



DARWIN

Shaping the future of a **sustainable, efficient**
and **safe** construction industry.

Software powered by

SAALG
GEOMECHANICS



Be more sustainable



Increase efficiency



Make your project safer

Society expects sustainable, efficient and safe cities and infrastructures. Over time, engineers and architects have faced many challenges on how to design and build such projects. They have overcome many of them, however, **ground uncertainty** is still a major issue concerning **over-dimensioning**, **delays** and overall **safety**.

To **minimize ground uncertainty**, SAALG Geomechanics has developed **DAARWIN**, the first and only software that combines and analyses predictive ground models, monitoring data, construction progress, and historical information in a digital space.

DAARWIN enables the connection between all the stakeholders of a project in order to make wiser decisions to plan, deliver and manage more sustainable, efficient and safer projects.

- **REDUCE OVER-DIMENSIONING** to minimise construction material consumption and CO₂ emissions¹.

¹ Currently the construction industry is responsible for more than 10% of the global CO₂ emissions and this much change.

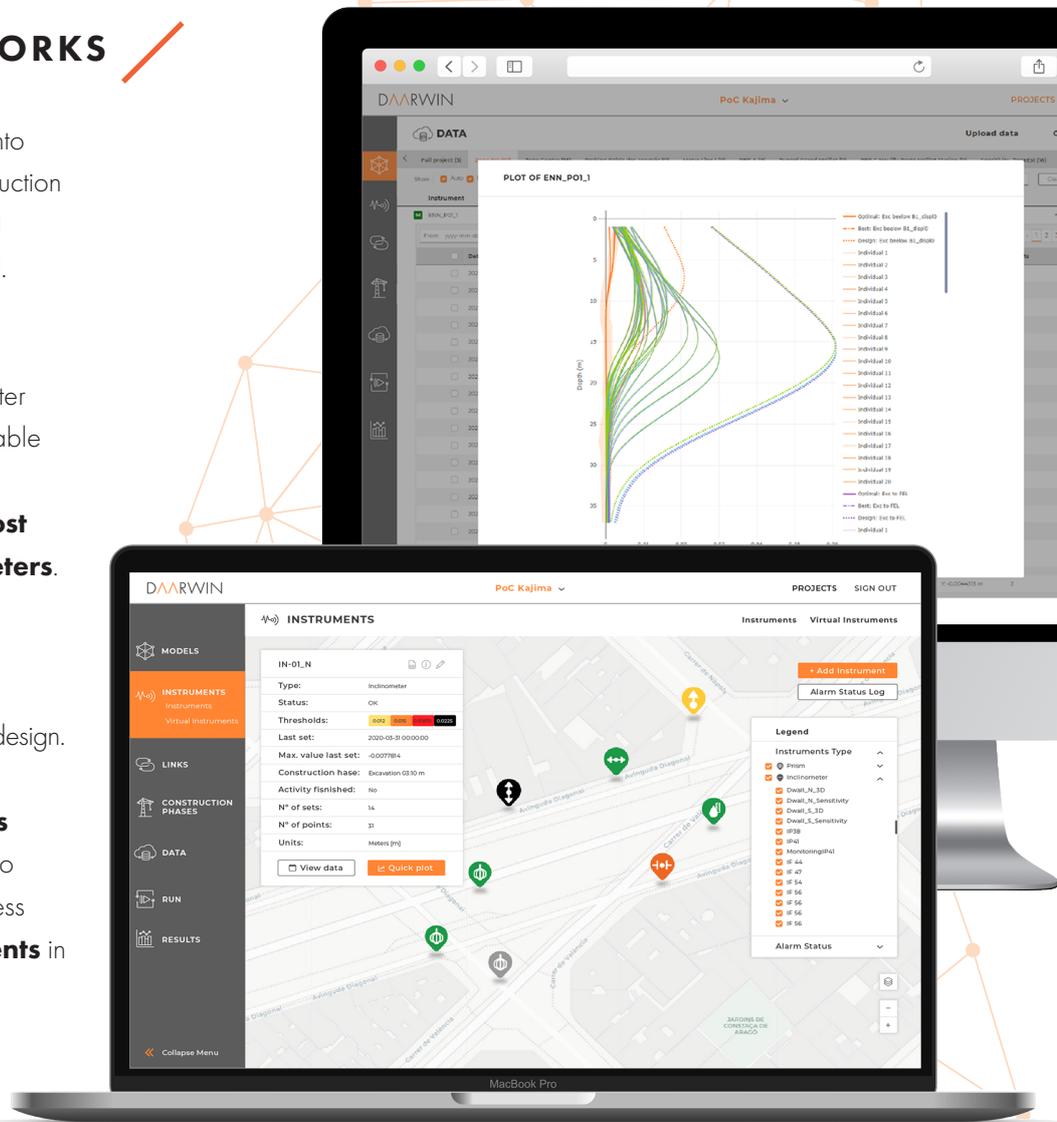
- **DIGITALISE** the entire lifecycle of your project to make data-driven decisions easier and faster².

² Efficiency and productivity in construction has grown an average of 1% a year over the past two decades, compared with the growth of 2.8% for the total economy.

- **DETECT INSTABILITIES IN ADVANCE** and prove construction is performing according to the design.

HOW DAARWIN WORKS

- **Upload** your project **information** into the platform. Numerical models, construction progress, monitoring data, images and historical information can be uploaded.
- **Analyse** multiple **design options** together with different ground parameter scenarios (from pessimistic, most probable to optimistic) to determine **the most optimal design** option and **the most influential geotechnical parameters**.
- **Compare** your **design** with the **monitoring data** to prove that the construction is performing according to design.
- **Calibrate** your **numerical models** to **predict** the real ground behavior to **minimise construction** material (less CO₂ emissions), **delays** and **accidents** in your projects.



DAARWIN PLANS

SENSITIVITY TOOL

Fast evaluation of the influence of your geotechnical model's most relevant parameters.

MODULES



KEY FEATURES

- ✓ Plaxis model uploaded in the cloud.
- ✓ Stress Plaxis models to determine the most influential parameters.
- ✓ Custom output visualization of nodes/stress-points, lines and structures.
- ✓ Built-in visualization tool that allows multi-parameter and multi-phase plots.

BASIC

Store, manage and visualise all your geotechnical monitoring data in the cloud.

MODULES



KEY FEATURES

- ✓ Create and manage your instruments.
- ✓ Visualise instruments in a map.
- ✓ Create and manage your construction phases.
- ✓ Upload and manage your instrument data.
- ✓ Create plots to compare data.
- ✓ Maintain a repository of previous projects.
- ✓ Unlimited users and role-based access.
- ✓ Email and phone support.

STANDARD

Validate the geotechnical design by evaluating the parameter's sensitivity and comparing it to the ground monitoring.

MODULES



KEY FEATURES

- Everything in BASIC included, plus:
- ✓ Plaxis model uploaded in the cloud.
 - ✓ Create links between models and instruments.
 - ✓ Compare models with data using comparison plots.
 - ✓ Stress Plaxis models to determine the most influential parameters.
 - ✓ Custom output visualization of nodes/stress points, lines and structures.
 - ✓ Built-in visualization tool that allows multi-parameter and multi-phase plots.

PRO

Calibrate your models to predict the real ground behavior.

MODULES



KEY FEATURES

- Everything in STANDARD included, plus:
- ✓ Automatic backanalysis module to determine the real ground parameters.
 - ✓ Tools to determine the adequacy of your Plaxis models to reproduce the reality.
 - ✓ High performance cloud parallel computing of plaxis model.
 - ✓ Backanalysis core algorithm based on machine learning.
 - ✓ Custom output visualisation of optimal values.



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View our
DAARWIN video:

