Open
Innovation
Challenges

DO YOU HAVE THE SOLUTION?

Innovation Challenge
Systems engineering of the future

Overview and Challenge
The use of language models built using large datasets and reinforcement learning has recently shown the potential to challenge classical activities applied to various contexts, including systems engineering, and in particular model-based systems engineering.

The aim of this challenge is to use that potential to build automation that evolve towards a "Recommended System". A neural network model trained on a large set of historical data from other systems, that will propose a new system meeting the requirements.
There are still several challenges that can stimulate the state of the art. Challenges such as the datasets themselves, the market need to address the discipline of Systems Engineering in this way and the modeling capacity/cost. This project also aims to contribute scientifically to these challenges.

The system engineering activities that are proposed to be addressed/automated are, for example, the review of technical specifications applied to critical systems, writing requirements, proposing changes to requirements, formulating architectures that meet the requirements, designing components previously specified/designed in various projects, performance analysis, testing and verification, traceability, generation of functional safety documentation, operation/usage manuals, among others.
As we are dealing daily with the digitalization of the critical systems industry, it is essential to investigate and contribute scientifically to the advancement of this approach to systems engineering.

Eligibility

Academic researchers from all disciplines are eligible to participate in this challenge.

Evaluation Criteria

Experience in areas relevant to this topic:
- Projects
- Published papers
- Research groups

A multidisciplinary team that can address:
- Artificial Intelligence / Machine Learning
- Model-based systems engineering
- Critical systems
- Software engineering
- Configuration management and continuous integration

Prize
The winning solution will receive 5 000 euros.

Submission Deadline
The submission deadline is 19th March.

If you're interested in participating in this challenge submit your proposal to ANI. We look forward to collaborating with you!