



# University of Patras

## Mechanical Engineering and Aeronautics Department

### Robotics Group

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- **Professor Nikos A. Aspragathos** leads the Robotics Group consisting of one Post-Doc Researcher and 9 PhD students.
- **Current research areas:**
  - Control of robots and mechatronic systems
  - Design of mechatronic systems and products using artificial intelligence
  - Motion planning and robot control based on Artificial Intelligence, using Genetic Algorithms, Neural Networks, Agent Theory and Computational Geometry
  - Modeling and investigation of the dynamic behavior of electromechanical systems
- **The robotics group has been involved in the following EC funded projects:**
  - I\*PROMS NoE (Innovative Production Machines and Systems).
  - 4M NoE (Multi – Material – Micro – Manufacturing).
  - EAPSTRA (EurAsian Network for Product Lifecycle Support & Training).
  - APoST (Advanced Product and Support Technologies).
  - HOMER (Handling of Non – Rigid Materials with Robots).
  - ROBAS (Robotic Assembly).
  - EURON (European Robotics Research Network) (non-funded)

# Hazard Monitoring in Oil Refineries and Natural Gas Stations using teams of mobile robots

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## ○ Current situation

- Hazards are related to dangerous gases and explosive atmosphere
- Stationary sensors grids are used for monitoring
- Sensors are spread all over the complex in particular interest areas
- These sensors suffer from their dependency from weather conditions

## ○ Objectives

- Use teams of mobile robots to perform monitoring at ground level
- Increase monitoring abilities by teaming the mobile robots
- Provide additional important services in cases of emergency

## Hazard Monitoring in Oil Refineries and Natural Gas Stations using teams of mobile robots (Cont.)

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- This project idea is relevant to the FP7 ICT and more specifically the ICT 2007-2.1 topic as an IP Project
- Proposed budget: 5-5.5 M€
- Duration: 40 Months
- Number of Partners: 10-12

# Hazard Monitoring in Oil Refineries and Natural Gas Stations using teams of mobile robots (Cont.)

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- Additional expertise needed:

- Oil Industries
- Sensoring
- Communications
- Informatics
- Chemical Engineering
- Robot manufacturers

- Contact:

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