**PROJECT PRESENTATION TEMPLATE**

**SNCF electricity consumption forecast**

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**DESCRIPTION OF THE PROJECT**

Forecasting traction power consumption is one of the levers of efficiency in energy purchasing. Good anticipation of needs improves purchasing performance, as well as visibility in terms of the hedging strategy to be implemented on the financial markets.

High-voltage electricity consumption depends on the activity of the company's various entities (passenger and freight transport), but also on major exogenous factors such as temperature.

The aim of the proposed study is to develop an efficient model for forecasting electricity consumption at a relatively fine level of detail (hourly, for example).

The stakes are many, but above all financial. Hundreds of millions of euros are at stake.

Students will need to master Python software, as well as standard office software (LaTex, Pack office).

**DATA**

The data used in this study are of various kinds:

* Traffic data for various activities (train kilometers, tons towed, etc.);
* Electricity supply data for the national rail network;
* Meteorological data.

**BIBLIOGRAPHY**

Traction Electrique – *JM Allenbach / P. Chabpas / M. Comte / R. Kaller* – Presses polytechniques et universitaires romandes

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