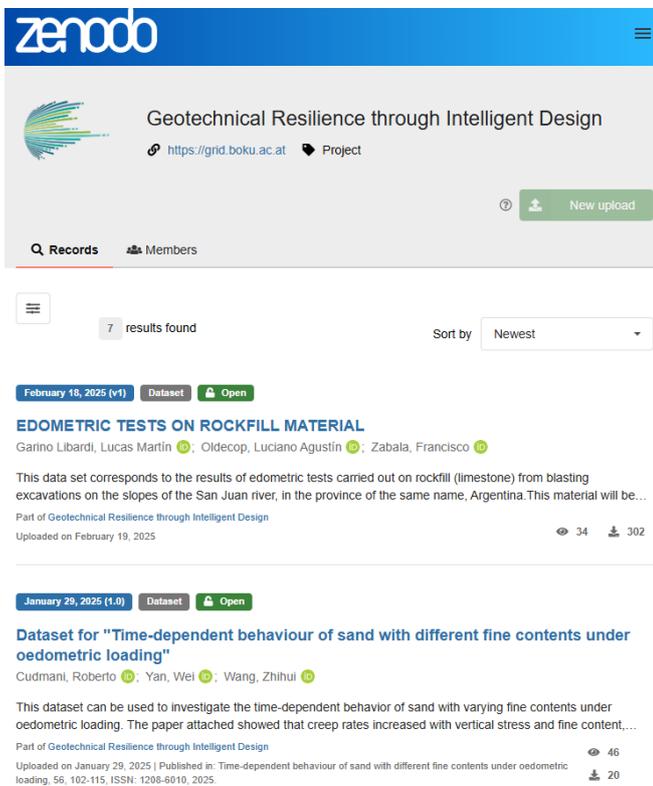# GRID

Newsletter Q2 2025

Data, Data, Data!

The heartbeat of innovation

GRID is on the brink of completing Work Package 1, focusing on cutting-edge geotechnical datasets. Our consortium has successfully gathered seven new datasets, now available on our Zenodo community. These datasets have already captured significant attention, with 514 views and 992 downloads!

Be part of the data revolution! Explore our datasets, contribute your insights, and help us push the boundaries of geotechnical engineering. Your participation is crucial in driving forward innovation and excellence in our field.
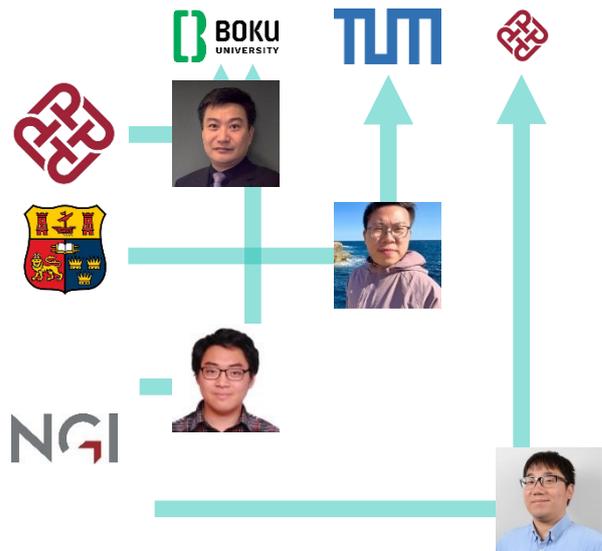

Screenshot of the GRID project community on Zenodo

GRID chronicles

Secondments: building bridges across institutions

Secondments are taking place at an increasing pace! Zhenyu Yin from HP went to BOKU for a week in March, Chao Wang from UCC went to TUM for three months. Enok Cheon (NGI) went to BOKU for two weeks and Zhongqiang Liu (NGI) went to HP for a week in April.

Overview of on-going and completed secondments in Q2

Deliverables and milestones ahead of the curve!

The guideline for the integration of machine learning in geotechnical engineering (Deliverable D1.2) was successfully submitted on March, 24 (6 days ahead of the deadline) and is currently available on the project website.
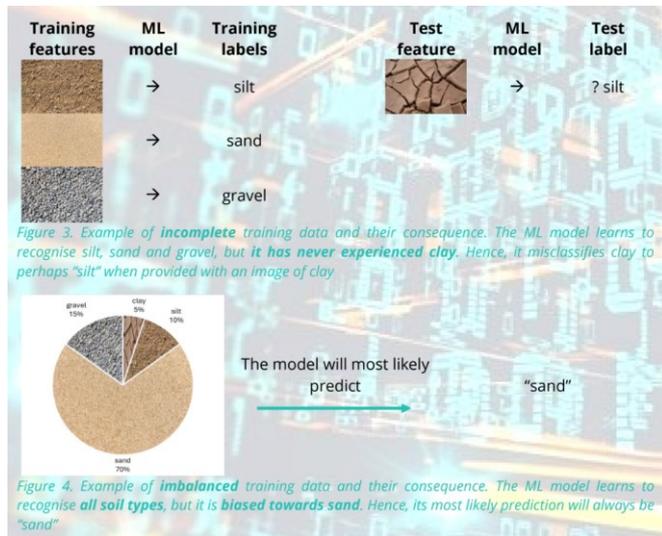
We are also thrilled to announce the early submission of our dissemination, exploitation, and communication plan (Deliverable 9.4) on April 22. Although the details are top

GRID

secret, rest assured that we are on track! Additionally, our data management plan was successfully submitted on April 30.

*Figure 3. Example of **incomplete** training data and their consequence. The ML model learns to recognise silt, sand and gravel, but **it has never experienced clay**. Hence, it misclassifies clay to perhaps "silt" when provided with an image of clay*

*Figure 4. Example of **imbalanced** training data and their consequence. The ML model learns to recognise **all soil types**, but it is **biased towards sand**. Hence, its most likely prediction will always be "sand"*

Excerpt from Deliverable D1.2: Unseen data (top) and imbalanced data (bottom)

Deliverable alert: what's next?

Mark your calendars! The next deliverable, the progress report, is due on November 30. Following that, we will unveil a GenAI model for uncertainty management in geotechnics in April 2026. Stay tuned for groundbreaking advancements!

Upcoming events: meet GRID on tour!

Catch us at these prestigious events:

ISGSR2025 — Oslo, Norway, 25–28 August 2025

FOMLIG 3 FLORENCE 2025 — Florence, Italy, 15–17 October 2025
Third Workshop on the Future of Machine Learning in Geotechnics

6th ICITG — Graz, Austria, 13–16 October 2026

Inspiring young minds at Kinderuni!

This July, GRID will host a captivating class at the children's university (Kinderuni) in BOKU, Vienna. Our mission: to ignite curiosity in 10-year-olds about geotechnics and AI during a fun and educational 2-hour session. Let's shape the future together!

Spreading knowledge: our latest publications

We are proud to announce the publication of two groundbreaking manuscripts:

1. Soils and Foundations: Discover how a CNN can predict soil particle size distribution from smartphone images.
2. Data in Brief: Explore a comprehensive dataset of dynamic probing heavy tests.

These papers have already garnered in total 136 reads on ResearchGate! (24.04.25).

Soils and Foundations
Volume 65, Issue 1, February 2025, 101575

Technical Paper

Convolutional neural network prediction of the particle size distribution of soil from close-range images

GRID

Zenodo stats

Views and downloads of the GRID data sets

Data in Brief
Volume 59, April 2025, 111391

Data Article

Comprehensive dataset of dynamic probing heavy test results for subsurface characterization ☆

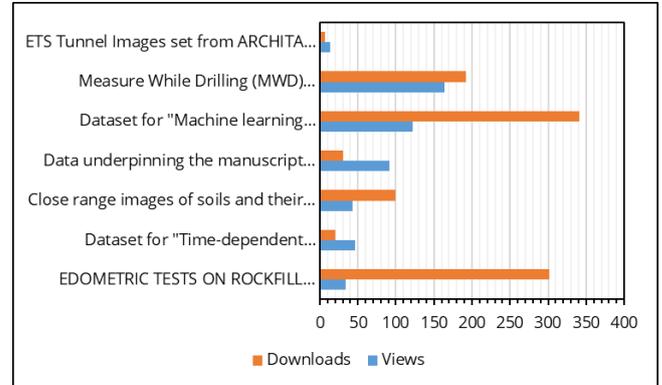*First two GRID project's publications*

Engaging the Community

Our website is buzzing with activity! Thanks to Google Analytics, we can see the geographical distribution of our active users. Plus, our Zenodo community datasets have been viewed 514 times and downloaded 992 times.

Website stats

Number of active users of website and their geographical distribution according to Google Analytics

Unlocking Potential with EU Booster Support

GRID is thrilled to announce its successfull application for EU Booster support, aimed at maximizing the impact of our research results. The EU Booster services provide expert and customized support, designed to elevate the added value of research and innovation. With their assistance, GRID is poised to transform groundbreaking research into real-world applications, driving forward progress in geotechnics and AI.

Get involved

Join us in our journey to revolutionize geotechnics and AI. Your involvement is the key to our success!

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- ⚙️ https://github.com/GRID-Proj

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