

Call for Papers – Special Session (use code: **b5q8p**) “Drones and autonomous vehicles in logistics”

Session organizers

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Aim and scope

Online sales were expected to become 21 percent of global retail sales by 2023, while last-mile delivery accounts for nearly 60 percent of the total transportation costs. At the same time, the adverse impacts of delivery trucks on the environment, through the use of fossil fuels and generation of emissions is well known and has increased with this increase in deliveries. This has motivated logistics operators, along with online-retailers, to seek improved methods for the last-mile, such as autonomous ground vehicles, semi-autonomous ground vehicles, droids, drones, as well as couriers on foot, bicycle, or e-bike. Drones have ignited much recent attention. Companies such as Amazon, DHL, and Alibaba have conducted research into the potential use of drones, ground robots, and bike couriers for last mile delivery. Though these are currently in the development phase, there are high expectations that drones and other non-traditional vehicles will enhance last-mile delivery, as well as other parts of the supply chain, including intralogistics.

This **special session** invites submissions of either **regular papers** or **extended abstracts**. In keeping with the general theme of “Research and Innovation on Manufacturing and Logistics for a better world”, we seek to have broad participation and hence welcome submissions from academics, industry practitioners, government agencies, NGOs, and other researchers in the field, interdisciplinary teams are also encouraged to submit. This session invites submissions that explore the role that drones, autonomous vehicles, or non-traditional vehicles (such as bicycles) can play in the supply chain, including novel supply chain designs, algorithms for decision making in planning and control, decision-support systems, as well as feasibility studies, or user-centric analyses. Submissions may include surveys of users or providers, qualitative or quantitative studies, mathematical models, simulations, field studies, concept papers, case studies, and more.

Topics of interest

Topics may include, but are not limited to:

- Novel concepts for implementing drones and non/traditional vehicles in the supply chain
- Coordinated multi-vehicle routing for last mile delivery
- Vehicle re-supply, lockers, rolling depot, and other techniques for same-day-delivery with drones and other autonomous or non-traditional vehicles
- Crowdsourcing drone or other non-traditional vehicles services
- Designing infrastructure (charging stations, depots, launch/recovery locations) for drone logistics
- Drones and autonomous vehicles in humanitarian logistics
- Drones and autonomous vehicles for healthcare applications
- Novel applications of drones and autonomous vehicles in warehousing and intralogistics
- Real-world challenges of drones: regulation, weather, safety, etc.
- AI and/or machine learning techniques applied to drone logistics

Submission guidelines

This **special session** accepts either:

- **Regular papers:** original research, up to 6 pages in IFAC format, published online in conference proceedings with DOI, eligible for post/conference publication in special issues of IFAC journals.
- **Extended abstracts:** may include concepts, discussions, etc. Will **not** be published in full online.
- **Deadlines:** **Paper/extended abstract submission: 30 November 2024**
 Notification to authors: 30 January 2025
 Camera-ready paper submission: 28 February 2025
- **Submission website:** <https://ifac.papercept.net/> (scroll down to MIM 2025 and use code **b5q8p**)