New Approaches for Last Mile Delivery Management

Abstract

Last-mile delivery has long been a significant challenge in urban logistics, being the last leg of the

package's journey from the distribution center to the final addressee. Issues related to the increasing environmental impact, inefficiency of traditional delivery methods, and traffic congestion have highlighted the urgent need for more efficient and sustainable solutions.

This talk presents some recent strategies to solve the last-mile delivery problem based on Digital Twin tools and autonomous robots. An optimization layer determines the optimal routes of the robots, and a simulation model deals in real time with system unpredictable events, such as road traffic and accidents. Some case studies are presented for validating the proposed approaches.