



## Spoofing-Resistant UAV Application Wins Overall Prize of the European Satellite Navigation Competition 2017

**SORUS, a novel satellite navigation based solution, enables Galileo Public Regulated Service (PRS) navigation for a wide range of users while significantly reducing security requirements and Galileo PRS costs per user device. Besides taking the overall win, SORUS also won the Special Prize of the German Federal Ministry of Transport and Digital Infrastructure (BMVI) and the Bavaria Challenge.**

Tallinn, Estonia, 7 November 2017 – SORUS – a Global Navigation Satellite System (GNSS) powered safety application – wins the overall prize of the 2017 European Satellite Navigation Competition (ESNC), an international competition on innovative business solutions for society based on GNSS data. Police, Special Forces, and other authorised Galileo PRS users can exploit this application to equip their UAVs with a secure, trustable, and spoofing-resistant positioning solution.



The system enables user receivers to calculate Galileo PRS positions at predefined points in time including robustness against jamming and spoofing. SORUS circumvents all drawbacks of conventional PRS receivers and server-based techniques: No need for a PRS security module on the user receiver, no size, weight, or power

problems, and many more. The application stores short sequences of Galileo PRS pseudo-random noise (PRN) code chips on user receivers prior to missions, which are only valid for the limited duration and area of a given mission. SORUS is developed by Alexander Rügamer, Fraunhofer IIS and Dr Jan Wendel, Airbus Defence and Space.

“I am very excited that our ESNC Overall Winner makes smart use of Galileo PRS and offers added-value in terms of user needs and innovation level. All 26 winning applications of the ESNC provide new products and services to accelerate space related progress.”, emphasises Thorsten Rudolph, Managing Director of AZO Anwendungszentrum GmbH Oberpfaffenhofen, the organiser of the ESNC.

[25 more business cases and Challenge winners](#) were also recognised during the Awards Ceremony by high-ranking industry and institutional representatives, such as the European GNSS Agency (GSA), the European Space Agency (ESA), the German Aerospace Center (DLR), the German Federal Ministry of Transport and Digital Infrastructure (BMVI) and the European Committee of the Regions (CoR). In addition, 20 partner regions across the globe awarded the best competition entries.

Carlo des Dorides, Executive Director, GSA, states: “The ESNC has once again proven to be an effective scouting and support mechanism for new European GNSS applications and the GSA is proud to be a long-time partner in this useful initiative. The new applications inspired by this competition constantly advance the growth and use of GNSS technology.”

The ESNC is continuously in search of the most outstanding business ideas related to GNSS, in line with the EU Space Strategy and the EU60 goals. By fostering entrepreneurs and startups, the innovation competition has the long-term objective of strengthening Europe’s competitiveness with



high-tech space solutions on the global scale. Additionally, AZO established Europe's first E-GNSS Accelerator programme, funded by the European Commission (EC). This programme offers the top three pitching startups access to dedicated incubation programmes at their preferred incubation centre of the ESNC network all across Europe worth EUR 180,000.

The ESNC Awards Ceremony took place in front of an international audience during the European Space Week 2017 in Tallinn, Estonia – in line with the Satellite Masters Conference & Horizon 2020 Space Info Day.

#### **About ESNC**

Initiated by AZO Anwendungszentrum GmbH Oberpfaffenhofen, German Aerospace Center (DLR) and the Bavarian State Ministry of Economic Affairs and Media, Energy and Technology, the European Satellite Navigation Competition (ESNC) today is the leading network for satellite navigation. The ESNC annually awards the best services, products, and business ideas using satellite navigation in everyday life, spurring the development of respective market-driven applications. For 14 years, the international innovation competition serves as an accelerating instrument for space-related entrepreneurs and startups, providing Europe with novelties. Since 2004, more than 11,500 developers took part with an overall prize pool worth 13 Mio. EUR for more than 300 winners and 200 international judges assigned with the evaluation of submissions. Additionally, AZO established Europe's first E-GNSS Accelerator programme, funded by the European Commission (EC). For more information please see [www.esnc.eu](http://www.esnc.eu).

#### **About AZO**

AZO Anwendungszentrum GmbH Oberpfaffenhofen is an international networking and branding company initiating the most important space-related innovation competitions with more than 15,000 participants, over 200 industrial & public – and 400 international stakeholders. The Masters Series, presented by AZO consists of European Satellite Navigation Competition (ESNC), Copernicus Masters, Space Exploration Masters, and INNOspace Masters. AZO has been supporting entrepreneurship with more than 130 company foundations to date and the creation of 1,800 high-tech jobs in Bavaria with an annual turnover of about EUR 150 Mio. Additionally, AZO runs a very successful business angel network which invested more than EUR 130 Mio Venture Capital in 2016/17 as well as the ESA Incubation Centre (ESA BIC) Bavaria. For more information, please visit [www.azo-space.com](http://www.azo-space.com).

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