Simulation of discrete event systems

Component
École Nationale Supérieure d'Électrotechnique d'Électronique

In brief

- **Ametys Code:** N9EE18B
- **Open to exchange students:** Yes

Presentation

Objectives

- Master discrete event simulation software (Arena)
- Build simulations of industrial, logistics, or service systems using this software
- Analyze system performance (throughput, wait times, resource utilization, etc.) and propose improvements.
- Validate the simulation model against the actual specifications.
- Write a technical report presenting the results and recommendations.

Description

The increasing complexity of systems sometimes requires the use of simulation as a means of study during the design phase or to evaluate the performance of strategic choices before acting on the actual system. This BE allows students to build a simulation of a system and analyze it to draw reliable and preferably general conclusions. This practical project aims to apply the theoretical concepts covered in the Petri nets and scheduling courses to optimize performance and flow management in an industrial, logistics, or service system.

Pre-requisites

Petri net, discrete event simulation, scheduling