

RPDC Robotics (Kingdom of Saudi Arabia, Riyadh)



Development point

Our system solution is based on “build-simulate-test-build” spiral development effort designed to increase functionalities and maturity of the Robot and AI system. The software modules are divided into nine distinct modules: 1) Sensor Processing, 2) Perception module, 3) World Model, 4) High Level Planner, 5) Motion Planning, 6) Control Input, 7) Human User Interface, 8) grasping, manipulation, insertion and 9) Machine learning. Each of these modules encompasses several distinct, significant development efforts,



Who will Benefit

KSA Vision 2030 is an ambitious effort to transform the kingdom and its economy. A vibrant, comparative, sustainable, and export-oriented manufacturing sector is critical to the realization of vision 2030. Manufacturing operations are increasingly becoming lean with just-in-time supply-chain and logistics operations in order to keep them economically feasible.

Our motivation for participating in the WRC competition is to build capabilities ready to capitalize on the fourth industrial revolution through a specialized cognitive robotic center where humans and machines harmonize to create a new future by creating a key transformative technology that can revolutionize manufacturing. Allow factories to employ human-robot teams that leverage each other’s skills and strengths (e.g., human intelligence and dexterity with robot precision, strength, and repeatability), reduce manufacturing lead time for finished goods, allowing systems to be more responsive to changes in retail demand.

| Role | Name | Affiliation/Title | Specialty, Field of study |
|---|----------------------|---|--|
| Team leader, Software architecture, Algorithm Development | Nahid sidki | RPD Innovations, Chief Technology Officer | Robotic Solution Architect, PhD Mechanical Engineering/Intelligent Control |
| Software development, Integration, testing | Hussam Alzahrani | RPD Innovations, Embedded Firmware Engineer | Embedded software, Electronics and Computer Engineering |
| Hardware integration, testing | Meshal Alharbi | RPD Innovations Intern, | Hardware design, Computer Engineering |
| Software development, testing | Shahad Mohammad | RPD Innovations Intern, | Computer vision, Computer Science |
| Consultant | Henrik I Christensen | UCSD, Director, Contextual Robotics Institute, Distinguished Professor of Computer Science and Engineering_ | Robotic and AI, Ph.D. EE |

