



GNSS

providing solutions
for life on earth



2nd ANNOUNCEMENT

Munich, March 16–18, 2020

Platinum Sponsor



www.munich-satellite-navigation-summit.org

“GNSS – providing solutions for life on earth”, this will be the theme of the 2020 edition of the **Munich Satellite Navigation Summit**, taking place on **March 16–18, 2020** at the **Alte Kongresshalle** in Munich. The organizing Institute of Space Technology and Space Applications (ISTA) of the Bundeswehr University Munich will invite experts from all over the world to talk about the latest news on Positioning, Navigation, and Timing and their role for modern agriculture, climate research, as well as other up-to-date topics and technologies.

The conference starts on **March 16, 2020** with the **Exhibition Opening** and **Champagne Reception** at **16:00 hrs**, followed by the **Opening Plenary Panel** at **16:45 hrs**. Afterwards a reception is giving opportunities for high-level networking with experts from industry, science and government.

TRENDING TOPICS of the **2020** edition

- First and Second Generation of the European satellite navigation system Galileo
- Modernization of the US Global Positioning System
- Status and modernization of the Russian Global Satellite Navigation System GLONASS and the Chinese Beidou System (BDS)
- Developments of regional systems like the Japanese QZSS and the Indian IRNSS
- Development of the Korean Positioning System (KPS)
- Modern Agriculture under the use of GNSS
- Sensing the Earth's atmosphere and surface with GNSS
- Autonomous systems, related legal issues and related PPP technology
- Galileo and the civil use of the Public Regulated Service (PRS)
- Galileo/GNSS Ground Control Segments
- Future trends in PNT

...and many more up-to-date topics on GNSS!

The Summit is part of the efforts of the Bavarian government and the cluster on aerospace and satellite navigation to stimulate applications and services in this high-tech field. Registration is possible at www.munich-satellite-navigation-summit.org

If there are any questions, please contact:
+49-89-6004-3425 or e-mail to info@munich-satellite-navigation-summit.org

DAY 1.

Evening. OPENING Monday, March 16, 2020

OFFICIAL OPENING OF THE EXHIBITION and CHAMPAGNE WELCOME
sponsored by NavCert GmbH

OPENING PLENARY AT THE ALTE KONGRESSHALLE

This event takes place at the Alte Kongresshalle (Old Congress Hall). The Bavarian State Ministry of Economic Affairs, Regional Development and Energy, representatives of various European institutions as well as representatives from USA, Russia and China are opening the Munich Satellite Navigation Summit 2020.

Moderator:

Claus Kruesken, Bayerischer Rundfunk (Bavarian Broadcasting), Munich, Germany

EVENING RECEPTION

DAY 2.

Morning. Tuesday, March 17, 2020

Session 1. GNSS PROGRAM UPDATES – GLOBAL, REGIONAL AND AUGMENTATION SYSTEMS

Presentations are informing about news from the worldwide global, regional and augmentation satellite navigation systems in operation and under development.

Global: GALILEO (EU), GPS (USA), GLONASS (Russia), BeiDou (China)

Regional: QZSS (Japan), IRNSS/NAVIC (India)

Augmentation: EGNOS (EU), WAAS (USA), MSAS (Japan), SDCM (Russia), Gagan (India)

Chairman:

Mike Swiek, Mike International, LLC, Washington, DC, USA

Session 2. THE (R)EVOLUTION OF FARMING WITH SATELLITE NAVIGATION

Over the past decade, the agricultural sector adapted quickly to new and digital technologies, increasing the use of satellite navigation for day-to-day farming. With modern equipment and big-data solutions, ranging from automated tractors to the effective use of fertilizer with the method of “Precision Farming”, farmers are nowadays able to collect a multitude of data and gather broad knowledge about crops and livestock. This leads to more effective operations and an increase in profitability as well as sustainability. In this session, representatives of farm equipment manufacturers and experts in the field of modern agriculture will present and discuss current trends and solutions that take advantage of the benefits of satellite navigation for the future of farming.

Chairman:

Dr. Herbert Landau, Managing Director, Trimble Terrasat GmbH, Hoehenkirchen-Siegersbrunn, Germany

Afternoon.

Session 3. GNSS REMOTE SENSING: HIGHLIGHTS AND PROSPECTS

Ground and satellite based GNSS Remote Sensing (GNSS-RS) developed during the recent two decades into a powerful and versatile tool for Earth System Research. A highlight and established application is the operational use of spaceborne GNSS radio occultation data from several satellite missions to improve the day-by-day global weather predictions of the leading forecast centers. The status and future developments of this key GNSS-RS application are reviewed. GNSS signals, reflected from water, ice and land surfaces (GNSS-Reflectometry, GNSS-R), enable versatile geophysical applications such as sea surface altimetry, observation of wind speed and precipitation over oceans, and soil moisture or snow height observation on land. GNSS-R principles and applications are introduced and promising developments for a comprehensive Earth Observation with small satellite constellations are presented.

Chairman:

Jens Wickert, German Research Centre for Geosciences, Technische Universität Berlin

Session 4. DEVELOPMENT OF A NEW REGIONAL SATELLITE NAVIGATION SYSTEM IN SOUTH KOREA: THE KOREAN POSITIONING SYSTEM (KPS)

In the 3rd Basic Plan for Space Development the South Korean government has planned in February 2018 to build up its own regional satellite navigation system. After an introduction to KPS and its present status and timeline the panel will inform and discuss about the KPS service plan, signal design and the precise orbit determination as well as the monitoring concept. The relation to the other global as well as regional satellite systems visible on the Korean peninsula will be also a discussion topic.

Chairman:

Prof. Dr. Guenter W. Hein, Chairman of the Executive Board of Munich Aerospace, Taufkirchen, Emeritus of Excellence Bundeswehr University, Neubiberg, Germany



Session 5. INSIGHTS IN STATUS AND FUTURE OF GALILEO

Following the 2016 declaration of Initial Services, the performance of Galileo will gradually improve as additional satellites and services are added. The session will provide the status of the system deployment, including an overview on the most innovative added-value elements and services to be introduced in the next few years. Highlights on the various activities being performed towards the Galileo 2nd Generation (G2G) will be presented. The session will also provide up-to-date information on the Public Regulated Service (PRS) service and its user segment technology, including innovative development.

Chairmen:

Matteo Paonni, Scientific/Technical Project Officer, European Commission, Joint Research Center (JRC), Ispra, Italy

Dr. Stefan Baumann, Project Manager, IABG, Ottobrunn, Germany

Session 6. CRITICAL TRENDS FOR FUTURE NAVIGATION & TIMING SYSTEMS

In the last decades, Navigation & Timing Systems design has been MEO satellites constellation based and pivoted during around three main drivers, the individual satellites ranging accuracy, the reduction of the dilution of precision/optimization of constellation geometry and the optimisation of acquisition/tracking performance through different space and ground based techniques. Due to the vast adoption of PNT as one of the key engines for industrial growth across all sectors, the diversification of user communities and associated advanced needs is leading to a Navigation & Timing Systems Design revolution, where the main drivers are being complemented by critical trends on new navigation & timing system design. This panel will address critical trends that may play a key role in future systems design (hybrid constellations including role of mega constellations, higher frequency bands usages including optical, usage of signals of opportunity for navigation, terrestrial vs satellite navigation systems complementarity,...). These topics will be addressed through a round table of public and private entities international representatives that are currently leading the world vision into the future of navigation.

Chairmen:

Eric Chatre, Head of sector for Exploitation and Evolutions of the European satellite navigation programmes, European Commission, Brussels, Belgium

Miguel Manteiga Bautista, Head of GNSS Evolution Programme and Strategy Division, ESA, Noordwijk, The Netherlands

Evening. EVENING RECEPTION: Summit Space Night 2020

DAY 3.

Morning. Wednesday, March 18, 2020

Session 7. PPP FOR SAFETY OF LIFE APPLICATIONS, A DREAM OR A REALITY?

Over the last years Precise Point Positioning (PPP) techniques have demonstrated their capability to provide high accuracy positioning services at any location, reducing the support of any dense local or regional infrastructure. This paved the way for the provision of low cost high accuracy positioning services. Nowadays, many user communities, such as automotive, rail, maritime, agriculture, etc. are becoming enthusiastic about the potential of PPP techniques, and are now looking for, or implementing solutions able to deliver certain levels of integrity. Some years ago the provision of safe PPP solutions was a dream, but today it is becoming a reality. This will enable a wide range of low cost new autonomous and safety of life applications.

Chairman:

Miguel Romay Merino, GNSS Executive Officer, GMV, Madrid, Spain

Session 8. A GLANCE INTO THE FUTURE OF UNMANNED AND AUTONOMOUS SYSTEMS

There is a high demand for precise navigation for autonomous systems in all domains: cars, robotics, ships and UAVs. Sensors of all types, inertial navigation systems (INS), lasers, odometers, radars and cameras play an important role in this space, yet satellite navigation remains critical. While the aforementioned sensors enable the autonomous systems to sense, store and retrieve data about the environment, satellite navigation provides robust techniques that are necessary to provide accuracy and reliability for unmanned systems. In this session, different companies and institutions will present and discuss their solutions for precise navigation for different types of unmanned and autonomous systems.

Chairman:

Dr. Robert Leishman, Director, Autonomy and Navigation Technology (ANT) Center, Air Force Institute of Technology, Wright-Patterson Air Force Base, OH, USA

Session 9. REGULATORY AND CYBERSECURITY ASPECTS OF AUTOMATED/AUTONOMOUS SYSTEMS

This year's Legal Session will focus on regulatory and cybersecurity aspects for automated and autonomous systems. Co-organized again by BHO Legal, the session will include high-level speakers from relevant international organisations, national ministries and industry providing insight on the current state in the development of suitable regulatory frameworks and on efforts in coping with ever-increasing cybersecurity threats. On the way from automated to increasingly autonomous systems, there are significant technical hurdles, including proper cybersecurity. The development also raises completely new aspects with regard to established legal principles such as causality, responsibility and - ultimately - liability.

Chairmen:

Dr. Ingo Baumann, Partner, BHO Legal, Cologne, Germany

Dr. Oliver Heinrich, Partner, BHO Legal, Cologne, Germany

Afternoon.

Session 10. MUNICH FLASHLIGHTS – NEWS FROM BAVARIA

Brief presentations from the Munich scene reporting on news and activities of the Bavarian satellite navigation network of excellence and of the high-tech cluster of satellite navigation.

Chairwoman:

Bärbel Deisting, Director Space and Space Applications, bavAIRia e. V., Gilching, Germany

Session 11. GALILEO/GNSS GROUND SEGMENTS

Modern Satellite Navigation Systems have high tech satellites broadcasting the signal in space. The satellites are monitored and controlled around the clock to provide the needed data, correlate time and ensure satellite safety. Ground systems are serving the whole system in order to make it work sophisticated and highly reliable. Reliability is a must and failure not an option, so the panel members will address concepts and strategies on how to make a complex system like Galileo run continuously. This panel will address the need for signal availability and evolution.

Chairman:

Simon Plum, Managing Director for the Galileo Program, DLR GfR, Weßling, Germany

Bavarian NETWORKING

This year the Summit will close at 3.30 pm on March 18, 2020 with a special Bavarian Networking Event in the exhibition area, offering a glimpse into Bavarian cuisine and beer culture.



At this reception you will have the possibility to round up the conference in a relaxed way and with high-level networking, meeting different companies from Munich and Bavaria that will also give a deeper insight into their work in the session “Munich Flashlights – News from Bavaria” on the same day, at 1 to 2 pm.



REGISTRATION

Online registration is possible via the website www.munich-satellite-navigation-summit.org

Registration fees:

Early Summit Rate by Jan 31, 2020	Full Summit Rate after Jan 31, 2020	Daily Summit Rate at all times
€ 700,00	€ 800,00	€ 450,00

The registration fee includes all sessions, the reception on the first evening, admission to the lunches, coffee/tea, snacks and refreshments during the conference, retrieving the proceedings of the conference.

CANCELLATION/REFUND POLICY

Fees for written cancellations received prior to Jan 15, 2020 are refundable less €50.

Written cancellations received from Jan 15 to Jan 31, 2020 are refundable less €150 cancellation fee.

After Jan 31, 2020 there will be no refunds.

We regret that individual registration benefits are not transferable.

ACCOMMODATION

You will find a recommendation on our website. For more choice we kindly ask you to take a look on the commonly known booking websites.

EXHIBITION

The Munich Satellite Navigation Summit will give your business an unique opportunity to position your latest products, services and technologies. Manufacturers, organisations and service providers are invited to exhibit at this event. Please contact us for further information.

CONTACT

Munich Satellite Navigation Summit, Phone +49 89 6004 3425

info@munich-satellite-navigation-summit.org

www.munich-satellite-navigation-summit.org



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