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Bittium Corporation
Press Release

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a4ESSOR and OCCAR signed a procurement contract to advance the development of interoperable tactical communications with the new ESSOR Narrow Band Waveform

Bittium, a leading supplier of resilient tactical communications solutions based on software-defined radio technology, contributes to the development of a new waveform as part of the multinational a4ESSOR joint venture. a4ESSOR S.A.S (Alliance for ESSOR - European Secure Software Defined Radio), which develops software-defined radio technology for military use, has signed a procurement contract amendment with the intergovernmental Organisation for Joint Armament Cooperation (OCCAR). The contract amendment expands the ESSOR Development Stage #4 (ES4) announced in November 2025.

Under the contract amendment, a4ESSOR will develop a new ESSOR waveform, the ESSOR Narrow Band Waveform (ENBWF) based on the future NATO standard STANAG 5630 Edition 2. The waveform can be ported to national software-defined radios sharing the same architecture. This standardized approach, already successfully implemented with the ESSOR High Data Rate Waveform (EHDRWF), enables ESSOR nations and potentially third-party nations to use their own national software-defined radios while ensuring interoperability with other nations in their tactical communications with both ESSOR EHDRWF and ENBWF waveforms.

The contract amendment for the ESSOR Development Stage #4 brings the total contract value to over EUR 211 million. The work is shared among the six companies participating in a4ESSOR: Bittium (Finland), Indra (Spain), Leonardo (Italy), Radmor (Poland), Rohde & Schwarz (Germany), and Thales (France). The work is allocated according to the shares of the member states, with Bittium's share being significantly lower than the directly calculated relative proportion would be.

In November 2025, a capability deployment procurement contract valued in excess of EUR 47 million was signed for the ESSOR High Data Rate Waveform (EHDRWF). Under the contract, a4ESSOR was tasked with designing a common mission framework aimed at shared planning capability of network parameters of the EHDRWF. Once implemented in the command-and-control system of each participating nation, the mission framework will ensure high interoperability at the operational level, allowing quick and accurate deployment of multinational EHDRWF networks.

The six participating nations and their industry leaders have been working to add new features to the EHDRWF, such as electronic protection measures and support for modern cryptographic standards, leading to several successful interoperability demonstrations and qualification tests, and the adoption of ESSOR High Data Rate Waveform as NATO STANAG 5651 in 2023.

a4ESSOR will conduct field tests of the EHDRWF on the various radio systems to assess the maturity, performance and reliability of the waveform in various scenarios, providing valuable feedback for future waveform enhancements. The field tests will also include trials in different operational environments (urban, rural and hilly terrains), line-of-sight/non-line-of-sight and mobility scenarios, as well as analysis of waveform performances under potential interference conditions. Furthermore, the contract signed in 2025 includes the development of an ESSOR in-service support framework and the establishment of an ESSOR laboratory as the reference for interoperability validation.

“a4ESSOR plays a key role in enabling secure and interoperable communications for European and NATO forces. For Bittium, participation in the program is strategically important, as the ESSOR High Data Rate Waveform has already been successfully deployed in our Tough SDR radios. The programme enables the integration of new

standardized waveforms into our radios while supporting national sovereignty and control. The development of the new ESSOR Narrow Band Waveform further strengthens reliable communications across all operational scenarios and enhances interoperability between allied forces.” said **Tommi Kangas, Senior Vice President of Bittium’s Defence & Security business segment.**

Lino Laganà, President and General Manager of a4ESSOR, said “a4ESSOR has been active for over 17 years playing a crucial role to develop and test ESSOR capabilities and technologies to address multinational defence requirements as a valuable solution in addition to the existing legacy waveforms. With the development of the ESSOR Narrow Band Waveform, we’re making sure the most extensively used waveform among land forces in operation takes a further step ahead towards NATO standard status, thus boosting the advancement to greater interoperability armed forces from various countries.

Lino Laganà continued “The project aligns with the European Union’s strategic objectives of strengthening defence cooperation, enhancing autonomy, and improving the efficiency of combined military missions. By equipping EU member states with secure, interoperable, and scalable communication solutions, the initiative strengthens Europe’s collective ability to respond to threats and ensures seamless coordination in operations.”

For more information about a4ESSOR, visit: <http://a4essor.com/>

For more information about ESSOR, visit: <http://occar.int/our-work/programmes/essor-european-secure-software-defined-radio>

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Bittium Defence & Security

As a trusted supplier in the Defence & Security market with 40 years of experience in advanced radio communication technologies, we provide next-generation resilient and mobile tactical communications systems for defence forces and secure communication solutions for governments and authorities. Our products and systems for tactical communications bring broadband data and voice seamlessly to all troops across multi-domain operations. The offering is completed by mobile devices and cyber security solutions certified up to CONFIDENTIAL and NATO Restricted levels.

In addition to the products and systems supplied to the Defence & Security market, Bittium offers solutions focused on measuring and processing of biosignals as well as R&D services and wireless embedded solutions. Bittium’s net sales in 2025 were EUR 119.3 million and operating profit EUR 19.4 million. Bittium is listed on Nasdaq Helsinki. www.bittium.com

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