

'WRC-15 EXPO'

The WRC-15 EXPO is located at the CIG 'Espace Polyvalent'
(to the far-right of the CIG main-entrance on the ground floor)

List of Exhibitors

<u>Exhibitor:</u>	<u>Location:</u>	<u>Dates of presence:</u>
ATDI	Booth no. 5a	2 – 27 November
COSPAS SARSAT	Adjacent to the ITU stand	2 – 27 November
EBU	Booths nos. 18, 19 and 20	2 - 27 November
ESOA	Booth no. 17	2 - 27 November
FACEBOOK	Booth nos. 2-3-4	2 – 27 November
GOOGLE	Booth nos. 2-3-4	2 – 27 November
GLOBALSTAR	Booth no. 1	9 – 20 November
GSMA	Booths nos. 6, 7, 10, 11	2 - 27 November
IARU	2 communication trailers located between the ITU 'ESPLANDE' and the ITU Varembe building	7 – 17 November
ITU BOOKSHOP	CIG ground floor (after security control)	26 Oct – 27 Nov.
ITU WELCOME DESK	CIG ground floor entrance	26 Oct – 27 Nov.
LS TELCOM	Booth no. 16	2 – 27 November
NASA	Booths nos. 14 and 15	2 – 20 November
SAAB MEDAV	Booth no. 5b	2 – 27 November
SKA	Booth no. 1	2 – 6 November



Booth no. 2
2 – 27 November

ATDI is a global leader in the development and implementation of automated spectrum management systems, whose expertise extends to software development, spectrum engineering and management.

ATDI is evolving its product line to an open-source web architecture which is attracting a great deal of interest from the telecommunications industry. Their software tools are technology-agnostic, incorporate the latest propagation models and are ITU-compliant.

ATDI draws from a wealth of experience of the radiocommunications industry and uses this to offer superior value consultancy services. The duality of both software and expertise means that **ATDI** is in a unique position when it comes to understanding complex customer requirements relating to spectrum regulation, occupancy and management.

ATDI's extensive knowledge and experience in spectrum engineering is supported by a unique understanding of the latest 'industry' thinking and methodology, enabling them to tackle the most complex tasks. The **ATDI** group currently supports 2000 customers worldwide including over 90 spectrum regulation authorities. **ATDI's** development and integration teams are located in USA, UK, France, South America, Poland, Australia, Ukraine and Canada. **ATDI** is currently managing more than 15 spectrum management projects.



Located at the WRC-15 EXPO entrance
2 – 27 November

www.cospas-sarsat.int

The **International Cospas-Sarsat Programme** is a satellite-based search and rescue (SAR) distress alert detection and information distribution system, best known for detecting and locating emergency beacons activated by aircraft, ships and backcountry hikers in distress.

The **International Cospas-Sarsat Programme** (the Programme) began as a joint effort of Canada, France, the United States, and the former Soviet Union in 1979. It was formally constituted as an intergovernmental organization in 1988 through the **International Cospas-Sarsat Programme Agreement (the Agreement or ICSPA)** signed by the four “Parties” to the Agreement: Canada, France, the USA and the former USSR. The Russian Federation replaced the USSR as Party to the Agreement in January 1992.

Including the four-Parties to the Agreement, 41 States and 2 organizations (the Participants) are now currently formally associated with the Programme and actively participate in the management and the operation of the **Cospas-Sarsat System (the System)**.

The mission of the Programme is to provide accurate, timely and reliable distress alert and location data to help Search and Rescue (SAR) authorities assist persons in distress. The objective of the **Cospas-Sarsat System** is to reduce, as far as possible, delays in the provision of distress alerts to SAR services, and the time required to locate a person in distress at sea or on land and provide assistance to that person, all of which have a direct impact on the probability of survival. To achieve this objective, **Cospas-Sarsat** Participants implement, maintain, co-ordinate and operate a satellite system capable of detecting distress alert transmissions from radio beacons that comply with **Cospas-Sarsat** specifications and performance standards, and of determining their position anywhere on the globe. The distress alert and location data is provided by **Cospas-Sarsat** Participants to the responsible SAR services.



OPERATING EUROVISION AND EURORADIO

www3.ebu.ch

Booth nos. 18, 19 and 20
2 – 27 November

The European Broadcasting Union (EBU) is the world's foremost alliance of public service media (PSM) with 73 Active Members in 56 countries operating 913 TV services and 854 radio services broadcasting in 96 languages to a potential audience of 1.02 billion people and 21 Associate Members in Asia, Africa and the Americas. The EBU's mission is to support and strengthen PSM across Europe and beyond.

The **EBU** operates **EUROVISION** and **EURORADIO**

EUROVISION is the media industry's premier distributor and producer of top-quality live news, sport, entertainment, culture and music content.

EURORADIO enhances public service radio through the exchange of music, news, professional networking, and the promotion of digital and hybrid radio.

EBU is also a centre of learning and sharing for its Members with offices in Brussels, Rome, Moscow New York, Washington DC, Singapore, and Beijing. Its headquarters are in Geneva.

About EBU Technology & Innovation

EBU Technology & Innovation is here to help accelerate technology innovation and deliver superior expertise, quality and commitment to Members. We support Members in critical situations, deliver reliable and innovative services, stimulate the exchange of relevant and inspiring ideas and best practice, and foster co-development and cooperation to drive innovation.

SATELLITE SPECTRUM VITAL TO GLOBAL COMMUNICATIONS

ESOA represents 21 operators across Europe, the Middle-East and Africa offering telecommunications services across the world. ESOA and the global satellite community have come together to form the **Satellite Spectrum Initiative (SSI)** to respond to the serious threats and challenges that satellite spectrum presently faces all over the world.

At WRC-15 satellite operators are focusing on Agenda Item 1.1 insisting on NO CHANGE for C-band and on Agenda Item 10 requesting that Member States support candidate bands for 5G/IMT above 31GHz, where, based on regional positions submitted to WRC-15, there is the greatest chance of both consensus and global harmonisation. Fundamental to **ESOA's** messaging is the fact that decisions taken at WRC15 will impact real services and real lives, the 4 weeks in Geneva are far more than just a theoretical exercise.

Recent increases in the amount of spectrum requested by terrestrial services, in particular mobile services, will come at the expense of satellite services relied on today by a host of communities for whom mobile is not a replacement. Furthermore it will impact innovative new services the satellite industry is now investing in and will lead to a significant loss in revenue for the space industry worldwide.

Going forward, **ESOA** wishes to work with Mobile Network Operators to deliver complete mobile coverage across the world, create immediate cellular networks for disaster-struck regions via satellite backhaul, enable ubiquitous mobile broadband with new high-throughput satellites, and offload bandwidth hungry video content that is ideally carried-over satellite networks for local storage and caching to enable a VOD-type experience.



www.google.com
www.facebook.com

Booth nos. 2-3-4
2 – 27 November

HAPS: A PLATFORM IN THE SKY TO CONNECT THE WORLD

The Internet is a powerful platform for communication and information. It should be accessible by everyone, everywhere. And yet, according to the most recent estimates, four billion people, mostly in the developing world, remain offline (The State of Broadband, ITU (2015)). Moreover, the rate of Internet penetration growth has slowed down from 14% in 2010 to under 7% in 2014 (World Telecommunications/ICT Indicators Database, ITU (2015)).

Through the **CONNECT 2020 Agenda**, ITU Member States committed to work towards the shared vision of ‘an information society empowered by the interconnected world, where telecommunication/ICT enables and accelerates socially, economically and environmentally sustainable growth and development for everyone’. Connecting the world will require the commitment of ITU Member States to facilitate the development and adoption of new ideas and innovative approaches.

HIGH ALTITUDE SOLAR PLANES: A PLATFORM IN THE SKY

Recent advances in battery technology, solar power and lightweight composite materials have made possible a new generation of **High-Altitude Platform Stations (HAPS)** capable of delivering multi-gigabit broadband Internet. These planes are the subject of ongoing research and development by committed companies, including **Facebook, Google** and aerospace companies.

Flying in circles to maintain a specified, nominally fixed position relative to the Earth approximately 20 km above the ground, these solar planes can extend broadband services and flexible backhaul to unserved and underserved communities with minimal ground infrastructure and maintenance.

At that altitude, the planes will operate above weather and will be optimally positioned to deliver Internet to a wide area on the ground below, with latency comparable to terrestrial technologies. And although these unmanned station-keeping systems are within the definition of **HAPS**, the existing **HAPS** identifications are not global, nor do they allow for the delivery of the kind of broadband services required today by rural and remote communities in the developing world.

EFFECTIVE USE OF SPECTRUM CAN CONNECT BILLIONS OF PEOPLE

HAPS are a promising connectivity technology. The ITU-R has the ability to make them viable as well. Companies such as **Google, Facebook** and **Nokia** believe **HAPS** can fill a critical gap in the portfolio of solutions for connecting the world.

We must bring the Radio Regulations UP TO DATE

Let's put the HAPS item on the WRC-19 agenda

Let's work together to connect the world



www.globalstar.com

Booth no. 1

9 – 20 November

Having recently launched the world's most modern mobile satellite communications network, **Globalstar** has re-emerged as a leading provider of mobile satellite voice and data services, including its SPOT-branded consumer products which have initiated more than 3,500 rescues worldwide.

Globalstar offers the highest voice quality and superior data services to commercial, government and recreational subscribers around the world so users can do business smarter and faster, stay connected to friends and family and access emergency assistance if needed.

Globalstar continues to innovate in areas beyond satellite communications, as evidenced by Terrestrial Low Power Service (TLPS), a unique solution to help alleviate existing Wi-Fi congestion and offer terrestrial mobile broadband services. Globalstar's satellite spectrum is located adjacent to the 2.4 GHz Wi-Fi Band and can be easily utilized to increase the Nation's Wi-Fi capacity shortly after approval, providing an enhanced quality of service to the millions of consumers who now depend on mobile broadband daily. A recent deployment of TLPS in Chicago demonstrated a 92% increase in aggregate throughput on a campus wireless network, confirming the substantial consumer benefits available to Wi-Fi users. A formal proceeding is underway at the Federal Communications Commission to grant Globalstar the authority to deploy TLPS to the public.

Additionally, **Globalstar** and its Partner, ADS-B Technologies LLC, have developed ALAS space-based ADSB to offer a true over-the-horizon air traffic management system capable of delivering an uncorrupted ADS-B digital message every second from virtually any ADS-B avionics system to Air Traffic Control. Globalstar recently completed its latest ALAS test flight across Canada, the majority of which is not covered by radar or terrestrial ADS-B, and to date has documented over 13,000 air miles utilizing its technology. A 7,000-mile demonstration from Alaska to the Gulf of Mexico and back was completed in September 2014.



www.gsma.com

Follow the GSMA on Twitter: @GSMA

Booths nos. 6, 7, 10, 11

2 - 27 November

The **GSMA** represents the interests of mobile operators worldwide, uniting nearly 800 operators with more than 250 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and internet companies, as well as organisations in adjacent industry sectors. The **GSMA** also produces industry-leading events such as **Mobile World Congress**, **Mobile World Congress Shanghai** and the **Mobile 360 Series conferences**.

For more information, please visit the **GSMA** corporate website at www.gsma.com.

.



www.iaru.org/

Worldwide Voice of Radio Amateurs

**Two communication trailers located
between the ITU Varembe building
and the CIG 'Esplande'**

7 – 17 November

The **International Amateur Radio Union (IARU)** has been the watchdog and spokesman for the world amateur radio community since 1925. The organization consists of over 160 national amateur radio societies around the world. Among the many beneficial uses of the amateur service is the voluntary fulfilment of telecommunications needs during disruptions of infrastructure. Radio amateurs fill this need by training and operating in close cooperation with institutional providers of emergency response and with non-governmental organizations. The IARU exhibit provides an opportunity for a hands-on experience of the amateur service's capabilities.

IARU communications is showcasing how the **Amateur Radio Services** can assist with emergency communications is on display in two trailers located between the ITU Varembe building and the CIG 'Esplande' from 7 – 17 November 2015.



Follow the WRC-15 on Twitter: #WRC15 @ITU

26 October– 27 November

The International Telecommunication Union (ITU) is the United Nations specialized agency for information and communication technologies (ICTs).

ITU allocate global radio spectrum and satellite orbits, develop the technical standards that ensure networks and technologies seamlessly interconnect, and strive to improve access to ICTs to underserved communities worldwide.

ITU is committed to connecting all the world's people – wherever they live and whatever their means. Through our work, we protect and support everyone's fundamental right to communicate.

The **ITU Radiocommunication Sector (ITU-R)** organizes the **World radiocommunication conferences (WRC)** to review, and, if necessary, revise the **Radio Regulations**, the international treaty governing the use of the radio-frequency spectrum and the geostationary-satellite and non-geostationary-satellite orbits

The **ITU stand and Welcome Desk** is located at the ground-floor of the CICG 'Espace Polyvalent' adjacent to the '**WRC-15 EXPO**' area.

The **ITU Bookshop** is located directly after the CICG security check and will be open daily Monday to Friday during the Radiocommunication Assembly (**RA-15**) from 26 - 30 October and during the World Radiocommunication Conference (**WRC-15**) from 2 - 27 November, 2015.

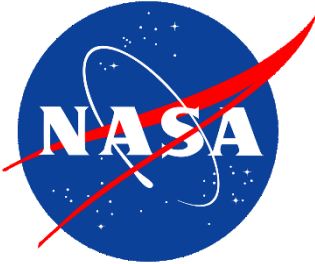
LS telcom designs and develops software and system solutions and provides services for the wireless telecommunications market.

LS telcom is an expert in the development and integration of automated spectrum management, radio monitoring, and direction finding systems. It provides its own systems, SPECTRA for spectrum management and LS OBSERVER for radio monitoring and intelligent data collection, and integrates these systems in addition to traditional radio monitoring and direction finding solutions. The implementation ranges from portable, mobile and fixed monitoring stations, to complete monitoring operation centres.

At the same time, we develop and market software for the design, planning, and optimisation of broadcast, PMR, mobile and microwave networks. Strategic consulting, radio engineering services and training on network technologies, standards, and regulations as well as transmitter installations and measurements complete our area of expertise. Our portfolio addresses the public and private market.

Frequency regulatory authorities, ministries, network operators and infrastructure providers, system integrators and military organisations in over 90 countries across all continents rely on our solutions and services.

LS telcom operates worldwide with subsidiaries in France, Canada, USA, and South Africa, as well as representative offices in Hungary, China and Oman. With its headquarters in Lichtenau, Baden, Germany, LS telcom is listed on the German stock exchange under ISIN DE 0005754402 since 2001.



www.nasa.gov

Booth nos. 14 and 15

2 – 20 November

The USA's civil space agency, the **National Aeronautics and Space Administration (NASA)**, was established in 1958, in partial response to the Soviet Union's launch of the first artificial satellite, Sputnik.

Since then, **NASA** has sent a dozen men to the Moon, performed robotic reconnaissance to all the planets in the solar system, established a fleet of spacecraft designed to help us understand how our home world is changing, created a reusable ship to provide regular access to space, and helped establish a permanent international human presence in space aboard the International Space Station. In addition, **NASA** has conducted or funded research that has led to numerous improvements to life here on Earth.

In the early 21st century, **NASA** is extending our senses to see the farthest reaches of the universe, while pushing the boundaries of human spaceflight farther from Earth than ever before.

Humankind is poised to take its next giant leap, far beyond the frontiers of exploration we've reached to date. On Earth and in space, **NASA** is developing new capabilities to send future human missions to an asteroid and Mars. Mars once had conditions suitable for life. Future exploration on our Journey to Mars could uncover evidence of past life.

Each week of the World Radiocommunications Conference, the **NASA** exhibit will focus on a different stage of the Journey to Mars, highlighting the importance of spectrum to the success of both human and robotic missions. Different subject matter experts will be at the NASA booth each week to discuss these different topics.

November 2 – 6: Earth Reliant – Mastering the Fundamentals

- ***Research on the International Space Station and commercial crew***

November 9 – 13: Proving Ground – Pushing the Boundaries

- ***Earth-sun cycle, predicting natural disasters, remote sensing***

November 16 – 20: Earth Independent – Exploring Independently

- ***Robotic mission in deep space: New Horizons and Pluto, Juno and Jupiter, Mars rovers, dwarf planets***

For more information on **NASA's Journey to Mars**, visit:

www.nasa.gov/topics/journeymars/index.html



SAAB

www.medav.de

www.saab.com

Booth no. 5
2 – 27 November

Saab Medav Technologies GmbH provides a complete series of Radio Monitoring and Radio Location equipment and systems for National Regulatory Authorities.

The offered systems, can be structured as follows:

- Spectrum monitoring of radio frequency bands (HF, VUHF, SHF);
- Detection, classification and measurements of radio emitters, signal measurements;
- Spectrum occupancy measurement functionalities;
- Direction finding and geo-location, also using hybrid systems using Angle-of-Arrival DF and Time-Difference-of-Arrival (TDoA) for geo-location;
- Interfacing to ITU-compliant Spectrum Management Systems

Saab Medav strictly adheres to fulfilling the specified ITU measurement and analysis functionalities for all AoA direction finding and monitoring and TDoA sensors.

In addition, **Saab Medav** provides special topics for each week:

- **Intelligent workflows Nov 2 – 6;**
- **Innovative technologies Nov 9 – 13;**
- **Antenna concepts Nov 16 - 20;**
- **Coverage optimization Nov 23-27**



www.skatelescope.org/project/

Booth no. 1

2 – 6 November

The Square Kilometre Array (SKA) project is an international effort to build the world's largest radio telescope, led by **SKA Organisation**, now a sector member of the ITU-R.

The **SKA** will conduct transformational science, leading to real breakthroughs in our understanding of the Universe and the laws of fundamental physics. But beyond astrophysics, the spin off innovations expected to stem from developing the **SKA** will benefit other sciences, engineering, commercial enterprises and society on a local and global scale. From the vast network infrastructure, through to advancements in computing, low-power electronics and data processing, the **SKA** will deliver growth in many sectors. Even the energy requirements of the **SKA** present an opportunity to accelerate technology development in scalable renewable energy generation, distribution, storage and demand reduction.

Already supported by the Governments of Australia, Canada, China, India, Italy, New Zealand, South Africa, Sweden, The Netherlands and the United Kingdom, **SKA Organisation** has brought together some of the world's finest scientists, engineers and policy makers and more than 100 companies and research institutions across 20 countries in the design and development of the telescope.

The **SKA** is not a single telescope, but a collection of telescopes or instruments, called an array, to be spread over long distances.

The **SKA** is to be constructed in two phases: Phase 1 (called **SKA1**) in South Africa and Australia corresponding to around 10% of the whole **SKA**; and Phase 2 (called **SKA2**) expanding into other African countries, with the component in Australia also being expanded. Construction of the **SKA** is set to start in 2018, with early science observations in 2020.