



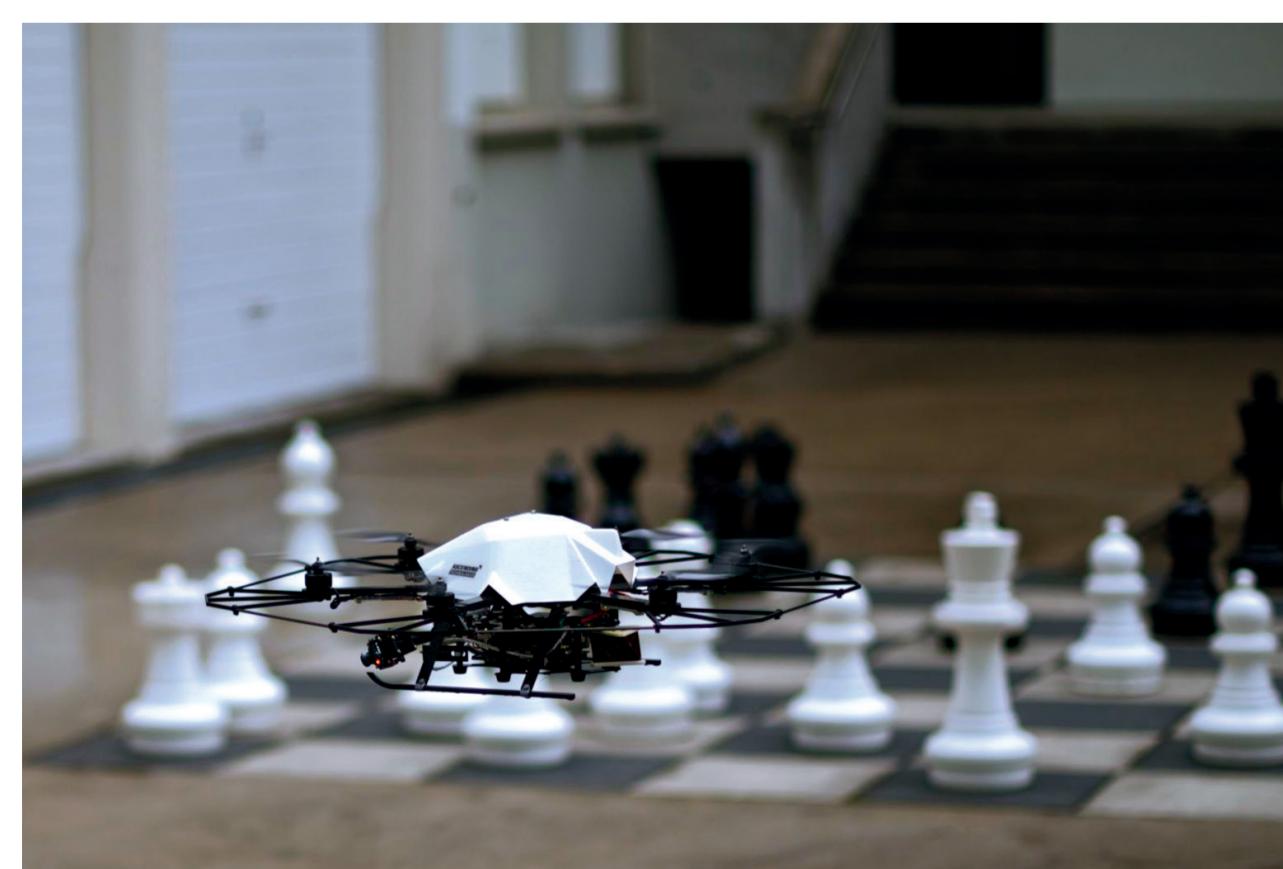
AEROWORKS

Collaborative Aerial Robotic Workers

PROJECT AIM

AEROWORKS envisions a novel aerial robotic team that possesses the capability to autonomously conduct infrastructure inspection and maintenance tasks, while additionally providing intuitive and user-friendly interfaces to human-operators.

The AEROWORKS robotic team will consist of multiple heterogeneous “collaborative Aerial Robotic Workers”, a new class of Unmanned Aerial Vehicles equipped with dexterous manipulators, novel physical interaction and co-manipulation control strategies, perception systems, and planning intelligence. This new generation of worker-robots will be capable of autonomously executing infrastructure inspection and maintenance works. The AEROWORKS multi-robot team will operate in a decentralized fashion, and will be characterized by unprecedented levels of reconfigurability, mission dependability, mapping fidelity, and manipulation dexterity, integrated in robust and reliable systems that are rapidly deployable and ready-to-use as an integral part of infrastructure service operations.



Impact of AEROWORKS

- Increased Infrastructure Services Personnel Safety
- Improved and Repeatable Quality of Services
- Increased Environmental Protection
- Economic Impact in the Infrastructure Services Market
- Strengthened European Robotics Sector
- Increased and high-tech Job creation in Europe
- Sustainable Research and Innovation Collaboration



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PROJECT Details

AEROWORKS started	February 2015
AEROWORKS duration	36 months
Consortium	10 partners
AEROWORKS Coordinator:	Prof. George Nikolakopoulos
Department of Computer Science, Electrical and Space Engineering,	Luleå University of Technology, Luleå, Sweden, SE-97187
Telephone:	+46727100688, email: geonik@ltu.se
WEBSITE	www.aeroworks2020.eu

AEROWORKS

Research and Innovation Objectives

- Dexterous Aerial Manipulator Design and Development
- Collaborative Perception, Mapping and Vision for Manipulation
- Aerial Robotic Workers Development and Control
- Collaborative Autonomous Structural Inspection and Maintenance
- Deployment of Autonomous Aerial Robotic Infrastructure Solutions
- Aerial Robotic Autonomous Infrastructure Maintenance
- Innovation and Commercialization of the AEROWORKS solutions
- Robots for Growth



AEROWORKS Technical System Abilities

- Adaptability and Configurability
- Human to Robot Interaction
- Motion and Manipulation Capability
- Environment Perception Ability
- Tracking Ability
- Decisional Autonomy
- Object Interaction