MCube | Consulting

# IDP: Data-Driven Process Digitalization for Urban Event Management

## About MCube Consulting

MCube Consulting is part of the *MCube Network – Munich Cluster for the Future of Mobility in Metropolitan Regions*. We bring mobility innovations from cutting-edge research into practice by supporting public institutions and industry partners with scientifically grounded consulting and digital product development. Our goal is to help cities, municipalities, and companies implement forward-looking mobility solutions quickly and effectively. We draw on the expertise and network of the entire MCube Cluster and collaborate closely with our partners to make innovation tangible.

## Background

Cities face growing challenges in managing large-scale public events — from application and approval to coordination and safety assessment. Many of these processes remain **manual, fragmented, and paper-based**, creating inefficiencies for both applicants and administration. In collaboration with partners from research and the public sector, **MCube Consulting** is developing a **data-driven, digital event management prototype** that integrates geospatial data, automation, and interactive user interfaces to simplify coordination, improve transparency, and reduce administrative effort. This IDP gives students the opportunity to contribute directly to the **design, development, and evaluation** of such digital public-service tools within a real-world innovation context.

## Task

The project combines software development, data analysis, and process research and contributes to ongoing innovation efforts in the field of digital administration and smart cities. Students will work as part of an interdisciplinary team to:

- Develop and test prototype components for a digital event application process (e.g., backend workflows, web forms, or map-based visualizations).
- Explore geodata integration and analysis to support event feasibility and safety checks.
- Design or extend interactive front-end modules for applicants and administrative staff.
- Evaluate process logic, usability, and data flows using realistic datasets.
- Optionally contribute to (AI-based) validation, e.g., identifying similar historical events or assessing spatial impacts.

## Requirements

Students from Computer Science, Data Engineering, Geoinformatics, or related fields – other fields of study with relevant programming experience are also welcome

- Solid programming skills (preferably Python, JavaScript/TypeScript, or similar).
- Familiarity with data analytics, web development frameworks, or GIS tools (e.g., Plotly, Dash, Streamlit, PostgreSQL/PostGIS).
- Interest to get acquainted with new frameworks etc.
- Interest in digital twins, process automation, or civic tech.
- Ability to work independently and in an interdisciplinary setting.

## Supervision

The project will be supervised by **MCube Consulting** in collaboration with academic partners from the **Technical University of Munich (TUM)**. Students will gain access to **real-world data, technical infrastructure**, and **expert mentoring** from both research and industry contexts.

## Contact

Send your **motivation statement** and **CV or transcript** to

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