



Advanced Virtual Prototyping and AI Compiler technologies

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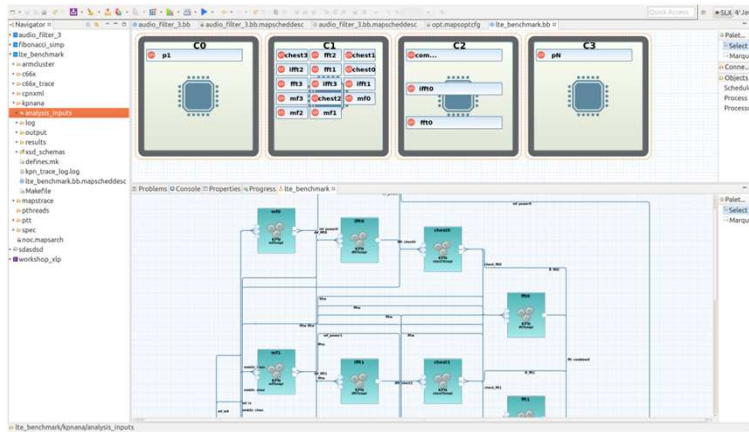
MACHINEWARE

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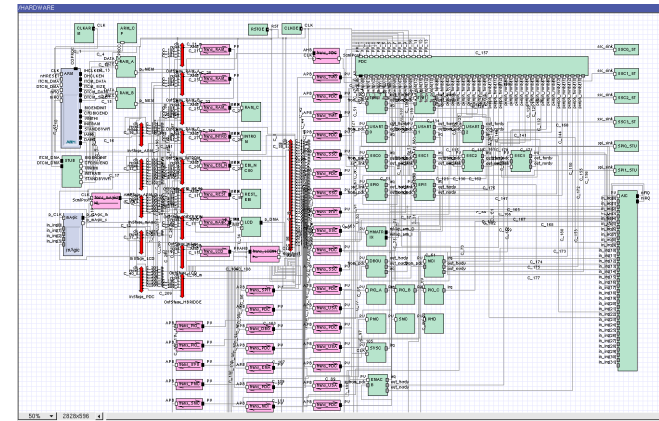


RWTHAACHEN
UNIVERSITY

ICE R&D topics in HW/SW co-design technologies



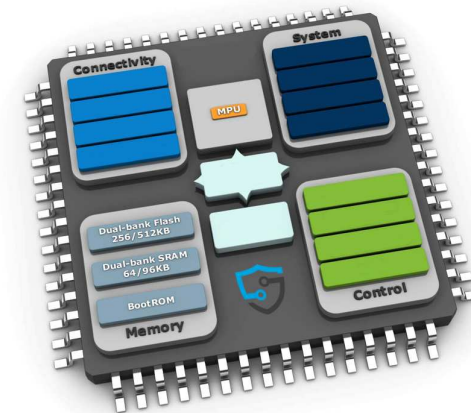
Embedded SW development tools



System-on-chip HW design



Virtual prototyping



Hardware security

RWTH/ICE scientific and business expertise

- Numerous **EU projects** in HW/SW codesign:
 - ARTIST, SHAPES, EURETILE, DSPACE, GEMSCCLAIM, **HiPEAC**, **TETRACOM**, Eurolab4HPC, **TETRAMAX**, BOWI, EDIH Rheinland
- Bilateral academia-to-industry **tech transfer**:
 - Infineon, Synopsys, Ericsson, Microsoft, Tokyo Electron, ACE, Huawei, HiSilicon, Ricoh, Samsung, Audi/Cariad
- Eight successful **spin-off companies**, e.g.
 - **LISATek**: founded 2002, acquired by CoWare/Synopsys
 - **Silexica**: founded 2014, acquired by Xilinx/AMD
 - **MachineWare**: founded 2022
 - **RooflineAI**: founded 2024



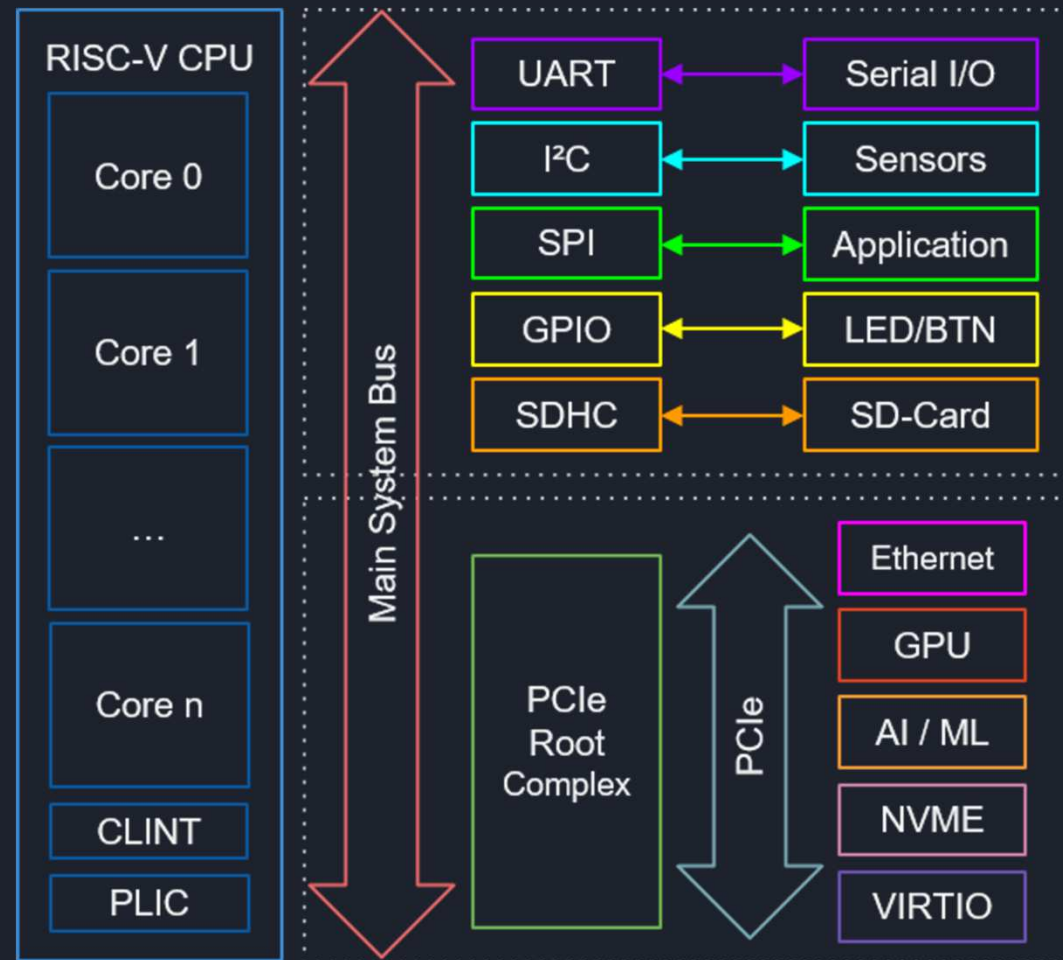
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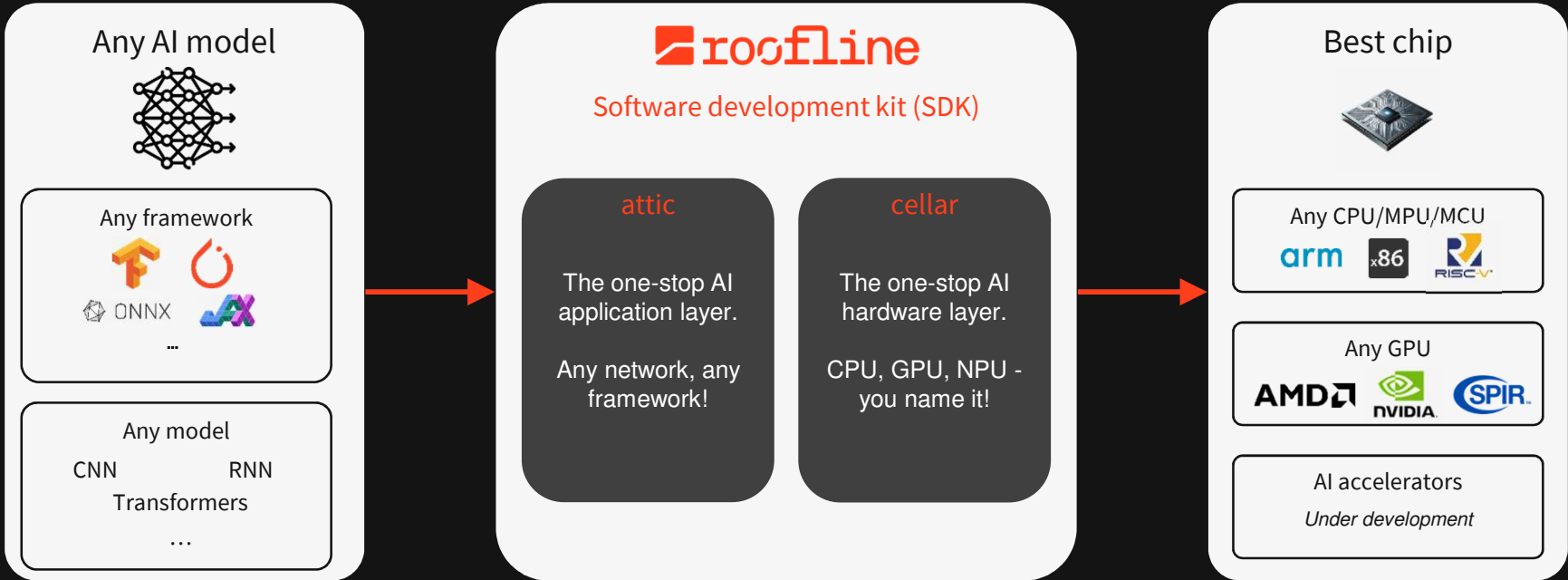
MachineWare GmbH Products & Services



- Virtual Prototypes based on SystemC
- Fast CPU Instruction Set Simulators
 - SIM-V (RISC-V ISS)
 - SIM-A (ARM ISS)
- Qbox/QEMU
- ARM-on-ARM
- Services
 - SystemC, QEMU Modeling
 - Training & Consulting



DEPLOY ANY AI MODEL FROM ANY FRAMEWORK ON DIFFERENT TARGET HARDWARE VIA RETARGETABLE SDK



Desired EU project partnerships

- Major application domains:
 - automotive, telecom, AI, critical infrastructures
- Use of **Virtual Prototypes** for
 - SW development and verification
 - System-on-chip design
- Use of **retargetable SW development** kit for
 - AI deployment at the Edge
 - AI hardware accelerator design
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 - www.machineware.de
 - roofline.ai



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