

Multival: Testing of Complex Architectures

Background

The increasing complexity of multiprocessor systems-on-silicon can be compared to developments in large IT systems (business servers).

More than 70% of design time is spent testing the correct operation of the circuit. The cost of design errors can reach tens of millions of euros.

The testing of systems-on-silicon:

- Must take place at all stages from specifications to silicon using heterogeneous software techniques,
- Requires increasing levels of abstraction and software techniques that are continually in development.

Innovation

Create a system to **model asynchronism**:

- Create behavioral models for the architectures examined (FAME2, FAUST, xStream)
- Use high-level LOTOS-type languages (ISO 8807)

Provide design-assistance tools:

- Model compilers, translators, and generators for functional and quantitative testing, including performance testing from the same model,
- **Standardize tools and methods** to promote sustainable adoption by the industry.

Partners

Corporate

STMicroelectronics - Bull

Research laboratories

CEA Leti - INRIA

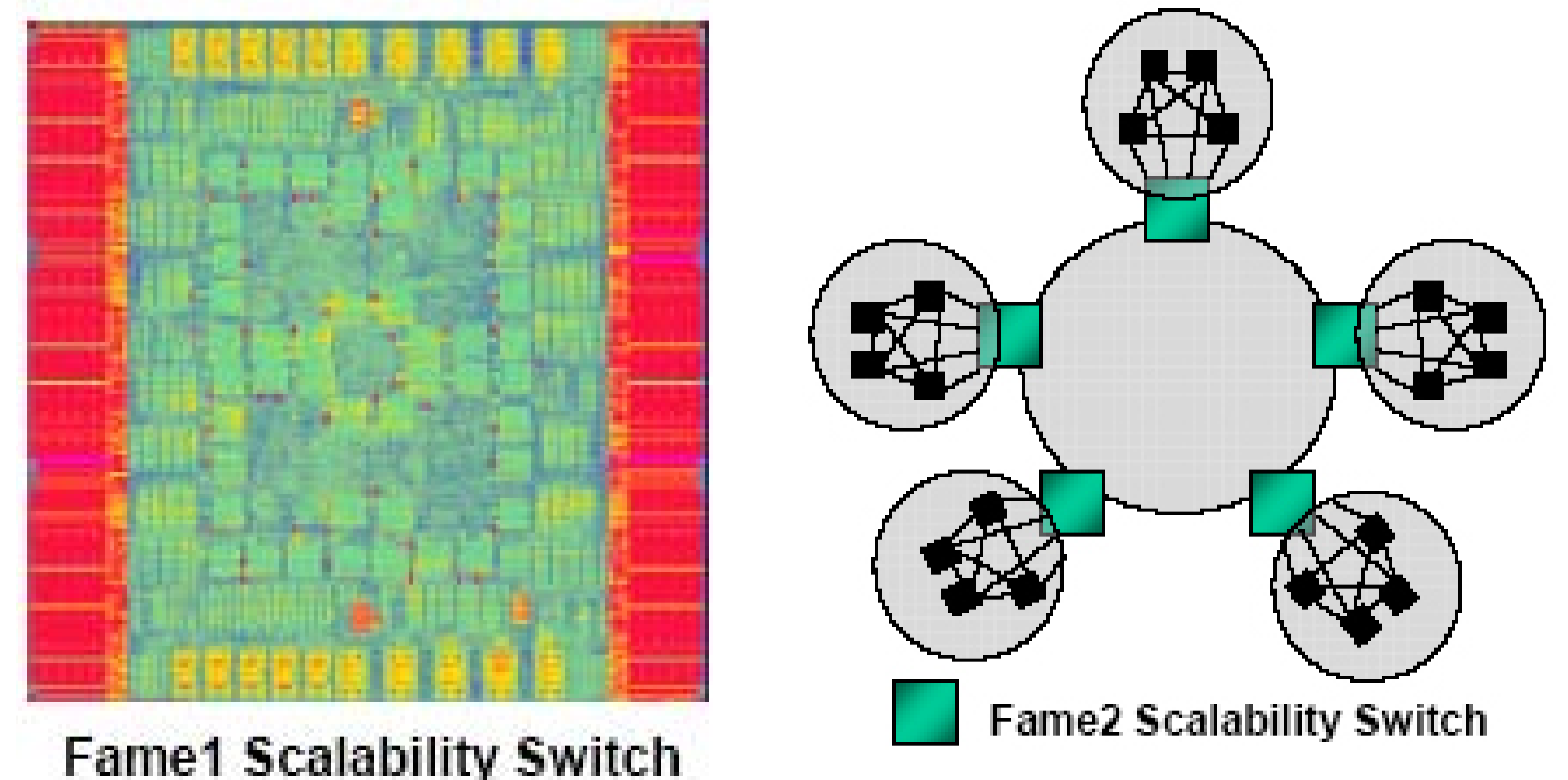
Key figures

Budget: €7.3 million

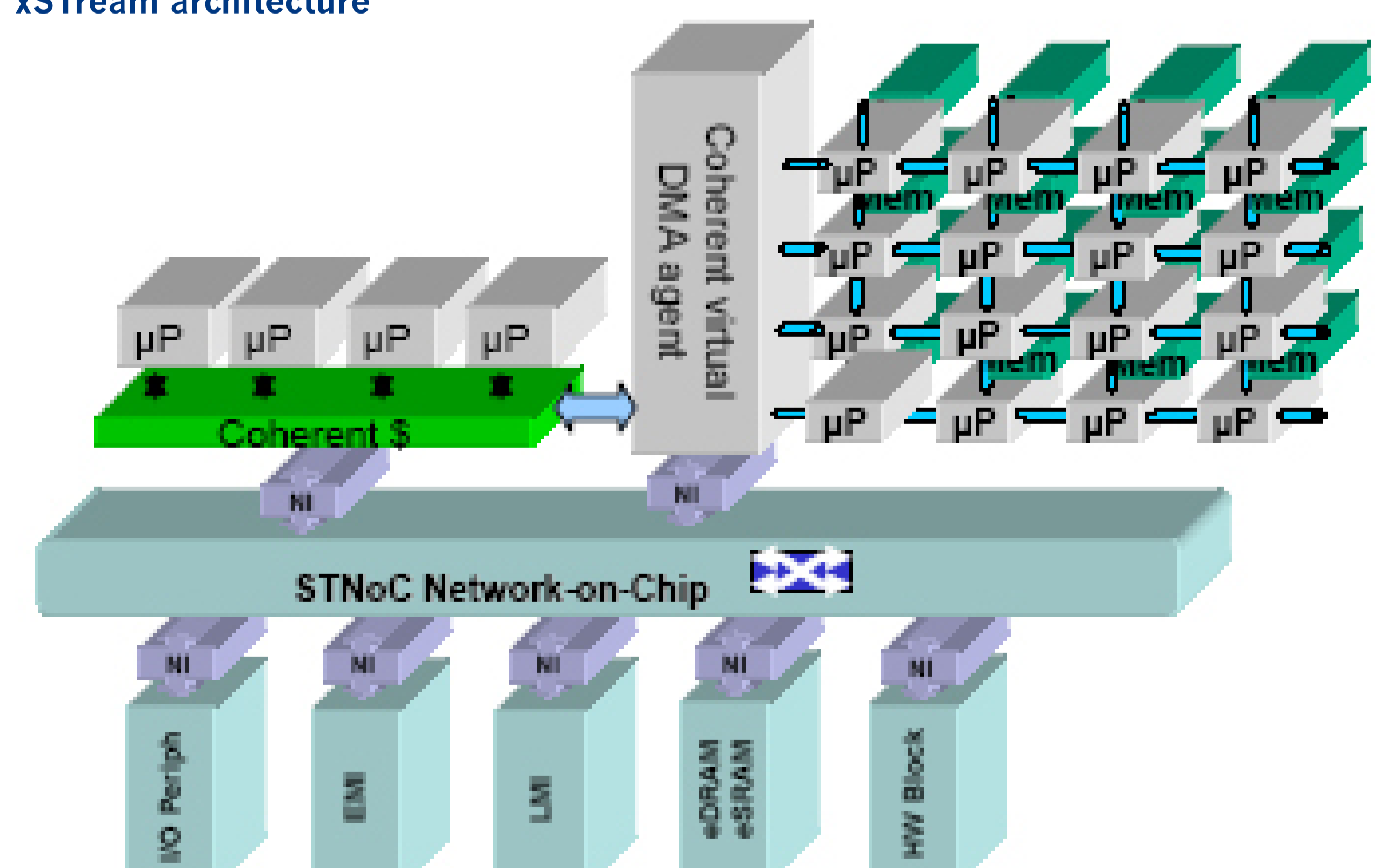
Duration: 3 years

Human resources allocated: 55 people per year

FAME architecture



xStream architecture



FAUST architecture

