

ICRA'04 TUTORIAL (HALF-DAY)

UAVs: Enabling Technologies & roadmap for Autonomy

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Motivation and Objectives

The tutorial will offer a technical Unmanned Aerial Vehicle (UAV) specialist's forum for academia, industry and government. It will present advances in research and development, emerging and cutting edge technologies. It will also discuss set roadmap goals for the future and evaluate technology assessment. It will define requirements for multiple and coordinated UAV missions.

A central objective will be to promote contact between government agencies, industry and the academic community and to stimulate collaboration in projects of common interest, bringing together the international Unmanned Aerial Vehicles / Unmanned Target Vehicles community.

List of topics to be covered

Tutorial special features include:

- UAV challenges and state-of-the-art
- Roadmap for the next twenty years
 - Sensor technologies
 - Control technologies
 - Communication technologies
 - Open Control platform architecture
 - Coordinated Control of Multiple UAVs
 - System compatibility and interoperability
- Autonomous Navigation
- Airworthiness
- Flight demonstrations

Although a general overview and perspective related to each topic will be provided, in depth presentations will cover selected areas from those listed, according to the participants' background.

Primary and secondary audience

Engineers, scientists, researchers and managers from government, academia, and industry; military representatives; civilian and military certification representatives; audience interested in learning and understanding UAV systems, new and related technologies, near future trends and expectations, open research and development issues, capabilities and solutions to specific application domains.

Tutorial Benefits

Attendees will be able to acquire / enhance their knowledge and understanding in UAV cutting edge, emerging technologies, as well as UAV capability-enhancing technologies, design requirements, performance evaluation and functionality under extreme conditions.

Material

A CD-ROM with all information, paper reprints and bibliography will be distributed.