Combining distributed computer ('cyber') and physical systems leads to new challenges that are not yet solved, neither by tools nor by methodologies. The methodology handles design issues and provides a (work in progress) tool for the design of cyber physical systems. The tool supports modeling of distributed and heterogeneous systems — in particular at functional level — while offering means for power estimation and for analyzing the impact of non-ideal behavior of micro- or nanoelectronic implementations.

SYCPHOS - Features
Profiling of:
- Power properties
- Accuracy metrics
- Reliability estimation

Design Methodology

CPS Level

- Functional Model
- Refine Accuracy, Robustness
- Refine Reliability
- Refine Power Management
- Refined Functional Model
- HW/SW Co-Design
- Architectural Model (HW+SW)

Embedded System Level

Profiling through simulation:
- Estimate & Analyse Accuracy, Robustness
- Estimate & Analyse Current consumption

Example of a Cyber Physical System

Power Profiling

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