

Expand roaming abilities

with Roamability Solution



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The global roaming solution

Roamability offers a low-cost and seamless roaming solution for mobile operators worldwide, giving them access to a roaming footprint with great rates. Its platform and technology provides international coverage with a smooth transition between all type of networks, whether 2G, 3G, or 4G.

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1. How to enable mobile operators of all sizes to offer roaming services to customers

Roamability is a roaming enabler that provides the entire scope of roaming services. If you're a mobile network operator (MNO) or mobile virtual network operator (MVNO) and are looking for a comprehensive solution to support the roaming services you offer to your customers, our platform technology could be just what you need.

Greenfield and regional MNOs and MVNOs face significant hurdles before they can provision roaming services for customers. For one thing, establishing bilateral roaming agreements with tier one and tier two operators is a complicated and expensive process. And of course it's also important to be able to provide an affordable service to price-sensitive customers.

Our goal is to take the pain out of roaming for mobile operators, no matter what their size. Our comprehensive, high-quality, global roaming solution provides a one-stop shop for roaming. Partnership is our motto! We negotiate contracts for you in advance. In fact, we offer pre-negotiated contracts with high-profile operators and sponsors worldwide, covering over 780 networks in close to 200 countries. That in turn gives operators the ability to provide competitive global roaming packages to their customers.

For sure, the mobile roaming market has changed enormously since its inception. In the early days, roaming gained adverse publicity because the use of mobile services when travelling abroad cost so much more than domestic tariffs. The somewhat unfortunate consequence of this pricing disparity is that we are now all too familiar with the term "bill shock", because extraordinarily high bills were often the unwelcome result of mobile usage when abroad.

Changes in regulation, and actions by operators themselves, have reduced the cost of roaming over time, and indeed roaming charges were scrapped in the European Union in June 2017. However, some users have been unable to shake off their distrust of roaming, and so-called "silent

roamers" still exist. Such users generate no roaming revenue for their home MNOs. Instead, they seek alternative ways to connect their mobile devices that are cheaper or even free of charge. Methods can include travel SIMs, local prepaid SIMs, WiFi routers, free WiFi in hotels and coffee shops, and others.

Certainly, it's no longer an option for any operator to exclude a roaming offer from its services if it wants to be able to compete with rivals. The challenge, then, is to find a way to provide international roaming services at low rates that will appeal to all kinds of users — whether they are generally willing to pay a premium for mobile connectivity, or whether they tend to avoid switching on data roaming when travelling and need to be convinced that roaming is not an expensive luxury they can ill afford.

Enabling MNOs and MVNOs to offer customers attractive and low-cost roaming services ensures these operators can benefit from roaming revenue. Roamability has developed the perfect solution for an operator's roaming needs, combining advanced technology with low rates and offering international coverage. We provide a seamless set-up and enable "roam like at home" with a no-fuss operation within the scope of the customer's home subscription package. By using our technology, you can even encourage silent roamers to take up your offer, which in turn helps to increase user traffic and yields higher profits from your roaming services. Crucially, we eliminate bill shock — that's guaranteed.

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2. Roamability solution

To meet the need of MNOs and MVNOs to provide affordable roaming services, Roamability built a comprehensive roaming platform as a real-time controlled solution for international mobile roaming services. One of our strategic partners is Comfone, which provides the Key2roam Platform as a complete roaming solution. We have enabled networks with customers in many countries around the globe.

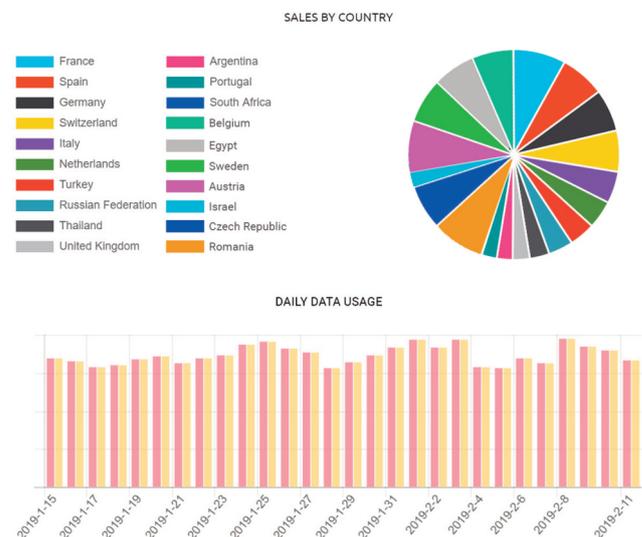
The Roamability solution and platform ensure that integration with mobile operators is fast and easy. The signalling, data roaming, data clearing and financial clearing services data are processed and delivered by Roamability and its partners to the customer and the rest of the international roaming community. This setup facilitates complete integration, transparency and consolidation of all service layers and roaming data.

The Dynamic Multi-IMSI (DMI) platform developed by Roamability acts as a 'smart bridge' between the foreign network and the mobile operator's core network, using the international mobile subscriber identity (IMSI) and global titles (GTs) allocated by its network partners or sponsors. The DMI platform dynamically allocates sponsor IMSI simulations, including the user's real IMSI, and unlimited IMSIs are supported. These IMSIs can be dynamically replaced, added or removed at any time over the air using the best coverage and rates. The unique SIM Application Toolkit (STK) is easy to install remotely over the air (OTA), meaning there is no requirement for a user to swap out their SIM card when travelling.

Roamability also provides regional breakout (RBO) to speed data and reduce infrastructure costs by allowing inbound roamers to receive data services directly from the visited mobile network. The online charging system (OCS) can either be on the Roamability or MNO/MVNO side, with both OCS and business support services (BSS) services supported by RT and SOAP APIs. In addition, transferred account procedures (TAP) files can be used as an offline format for usage reporting.

Set-up is simple. It takes just two to five weeks for a network to go live and requires the implementation of only three main steps:

1. Core network connectivity using SS7/Diameter signalling interface
2. Billing integration (Gy/Gx/SOAP/portal) and offline (TAPs)
3. Installation of a DMI applet on new SIM cards or over the air on an existing SIM card



User benefits

- Regional data breakout for better performance
- Support for native access point names (APN), so there is no requirement to reconfigure the APN or replace the SIM card when abroad
- Real time monitoring of all events — meaning any fraudulent activity is detected and bill shock is eliminated
- Get notifications about data usage and spend, meaning they have full control over their data traffic
- Tailored and customisable plans are available on a daily, weekly or monthly basis
- No need to swap customers' SIM cards.



MNO and MVNO benefits

- Your security is our priority — we do not request SIM keys
- Global coverage: enjoy better service, coverage and rates
- Discounted rates on more than 500 networks
- Yield higher profits from your roaming services
- Encourage increased user traffic
- Decrease the number of silent roamers
- Provide comprehensive global roaming coverage with pre-negotiated agreements
- Attract more corporate customers with competitive roaming packages
- Receive information to ensure you have data on customer usage at all times.
- Ensure quality calls through redundancy
- Benefit from technical support in various time zones: Europe, North America and Latin America
- Receive high-quality communications: voice, data, SMS, and value-added services
- Simple acceptance for customer set-up
- Roam like at home - no-fuss operation within the scope of the customer's home subscription package
- Eliminate bill shock for customers

Other key aspects of the platform

- No network element changes are required
- There is no requirement to share security keys
- Financial and technical reporting systems as a part of roaming broker services
- Platform as a service, ensuring minimum implementation effort
- Geo-redundancy in multiple locations including Bern, Zurich, Amsterdam and London
- Network functions virtualisation (NFV) as the platform for the core network provided by Ericsson
- Roamability interworking function (IWF) for seamless roaming on 3G and 4G networks
- Fast steering of roaming (SOR) based on the networks, IMSI and client; ability to add IMSI on the fly when required
- Steering analysis in real time with KPIs, with advanced reporting, fast detection of fraud and unusual usage, and single tariff point management; supports TAP/RAP/CSV forms and any type of call detail record (CDR) based on ASN.1
- National roaming is also supported

3. Spotlight on roaming challenges for MVNOs

The mobile roaming data market is set for growth in the coming years. According to a report published by Juniper Research in late-2017*, operator revenues from international mobile data roaming are expected to grow at an average annual growth rate of 8%, reaching \$31 billion in 2022 compared to \$21 billion in 2017. This is despite a global fall in data revenues by 11% in 2017 — including a 46% decline in western Europe — as a result of operators increasingly offering ‘roam like at home’ packages around the world. The global average roaming data usage per user per annum was also forecast to increase from around 500 MB in 2017 to almost 1.6 GB by 2022.

However, the ability to offer roaming services is not an easy matter for MVNOs. MVNOs have been particularly affected by the introduction of roam like at home plans — especially in the European Union, where retail roaming surcharges have been banned. Given that MVNOs do not own their own network, they cannot offset the costs incurred by the strong growth in roaming by trading wholesale roaming to other operators. Furthermore, MVNOs do not have the same ability to negotiate competitive wholesale prices as MNOs, and they struggle to form the necessary international agreements to enable a global roaming service.

Roamability's technology can help an MVNO to launch or expand roaming services. Porto Seguro Conecta in Brazil is one example of an MVNO that has launched advanced roaming services supported by Roamability. The service provider was particularly attracted by the fact that its subscribers could make use of roaming services without changing their APN, while also benefited from increased coverage. Overall, the MVNO was able to offer a more advanced international roaming service and create a better experience for its customers when they are travelling internationally.

Working with Porto Seguro Conecta, Roamability made the integration with the mobile operators fast and easy. The signalling, data roaming, data clearing and financial clearing services data are transferred between Roamability, the customer and the rest of the international roaming community and are all processed and delivered via Comfone's Key2roam Platform. This setup facilitates complete integration, transparency and consolidation of all service layers and roaming data.

** Mobile Roaming: Regulations, Opportunities & Emerging Sectors 2017-2022 — Juniper Research*

4. Conclusion

The Roamability solution provides instant roaming with minimal integration, offering global coverage through agreements with multiple tier-one operators as sponsors. The unique SIM Application Toolkit (STK) applet supports any SIM vendor using versions R5 and R6 and is downloaded over the air. In turn, that means there is no requirement for SIM card replacement or security keys.

The advanced platform uses smart SS7 and Diameter signalling to support 3G and LTE roaming and enables roam like at home features such as home rerouting and short codes. In terms of security, the solution comes with highly secured network firewall features and 24/7/365 support from the network operation centre.

Roamability will be attending MWC19 Barcelona, Spain from 25 February to 26 February 2019. Please contact us if you would like to book an appointment and learn about Dynamic Multi-IMSI solution.



Since 2009, Roamability has been offering the vision of affordable, trouble-free global roaming services for everyone who travels - whether for business or pleasure, in urban centres or remote corners of the world, regardless of equipment or network compatibilities. The company provides a comprehensive, high-quality, global roaming solution to MNOs and MVNOs of all sizes with core network infrastructure. Through its pre-negotiated contracts, the company partners with high-profile operators and sponsors covering more than 700 networks and close to 200 countries. Leveraging this global network, Roamability in turn enables operators to provide competitive global roaming packages to their customers

Roamability's winning team

The success of Roamability to date is, of course, entirely owing to the expertise and broad experience of our team. We are a collection of telecoms veterans and professionals who identified a missing link in the roaming market and focused on providing a solution. Our teams brings experience from all aspects of the market, from wireless technology through to engineering, software and programming, research and development, and marketing.

Visit <http://www.roamability.com/>

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