




SELEX Elsag WP2

Internal Review – Budapest
11th-12th September 2012

ARTEMIS 2010 -1 
Project Proposal No. 269317
ASP6: Inter-networked ES for Security and
Critical Infrastructures Protection



nShield compliance means to design hardware platforms to efficiently support the SPD nodes requirements, taking care of the following characteristics:

- **High scalability:** allows to fit each node complexity, through the various network hierarchical level.
- **High reconfigurability:** grade to ensure communications integrity to the maximum possible extent by allowing the reconfigurability of the single nodes and/or the system itself.
- **High computational power** to smart manage the complex and CPU consuming crypto Algorithm, in order to handle security in lightweight devices and in highly dynamical networks.

- **Adaptability** of HW and SW of the multi-core platform to the different typology of the embedded system.
- **Power efficiency:** maintaining a high computational power grade
- **Ability to implement heterogeneous functionalities:** usually implemented by using different devices.
- **Reduced size:** to fit in an Embedded System, which is the nShield target.

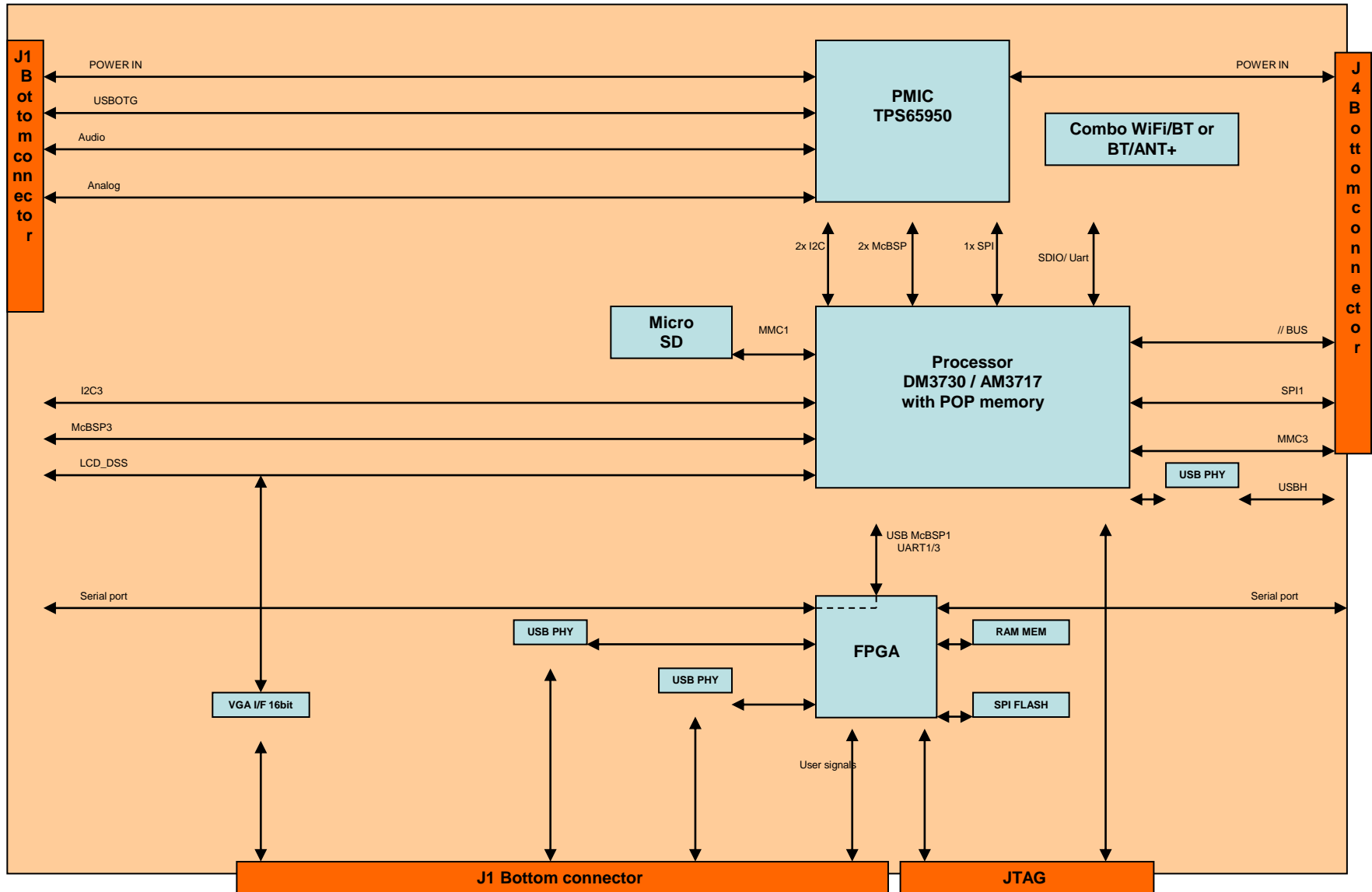
The board **nShield-OMBRA** meets the above listed characteristics.

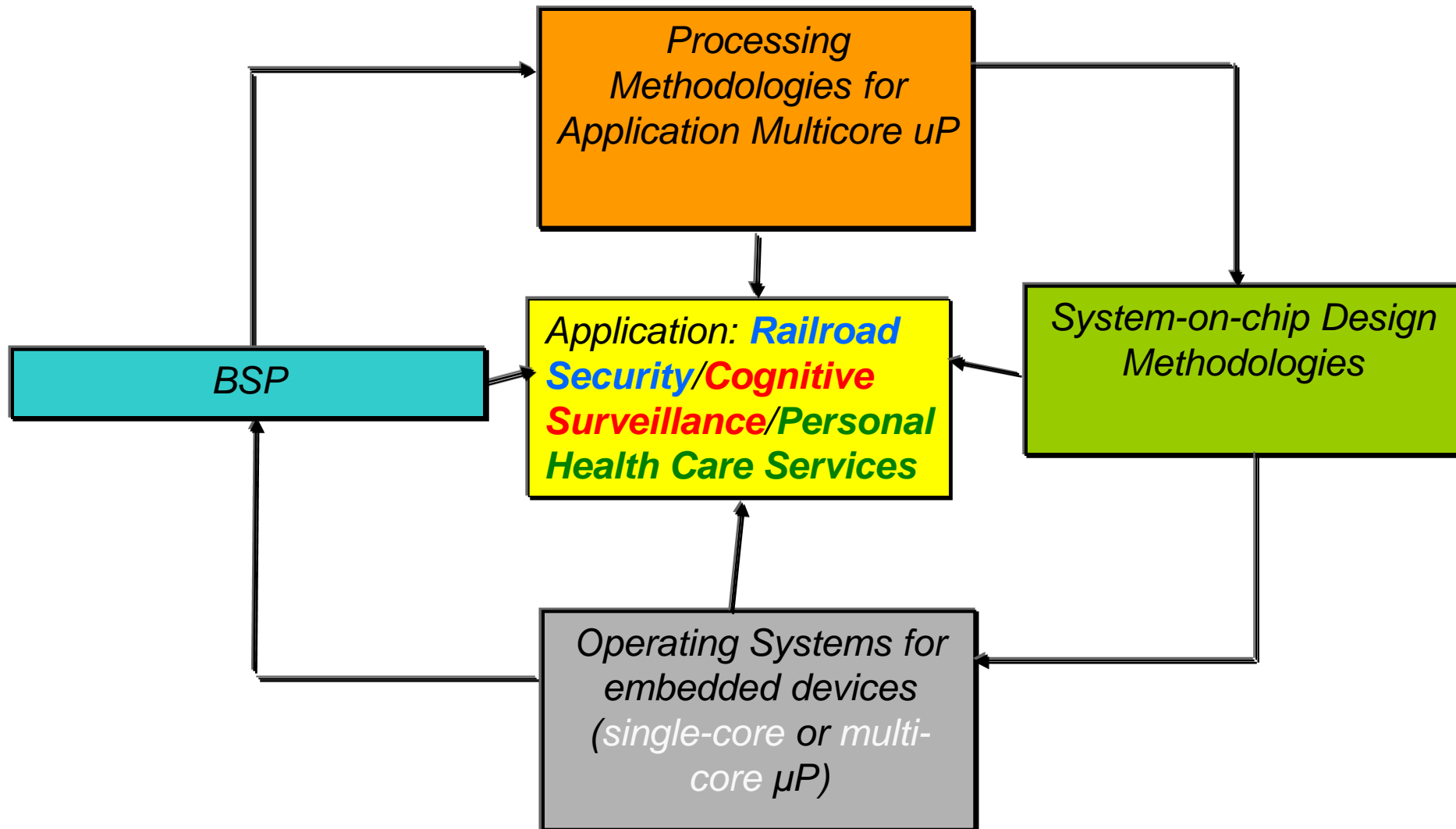
- The board is a very **small factor**, very **low power**, SOM with a **Netbook computational power** to be used as a standard component within Projects where a standard CPU module (Linux or WinCE) is required.
- The board is based on ARM CortexA8@1Ghz with up to 1 Gbyte LPDDR ram, wireless connections and includes a **FPGA** to allow the project to be customized by the user.

WP2 – nShield-OMBRA block diagram



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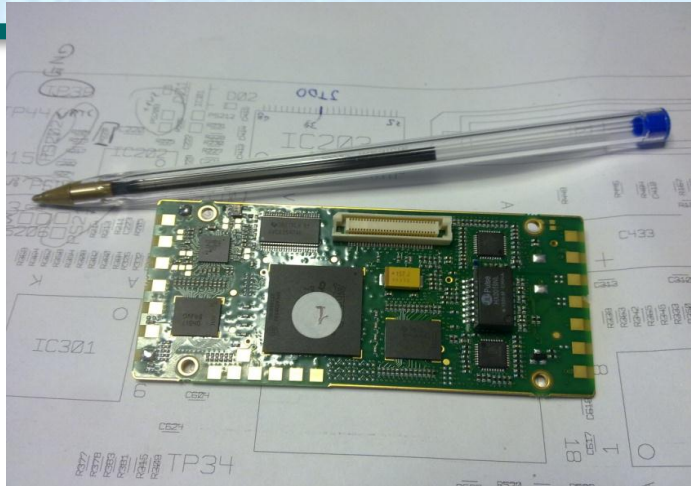




WP2 – ES Computational Hardware

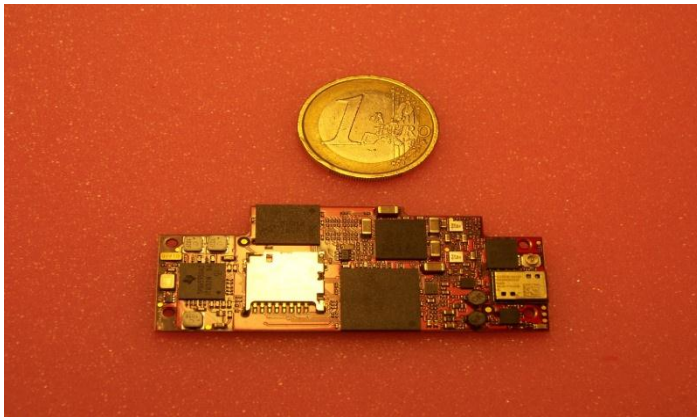


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*Carrier Board OMBRA-nSHIELD
Example (40x80mm)*

*PCB Standard - PXA270 uP
Size (110x130mm)
WCP = ~ 350Euro*



*PCB OMBRA-nSHIELD (18x68 mm)
OMAP uP, Xilinx FPGA
WCP (1K pieces) = ~ 150 Euro
Computational Power 5X*

