

The header features a dark blue background with a glowing green globe and network lines. The WiMAX Forum logo, consisting of two overlapping white circles, is positioned to the left of the text. The text "wiMAX FORUM" is in a white, lowercase, sans-serif font, and "NEWSLETTER" is in a larger, white, uppercase, sans-serif font below it.

wiMAX FORUM[®] NEWSLETTER

DECEMBER 2014

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INTRODUCTION

Dear Friends and Members - As 2014 comes to a close, we want to take a moment to express our sincere gratitude and thanks for your unflagging support and enthusiasm. Your insights, wisdom and unceasing support allow us to represent the technology – taking WiMAX forward into new and exciting directions. Thanks to the generosity, commitment and contributions of our **membership**, we were able to continue the expansion of our services, achieving significant milestones together through collaboration.

This December, at **ITU Telecom** in Doha, **Dr. Mo Shakouri, WiMAX Forum Chairman**, along with representatives from SAP, Disruptive Analysis, Kirusa Inc., and Roland Berger Strategy Consultants offered practical advice on what Telcos can do to stay relevant. In order to be innovative, the panel recommended Telcos reinvest their profits into innovating exiting services, find affordable spectrum, realize that standardization will be one of the biggest challenges for Telcos, remain customer-focused, and partner with innovators who are more flexible.

Also in December, **Declan Byrne**, WiMAX Forum President, met with the FCC and others to continue discussions about the ongoing **3.65 GHz proceeding**. The WiMAX Forum is urging the Federal Communications Commission to protect the 3.65-3.7 GHz spectrum band when it adopts the anticipated 3.55-3.65 GHz Citizen's Broadband Radio Service (CBRS) regulatory plan.

Throughout the year, we continued to engage in ongoing **PR efforts** to promote the advantages of WiMAX-based standards from an industry-wide perspective. Noteworthy press pick-ups and social media mentions came as a result of several press releases, including the **FCC response** and the **partnership release with the Global TD-LTE Initiative (GTI)**. We also had a number of feature articles published including a piece in Land Mobile, **"Ears to the Ground and Beyond"**; and an important thought leadership article in the Journal of Aviation Management, on the topic of AeroMACS.

Globally, the **WiMAX Forum Staff, Board of Directors, Working Group Representatives**, and **Members** have hosted, attended and participate with speakers in a number of events at distinct markets. We are seeing concrete results particularly from our activities in the industrial markets through several **Aviation, Utility** and **Oil & Gas** focused events, which gained excellent exposure, reception and participation. Our participation in these events has proven to offer the right strategy fostering a prosperous environment and future for the WiMAX ecosystem. Our focus has been to share key lessons, concrete knowledge and work together for the benefit of the WiMAX industry.

In the industrial markets, we have hosted meetings with participation from key executive leaders at worldwide organizations. **AeroMACS** aviation focused events in Brussels with Host-Sponsor **EUROCONTROL** and in Sendai with AeroMACS field-trial tour, supported by Host Sponsor **Hitachi**, of the **ENRI lab in Sendai Airport**. **WiGRID** utility focused meetings at **DistribuTECH** in San Antonio and **UTC Telecom** in Phoenix. In the **Oil & Gas** field, the WiMAX Forum hosted a pre-conference session at **Oilcomm** in Houston.

As this coming year promises further momentum, we will continue to push forward hosting and participating in a number of industrial events – with the expectation that these markets will continue to increase in value as WiMAX's market share continues to expand.

Throughout 2015 we plan to host and participate in a number of Aviation, Utility and Oil & Gas focused events. The WiMAX Forum is looking forward to another great event season. Here is the summary of upcoming events that we are hosting during the coming months:

- **WiGRID 2015 - DistribuTECH** on February 2, 2015. WiGRID 2015 will be a pre-conference session at **DistribuTECH** at the San Diego Convention Center in San Diego, CA.
- **WiMAX Aviation 2015 - Madrid** will be held at **World ATM Congress** on Tuesday 10 March from 14:00 to 18:00 and Wednesday 11 March from 13:00 to 17:00 at **IFEMA - Feria de Madrid Convention Centre**, Recinto Ferial Juan Carlos I, Parque Juan Carlos I, s/n, 28042 Madrid, Spain.

In a similar way, we plan to attend and participate at the following industrial market events: **ACI-NA Annual Conference, AEEC Coral Gables, ATCA, DistribuTECH, ICNS, Internet of Things World, Oilcomm, UTC Telecom, UTCAL, Wireless China Beijing, World ATM Congress**, and **more**. As details concerning these events become available we will communicate them to you.

The Board of Directors has approved two new **Board Members**. **Sequans Communications** represented by **Rudy Leser** and **Siemens** represented by **Anders Rendahl**. The Board has also agreed that the next Board of Directors and SEWG Meetings will be held on **February 2-3 in San Diego, California**. Details concerning these meetings will be made available through our communications to our 94 member companies.

We have sent our 2015 renewal correspondence to the Membership early in October – you will all note a different schedule for invoice delivery and due dates. Additionally, we have simplified our membership structure and classes. I appreciate in advance your cooperation in processing our renewal paperwork promptly. Please don't hesitate to reach out to our Finance team lead, **Mr. Jack Daniels**, should you have any questions or comments.

If you have any questions regarding any of this or our organization's activities, please reach out to us.

We wish you a healthy and happy holiday season and we look forward to speaking with you soon in 2015.

Best Regards,

WiMAX Forum

EVENTS

In December, the WiMAX Forum continues to stay busy planning and attending events. The WiMAX Forum team is looking forward to seeing you at our events. The following is the summary of upcoming events:



Serving the industry for 22 years, the Exhibitions India Group is proud to play an integral role in the changing landscape of the Indian Information and Communication environment. As we move towards a world-connected economy, the milestone 23rd Edition of **Convergence India 2015** expo is themed as "Connecting India". **It will take place in Pragati Maidan, New Delhi, India on January 21-23, 2015.**

The forthcoming expo will showcase innovation and leading devices to enhance e-Development at all levels and drive the growth of urban usage. Focused business-matching will provide the perfect opportunity to network with industry executives and establish new relationships. Attracting global leaders, the expo will serve an ideal platform for knowledge-experts to share insights and successful case studies across the globe.

For more information and event registration, please visit [23rd Convergence India 2015](#).



WiGRID 2015 - DistribuTECH will be a pre-conference session at DistribuTECH on Monday, February 2, 2015 in San Diego, California at the San Diego Convention Center. The program will focus specifically on supporting the Smart Grid community in deploying effective and affordable WiMAX networks to support their communication initiatives.

WiGRID 2015 - DistribuTECH will present real Case Studies from Utilities, Operators, and Vendors. Additionally, the **Smart Energy Working Group (SEWG)** will meet for continuation of group business, and attendees are invited to observe.

Participation is free to attendees of DistribuTECH. It is open to all participants of the WiMAX ecosystem, and membership in the WiMAX Forum is not a requirement to attend. **WiGRID 2015 - DistribuTECH** participants will receive an Association Full Conference price to register for DistribuTECH.

For more information and registration, please visit [WiGRID 2015 - DistribuTECH](#).



The WiMAX Forum is pleased to announce the first WiMAX Aviation seminar in Madrid. **WiMAX Aviation 2015 - Madrid** will be held at **World ATM Congress** on Tuesday 10 March from 14:00 to 18:00 and Wednesday 11 March from 13:00 to 17:00 at **IFEMA - Feria de Madrid Convention Centre**, Recinto Ferial Juan Carlos I, Parque Juan Carlos I, s/n, 28042 Madrid, Spain. The Seminars will focus on supporting the global Aviation Community in managing profitable developments and growth of their AeroMACS networks.

WiMAX Aviation 2015 - Madrid is a seminar for all participants to meet, exchange ideas, and develop business and cooperative relationships. The event will highlight the opportunities, challenges, and strategies involved in operating efficient AeroMACS networks.

WiMAX Aviation 2015 - Madrid will be an interactive seminar. **Participation in the seminar is free to the attendees of World ATM Congress.** It is open to all participants of the Aviation ecosystem and membership in the WiMAX Forum is not a requirement to attend.

Registration is required for this event. For more information and registration, please visit **WiMAX Aviation 2015 - Madrid**.



Rising size of mobile workforce, increasingly complex demands by users, coupled with the proliferation of connected devices have made this industry more dynamic than ever. It has also blurred the line between work and personal time as seen in the rise of mobility driven innovations such as smart living solutions, wearable technologies, and many others.

At CommunicAsia2015, the latest innovative technologies from Big Data, Business Analytics, Cloud technologies, IoT, to Zigbee will be unveiled, that will change the way we live and work. It will take place on **June 2-5, 2015 at Marina Bay Sands, Singapore.**

For more information and event registration, please visit **CommunicAsia2015**.



Serving the industry for over 26 years, the Exhibitions India Group which has played an integral role in the changing landscape of the Information and Communication environment in South Asia, has now joined hands with AfriEXPOS, Africa's premier expo organizer to bring its expertise through **Convergence Africa World**, which **will take place on 17-19 June 2015 in Oshwal Centre (Parklands) Nairobi, Kenya**.

The expo will showcase innovation and merger of technologies over any screen – be it a computer / laptop, telephone, or TV screen. Focused business matching will provide the perfect opportunity to network with industry bellwethers and establish new relationships.

For more information and event registration, please visit [Convergence Africa World 2015](#).

Sponsorship Opportunities:

Increase your presence at the WiMAX Forum events through a sponsorship! Our high-profile events offer sponsors excellent visibility before, during and after the event.

Sponsorship opportunities include:

- Media Sponsorship (*Free*)
- Diamond Sponsorship (*WiMAX Forum Members Only*)
- Platinum Sponsorship
- Gold Sponsorship
- Silver Sponsorship
- Exhibitor (*Upon Availability - WiMAX Forum Members Only*)

For more information about which event sponsorship may best suit your needs, please contact Alessandra Rocha at Alessandra.Rocha@WiMAXForum.org.

The WiMAX Forum plans to host and participate in other events over the course of 2014-2015. As details concerning these events are finalized, we will be certain to keep you informed.

For more information about our events, please visit: [WiMAX Forum Events](#)

MEMBERSHIP SERVICES

The WiMAX Forum is committed to delivering the value necessary for our members to get the most of their association with the WiMAX Forum, and we are always happy to engage with individual members to discuss how the WiMAX Forum can better serve its membership. **WiMAX Forum Membership** provides a wide range of benefits and services that allows WiMAX Service providers to grow their networks and the vendor community to sell more equipment and services.

The WiMAX Forum would like to extend a special welcome to the new members from 2014:

- **Civil Aviation Safety Authority of Australia**
- **DFS Deutsche Flugsicherung GmbH**
- **Ecil Energia**
- **Embry Riddle Aeronautical University**
- **Exelis**
- **Great River Energy**
- **Green Packet Berhad**
- **Hawaiian Electric**
- **Iberdrola USA**
- **Intellecom LLC**
- **Kyocera Communication Systems Co.**
- **Magnaquest Technologies Ltd**
- **Metropolitan Washington Airport Authority**
- **MITRE Corporation**
- **Seowon Intech**

The WiMAX Forum is the best place for our members to access, leverage and influence the growth and development of the WiMAX industry. So be a leader in WiMAX and step up to get involved today!

If you have questions regarding the WiMAX Forum Membership, please send a message to **Membership@wimaxforum.org**.

WORKING GROUPS

2014 was a productive year for the **WiMAX Forum Working Groups** focusing on three key initiatives; **AeroMACS**, **Smart Energy** and **WiMAX Advanced**. Working groups held their biannual officers elections and met regularly both at WiMAX Forum Events and via teleconference.

The Aviation Working Group focused on four key projects: AeroMACS Certification, Network Reference Model, AeroMACS PKI and FCC Service Policy Petition.

- **AeroMACS Certification:** The AWG Certification Task Group has completed the AeroMACS profile based on requirements outlined in the MOPS. We have published a Protocol Implementation Conformance Statement (PICS) and completed a Certification Requirement Status List (CRSL). The group is currently evaluating a set of scenarios to define use cases for the purpose of Interoperability Testing (IOT). In 2015 the WiMAX Forum is planning to hold an AeroMACS Certification Testing Event for IOT. The next phase of AeroMACS Certification will be to add Radio and Protocol Conformance testing in AeroMACS Designated Certification Laboratories.
- **Network Reference Model:** A Network Reference Model Task Group was formed in 2014 to complete a technical modeling exercise to determine what the potential capabilities and limitations of the AeroMACS surface communications network would be at a key national airport. The goal in 2015 is to model RF propagation, physical network arrangement considerations, the impact of obstructions such as buildings, the bandwidth that an application will consume, and a number other technical considerations. When the model is complete, the AeroMACS community will better understand the capabilities and limitations of AeroMACS at a major airport in terms that planners and system engineers can consider for planning future deployments of AeroMACS networks worldwide.
- **AeroMACS PKI:** In 2014, the AWG PKI Task Group was formed to develop a standardized security platform for AeroMACS Applications. Preliminary use cases have been developed and the group began work to create PKI Certificate Profiles and Policies targeted for completion in 2015.
- **FCC Service Policy Petition:** As the work to develop an AeroMACS Network Reference Model continues the results can be used as the basis to begin FCC Petition development in 2015.

The Smart Energy Working Group also had several focus areas in 2014. Early in the year, 3 vendors—Cisco Systems, GE Digital Energy, and Siemens—successfully achieved **WiGRID certification status** following a Certification Testing Event in late 2013. One of SEWG's biggest accomplishments in 2014 is their response to the recent **FCC FNPRM** related to spectrum in the 3.5 GHz band. They submitted comments and reply comments and with a coalition of utilities, met with the FCC. Collaborating with API, Ameren, CenterPoint Energy, Houston Electric, Exelon, and UTC, the WiMAX Forum continues to pursue what is best for the Smart Grid industry. For other Smart Energy initiatives, SEWG presented at OilComm and has plans to present WiMAX for Rail at an AAR Wireless Communications Committee meeting based on use cases and applications defined by the rail industry.

In 2014 the Service Provider Working Group published a white paper called "WiMAX Advanced: Deployment Scenarios Based on Input from WiMAX Operators and Vendors", defining common scenarios and providing recommendations for WiMAX and WiMAX Advanced co-existence and/or transition. To read the white paper, please [click here](#). The SPWG will continue to work with WiMAX Operators in 2015 as they implement WiMAX Advanced.

Now is the time to get involved. With activities gaining serious momentum, it is a crucial time and a great opportunity to influence and leverage these activities. If you or your company is interested in participation in our **Working Groups** or a leadership role, please contact the TSC Chair Rich Hawkins at Rich.Hawkins@WiMAXForum.org.

The WiMAX Forum **Working Groups** are the key to the development of WiMAX technology. Working Groups are chartered by the WiMAX Forum to bring together content experts from member companies to contribute to and harmonize documents and specifications and perform other tasks that the WiMAX Forum has determined to be necessary or useful. Members of the forum have the opportunity to participate as officers of working groups when there are vacancies and to vote on working group output.

The WiMAX Forum organizes its technical activities through a number of Working Groups that produce technical requirements, develop technical specifications, or advise the forum. These groups are coordinated by the Technical Steering Committee. The WiMAX Forum Working Groups include:

- **SPWG** - Service Provider Working Group - *Requirements*
- **SEWG** - Smart Energy Working Group - *Requirements & WiGRID Initiative*
- **AWG** - Aviation Working Group - *Procedures, Profiles & AeroMACS Initiative*
- **TWG** - Technical Working Group - *Technical*
 - **CTG** - Certification Task Group - *Technical*
 - **NTG** - Network Task Group - *Technical*
- **GRWG** - Global Roaming Working Group - *Technical*
- **RWG** - Regulatory Working Group - *Advisory*

If you are not a member of a Working Group yet, you can request to join on the group's **Home Page**. You can learn more about the Working Group activities by visiting the member's area in Kavi and viewing the outcome of recent Working Group sessions or joining groups to receive emails related to that group's activities. Working Group activity is integral to the success of the Forum.

Your participation is important to the WiMAX community!

To view the most up-to-date information on our Working Groups, please visit www.wimaxforum.org/about/working-groups.

If you or your company is interested in participation in our Working Groups or a leadership role, please contact the TSC Chair **Rich Hawkins** at Rich.Hawkins@WiMAXForum.org

INDUSTRY SPOTLIGHT

• Smart Grid Networking and Communications

By Richelle Elberg, Senior Research Analyst, Navigant Research

If smart grid technology is the path to a greener, more efficient, and reliable power system, then communications technologies can be thought of as the highway that will lead the industry there. And where the road was once narrow, unpaved, and reached only critical substations, today it is being widened and extended to reach all the way to customer premises, as well as accommodate many more and larger travelers (data and applications) moving at ever higher speeds.

Although communications in the grid are not a new phenomenon, the demands upon these communications networks are growing and changing rapidly. Meanwhile, the need for security in these networks has never been greater, as the increased connectivity of critical grid infrastructure creates potential vulnerabilities. The market for smart grid networking and communications technology thus includes a growing number of competitors with a multitude of solutions and equipment. Yet, even as new or upgraded solutions are unveiled, the market is moving toward a smaller number of standards for most major applications: advanced metering infrastructure (AMI), distribution automation (DA), and substation automation (SA). According to Navigant Research, cumulative global revenue for smart grid communications networking and communications equipment is expected to amount to more than \$29 billion between 2014 and 2023.

This Navigant Research report analyzes the global market for smart grid networking and communications technology. The study provides a detailed analysis of market drivers and challenges, technical considerations, and key infrastructure vendors and service providers associated with communications infrastructure and services for smart grid applications. Global market forecasts for shipments, average selling prices (ASPs), and revenue, segmented by application, device type, technology, and region, extend through 2023. The report also examines spectrum availability and cyber security requirements, as well as regional factors affecting relative shares among the major communications technologies.

If you are interested in purchasing the full report, which includes information from the WiMAX Forum, **WiGRID** standard and a discussion of private WiMAX deployments for smart grid applications, please contact Navigant Research at research-sales@navigant.com.

About Navigant Research

Navigant Research, the dedicated research arm of Navigant, provides market research and benchmarking services for rapidly changing and often highly regulated industries. In the energy sector, Navigant Research focuses on in-depth analysis and reporting about global clean technology markets. The team's research methodology combines supply-side industry analysis, end-user primary research and demand assessment, and deep examination of technology trends to provide a comprehensive view of the Smart Energy, Smart Utilities, Smart Transportation, Smart Industry, and Smart Buildings sectors. Additional information about Navigant Research can be found at www.navigantresearch.com

WiMAX FORUM NEWS

The WiMAX Forum weekly Newsbrief contains the summary of news from around the WiMAX ecosystem and is intended as a benefit to our community. If you do not yet receive the Newsbrief and wish to do so, please sign up here: [WiMAX Newsbrief](#).

Below is a summary for the month of December:

- [WiMAX Forum to Host WiGRID 2015 at DistribuTECH Conference](#)
- [Nebraska Utility Manages Seasonal Loads With Communication System](#)
- [Big Data for Development: Finally: a good news story on big data](#)

- **Bedford County eager to start broadband project**
- **TTK expands WiMAX network in Perm**
- **One-Time Super Saver Rates Now Available at CommunicAsia2015 Summit**
- **TTK expands Wimax network in Vladimir**
- **23rd Convergence India 2015**
- **Taiwan's Global Mobile to upgrade to WiMAX 2.1 technology**
- **Innovation for Telcos – a Practical Guide**
- **Broadband: taking Pakistan forward**
- **FCC announces winners of \$100M for rural broadband growth**
- **21 New RTCA Standards for the Avionics Industry**
- **WiMAX Aviation 2015 - Madrid at World ATM Congress**
- **MasMovil acquires regional Spanish operator Embou**
- **Innovative Integration Announces the FMC-1000**
- **Montenegro broadband base expands in October**
- **Tech Companies Warn Against Treating Broadband As Utility**
- **Utilities Face Significant Revenue Losses from Growth of Solar, Storage and Energy Efficiency, Accenture Research Shows**
- **California makes first \$10M investment in ambitious energy R&D program**
- **European Space Agency Contracts Inmarsat to Develop Space-Based Aviation Data Link for European Airspace**
- **WiGRID 2015 at DistribuTECH**
- **Full connectivity finally comes to airplanes**
- **ICNS 2015 Chairs Announced for Plenary Day 1**
- **TTK launches Wimax network in Krasnoyarsk region**
- **Total ADSL traffic in South Africa**
- **Mercury Networks ready to enable additional 100MHz of spectrum**
- **NJIT honors contributors to wireless communications, nanotechnology**
- **BNA Technology Consulting**
- **Broadband over Power Lines**
- **Telefónica to Position Spain as Europe's Capital of Smart Cities**
- **Space Odyssey**
- **Public Power Communities: Future-Focused**
- **Enforta starts video-surveillance at Saransk fuel chain**
- **Max Telecom offers new prepaid mobile internet plans**
- **Rwanda: ICT Investment, Innovation, and Beyond**
- **Keysight Smart Meter Functional Test System**

- **Europe urges telecoms single market €260 billion opportunity**
- **UK Embraces Low Carbon Networks**
- **Next Generation Training and Simulation Solutions from Elbit**
- **November 2014 WiMAX Forum Monthly Newsletter**



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