIMs & M2M – the Central and
Developing Role of SIMs

Telefónica

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M2M services have specific characteristics that imply a different **Machine SIM** to cover customer requirements related to security, availability, control, customer experience and integration costs.

1. **Choice of SIM** types to suit the M2M application needs;

2. **Increased reliability** due to resistance to harsh environment and longer lifespan for long product lifecycles;

3. **SIM personalization and worldwide logistic** services adapted to your supply chain;
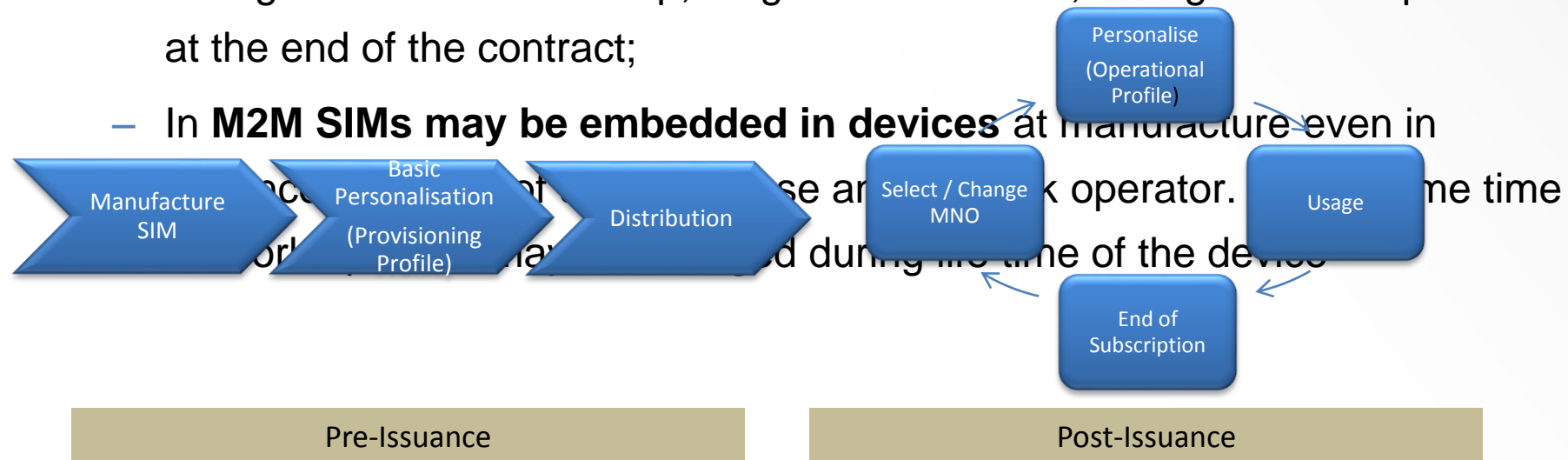
4. **SIM re-programming technology** to remotely localise a SIMs by securely managing subscription credentials over the air.

| Product name	M2M commercial SIMs	M2M industrial plug in SIM	M2M industrial solderable
	Ideal for:	**Ideal for:**	**Ideal for:**
	• Handheld or indoor use • Low environmental constraints • Normal device lifespan	• Harsh environmental conditions and usages • Long life deployments	• Harsh environmental conditions and usages • Long life deployments • Miniaturization • Security concerns
	Typical solutions		
	• Consumer electronics (e.g. eReaders, tablets, PND,laptops, game consoles ,etc) • Home management systems • Digital signage • Security solutions, Indoor POS	• Aftermarket vehicle telematics • Smart metering • Outdoor Point of Sale (PoS)	• OEM telematics • Outdoor smart metering • Industrial Asset Management

Why Embedded SIM?

- Embedded SIM will permit **remote management of operator credentials** on a card such that:

    – **Initial MNO profiles can be loaded later in the supply-chain**, including post-sale;

    – **MNO profiles can be revised during the lifetime of a device** to allow simple swapping of MNO to support events such as – change of subscription, change of device ownership, long term relocation, change of Telco provider at the end of the contract;

    – In **M2M SIMs may be embedded in devices** at manufacture even in ~~advance~~ of ~~release~~ and ~~network~~ operator. ~~the time~~ ~~work~~ may ~~be~~ ~~changed~~ during life time of the device

| Manufacture SIM | Basic Personalisation (Provisioning Profile) | Distribution | Select / Change MNO | Personalise (Operational Profile) | Usage | End of Subscription |

| Pre-Issuance | Post-Issuance |

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Why a Standard?

- A **standardized Embedded SIM ecosystem**:

  - **Fulfil market requirements**

    - Logistics,

    - Limit fragmentation

    - Interoperability

  - **Reduce Cost**

    - Provide scale that enables cost minimization

    - Reduce certification processes

  - **Protect MNOs security and customer privacy**

    - Operator must have complete control over its credentials and a strong oversight and control over SM operations

    - Certification

    - Subscription Managers hold no details of the subscriber.
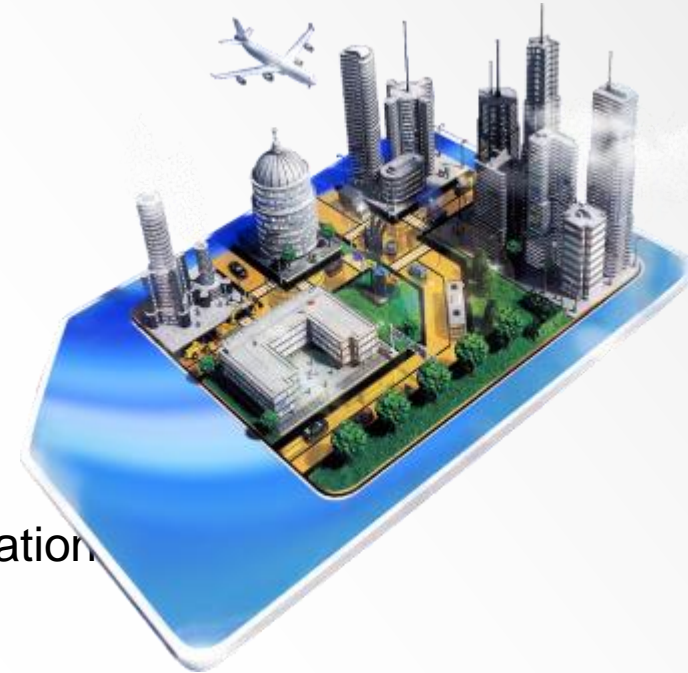
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Telefonica & Embedded SIM Standardization

Telefonica **had actively promoted the standardization & deployment of the Embedded SIM**

- Chairman in the ETSI Embedded SIM group

- Partnership with G&D to demonstrate a working solution for remote subscription management:

  - eSIM trial began on 11/2011, using G&D SIM Cards, Samsung Tablets and Telit modules

  - Involving Telefonica Operators (Movistar SP, O2 UK, O2 DE) and Telco partners (China Unicom, Telstra…)

- Telefonica participated in the definition of the GSMA Embedded SIM standard and the Automotive Fast Track

- ~~T~~ ... SIM

Global Managed Connectivity Proposal

Global solution: The agreements enable joint commercial efforts to look for a global solution based proposition. This is particularly important for M2M opportunities that require multiple services over large geographical areas: It's about Commun~~...~~ about Operations
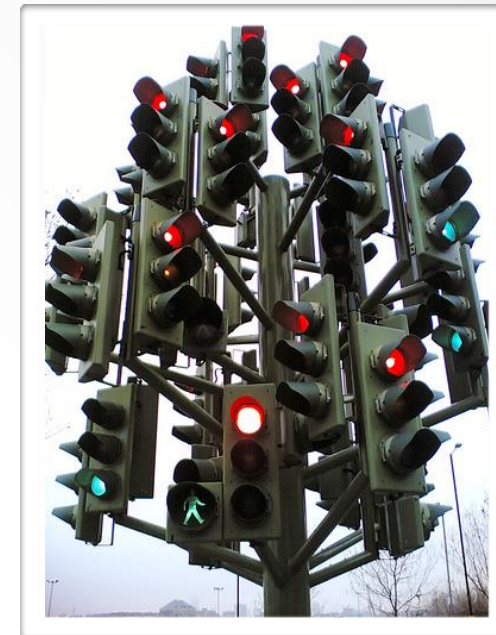
Requirements

- one portal

- a unique SIM

- a common APN

- a single VPN

- a joint customer service
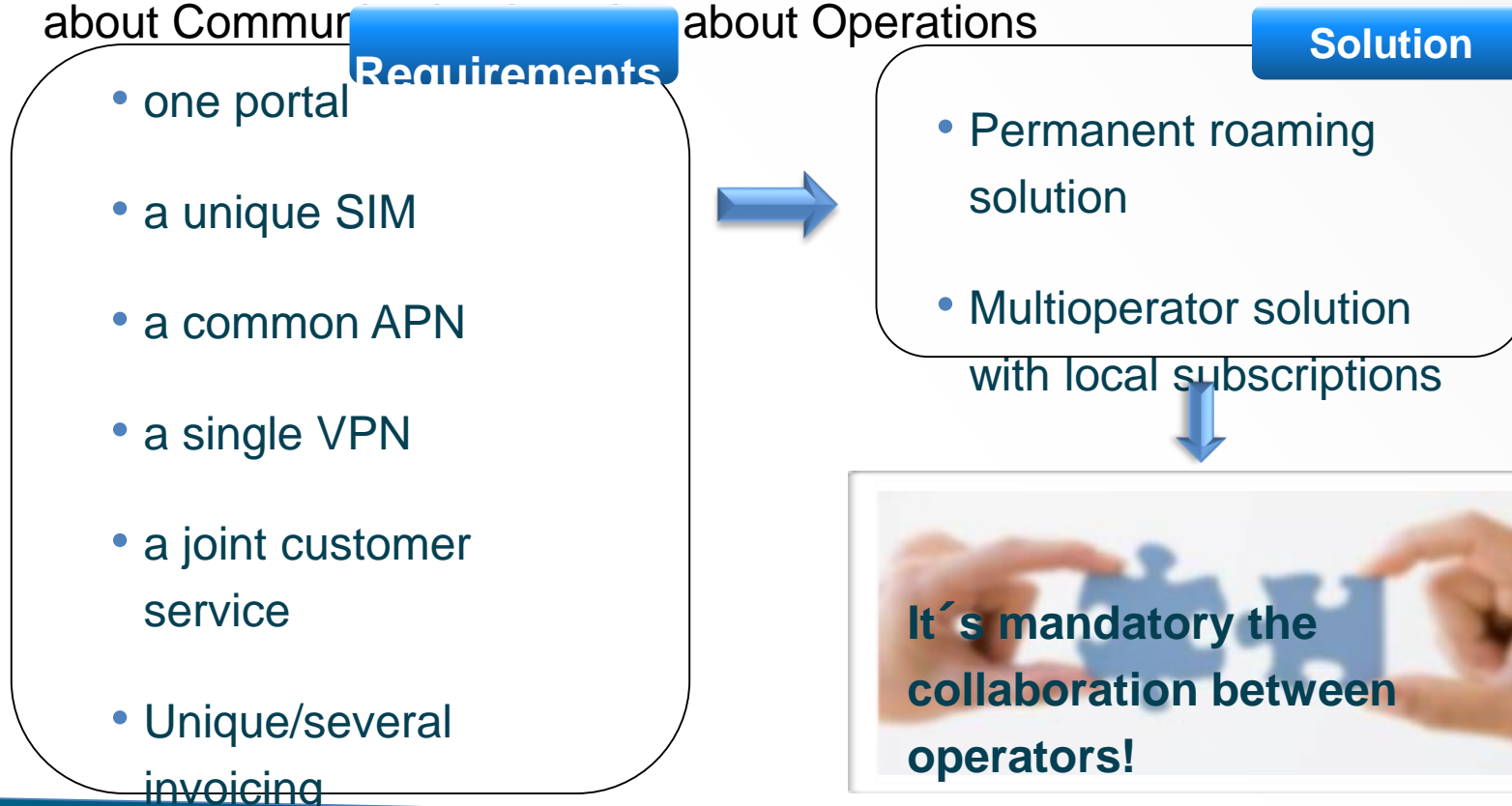
- Unique/several invoicing

- Local /lowest prices

- There are several barriers to provide global transparent M2M services based in permanent roaming:

  Some operators/countries are trying to **avoid permanent roaming**

  - **Local regulations** are increasing and difficult global services (eg. internet access control)

  - Local laws concerning **data privacy** and the security in international projects

  - Business model: **High IOT or high volume data** applications

  - Different **contract regulation** restricts being able to operate depending on the country (reselling, MVNO, roaming)

  - Multiple **languages, taxes, regulations**

  - Customers buy and launch when they feel the solution has no or low risk in each country

M2M Global Services via Telco Collaboration

Global solution: The agreements enable joint commercial efforts to look for a global solution based proposition. This is particularly important for M2M opportunities that require multiple services over large geographical areas: It's about Communication... ... ...about Operations

Requirements

- one portal
- a unique SIM
- a common APN
- a single VPN
- a joint customer service
- Unique/several invoicing

Solution

- Permanent roaming solution
- Multioperator solution with local subscriptions

It´s mandatory the collaboration between operators!

Local /lowest prices

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Embedded SIM to provide Global Services

Embedded SIM as a **collaborative way to provide multinational M2M services based on a Global SIM**. Enable global, unique, seamless solutions enabling reliable communications for multinational customers requiring M2M device connectivity.

"Over The Air" Subscription Management

Global SIM
with subscription update capability

Today is a Commercial Solution!

Market Opportunity - Automotive

- Automotive Requirements:

  - Same worldwide solution. **Single SIM card** for all geographies

  - **SIMs embedded** in cars at the factory

  - SIMs will be **installed before knowing where the car will be sold**

  - **High volume data** applications

  - **Local regulations** compliance

 - Possibility of **change Telco provider** at the end of

Embedded SIM

- M2M services **demand new features** to fulfill customer requirements related to security, availability, control, business models and specific sectorial requirements

- It´s necessary a specific **Machine SIM** to cover these requirements

- Due to the relevance of the SIM it's mandatory the **collaboration** between the different members of the value chain.

- **GSMA and the Connected Living Program are key to push for that collaboration**
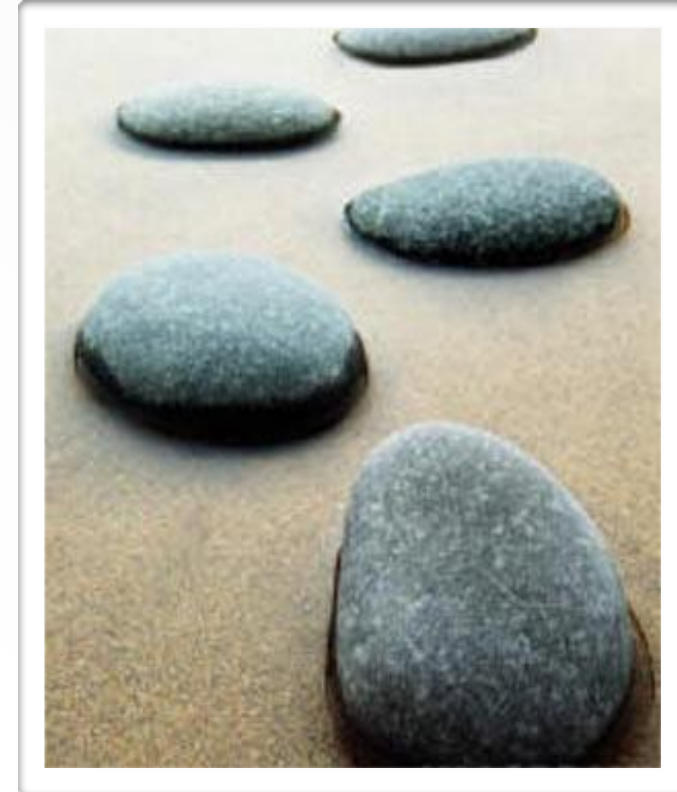
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