ARTS-NVM: Reconfigurable <u>A</u>rchitectures and <u>Real-Time Systems</u> Co-Design for <u>Non-Volatile Main Memory</u>

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Emerging Non-Volatile Memories



Disruptive Time Overhead meets Real-Time Systems



Real-Time Systems with eNVM (source: STMicroelectronics)



Worst Case Execution Time (WCET)



Worst Case Response Time (WCRT)

Timing-Predictable: Worst-Case Analysis, HW/SW Co-Design, Prototyping



Roles within SPP 2377

- Explore the impact of disruptive NVM technologies on Computer Architecture (Technical Computer Science) and Operating Systems
 - Fundamental research of real-time properties of byte-addressable NVMs
 - Practical potential of emerging embedded NVM to penetrate into industrial cases (e.g., Stellar MCU family by STMicroelectronics for automotive systems)
- Timely and unique combination of hardware/RTOS co-design for disruptive NVM technologies



