



Roma Tre

DIPARTIMENTO DI
INGEGNERIA INDUSTRIALE,
ELETTRONICA E MECCANICA



Seminario

Smart Machines: Future of Systems Engineering/Science

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Date: 06/october/2026

Time: 10.00-12.00

Venue: Aula multimediale DIEM

Abstract

Systems Engineering and modelling as concept is already old, but still seldom used. Latest boost in the field has been the needs of the militaries around the world. Needs and the resources and tools do not however often meet. Also, as a science it has stalled for quite long. In a world with increasingly complicated machines, customer needs and regulations, the need for system thinking is more important than ever. Systems thinking and modelling has also needs in many other areas from healthcare to security and intelligence purposes, a never-ending list.

About the Speaker

Jani Heikkinen is University Lecturer in Mechanical Engineering at the University of Turku, Finland. His research focuses on systems engineering, modelling and simulation, large-scale digital twins and human–system integration. His areas of expertise also include robotics, mechatronics, haptics, automation, and electric and hybrid power transmissions.

His research background includes systems science, engineering and modelling, digital twins, hydraulics, mechatronics, robotics, haptics and human machine interfaces

Before entering academia, he worked in industry and business, contributing to many technological development projects. At the University of Turku, he teaches Master's-level courses in Robotics, Smart Systems Modelling, Smart Systems Engineering and Hands-on Smart Systems.