



Tobias Forsell, CEO of  
Forsway ●●●

# Q&A

## Bridge the digital divide

Forsway was established in 2004 with a vision of cost-effective, efficient delivery of broadband services to regions with limited infrastructure or capacity. The company plans to bridge the digital divide with its pioneering technology, delivering innovative hybrid satellite internet solutions that combine the benefits of satellite and existing terrestrial networks, as outlined by Tobias Forsell, CEO and Founder, Forsway.

Amy Saunders, Editor, *Satellite Evolution Group*

**Question: You've considered 2019 a breakthrough year for the company from a technology perspective. What innovations helped you achieve that?**

**Tobias Forsell:** While previously the market was still focusing on legacy solutions instead of looking at a new way to solve a long-standing challenge, in 2019 Forsway experienced that a record numbers of operators, large and small, acknowledged that the hybrid technology really can be a game changer for them in their broadband activities in both high-end and emerging markets. These include Mobile Network Operators (who previously were cautious primarily due to high satellite rates), US fixed line operators (envisioning Forsway Xtend as THE solution for poorly performing ADSL networks in large rural regions of the

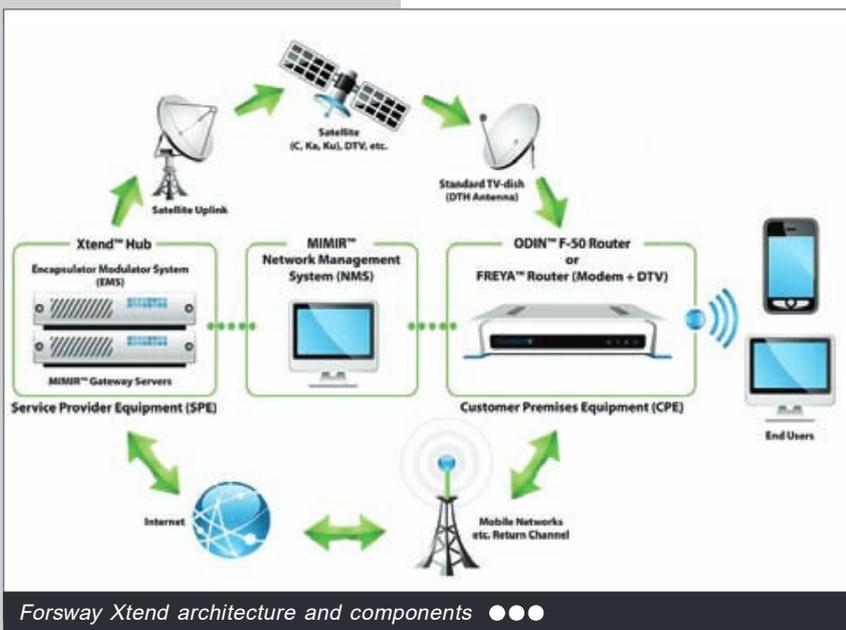
US) and large satellite operators (seeing that Forsway Xtend can help them monetise idle satellite capacity). In addition to Arabsat and PhilSat, Forsway is involved in a groundbreaking project in the US to serve rural areas.

**Question: Forsway Xtend was nominated for Via Satellite's 2019 Satellite Technology of the Year Award. What set your technology so far apart from your competitors?**

**Tobias Forsell:** No other company has demonstrated that they have advanced as far as Forsway in providing viable, cost-efficient solutions to reduce the digital divide. New HTS GEO satellites need large numbers of subs to sell their enormous capacity and low-cost satellite terminals to attract a large base.

A Forsway hybrid ODIN F-50 terminal costs 5 to 10 times less than a VSAT, including installation. Downlink performance is at approximately the same level. Forsway provides the solution for very affordable HTS terminals and LEO systems. In short, with Forsway Xtend, Forsway has the solution to make both the new HTS satellites and the LEO systems commercially successful.

Forsway is truly reducing the digital divide: Forsway's Xtend solution improves broadband in underserved areas where better connectivity will make a significant difference for economic development – both for under privileged populations and in rural areas in highly developed countries, such as large farming regions in the US. It also provides an easy-to-deploy, cost-efficient solution that enables operators and service providers to open a new



revenue stream tapping unused satellite capacity.

Forsway roll-outs with Arabsat and regional partners in Africa, such as CSS, and Philsat in Asia demonstrate using a hybrid solution is a cost-effective way to expand services and reach, while enabling large populations with access to new business prospects, health services, education and more - life altering for building a more sustainable future.

**Question: What are some of your latest product releases, and how have they been performing?**

**Tobias Forsell:** Forsway launched the Forsway Xtend ecosystem including the Xtend Hub in 2019. The Forsway hybrid technology used for Xtend combines high speed satellite downlinks with cost effective terrestrial links in existing infrastructure (primarily cellular and ADSL), as well as boosting low-performance VSAT systems. Our most exciting prospects in H1-2020 are rural US ADSL operators with millions of underserved (about 1Mbps) customers.

Forsway Xtend - a complete ecosystem for a service provider to roll-out a complete hybrid internet over satellite service - comprises the Forsway Hub, customer premises equipment (Forsway Odin F-50™ satellite router or Forsway Freya™ home interface to HD satellite TV) and numerous features and functionality.

Whether combined with mobile or ADSL, Forsway Xtend Hub is a hybrid satellite broadband extension connecting hard-to-reach regions and the most cost-effective satellite extension for terrestrial broadband networks. Key features include:

- Satellite broadband services based on Forsway Xtend can reach everywhere.
- Enables broadband access without additional infrastructure investments (fibre, cables).
- New generation GEO satellites in Ka-band can provide hundreds of thousands of new subscribers with high-speed data. Forsway Odin F-50™ end-user routers/receivers can handle more than 50Mbps of high-speed data
- Broadband service and equipment charges will be considerably lower than competing technologies, including CPEs, with costs at around US\$100 including installation - compared to several hundred USD for traditional VSAT equipment.

**Question: How does your technology deliver a return on investment?**

**Tobias Forsell:** Communications service providers can, without investing in additional expensive (often fibre or LTE) networks, provide broadband to new areas and customer groups. Thus, as more advanced services can be

provided, higher and new revenues can be achieved without costly CAPEX considerations. While using satellite capacity has traditionally pushed up OPEX, with the advent of vastly expanded capacity satellite is rapidly becoming financially viable when used in Forsway's Xtend.

Our technology provides cost-efficiency:

- Combining existing infrastructures (mobile networks, satellite) to enhance or provide connectivity with low operator investment in hardware;
- Easy to deploy and maintain, enables rapid roll-out of reliable, highly cost-efficient broadband;
- Reduces TCO using considerably less satellite capacity than VSAT.

It also helps tap unreached markets via:

- Fast deployment of hybrid technology to offer broadband and IP services to underserved;
- Build infrastructure where previously not viable due to financial and/or technical restrictions; and
- Uses existing assets & maximizes benefits of complementary technologies.

**Question: You pride yourselves on being a company delivering to underserved regions. How is**

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### Forsway working to confront the digital divide?

**Tobias Forsell:** Forsway is solving a challenge. The satcom industry faces overcapacity and is undergoing a transition. Existing solutions are not capable of reaching enough numbers of people in a cost-effective way; 45 percent of the global population (3.4 billion) do not have Internet access – particularly outside of urban areas in emerging and established markets.

Forsway has developed a solution that benefits underserved regions and creates a new business opportunity for operators and service providers to monetise unused bandwidth – The Forsway Xtend ecosystem and satellite extension.

As an example, Forsway tests have boosted downlink capacity in rural areas from < 1Mbps to > 40Mbps, using satellite when needed, while on average using less than 20 percent satellite capacity compared to VSAT. This is possible as broadband traffic in Forsway's hybrid Forsway Xtend ecosystem is predominantly run over low-cost and low capacity (about 1Mbps) ADSL or 3G/4G networks. These results generated a huge interest in our Xtend solution with ADSL operators, especially in rural USA. Forsway is currently preparing a large-scale trial to connect rural towns, villages and Indian reservations in one of the larger western states in the US. This makes us confident that the number of people connected via Forsway Xtend will rapidly increase in the next few years to many millions only in the USA.

In addition, Forsway deployed Forsway Xtend Hubs in Asia, the Middle East and Africa together with strategic partners Arabsat and PhilSat. We demonstrated Forsway's capability to



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not only augment broadband capabilities in underserved areas, but also demonstrated that boosting legacy VSAT systems can significantly improve connectivity in unserved areas. Strategic partner Arabsat began OEM'ing Forsway Xtend in their new Xtend Africa offering from 2019.

#### Question: What can we expect from Forsway in the near future?

**Tobias Forsell:** In furthering our work with partners and the Forsway Xtend solution, Mauritanian satellite services provider CSS and Forsway recently joined forces to augment West African broadband connectivity. Together we are further building on successful trials of Xtend Africa managed service from Arabsat and Forsway.

Tapping CSS' local expertise, Arabsat's Xtend Africa managed service, and Forsway's unique satellite broadband extension, the partners came together to provide emerging economies in Africa with access to affordable satellite Internet services and opportunities aimed at help build a

productive economy, business, education and access to health services and information.

Trialling the Xtend Africa managed service from Arabsat/Forsway during a first assessment phase, we have boosted poorly performing mobile and VSAT links in an affordable and dynamic way enabling an expansion of CSS' West African service offering to provide affordable broadband in local markets.

Teaming up with Arabsat, using our Xtend satellite extension platform and BADR-7, provides managed, pan-African broadband services to local and regional communications service providers like CSS. With people restricted in their mobility due to the corona crisis, affordable broadband is more critical than ever. Today over 3 billion people lack reliable Internet access, and Forsway is working hard to do our part in making connectivity accessible to all.

We are also rolling out trials in the Americas, additional services in Asia and discussing with operators across the CIS.



Odin F-50 hybrid satellite router