THE PROBLEM ADRESSED

GSM geospatial data has proven its economic value. Few mobile service providers offer data based on mobile connections. Mainly because they lack the expertise to curate such data.

MDA is a spatio-temporal data aggregator built with mobile operators to collect and process cellular connectivity information. The goal is to provide customers with a new travel **flow analysis** tool based on **massive data.**

TECHNOLOGY

To respect GDPR, MDA only provides users with statistical aggregate of anonymized data, tailored to answer their needs. This frees them from the risks associated with handling raw data.

The prototype provides geospatial/mobility metrics aggregated at scale through a REST-like API:

1. Mobility indexes/metrics
2. Origin-destination matrices
3. Population density dynamics
4. Characterization of land use
5. Activity Index

Primary data sources
- Cell phone metadata (from providers)
- Wi-Fi hotspot connections
- Cellular localization

COMPETITIVE ADVANTAGES

- The tool is accessible to non-specialists and provides easy to understand data visualization.

- The solution is GDPR compliant. Its approach is scalable across Europe.

- Cellular data cover almost all ages and geographical regions, unlike traditional applications-collected data. MDA enable to escape the technical biases imposed by traditional approaches (declarative information, surveys...).

APPLICATION

Mobility information apply to:
- Transports regulation
- Urban mobility
- Retail
- Pandemic forecasting

DEVELOPMENT STATUS

TRL6: the team has already provided service to industrial partners.

INTELLECTUAL PROPERTY

- EP3471449, 2019
- FR3046006, 2015

INVENTORS & CONTACTS

- Vincent Gauthier, Associate professor
  vincent.gauthier@telecom-sudparis.eu

- TTO: paul_rolland@telecom-sudparis.eu

PUBLICATIONS

- D. Bachir, G. Khodabandelou, V. Gauthier, M. E. Yacoubi, J. Puchinger, Inferring *Dynamic Origin-Destination Flows by Transport Mode using Mobile Phone Data*, Transportation Research Part C, 2019.

- G. Khodabandelou, V. Gauthier, M. Fiore, M. A. E. Yacoubi, *Estimation of Static and Dynamic Urban Populations with Mobile Network Metadata*, IEEE Transactions on Mobile Computing, vol. 18 (9), pp. 2034-2047, 2018.

LOOKING FOR

Use cases to strengthen the business model before a start-up creation