

Get to market faster with FPGA modules: Andromeda System-on-Module: The new Enclustra module family



Enclustra's new Andromeda SoM form factor covers the entire performance spectrum: from compact to high-performance.

Germany, March 15, 2023. FPGAs are the optimal solution for many applications. FPGA and SoC modules from Enclustra significantly reduce development effort and total cost of ownership (TCO) of this powerful technology. In combination with the long-standing and deep FPGA know-how of the Enclustra engineering team, the development time of many projects can be reduced from years to a few months.

FPGAs are conquering more and more application areas, which is no wonder given their enormous parallel performance, flexibility and scalability. From simple interface components to complete systems with integrated ARM processors and multi-gigabit interfaces, the possibilities of FPGAs are virtually unlimited. With a standard FPGA or SoC module, based on an AMD-Xilinx, Intel or Microchip SoC, the entry into FPGA technology is quick and easy. With the design-in kits, Enclustra offers a ready-to-use solution to start any FPGA-based project in just a few minutes.

The technology-specific complexity of FPGAs can be encapsulated with a powerful standard FPGA or SoC module, such as those offered by Enclustra. This makes hardware design even

simpler than using a conventional microcontroller or DSP. The use of an FPGA or SoC module is particularly interesting for small and medium production volumes, but can also be attractive for high-volume products.

Don't reinvent the wheel

FPGA and SoC modules offer many advantages over chip-down designs. The high production volume of off-the-shelf FPGA or SoC modules reduces their cost while providing a proven and reliable solution. Since different pin-compatible modules are available in the same form factor, a product can easily be equipped with a more powerful module even at a late stage of development. Thanks to the high functional density of the FPGA modules, the complexity of the base board is also reduced, making development faster and more cost-effective.

The new Andromeda SoM family: Highest scalability

With the new Andromeda System-on-Module (SoM) product family, Enclustra introduces the next generation form factor. The modular and scalable FPGA system-on-chip (SoC) family supports three sizes: S (40 × 56 mm), M (52 × 66 mm) and L (80 × 64 mm) with 2 to 6 high-performance connectors with up to 780 I/Os.

Two AMD-Xilinx Zynq UltraScale+ MPSoC based modules are already available: The Andromeda XZU65 (Image 1) and the Andromeda XZU90 (Image 2).



Image 1: Andromeda XZU65 – front and back; Small form factor: 68 × 52 mm

The Enclustra Andromeda XZU90 SoM is based on Xilinx's Zynq UltraScale+ MPSoC. With 686 I/Os, it is optimized for high-performance applications.



Image 2: Andromeda XZU90 – front and back; Small form factor: 80 × 64 mm

Three more variants will be available later this year: The Andromeda XZU30 in the compact S form factor, the Andromeda XZU70 (L), and the Andromeda XRU50, based on the AMD-Xilinx ZU48DR RFSoc chip.

Reference design and Linux at your fingertips

Enclustra offers broad design-in support for its products. The detailed documentation, reference designs and application notes make it easy to get started. Schematics, 3D models, PCB footprints and a table with lead lengths complete the offer.

For the creation of a Board Support Package (BSP) based on PetaLinux, Enclustra offers detailed instructions. Also the necessary adjustments for the different boot modes (QSPI, eMMC, SD Card) are explained in detail.

About Enclustra GmbH

Enclustra is an innovative, dynamic, and growing company for FPGA design with headquarters in Zurich, Switzerland, with subsidiaries in Germany, France, USA, and China.

As a leader in FPGA design and development, Enclustra offers a product portfolio of FPGA-based electronic modules and FPGA-optimized IP solutions for industrial customers and R&D organizations. In parallel, Enclustra provides leading engineering services in FPGA system design, covering the entire spectrum of FPGA-based system development: from high-speed hardware or HDL firmware to embedded software, from system design, specification, and implementation to prototyping.

Leveraging our expertise in cutting-edge FPGA technology and diverse application knowledge, Enclustra delivers high-performance solutions across various industries, minimizing development effort and accelerating your time-to-market.

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