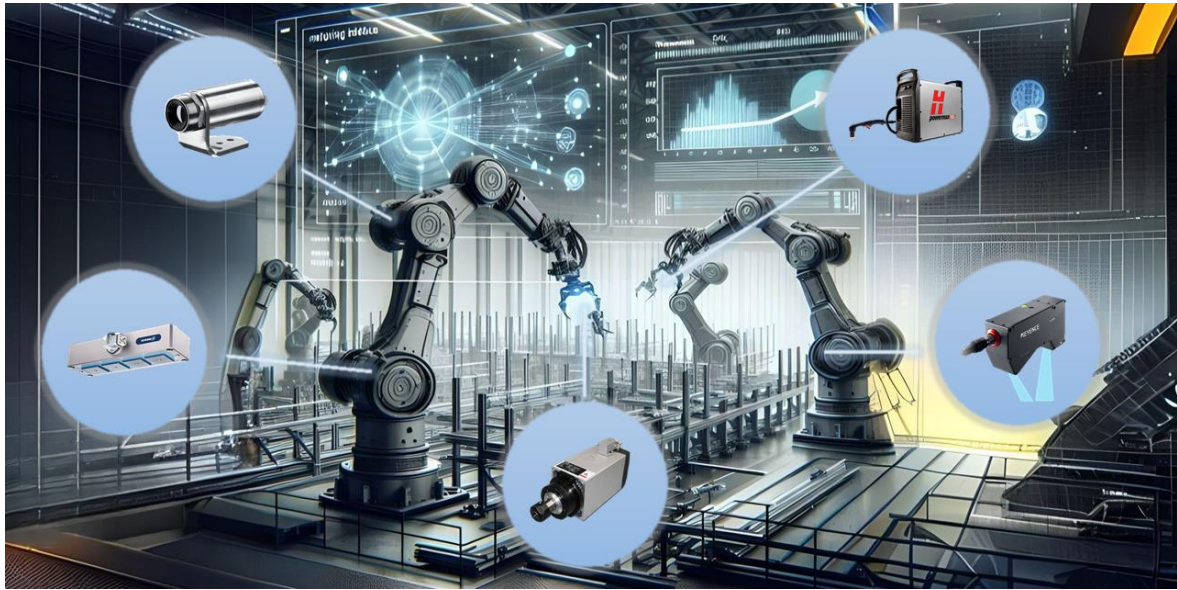


# The Connected Realm: Unleashing IoT Potential in Robotics and Automation



Machine to machine communication can be challenging to integrate into robotic automation, often necessitating direct wiring of auxiliary devices through the Programmable Logic Controller (PLC) of the robot. New approaches to device integration leverage networked communication to integrate machines into automated processes.



## Certification Course for:

Experts and executives from the areas of construction automation and solution development as well as scientists, who deal with M2M orchestration and communication framework adaptation.

## Timeframe:

10:00 a.m. – 16:00 p.m.

## Language:

English

## Course Instructor:

Ethan Kerber

## Participation Fee:

Early Bird Price – 380 €\* (until 16.08.2024)  
Regular Price – 450 €\*

**Application Deadline:** 09.09.2024

\*+VAT

## Content:

This course provides a comprehensive introduction to Internet of Things (IoT) enabled devices for construction automation. The course focuses on practical applications, demonstrating how to integrate industrial assets into network-based communication protocols. The aim is to facilitate easier integration of devices into automation processes. Learn methods for IoT enabling devices which connect to the prc.IoT protocol, a distributed communication process for adding IoT devices to robotic construction. Whether you're adding a gripper to a robot, actuating a linear axis, triggering limit switches, or exploring sensor integration, this workshop provides insight into data structures for distributed communication. Join us as we learn to IoT enable existing manufacturing assets into new forms of networked automation processes.

## Main topics:

- Introduction to Internet of Things
- MQTT Communication
- JSON Structure for networking devices
- Assembly and Hands-On Testing of the Devices

## Objective:

The goal of the course is to grasp the fundamentals of device communication, understand the MQTT publish-subscribe model, JSON structured messages, and learn how to embed programs on microcontrollers.

## Prerequisites:

- Basic python knowledge or Arduino knowledge is beneficial but not required
- Python and Arduino IDE to be installed in personal computer prior to workshop