

LEONARD

THE AI PROGRAM

ECABLE

Cable routing network generation
optimization

 ACTEMIUM

axians

together @ VINCI 

➤ ACTEMIUM : A MAJOR PLAYER IN THE CABLE ROUTING INDUSTRY



A project initiated by Actemium in collaboration with Axians, dedicated to the conception and installation of **cable routing network** for industrial plants



10 mds €
Market size



300 km
of cables per project



Xx weeks
of to design a cable routing



Cables

Trays

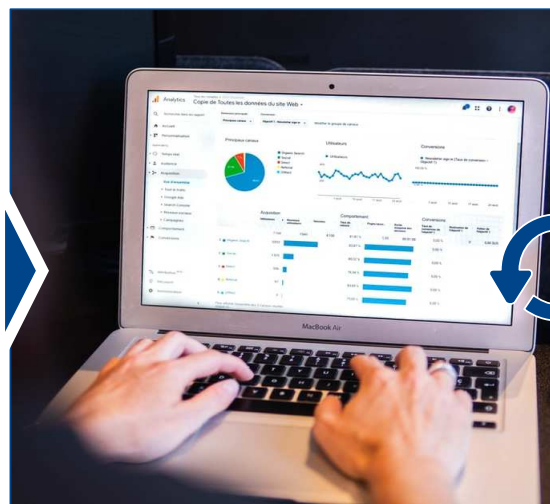
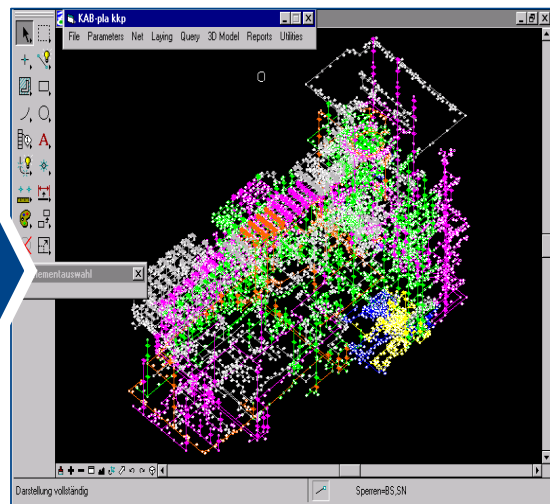
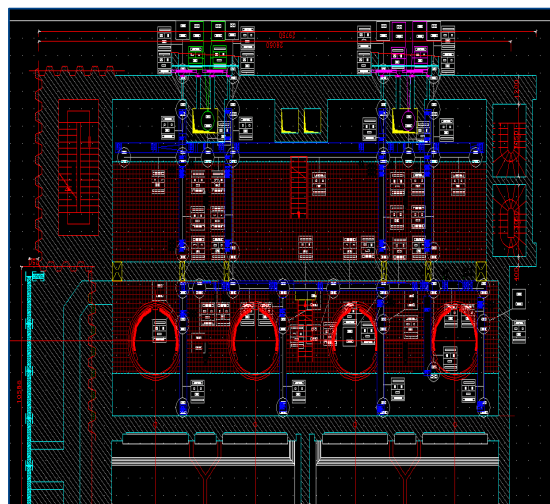
ECABLE : AN AI-BASED SOLUTION TO OPTIMIZE CABLE ROUTING GENERATION

 **Problem modeling**

 **Network design**

 **Quality checks**

 **Manual adjustments**




Rigid process


Lack of flexibility


Suboptimal design


Lack of flexibility


Incomplete report


Tedious


Complex

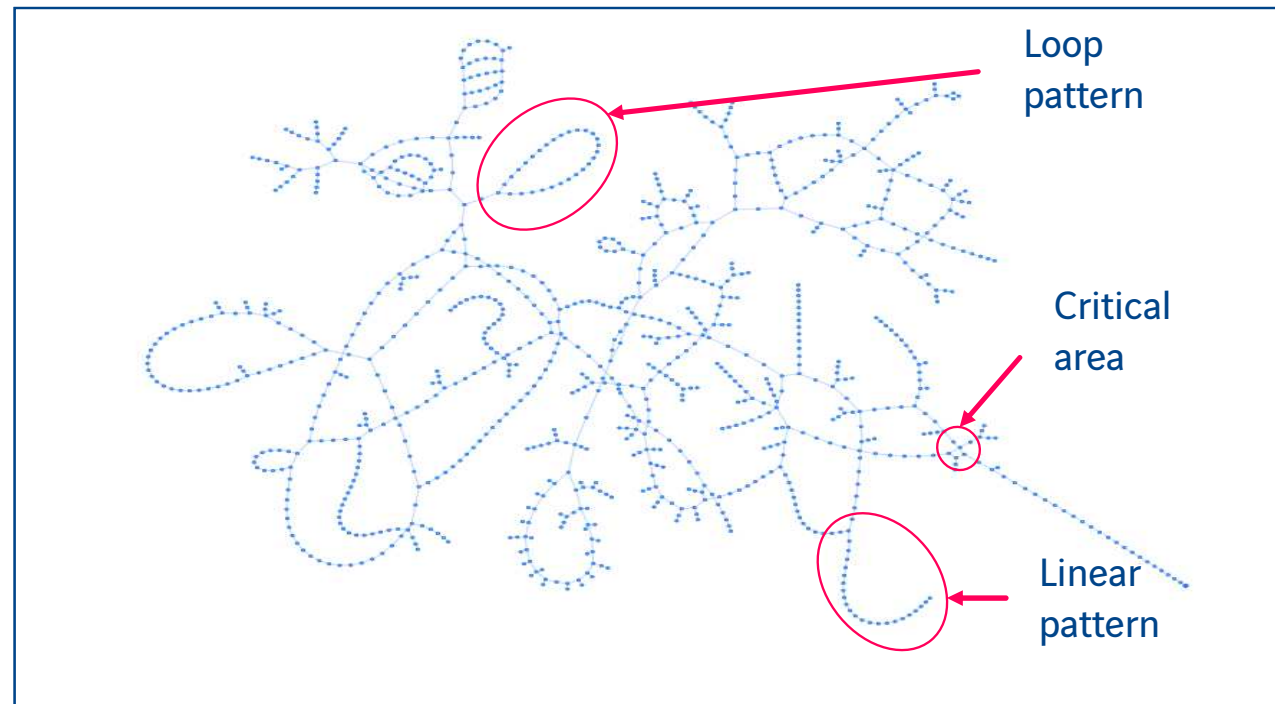
eCable is an **AI** solution for **optimized** and automated **cable routing generation**

ECABLE : AN AI-BASED SOLUTION TO OPTIMIZE CABLE ROUTING GENERATION

→ Key steps of the solution

1 Building's blueprints data processing

- + Transformation into a **graph representation**
- + **Data visualization** to gather insights on the network

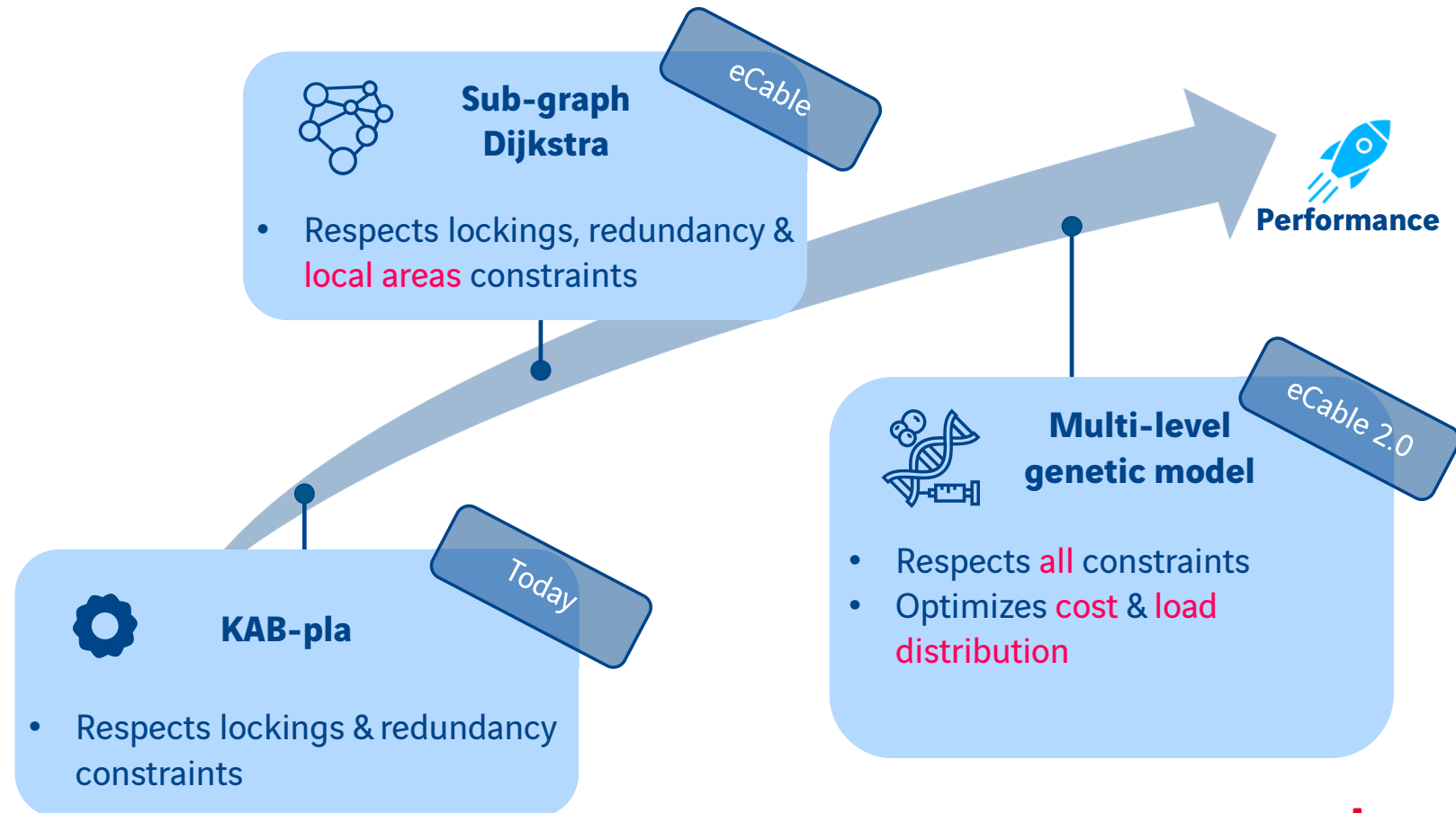


ECABLE : A PROPRIETARY AI-BASED SOLUTION

Key steps of the solution

1 Data collection and analysis

2 Network optimization



ECABLE : AN AI-SOLUTION IN A PROPRIETARY APPLICATION

→ Key steps of the solution

1 Data collection and analysis

2 Network optimization

3 Quality checks

Additional indicators for network output validation



- + Detect constraints violations
- + Compute total amount of copper
- + Detailed reporting

Flexibility to implement custom indicators



- + Connection to external databases
- + Possibilities to include complex calculations

ECABLE : A SPEARHEAD AI SOLUTION FOR CABLE ROUTING OPTIMIZATION

→ Key steps of the solution

1 Data collection and analysis

2 Network optimization

3 Quality checks

- Gain **independence** over the currently used deprecated software
- Pave the way to deploy more **AI models** and new features

➤ ECABLE: WHEN OPERATIONAL PERFORMANCE MEETS INNOVATION

Time savings on cable routing design



- Calculation provides better cable routing layout
- Checking process optimized

Paving the way for further innovation

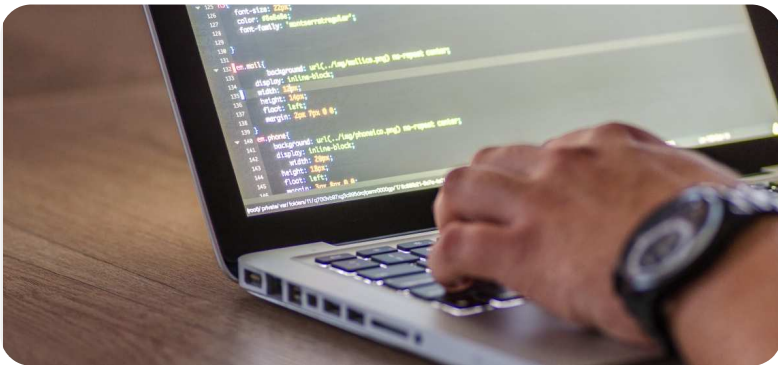


- Proprietary application
- Upskilling in graph optimization

➤ ECABLE : THE A.I. REVOLUTION FOR THE ACTEMIUM' ANALYTICAL TEAM

*Developing a new tool for Actemium to initiate the **conception, deployment and commercialization** of AI solutions inside the Analytical team*

1 Production



Conceive



Develop



Train

2 Prospection



Deploy

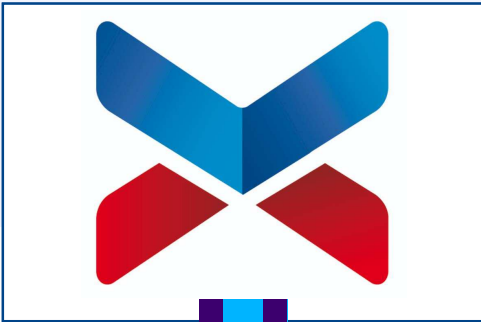


Acculturate



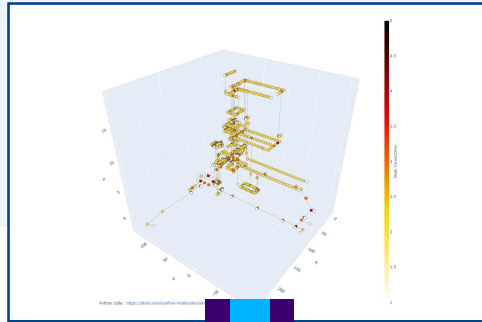
Guide

ECABLE SUMMARY



GENESIS

- + The eCable solution aims at **optimizing the cable routing generation process** to win more contracts and increase profitability per contract



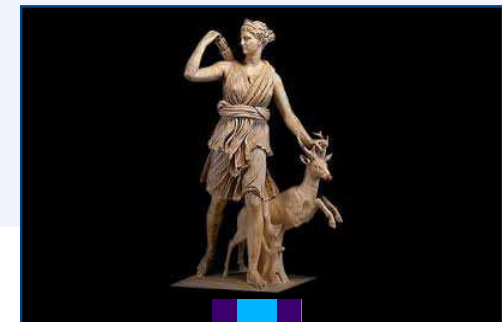
SOLUTION

- + eCable leverages **AI algorithms** to optimize a cable routing network generation



RESULTS

- + **Time** is saved on cable routing design
- + The technological stack as well as the knowledge acquired pave the way for **further improvement** of the process



NEXT STEPS

- + Deploy a new algorithm to **outperform cable routing solutions** on the market
- + **Sell eCable license** via the analytical team
- + Extend the product to **other industries**

Project team



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