



REN SERIES: A **NEW** SOLUTION FOR DEFENCE SYSTEMS ACROSS DOMAINS

Introduction: Versatile, Mission-Ready Prototyping

In the complex and evolving landscape of modern military operations, having adaptable and reliable technology is essential. The REN Series from Unitronix stands as a beacon of innovation, designed to meet the rigorous demands of defence sectors spanning land, naval and specialised ground-based air operations. These robust solutions provide a scalable platform for engineers seeking to prototype and deploy advanced systems efficiently. By accommodating custom configurations with VesaLogic's EPU, ESU, PCIE 104 and SOSA VPX cards, the REN Series is engineered to excel in diverse operational environments where strategic flexibility and high-performance computing are critical.

Supporting Complex Defence Needs

The defence industry faces unique challenges that require tailored solutions to maintain strategic advantages. The REN Series answers these challenges with its modular design, capable of handling intricate computing tasks such as data fusion, electronic warfare and surveillance. This series provides defence engineers with a powerful and adaptable framework to develop next-generation technologies and deploy them confidently in real-world conditions.



REN MINI

Land-Based Operations

Optimised for Tactical Vehicles

The rugged nature of land-based military operations necessitates technology that can withstand harsh environments. The REN Series provides a versatile platform for integration into ground vehicles, hosting capabilities like command and control, battlefield communications and sensor data processing. Defence engineers can leverage the flexible nature of the REN Series to test, optimise and deploy configurations tailored to specific mission needs, ensuring reliable performance under demanding conditions.

Vetronics and Real-Time Analysis

Ground vehicle applications benefit from advanced vetronics systems capable of real-time data collection and analysis. The REN Series supports these needs by providing a scalable, high-computing power framework. Engineers can prototype AI-assisted threat detection, navigation systems and electronic warfare tools, transitioning these prototypes into field-ready deployments with minimal redesigns.



REN VPX 4-Slot

Naval Applications

Resilience on the High Seas

Naval environments require systems that can function reliably despite constant exposure to saltwater, humidity and varying temperatures. The REN Series is built with durability in mind, offering configurations that withstand the rigours of shipborne installations. Whether facilitating data analysis, electronic warfare or secure communication links, the REN Series provides a dependable computing backbone adaptable for different ship classes and mission profiles.

Advanced Prototyping for Naval Command

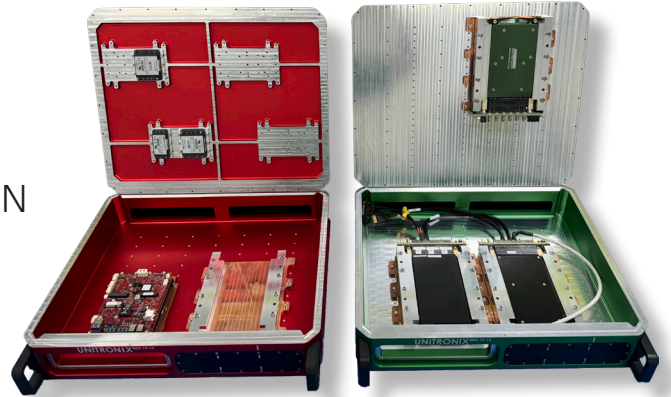
Defence engineers working on naval systems can utilise the REN 19 as a testbed for innovative solutions. Prototyping sensor fusion systems, automated defence responses or networked communications becomes straightforward with the REN 19 allowing a hybrid mix of conduction cooled cards, VPX, EW PCIe 104 that can be integrated together. Once validated, these systems can be scaled and ruggedised for operational use, delivering consistent performance in maritime conditions.

Ground-Based Systems

Command, Control and Surveillance

In the realm of ground-based systems, the REN Series proves its adaptability in supporting command and control structures and advanced surveillance operations.

Engineers can design and test systems focused on radar integration, sensor data fusion and automated response protocols. The flexibility of the REN 19 in allowing a mix of the latest VPX and high-end industrial processing elements gives a truly open platform on which to deploy the latest applications.



Bridging R&D and Deployment

Innovative Prototyping and Transition

One of the REN Series' greatest strengths is its ability to bridge the gap between research and development and field deployment. Defence R&D divisions often require systems that can adapt rapidly to evolving project requirements. The REN Series supports rapid prototyping, enabling engineers to iterate on system configurations without starting from scratch. This flexibility accelerates development cycles and ensures smoother transitions from prototype to fully deployed systems.

A Unified Platform for Diverse Needs

Whether developing electronic warfare modules, AI-powered threat detection systems or enhancing communication arrays, the REN Series stands as a unified platform capable of supporting a wide range of defence applications. Engineers can confidently prototype complex systems, optimise their performance, and ruggedise them for operational use with minimal friction.

Inspiring Future Defence Solutions

The adaptability of the REN Series breaks the mold of traditional development cycles and allows for fast prototyping and advanced deployment of complex systems. By providing a solid, customisable foundation, the REN Series supports defence innovators in creating systems that keep pace with the fast-evolving demands of modern military operations.

Disclaimer:

The scenarios and applications described in this document are hypothetical in nature and intended solely for informational and illustrative purposes. Actual deployment, performance and results of the REN Series in defence applications may vary depending on specific configurations, environmental conditions and integration with other systems. The REN Series is provided as a customisable edge processing platform, not as a finished product; therefore, end users may need to modify, configure and integrate REN components to meet their specific requirements. All users should perform thorough testing and consult with qualified engineers to determine suitability for their intended use. Unitronix disclaims any liability for direct, indirect or consequential damages arising from the use or reliance on this document or the products described herein.



About Us

Unitronix are an innovative engineering-capable distributor and manufacturer of rugged, embedded computing solutions for military, aerospace and high-end industrial applications. Our own innovative Rugged Embedded Nodes - REN are reusable, reconfigurable, recyclable, cutting carbon footprint and saving cost.

Unitronix Systems Head Office

Unit 9,
37 Currans Road,
Cooranbong,
NSW 2265,
Australia.

T: +61 (0)2 4977 3511
www.unitronix.com.au

Unitronix Systems Queensland Office

Unit 7, 229 Junction Road
Cannon Hill,
Brisbane
QLD 4170,
Australia.

T: +61 (0)438 274333
www.unitronix.com.au

Unitronix UK

Office 102 Milton Keynes Business Centre
Hayley Court, Foxhunter Drive,
Linford Wood,
Milton Keynes
MK14 6GD
United Kingdom

T: +44 (0)1908 698810
www.unitronix.co.uk