



Vodafone Global M2M



Global M2M Platform

power to you



Opening up the potential for a new range of smart M2M services



Vodafone Global M2M Services are designed to help you accelerate market entry for a new generation of connected M2M deployments such as vehicle telematics, fleet management, electronic metering, asset tracking and remote operations on a local, regional and global scale.

Underpinned by patented technology, our Global M2M Services remove the barriers for M2M applications such as country-specific SIMs, multiple individual contractual agreements or complex service integration and operation.

Vodafone Global M2M Platform

At the core of our Global M2M Service is a powerful solution to help you self-manage your connected M2M deployments. Our Global M2M Platform – a centrally hosted, secure self-service platform – delivers authentication and access control, and near real-time usage and management of any Global SIM, on any Vodafone and Vodafone M2M Partner mobile network anywhere in the world.

It has an easy-to-use web 'self-service' interface that allows your authorised users to log in and access the vital management information required to effectively reduce the complexity and cost of your M2M solution deployment.

Key benefits

Simple development, manufacturing and distribution of devices and assets

- Single bill of materials with one SIM in a range of form factors
- Independent of radio network technology and country as 2G, 3G and LTE are supported
- Devices work out-of-the-box as services are pre-provisioned

Self-service functionality with full control over service set-up and operations

- Simplified set up and operation of M2M services
- Flexible SIM policy management with full control of one, many or all connections
- Tools to control, alert and report in near real-time
- Full integration with business processes based on operating and management APIs

Dedicated M2M platform with high service availability, capacity and innovation.

Global M2M SIM and SIM chip

Vodafone provides pre-provisioned and ready-to-use SIMs and solderable M2M SIM chips that can be fully integrated in manufacturing and distribution processes with a single 'bill of material'.

Ideal for M2M solutions where devices manufactured in one country may be shipped to another, or where the final destination may not be known at time of manufacture, our global SIMs and SIM chips mean that you do not need to buy local cellular connectivity or worry about roaming costs.

Vodafone's Global M2M network

Vodafone has the largest mobile telecommunications network in the world, giving us direct influence and control over design and functionality.

Our global footprint, including worldwide partner networks, provides a unique opportunity for connected vehicles and assets with an optimised roaming model.

SIMs specifically designed for M2M business models and services

Our innovative SIM and SIM chip solutions address the requirements of M2M business models and services, providing additional simplicity and cost-effectiveness.

SIMs developed for M2M

Vodafone Global M2M provides SIM solutions for a broad range of M2M modules:

- Standard Plastic SIMs – Plug-In UICC standard and Micro SIM for modules with SIM slots
- Robust Plastic SIMs - Plug-In UICC standard and Micro SIM for modules with SIM slots for longer lifetime
- Standard Industrial – ultra-compact, robust, corrosion resistant and solderable M2M SIM chip in QFN8 standard for extreme conditions

All SIMs can be delivered in large volumes if required.

SIMs without roaming barriers

Global M2M SIMs have dedicated IMSI and mobile number ranges that are not assigned to a geographical destination or network.

This means our global M2M SIMs can be used on any Vodafone or Vodafone M2M roaming partner network anywhere in the world.

Flexible service provisioning

Using the Global M2M Platform you will be able to order SIMs provisioned in either format in an 'inactive' or 'active' state, configure them according to the needs of your specific solution, set up near real-time alerts based on customisable business logic triggers, and implement intelligent device communication management such as device 'wake up' and 'shut down'.

It is also possible to restrict the use of SIMs to specific countries or regions via the Global M2M Platform depending on your specific requirements.



Access to a global network with a single contract

Vodafone's global footprint and dedicated core network elements ensure that your M2M solution can be rolled out quickly, with high service availability and worldwide coverage. Combined with a single, optimised commercial solution, the costs for M2M are predictable and simple to manage.

One price regardless of deployment

We offer a flexible range of commercial models specifically designed for M2M, including attractive tariffs for international data roaming that allow you to effectively forecast and manage costs, without having to worry about roaming charges, and a predictable price model per application calculated on average usage per user.

Specifically designed for the low data volumes and short session lengths associated with M2M communications, our commercial solutions will enable you to simplify the management and complexity of your M2M deployment.

Mobile Communication Services

The Global M2M Platform enables devices and assets with a Global M2M SIM to communicate securely with your M2M back-end system via:

- Packet switched data transfer over 2G-, 3G- and LTE-enabled networks
- Circuit switched data and voice over GSM networks
- SMS (mobile originated and terminated)

To ensure a secure end-to-end connection platform, the data transfer is delivered via a dedicated private Access Point Name (APN) and devices are connected to mobile networks using a fixed, not publicly accessible, IP address range.

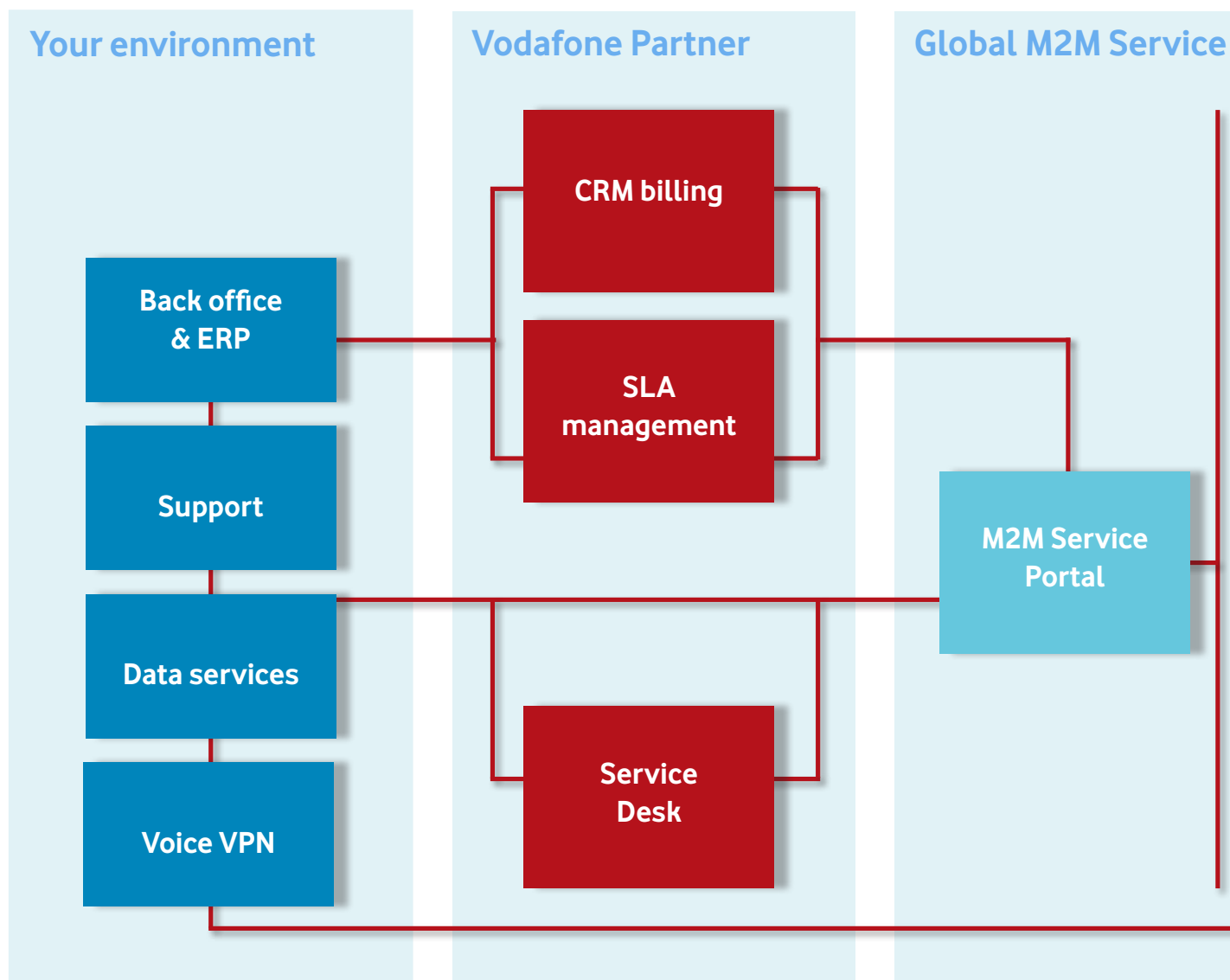
Location-based Services

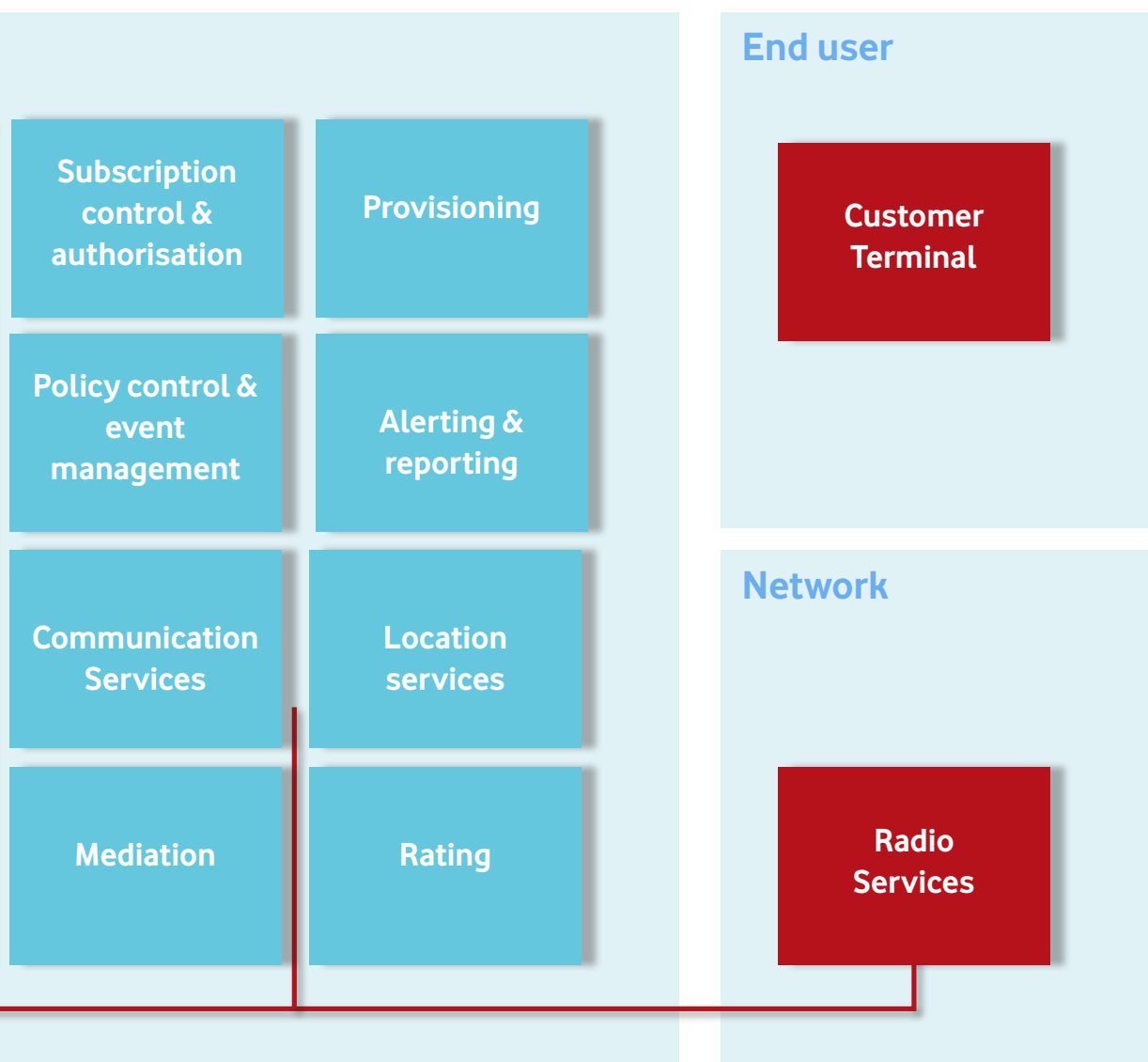
The Global M2M Platform supports location-based services which means the location of M2M assets can be displayed and utilised for service management purposes such as for asset tracking or location capture, without additional investment.

Depending on device capabilities, the location is obtained from the network (Cell Id) or A-GPS data with varying accuracy. Network sourced location has the advantage that it is available out of GPS coverage and does not require the device to have a location capability.

Global M2M Platform overview

The Global M2M Platform is a dedicated and centralised infrastructure providing all necessary mobile network elements including the core network and the messaging platform, as well the back-end connectivity and customer interfaces.





The Global M2M Platform gives you full control over your M2M deployment



Our innovative, web-based Global M2M Platform enables you to securely manage and administer M2M deployments such as vehicle telematics, fleet management, electronic metering, asset tracking and remote operations on a local, regional and global scale.

The Global M2M Platform provides consistent authentication, access control, usage management and information on any Vodafone Global SIM on any Vodafone or Vodafone M2M roaming partner network, anywhere in the world.

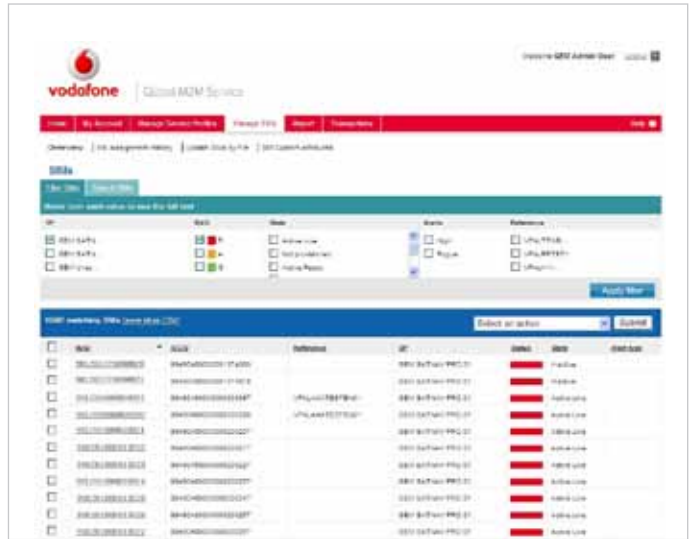
Simple online management

The Global M2M Platform provides secure, controlled and tiered access based on agreed user profiles. This allows authorised users to access different levels of functionality and privileges depending on the needs of your business.

It has a user-friendly 'self-service' interface that gives authorised users quick and easy access to an innovative suite of online management functionality, including the ability to centrally activate, suspend and deactivate SIMs, assign services and run diagnostics and reports throughout your base of installed devices.



After logging in, authorised users can access the Connection Dashboard, which provides an overview of your entire SIM estate, with quick access menus and a SIM/connection search.



You will be able to define the behaviour and capabilities of a group of SIM connections such as permitted roaming countries, and retrieve a list of SIMs based on predefined criteria such as service profile, status or custom attributes.

Flexible service configuration

Through the life cycle of a device, the service parameters such as the SIM state can be modified without any intervention from Vodafone.

Furthermore, to effectively manage devices and assets, the Global M2M Platform allows grouping and bulk provisioning of SIMs.

All SIMs are automatically pre-provisioned in the default SIM activation state which means they are in test-mode or ready-to-use and don't require any manual, time consuming activation process.

You can tailor the SIM configurations to your commercial, manufacturing, distribution and operational business requirements with a set of adjustable parameters, such as:

- Default SIM state
- Enabled communication services
- Enabled location-based services
- Country and regional restrictions
- High and rogue usage limits and alerts
- Underlying tariff model
- Options for IMSI-IMEI locking
- Set up to 5 custom SIM attributes

Successfully integrates into your business processes



Large M2M deployments require tight integration of IT systems to control the operational cost and reduce commercial risks. The Global M2M Platform can be integrated with your back-end M2M infrastructure. This simplifies and automates processes, leading to minimised cost of operating your M2M solution.

Customisable infrastructure

The Global Service Platform's open, standardised infrastructure means that it can be customised to meet the individual requirements of your business.

Its scalable architecture allows you to deploy connectivity solutions for your business and life-critical applications confident that if your requirements change, Vodafone Global M2M will still be able to provide the exact remote monitoring and management services you require.

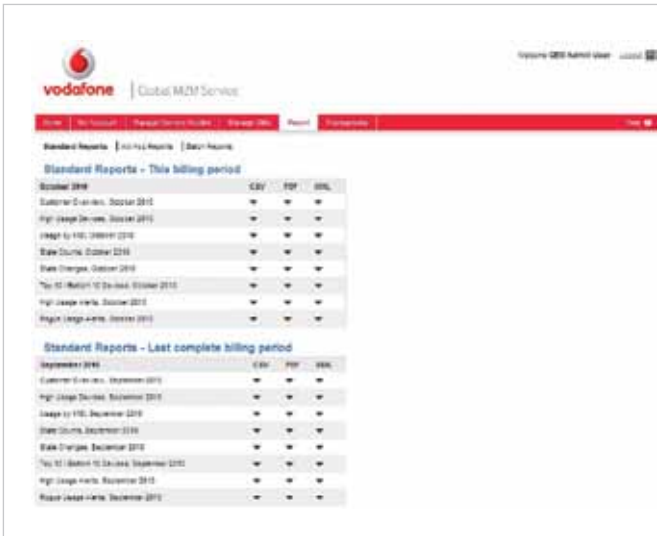
Staging and production environment

A dedicated staging platform is accessible for testing, training and customer demonstration for a number of test SIMs. It offers the same Global M2M Platform features and is connected to your M2M service via https over the internet.

The production platform is for live commercial service use. The platform provides high capacity and high level of security as well as strong support services and high availability. Full connectivity options are available via either leased line, VPN or IPsec tunnel.

Service integration

A range of web services (APIs) are provided to perform administrative tasks within the Global M2M Platform as well as specific activities on SIMs. It allows the full integration of Vodafone Global M2M Platform into your M2M back-end systems and facilitates the automation of processes and workflows.



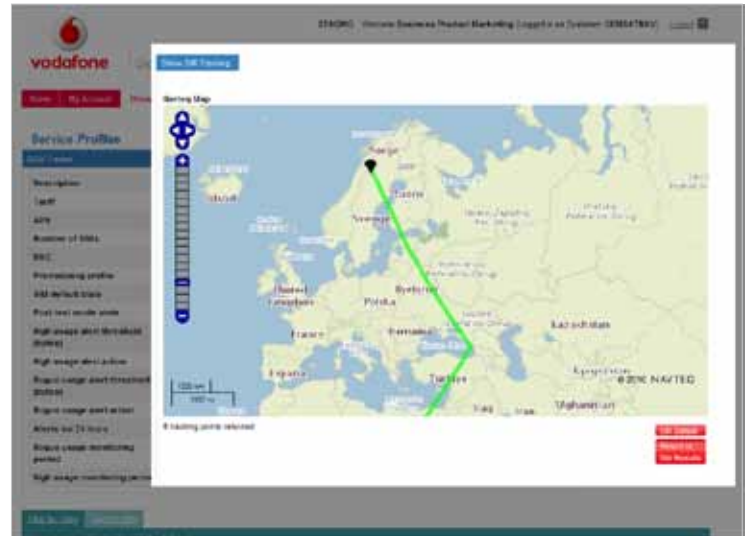
The screenshot shows the Vodafone Global M2M Service interface. It features a navigation bar with 'Home', 'My Account', 'Reports/Service Profiles', 'Usage Data', 'Alerts', and 'Troubleshooting'. Below this, there are two sections for 'Standard Reports':

Standard Reports - This billing period

Report Name	CSV	PDF	XML
Customer Overview - October 2012	✓	✓	✓
High Usage Devices - October 2012	✓	✓	✓
Usage by SIM - October 2012	✓	✓	✓
State Change - October 2012	✓	✓	✓
Data Change - October 2012	✓	✓	✓
Top 10 Mobile IDs - October 2012	✓	✓	✓
High Usage Alerts - October 2012	✓	✓	✓
High Usage Alerts - October 2012	✓	✓	✓

Standard Reports - Last complete billing period

Report Name	CSV	PDF	XML
Customer Overview - September 2012	✓	✓	✓
High Usage Devices - September 2012	✓	✓	✓
Usage by SIM - September 2012	✓	✓	✓
State Change - September 2012	✓	✓	✓
Data Change - September 2012	✓	✓	✓
Top 10 Mobile IDs - September 2012	✓	✓	✓
High Usage Alerts - September 2012	✓	✓	✓
High Usage Alerts - September 2012	✓	✓	✓



You will be able to drill down to information on individual connections and access a variety of standard reports such as usage, alerts or newly activated SIMs. For every SIM, details like connection status or location can be easily viewed.

Access to near real-time management information about every device, every activation, data usage and network performance is vital to ensure your M2M objectives continue to be achieved.

Enhanced reporting

For the ongoing success of your M2M deployment, it is vital to fully understand how your devices behave on the network under many different scenarios. This information can be used to improve connectivity performance and optimise the total data consumption of your device.

You will be able to generate reports in a variety of formats including one-off reports covering behaviours of connections and data usage, standard reports covering current billing and previous billing periods and batch reports showing changes to SIM status. You will also be able to copy and move operations between profiles and applications and change SIM custom attributes.

Reports are predefined and available in CSV, XML and PDF format.

Diagnostic tools

With the Global M2M Platform, you will be able to view your entire international M2M estate, regardless of which communication networks you are using, and access the vital near-time management information such as rogue, high or low usage.

Integrated diagnostic tools are used to troubleshoot the service, for instance in case of SIM provisioning issues, and to monitor it in case of SIM service faults.

Our Global M2M Platform enables you to test devices to see how they work in different network, handover and roaming scenarios. Real-time performance monitoring lets you measure efficiency, and to identify any potential issues up-front prior to major rollout.

Securely connecting your devices and valuable assets



Integrated M2M terminals

To help you reduce time to market and deploy your M2M solution more cost-effectively, we can provide integrated M2M terminals with the Vodafone SIM pre-installed.

To further reduce time and logistical effort, they can be configured for your specific application environment and pre-registered to the Global M2M Service Platform. All terminals are tested and approved by the Vodafone Test & Innovation Centre to secure a stable usage on all Vodafone and partner networks.

By choosing our integrated M2M terminals you will benefit from one point of contact for connectivity and hardware and have access to Vodafone's extensive expertise and support interface.

Security

Vodafone Global M2M will provide a secure and encrypted end-to-end data connection from the device or asset to your M2M back-end systems.

Mobile data is transferred via a dedicated, private APN. Only devices and assets with SIMs assigned to your organisation can transfer data via the dedicated APN, preventing unauthorised access.

The link connecting the Global M2M Platform web services server and your M2M back-end system is secured using HTTPS. The implementation includes both server and client certificates, protecting your M2M infrastructure.

Access to the Global M2M Service Platform is secured via an administrator user log in and password. You will be able to manage and protect user and password data as well as security and data protection on the device or asset.

High performance levels with specific service and support

Support and Service Level

Your M2M solution will be supported by an M2M Service Level Agreement, which guarantees performance levels across the globe, and provides greater transparency and predictability of costs.

To ensure that your M2M solution has the required availability and quality of service, Vodafone's self-service web interface and support teams are accessible 24 hours a day, 7 days a week, 365 days a year.

As close partners for operating your M2M solution, our teams provide technical support via a dedicated telephone hotline and e-mail should you need it.

In case of planned maintenance work, we will inform you at least 72 hours in advance that access to the Global M2M Service Platform may be disrupted, and again will provide technical support via the hotline or e-mail should you need it.

As business-critical M2M solutions need highly professional support and transparency about issues raised, a support ticketing system will track and escalate any incident within our 2nd and 3rd level support teams with agreed response and resolution times.

Vodafone Global M2M – leading the way



Vodafone has more than 20 years of proven experience in the M2M arena and has already developed and successfully deployed numerous M2M solutions. We are uniquely positioned to successfully bring together and manage all the elements of a global M2M deployment from consultancy, rollout and integration through to maintenance and ongoing support and to provide managed connectivity that is reliable, cost-effective and universal.

Experienced, dedicated team

We have an experienced, dedicated global team of over 100 Technical Architects, Solutions Consultants and Service Delivery Managers to support you every step of the way.

Smart methodology

Vodafone Global M2M follows a rigorous approach to quality assurance and testing to ensure the best possible solution for your business and enable any potential issues to be identified up-front prior to major rollout. In addition, devices can be tested to create a benchmark of 'normal' behaviour, so issues at a later date are easier to identify.

Strategic partnerships

Vodafone Global M2M works in partnership with the world's leading data management and systems integrators, participates in relevant industry bodies and contributes to developing standards.

Analysts cite Vodafone Global M2M as No 1

Leading telecoms analyst Machina Research predicts that Vodafone will be the most successful M2M communication service provider, on a global basis, because of its global footprint, pedigree, partnerships, process and people. They also ranked Vodafone's Global M2M Platform as one of the best.

Vodafone Global M2M takes first place for overall excellence in Analysys Mason's Communication Service Provider Scorecard: 2011. Analysys Mason, who provide unique and specialist knowledge on all issues that relate to the telecoms, media and technology sectors also defined Vodafone as the strongest M2M service provider when assessed against six M2M metrics - strategy, partnerships, scale, R&D, operations/business support approach and network.

When you choose Vodafone as your M2M Service Provider, you are choosing a leader in M2M solutions.

To learn more about how we can help you to develop, deploy and maintain a successful Global M2M solution please contact your Vodafone Account Manager.



Vodafone Global M2M

With a standardised platform across the largest global 3G network, Vodafone Machine to Machine enables company systems to communicate across borders and empowers organisations to transform their operations and business potential. This provides freedom to explore new market opportunities, the information and insight to make business process and practice simpler and more cost efficient, and with access to real time data, more control to better manage costs.

m2m.vodafone.com

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