Software Development | Big Data | Artificial Intelligence | Machine Learning

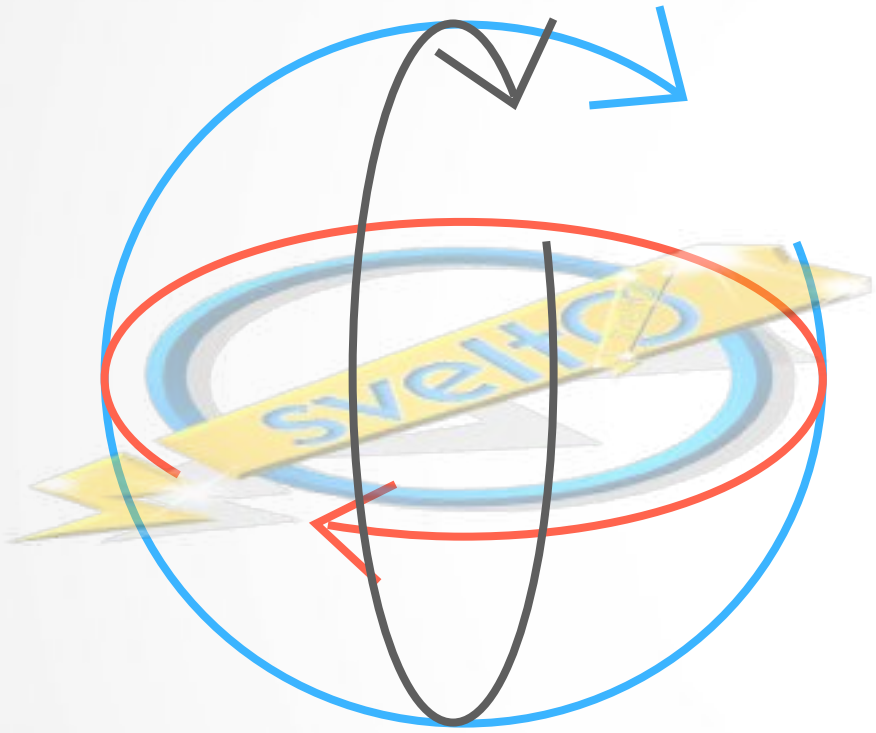
Artificial Intelligence for business strategy

Machine Learning Svelto!

Machine learning to support strategic decisions

Using predictive technologies to wire black and grey areas anticipating the demand for ultra-wideband in Italy: the **Open Fiber** challenge.

In a nutshell



Our client

Open Fiber S.p.A., 50% owned by Enel S.p.A. and 50% by Cdp Equity S.p.A., carries out the installation, supply and operation of high-speed fiber optic FTTH electronic communication networks throughout Italy.

The challenge

Use machine learning to better plan the laying of fiber in cities and urban areas, with the goal of anticipating demand for ultra-wideband, speeding up construction and increasing operational efficiency.

The solution

The realization of a customized decision support system tool: **Tiresia**. A data-centric approach to support investment decisions and operational planning of **Open Fiber** delivery activities.

Our client

Open Fiber was born to create an ultra broadband network infrastructure (BUL) entirely in fiber optic FTTH (Fiber To The Home) in all Italian regions. To carry out the project a "wholesale only" business model has been chosen in order to guarantee free access to all interested operators, on equal terms, providing users with a wide range of choice.

The mission of **Open Fiber** pursues the objectives set by the European Digital Agenda, the Italian Strategy for Ultra Broadband and the Gigabit Society. As an infrastructure player, Open Fiber is responsible for the construction, management and maintenance of the fiber optic network with Fiber to the Home (FTTH) technology, with very high levels of efficiency and reliability.

Open Fiber has won the three calls for tenders launched by **Infratel Italia S.p.A.,** an in-house company of the Ministry of Economic Development (MISE), for the construction of a fiber optic infrastructure in over 7600 small municipalities in 20 Regions. The network will remain in public ownership and will be managed in concession by **Open Fiber** for 20 years.

https://openfiber.it/ Search

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The challenge.
Using predictive technologies to wire black and grey areas anticipating the demand for ultra-wideband in Italy.

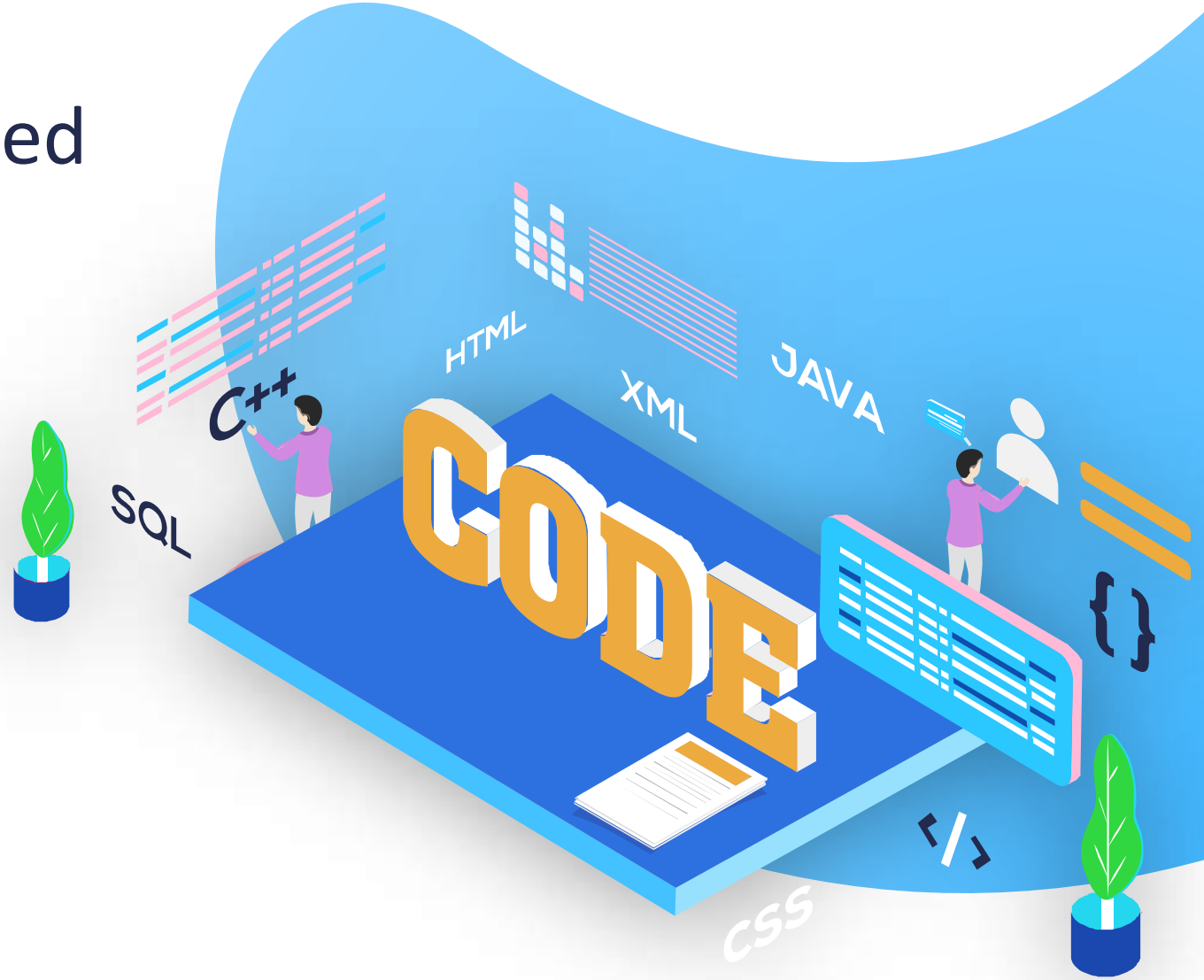
Data-driven strategic decision.

<< The creation of a new network infrastructure is an articulated process in which one must continually refine the roll-out, that is, the plan by which one decides which buildings to connect and when to do so. The question **Open Fiber** asked itself was: *if you cabled all the areas where you are not yet present, which areas would have the best commercial performance after a certain period of time?* >>

Sabino Titomanlio
Head of Presales, Customer Service Management
and promoter of the initiative *Open Fiber Innovation Lab*.

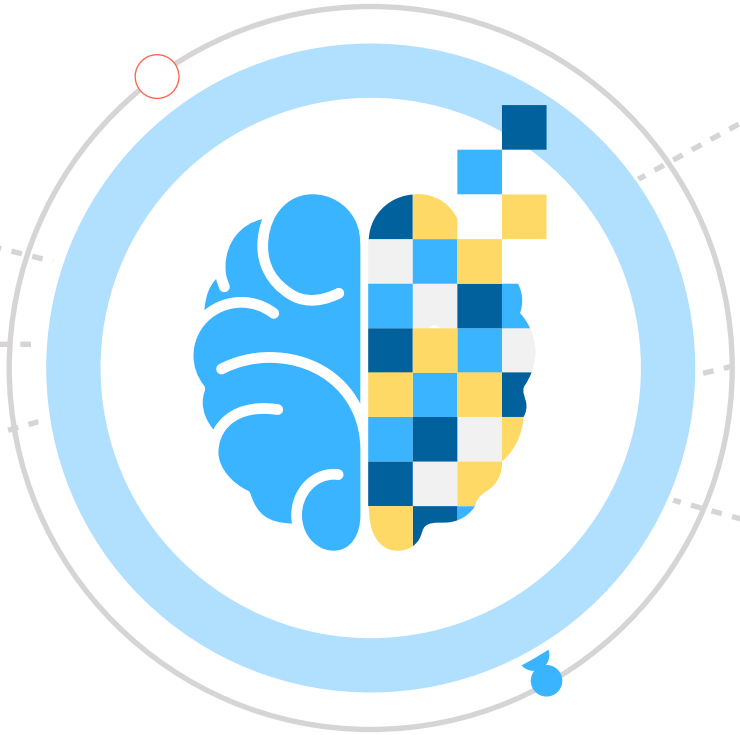
The solution proposed by **Svelto!**

Realize a data-centric approach to support investment decisions and operational planning for the delivery activities of **Open Fiber**.



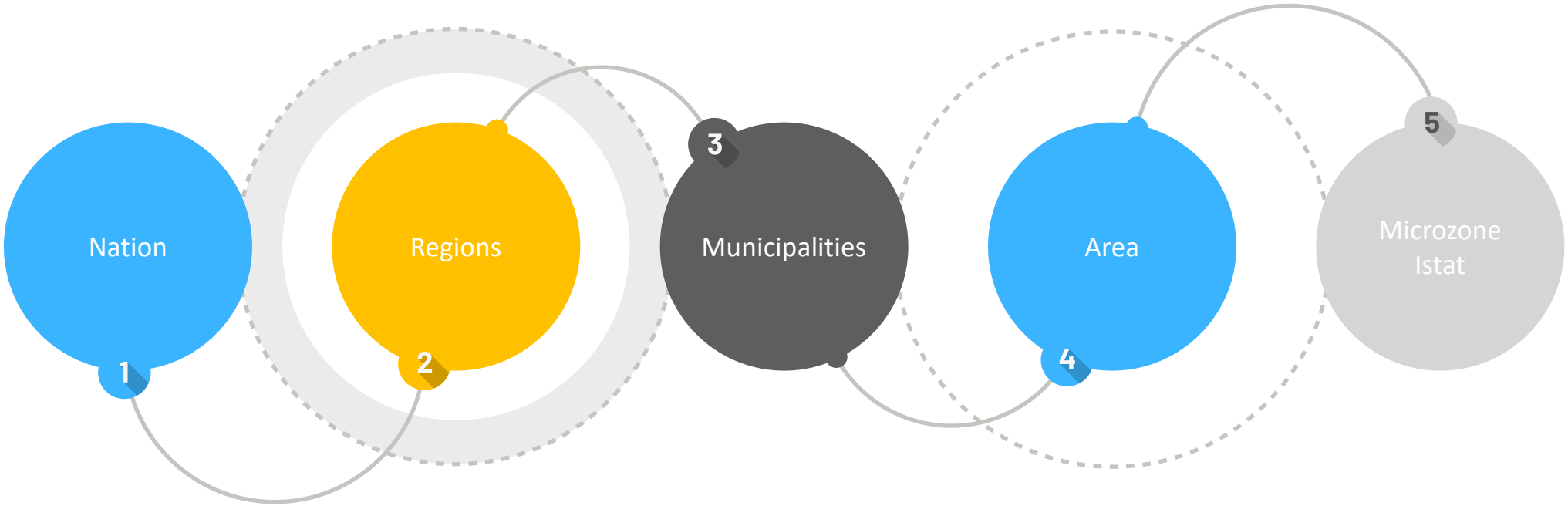
1. Database integration.

- ISTAT census variables
- Public data by Infratel
- Public data by AgCom



- Customer base of Open Fiber
- Areas and points of interest: hospitals, schools, universities, shopping centers, industrial areas
- Orders history of Open Fiber

2. Geographical context creation.



A geographical context is a collection of spatial zones against which indicators are computed and predictions are made using machine learning models.

3. Forecast scenario.

- Use of neural networks to ensure high capacity of learning the patterns that characterize the commercial performance of **Open Fiber**
- Use of two macro-categories of supervised learning models: classification for the training set and regression for the prediction.
- Forecast the penetration rate in areas where **Open Fiber** already sells its services with a sellability rate above a defined threshold.
- Forecast penetration rate for areas where there is no history, i.e., where **Open Fiber** is not yet selling its services.

4. Results.

<< The data-centric strategy pursued by **Open Fiber** with **Tiresia** is used as part of the **7 billion euro investment plan** in black areas that aims to connect over **19 million real estate units** throughout the country and that to date has already reached and surpassed the goal of **12 million cabled buildings**.

The experience of using machine learning in **Open Fiber** business processes are very positive: we think that this new approach can be extended to European level with the creation of an open platform where each infrastructure operator can bring together their coverage data in order to build a true fiber marketplace. >>

Sabino Titomanlio
Head of Presales, Customer Service Management
and promoter of the initiative *Open Fiber Innovation Lab*.

Where we are

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