evaluated using industrial use cases taken from the computer vision, satellites, flying property analysis, compilation, security, and task coordination. Results will be energy modeling/transparency, worst-case execution time analysis, non-functional properties of their software at the source code level.

The project brings together leading industrial and academic experts in parallelism, security etc. maintaining the right balance with other important software metrics, including time, energy usage, security, and other important non-functional properties of parallel software to be treated effectively, and as first-class citizens. We will build this into a toolbox for developing highly parallel software for low-energy systems, as required by the internet of things, cyber-physical systems etc. The TeamPlay approach will allow programs to reflect directly on their own time, energy consumption, security, etc., as well as enabling the developer to reason about both the functional and the non-functional properties of their software at the source code level.

Our success will ensure significant progress on a pressing problem of major industrial importance: how to effectively manage energy consumption for parallel systems while maintaining the right balance with other important software metrics, including time, security etc.

The project brings together leading industrial and academic experts in parallelism, energy modeling/transparency, worst-case execution time analysis, non-functional property analysis, compilation, security, and task coordination. Results will be evaluated using industrial use cases taken from the computer vision, satellites, flying.
drones, medical and cyber security domains.

Within TeamPlay, Inria and TAMIS lead and coordinate the whole project, while being also in charge of the research aspects more specifically related to security.

**Mission confiée**

Under supervision of the scientists in charge and of the European TeamPlay project, in the TAMIS team of Inria in Rennes, the postdoctoral researcher shall mainly contribute to the project technical lead and coordination, and to the research work pertaining to the nonfunctional property of security. She/he shall interact with the local senior and junior scientists and engineers working on TeamPlay at Inria, as well as with the other international partners in the project.

**Principales activités**

Main: research and project management for security in TeamPlay, in the TAMIS team:

- Participate to the research on expressing, evaluating and guaranteeing the security and energy non-functional properties in programs
- Participate to the technical lead and coordination of the project by Inria
- Participate to the supervision of junior researchers and engineers at Inria
- Participate to the integration to the project toolchain of the models and tools developed at Inria
- Participate to the publication of Inria results in TeamPlay

Additional: participate to project demonstrations locally and abroad

**Compétences**

Profile sought (expected competences and qualifications)

- PhD or Eng.D. in computer science or software engineering
- Software engineering and/or cybersecurity.
- Formal methods, modeling
- Taste for research
- Dynamism, willingness to take initiative
- Team spirit
- Ability to meet deadlines and have them met
- Good writing skills
- Good level in written and spoken English

**Avantages sociaux**

Work conditions:

- Salary based on experience, full benefits
- Subsidized cafeteria in the premises, subsidized meals outside
- Social committee subsidizing various activities
- Public transportation (subsidized 50%) 400m from the premises
- Large free parking lots around the premises

Work location:
Research Center Inria Rennes - Bretagne Atlantique
Campus universitaire de Beaulieu. Rennes. France