Digital technologies and new business models for sustainable mobility

The achievement of sustainable mobility is increasingly a key priority for local, national, and international institutions. Private and public initiatives to push towards a more sustainable mobility abound. Within this context, air mobility has not only great potential to grow and develop but represents a concrete alternative for the mobility of goods and people, particularly in congested geographies.

The issue is even more relevant if considering that commercial aviation alone is responsible for 2.5% of global emissions of CO_2. Recent technological developments have paved the way for the introduction of more fuel efficient aircrafts, and renewable technologies such as sustainable biofuels are contributing to the reduction of the amount of greenhouse gas the aviation sector adds to the environment. Delta Airlines, for example, has committed 1 billion dollars for the next years to sustainability-related programs. These technologies, however, require heavy investments and often present difficulties that make their adoption slower such as in the case of electric-powered aircrafts. Moreover, as air travel is expected to reach 8.2 billion passengers by 2037, the industry needs to rely on smarter and more financially viable solutions are needed.

In this scenario, software (e.g., artificial intelligence - AI and machine learning - ML) but also hardware (e.g., drones, electric aircrafts) innovations, can lead to a more efficient and more sustainable air mobility. Beyond efficiency gains, new technology applications for air mobility can also help reduce the environmental footprint. For example, by using en route information on weather conditions and air traffic, AI applications can optimize the flight path therefore reducing fuel consumption and flight time.

The activities to be carried will require an overview and mapping of AI-based applications and ventures in the broader mobility domain, with a particular focus on urban air mobility (UAM). This step will also allow to better define and represent the air mobility business ecosystem, and its actors, as well as to identify key existing partnerships between air mobility players such as airports and manufacturers, and AI startups. This information will be then coupled with an overview of key trends and an assessment of the current market for new technologies (including AI) in air mobility. To achieve this goal, the acquisition of and/or subscription to technology-related data sources (e.g., CB Insights) and industry sources (e.g., Cirium, OAG) will be considered. As a final step, an analysis will be performed to identify viable models for the successful implementation of digital applications in air mobility.

The working language will be English but an advanced understanding of the Italian language is highly desirable as the fellow is expected to conduct interviews with local stakeholders. The ideal candidate will have the following characteristics:

- Passion for and/or previous working or research experience in the mobility space [desirable]
- Background in the broader management field (including entrepreneurship, innovation, organization, or strategy), sociology and related fields [required]
- Proven ability to conduct and analyze archival and primary data [required]
- Working knowledge of the Italian language (minimum C1 level according to the CEFR scale) and good knowledge of English (minimum B2 level and above according to the CEFR scale) [required]
- Being comfortable with working independently and with traveling for work-related matters (e.g., interviews, dissemination activities) [required]