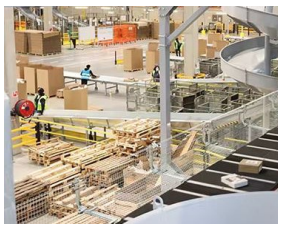
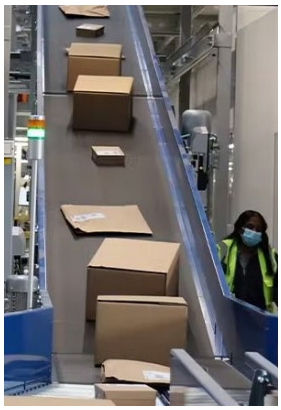
# LA POSTE

## MAIL AND PARCEL TRAFFIC FORECASTS FOR THE SHORT, MEDIUM, AND LONG TERM





### Objective :

EURODECISION assisted La Poste in developing and implementing a custom tool for forecasting mail and parcel traffic for each Group facility in the short, medium, and long term.

### Solutions :

- Business analysis support (AMO) for algorithm development and UI/UX of the forecasting tool
- Critical review of existing forecasting methods
- Design and development of forecasting algorithms in a Big Data environment, prior to industrialization by the IT department
- Agile project management approach

### Results :

- Deployment of algorithms in the daily forecasting tool
- Compliance with tight deadlines
- Forecasts deemed relevant by operational management teams

***« EURODECISION successfully rose to the challenge of adapting to a high-pressure project with tight deadlines in a complex internal environment. Their experts quickly integrated into our team, and our relationship of trust grew stronger over time. We faced significant changes in direction and had doubts about their feasibility, but EURODECISION helped us take a pragmatic approach. In hindsight, we made the right decisions, and I would like to thank the EURODECISION teams for their essential contribution. It will also remain a wonderful human adventure for me!*** *» Antoine de Chanterac, Head of Traffic Forecasting and Econometric Modeling, Mail & Parcel Services Division / LA POSTE Group*

In recent years, postal mail volumes have sharply declined, dropping from 17 million items in 2008 to just 6 million in 2022. Conversely, parcel flows have surged. However, while mail volumes were predictable and stable, parcel flows are highly volatile due to rapidly changing customer behaviors and intense market competition. To address these shifts in its operations, LA POSTE launched a comprehensive project to overhaul its business management model.

As part of this initiative, LA POSTE tasked its Mail and Parcel Services Division with generating traffic forecasts for each type of flow (around ten) across all its facilities—approximately 2,500 distribution sites and thirty industrial processing centers. Although some forecasting was already

in place, it lacked consistency across the Group. The goal was to produce these traffic projections across multiple timeframes: medium-to-long term for restructuring and budget planning (monthly projections up to 24 months ahead) and short term to enable operational teams to adjust production capacity and resources in line with demand (weekly projections from week +16 up to week +52, with continuous daily updates for the upcoming week).

After several months of work, the project team realized its workforce was insufficient to complete such a large-scale task within the given deadlines. Additionally, it lacked specialized expertise in mathematical forecasting techniques. To address this, it issued a tender to find a data science partner with the necessary skills. EURODECISION had previously worked with LA POSTE, delivering tailored training on forecasting. Its recognized expertise in the field, combined with its experience in large-scale industrial projects and shared working philosophy, convinced LA POSTE to award it the mission, which began in autumn 2020.

The role of EURODECISION's experts initially involved supporting the team on weekly forecasting (S+16 to S+52) by proposing tailored Data Science methods to build dedicated algorithms, such as Fbprophet, Holt-Winters, SARIMAX, or Gradient Boosting. At the client's request, the intervention expanded, and they were tasked with coordinating all developments, working closely with various DSI teams responsible for industrializing the algorithms, as well as those developing parameterization and reporting interfaces. Thus, EURODECISION's role in project ownership assistance (AMO) involved gathering user requirements, translating them into specifications, orchestrating prototyping and industrialization phases, monitoring development, managing user feedback during testing, and communicating updates to different user groups. EURODECISION also proactively introduced new practices and methodologies to enhance project quality.

The work entrusted to EURODECISION required close coordination with several existing teams involved in the project:
– The business project team, which the mission aimed to reinforce;
– A DSI Big Data team responsible for industrializing algorithmic developments;
– A DSI C360 team developing interfaces for forecasting and other project data reporting;
– A DSI "Control Tower" team building parameterization interfaces for forecasts (adjustments, recalibration based on national commercial forecasts, etc.).

Conducted in a Python and Big Data technical environment1, the work was carried out within an Agile SAFe2 framework chosen by LA POSTE. This project structure emphasizes strong team collaboration and short sprints grouped into 10-week Program Increments (PIs). It aligns with the project's needs, as its roadmap is regularly redefined, and traffic data may evolve during the project based on traffic reference governance—which itself is still under development, particularly in functional and IT system aspects.

After 18 months of support, EURODECISION enabled LA POSTE to deliver reliable weekly mail and parcel flow forecasts to its branches, meeting strict deadlines. The results produced by the implemented algorithms are now considered the most trustworthy indicators by operational management for daily decision-making. Fine-tuning continues by the business team, which expects parameterization to be finalized by late 2022.

[1] *Particularly using Dataiku DSS with PySpark Python libraries*

[2] *Scaled Agile Framework: an enterprise-level agile methodology*