Simulation

PANTOhealth

Elevating Rail Safety with Cutting-Edge Digital Solutions

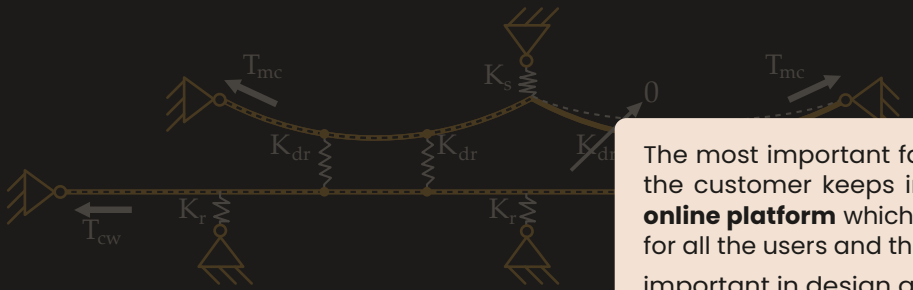
PANTOhealth
Simulation

PANTOhealth is a specialized clinic focused on pantograph and overhead line systems, offering advanced digital solutions.
One of PANTOhealth's key offerings is a dynamic simulation tool, designed to provide comprehensive and detailed simulations of **overhead line** and **pantograph interactions**.
This cutting-edge solution enhances the understanding and optimization of these critical components in the rail industry.

If you are interested in **designing an overhead line** or **modifying an existing design** you are in the right place

What is simulation tool?

The PANTOhealth simulation panel is an advanced tool designed to analyze the interaction between catenary systems and pantographs. Validated according to EN50318 It offers precise and reliable results by using an analytical approach, rather than FDM or FEM methods.The panel provides critical insights into the performance of these interactions for comprehensive analysis.



The most important factor which we would like the customer keeps in mind is that we are an **online platform** which makes it **high accessible** for all the users and they can **interact** .

important in design and modification phase:
overlap- fitting- netural section.

PANTOhealth simulation panel is of two types:

1. Static simulation
2.Dynamic simulation

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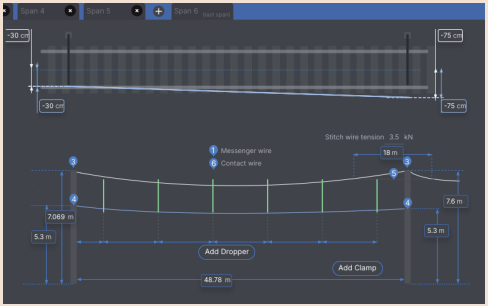
1. **Static simulation:** Which is used for geometrical and mechanical modeling of overhead line.



Static simulation inputs:

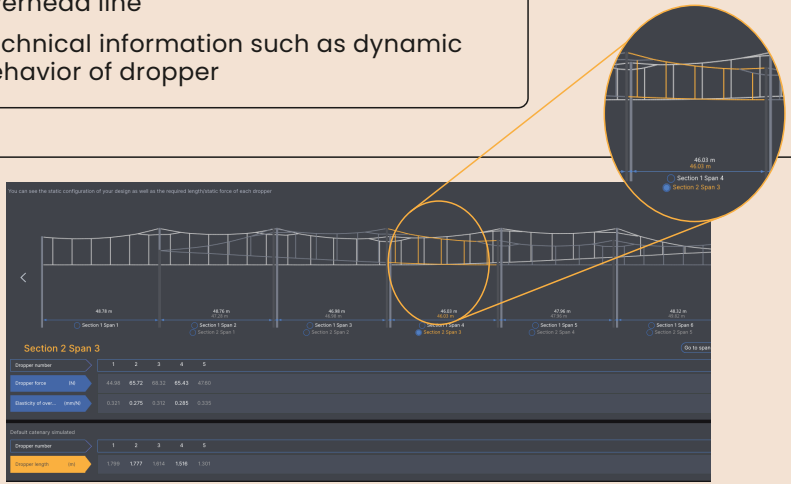
-The geometry of the overhead lines

-Mechanical features of the overhead line

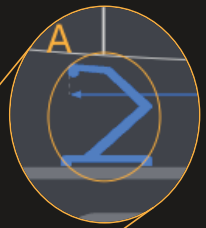
-Technical information such as dynamic behavior of dropper

Static simulation outputs:

- **Dropper length**
- Static force
- Elasticity
- Comprehensive **report**

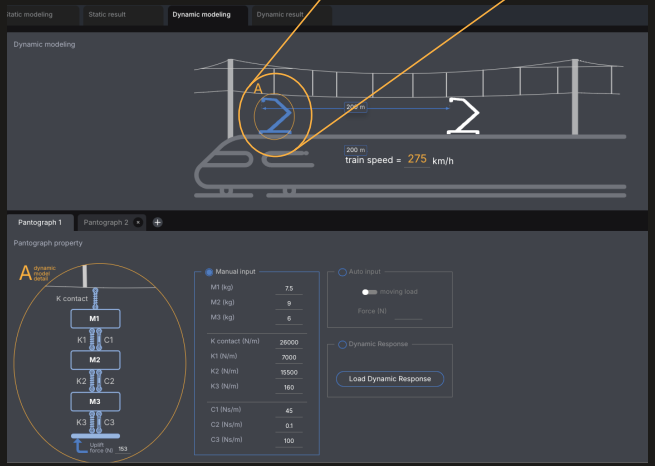


2. **Dynamic simulation:** Which provides accurate analysis for investingating the dynamic interaction between the catenary and pantograth.



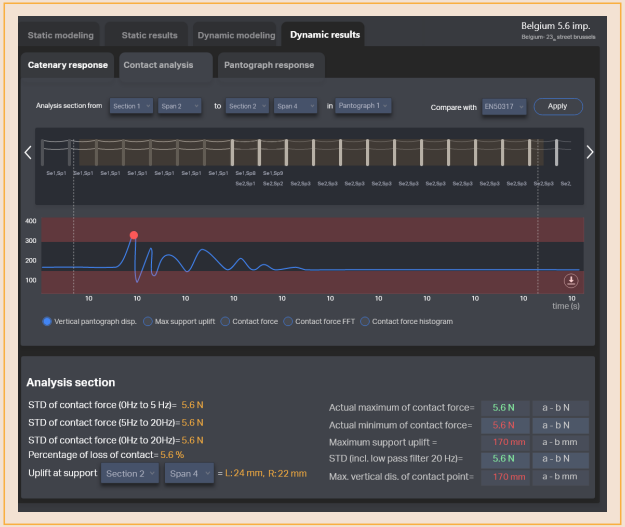
Dynamic simulation inputs:

- Pantograph numbers and configurations
- Pantograph mass stiffness and damping
- Uplift force
- Catenary static configuration
- Train's speed



Dynamic simulation outputs:

- The **contact force** between the pantograph and the catenary
- Displacement, velocity, and acceleration of all points of overhead and also pantograph
- The **maximum uplift** of the contact wire at masts
- Range of vertical movement of the pantograph
- **contact quality:** Standard deviation, mean value, minimum and maximum of contact force
- Detailed dynamic **report** to evaluate the performance of pantograph-catenary interaction
- Evaluating compliance with different **standard** and regulation world wide



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Supported by:

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Scan the QR code to discuss more about the solution.

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