



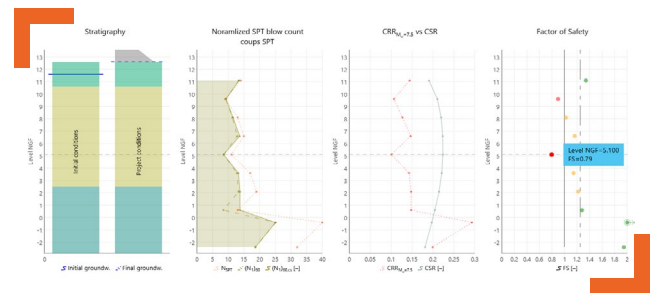

Slake

Slake is dedicated to the **analysis of the liquefaction hazard** of soils subjected to seismic loads, based on the exploitation of **in situ tests**.

Quantification of the liquefaction hazard

Slake evaluates safety factors against the liquefaction hazard by implementing the **semi-empirical NCEER method** (Youd and Idriss, 2001):

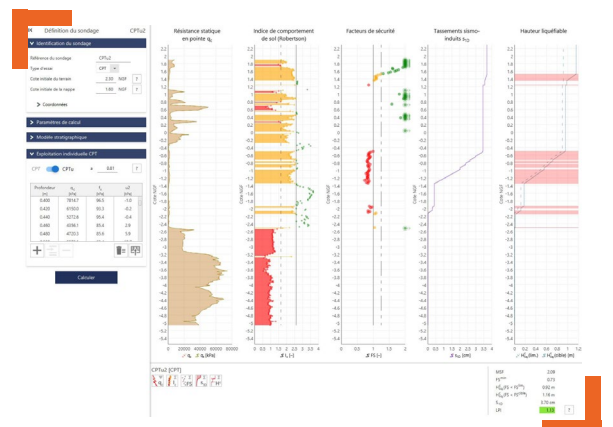
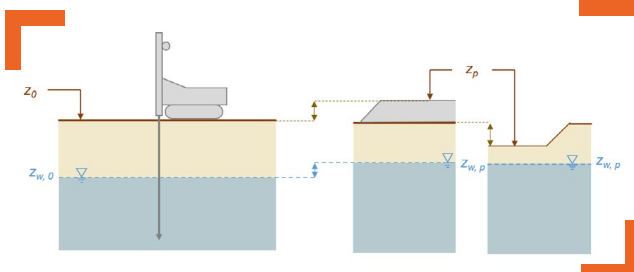
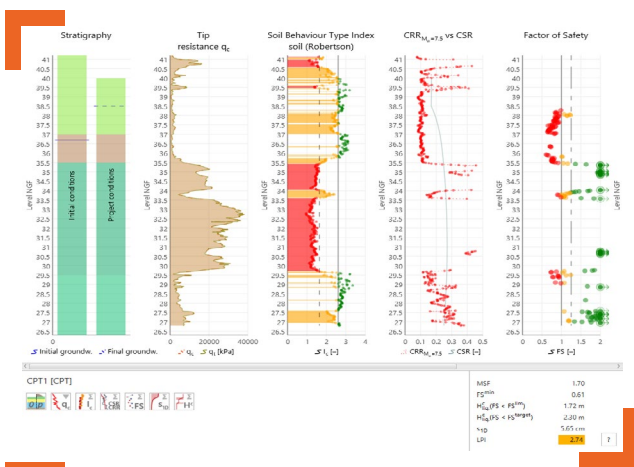
- Using **SPT** and/or **CPT(u)** data.
- Accounting for changes in the piezometric and topographical conditions (large excavations or embankments) to reflect the project context.
- With a controlled application of the calculation assumptions and corrective factors (magnitude scaling factor MSF, confining pressure K_{σ} , etc).
- By taking into account the specific recommendations of the "Liquefaction" Technical Book (2021) of the AFPS with an additional calculation option.



To go further

These analysis are supplemented by the calculation of **additional indicators**:

- Evaluation of the **seismic-induced settlements** based on Ishihara and Yoshimine (1992), Zhang, Robertson and Brachman (2002) and/or Idriss and Boulanger (2008).
- Calculation of the **cumulative liquefaction heights** against a user-defined safety threshold.
- Assessment of the **liquefaction potential index (LPI)** according to Iwasaki (1981).

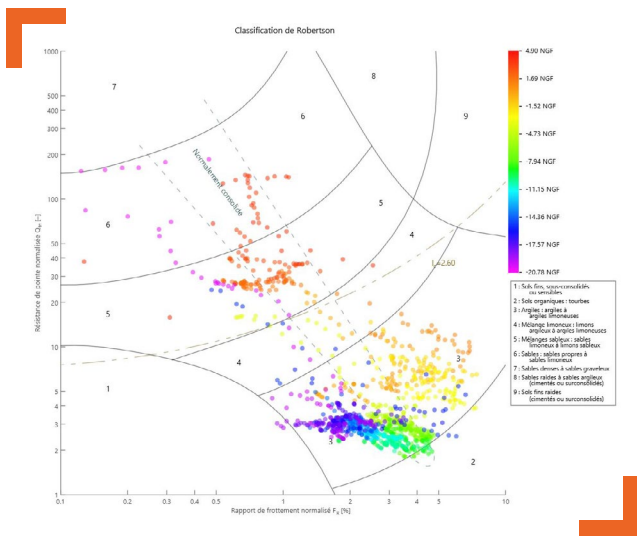




A decision-making program

Slake provides all the relevant features to support the user in his analysis:

- Parallel management of **several SPT and CPT/CPTu** result sets within a single project.
- **Interactive** graphical display of the input data and analysis results with zoomable charts and customizable axis.
- A "comparison mode" for **superimposing calculation results** based on different in-situ tests.
- Option to generate **planar representations of the main results** (kriging interpolation).
- Display of the results in the form of **exportable tables** for further processing.
- Independent wizard for **soil liquefaction susceptibility analysis** according to Eurocode 8 part 5.



MINIMUM HARDWARE REQUIREMENTS

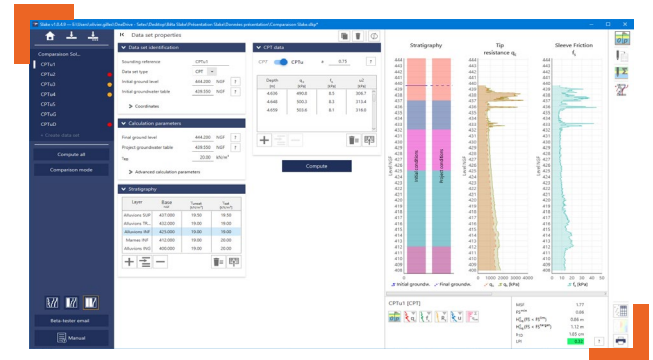
Compatible computer with:

- Intel® Core Duo CPU
- 4 Gb RAM
- At least 1366x768 resolution
- USB port
- 500 Mb free hard-disk space
- Windows® 8.1 SP1/10, 32 or 64 bits

A transparent tool for users

At any time, the user is guided to conduct his analysis in an informed way, thanks to:

- **Numerous help figures** and **automatic wizards** to facilitate the definition of the calculation parameters.
- **A systematic display of the project units** for each of the parameters.
- The ability to display and edit all advanced settings.
- A **detailed technical manual** accessible directly from the project definition window.



A user-friendly interface

- **Easy navigation** through the various data sets of the project and a permanent display of the calculation status for each project.
- **Smart importation tools** for soils and boreholes data allowing for the **instant conversion of units**.
- Generation of **customized calculation reports** for the presentation of input data and analysis results.