IP Re-use - Moving to more scalable, flexible & generic solutions

IP re-use is a powerful way of reducing design time & risks. However in practice, selecting and integrating third party's IP remain a complex challenge. The main concerns are well known and are multiple:

- Functionalities and capabilities are not in line with expectations
- Performances during in-system integration are very unpredictable
- Quality of deliverables & documentation – Support
- Ease-of-Use

How should the next generation of smart IP look like and differ from traditional IP?

- Scalability, flexibility & portability: a big challenge requiring some extra efforts at the beginning of implementation. Thinking ahead – from the definition of the specification to the details of implementation - is of course a key element for IP Definition & Design.
- All-in-One solutions: what are the benefits for the customer?
- More performances & capabilities? How keeping power and silicon footprint as low and small as possible?
- Reducing design time with easy-to-use solutions.
- How to implement algorithms onto hardware? How to get the efficiency of hardware and the flexibility of software with 'Smart Engines'?
- Moving to application-oriented platforms including more functionalities
- Methodology of validation

The aim of this presentation is to give an overview of some key principles, techniques and concepts that can make IP re-use successful. All topics will be illustrated on the base of both AES & PK Crypto Engines developed at B-S.