

Press Release

Versailles, April 15, 2019

Understanding human mobility through artificial intelligence: **Entropy, a premier start-up resulting from the VEDECOM Institute's work on the analysis of mobility managers' needs**

What are the movement patterns? Which modes of transport are used? Which routes? Entropy, the new start-up stemming from the VEDECOM Institute's research work, offers communities as well as individual actors a tool for understanding, measuring, and analysing all mobility requirements within a given territory. By means of an artificial intelligence which models flows, Entropy makes it possible to acquire detailed knowledge of a territory's mobility in order to make decisions on and evaluate the necessary facilities or services, bypassing field surveys. The start-up has set an ambitious objective: to establish itself by 2022 as the leader in demand estimation for mobility managers in France.

Visualising overall mobility flows

GPS data from cars, demographics, transport networks... Data sources are becoming increasingly wide-ranging and diversified. To take advantage of their complementary nature, Entropy provides predictive multi-source software that allows transport operators and communities to identify the relationships that exist between a given territory and the individuals who travel around it. A display interface enables the observation of all journeys made within a territory during a standard 24-hour day on an interactive map.

Results in 30-minute increments represent the patterns, the modal share (cars, public transport, two-wheeled motor vehicles and active modes), as well as individuals' age and socio-occupational category.

From principle to practice: a successful gamble

The use of artificial intelligence has many advantages, addressing a real need. Entropy offers a means of measuring mobility that is accessible and adaptable to any territory, urban and rural, providing 100% coverage in France. As accurate as face-to-face field surveys, it is a reactive, time-saving tool, with results available in 2 to 3 months. It aligns with the economic and budgetary constraints of communities as well as transport operators.

Arising from the VEDECOM Institute's research work, Entropy is the product of a cross-functional team with a comprehensive skillset: artificial intelligence, mathematics, statistics, information technology, cartography, human mobility and design. The shareholders are the employees themselves and VEDECOM provides for equity ownership. Whilst the objective is to establish itself by 2022 as the leader in the study of mobility demand for transport operators in France, the founders are working on the replicability of the model in Europe as well.

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“We’re very proud to see that our four years of research within the VEDECOM Institute have given rise to a start-up that provides transport operators with concrete solutions. Our aim is to offer an intuitive tool that allows all operators in any territory to develop a sophisticated understanding of mobility,” explains Sami Kraïem, one of Entropy’s five founders.

Philippe Watteau, VEDECOM’s Managing Director, commended the team: *“Our researchers have developed an unprecedented tool to analyse and visualise day-to-day movement. It allows users to be as close as possible to the realities of mobility to provide a new service offering. By placing AI at the service of territories and the citizen, Entropy is a start-up with a bright future ahead! The VEDECOM Institute is delighted to be able to support this wonderful venture.”*

About VEDECOM

VEDECOM is an institute for energy transition (ITE) founded on unique cooperation between firms in the automotive and aviation sectors, mobility ecosystem infrastructure and service operators, academic research bodies and Ile-de-France local authorities. The role of VEDECOM is to forge closer ties between academia and industry. The institute helps them to achieve a high standard of innovation in the area of mobility and, in particular, in electric vehicles, autonomous and connected vehicles and shared energy and mobility infrastructure and services. VEDECOM is a part of the French government’s PIA future investment plan. Its founding members are Cetim, ESIGELEC, ESTACA, IFPEN, IFSTTAR, PSA Group, Renault Group, Safran, UVSQ and Valeo.

Key figures in 2019 : over 50 members, 3 research areas and 1 training program, 200 employees, 14 R&D projects, 12 European projects, over 300 publications, 37 patents, 24 copyrighted projects, 70 thesis, 1 business subsidiary, VEDECOM Tech, created in February 2017.

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