

Intelligent Automation - Smart Manufacturing

Raphael GRECH

Manufacturing Technology Centre, U.K

One of the main challenges with existing manufacturing processes is that they are designed for high volume streamlined products. Existing processes and machinery are unsuitable for handling small batches or bespoke designs due to the time and effort required in tool changeover, complexity in parts handling, logistics flow and the amount of human interaction required.

This tutorial will look at how intelligent and adaptable automation systems can be developed for advanced manufacturing processes requiring human robot interaction within a safe dynamic environment and how they can be integrated and run alongside existing work practices.

We will look at current and coming technologies on human robot interaction, existing safety standards and where we need to be in order to have a safe and practical human robot collaboration. Advanced robotic manipulators and intelligent sensing technologies would provide increased flexibility to a manufacturing systems, giving them the ability to think and act autonomously in a safe manner.