Press Release

Zurich, December 2nd, 2019

Enclustra Mars+™ XU3 MPSoC SOM for AI applications

Enclustra presents AI on Xilinx® Zynq® UltraScale+™ MPSoC based module

By using a module like the Enclustra Mars XU3, development time can be drastically shortened. Together with the Mars ST3 base board AI applications become reality in just a few hours.

Enclustra, an innovative and successful Swiss FPGA design company and leading provider of FPGA and SoC modules, is showcasing at the Xilinx Developer Forum (XDF) Asia in Beijing/China on December 3rd – 4th how to cut development time of AI applications drastically with a SoC module and even further with the expertise of a specialized design service company.

The Enclustra demo shows how easy it is to jump-start an AI application. Be it image detection, classification or pattern for manufacturing, health care, automotive or financial services: the combination of an Enclustra SoC Module together with the Deep Learning Neural Network Development Kit (DNNDK) provides users with the tools to develop and deploy Machine Learning applications for Real-time Inference making it a snap to integrate AI into a vast variety of applications. Thanks to FPGAs and SOMs, like the Xilinx Zynq UltraScale+ MPSoCs based Enclustra Mars XU3, the power of AI can now also be used offline and on the edge.

To even further shorten time to market the Enclustra engineering team also supports its customers in all areas of FPGA-based system development, from high-speed hardware and HDL firmware through to embedded software, and from specification and implementation all the way to prototype and series production.

The Mars XU3 MPSoC used in the demo offers an easy entry into the Xilinx Zynq UltraScale+ MPSoC ecosystem. It comes in the extremely compact and well-established SO-DIMM form factor and is optimized for applications that require the greatest processing power possible in the smallest of spaces, without having to make any compromises when it comes to functionality. The Mars XU3 series offers up to 154,000 systems logic cells, 108 user I/Os,

up to 6 ARM processors, a Mali 400MP2 GPU (only EG variants), up to 4 GByte of ultra-fast DDR4 SDRAM, 64 MByte QSPI flash memory, 16 GByte eMMC flash memory as well as Gigabit Ethernet and USB 2.0/3.0 ports, all on a surface area measuring just 67.6 × 30 mm.

A heat sink developed for the Mars XU3 is available for optimum heat dissipation. It's compact design (less than 7 mm in height) and a mounting slot in the center of the heat sink makes it easy to attach fans of different sizes. The Mars XU3 SoC module has a planned availability of 10 years.

Reference design and Linux at the push of a button
Enclustra offers broad design-in support for their products. With the Mars ST3 base board, the Mars XU3 is a powerful development and prototyping platform.
Enclustra also offers a comprehensive ecosystem for the Mars XU3, offering all of the hardware, software and support materials required. Detailed documentation and reference designs make it easy to get started, in addition to the user manual, user schema, a 3D-model (STEP), PCB footprint (Altium®, OrCAD®, PADS®, EAGLE®) and differential I/O length tables.
The Enclustra Build Environment can be used to compile Linux for the Enclustra SoC modules with integrated ARM processors very smoothly. The module and base board are selected by a graphical interface. After that, the Enclustra Build Environment downloads the appropriate Bitstream, First Stage Boot Loader (FSBL) and the required source code. Finally, U-Boot, Linux and the root file system based on BusyBox are compiled.
Thanks to the family concept with compatible connectors, different types of modules can be used on the same base board. If, for example, an ARM processor is not required, the Mars AX3 FPGA module can be used on the same base board instead.
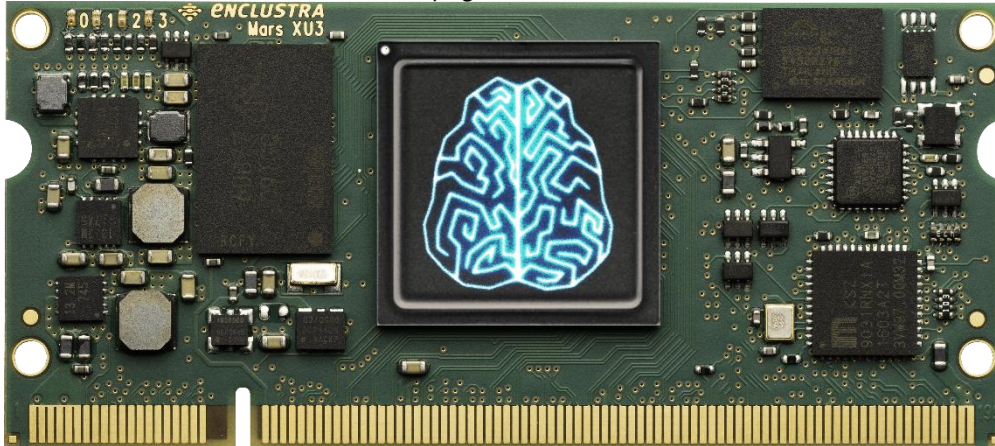
More information about Enclustra modules is available at:
https://www.enclustra.com/en/products/

Explore the whole range of FPGA-based design services:
https://www.enclustra.com/en/design-services/

((File name: mars_xu3_front_AI_black.png))

The Enclustra Mars XU3 System on Module (SOM) is the smallest Xilinx Zynq UltraScale+ MPSoC-based module from Enclustra. (Picture: Enclustra GmbH)

About Enclustra GmbH

Enclustra is an innovative and successful Swiss FPGA design company. With the FPGA Design Center, Enclustra provides services covering the whole range of FPGA-based system development: From high-speed hardware or HDL firmware through to embedded software, from specification and implementation all the way to prototype and series production.

In the FPGA Solution Center, Enclustra develops and markets highly-integrated FPGA modules and FPGA-optimized IP cores.

By specializing in forward-looking FPGA technology, and with broad application knowledge, Enclustra can offer ideal solutions at minimal expense in many areas. More information can be found at: www.enclustra.com

Download: *[Press kit [ZIP]: www.enclustra.com/press](www.enclustra.com/press)*

Press contact:

Enclustra GmbH

Patrick Müller

VP Marketing

Raeffelstrasse 28

8045 Zurich

Switzerland

Tel. +41 43 343 39 33

www.enclustra.com

patrick.mueller@enclustra.com

Reader contact:

Enclustra (Shenzhen) Technology Co., Ltd.

中国深圳南山区东滨路 4351 号荔源商务大厦 B825，邮编：518054

B825, LiYuan Business Building

Dong Bing Rd 4351

Nanshan Dist. Shenzhen, 518054

China

Headquarters:

Enclustra GmbH

Raeffelstrasse 28

CH-8045 Zurich

Switzerland

Tel. +41 43 343 39 43

www.enclustra.com