



جامعة الملك فهد للبترول والمعادن
King Fahd University of Petroleum & Minerals



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IRC for Intelligent Manufacturing and Robotics

MOTIVATION

- Need to improve productivity and quality of the production for high-tech requirements
- Collaborative robotics with cutting edge technology are becoming essential in industrial production and other applications

TARGET SECTORS

- Primary sector of economy (e.g., industry with production)
- Manufacturing and production
- Defense and military

OVERALL AIM

- Develop strong competence of KFUPM Intelligent Manufacturing and Robotics/Automation in joint research programs with industry and outreach to educational platform

FOCUS AREAS

- Cyber Physical Production Systems- Industry 4.0 Manufacturing pre-requisites
- Digital Twin Manufacturing
- Cloud & Intelligent Manufacturing
- Manufacturing Processes, Production
- Performance and ROI
- Intelligent Additive Manufacturing
- Smart devices and IoT for manufacturing support
- Mechatronics and control system for intelligent automation
- Cobots and Mission drones supporting manufacturing

CHALLENGES

- System integration of new technology equipment in the current configuration.
- Self-configuration and optimization of manufacturing systems
- Near zero production defect and waste.
- Safety in human-robot collaboration
- ROI in new technology

DEPARTMENTS INVOLVED

CHEM ME SE PHYS ISOM MATH COE AE EE

