

Non-stationary respOnse of spaTially Extended Structures (NOTES)

Partners:
Trinity College Dublin (TCD), Ireland
(Co-ordinator)
PLAXIS BV, The Netherlands



Duration: 48 months

Funding: Total € 403 K

- Recruitments
- Secondments
- Workshop
- Management
- Overheads

TCD: 207 K

PLAXIS: 196 K



NOTES

Objectives:

Develop a partnership between TCD and Plaxis B.V. that will generate

a pool of ‘highly-skilled, experienced researchers’

with the knowledge required to create better tools for the analysis of geotechnical/structural systems in infrastructure industries.



NOTES focuses 2 areas:

- **Traffic/Transportation induced vibrations in soil-structure interaction**
- **Earthquake induced vibrations in spatially extended structures**

Application to systems:

Tunnels, gas/oil pipelines, long span flexible bridges



Expertise and benefits :

- **TCD Structural Dynamics and Vibrations Group explores new ways in which wavelet-based non-stationary analysis could be useful for industrial applications,
and simultaneously allows**
- **Plaxis B.V. to take advantage of the latest developments in vibration analysis and signal processing techniques and offer their expertise in development of software for geotechnical analysis**



Transferring knowledge and skills:

- **Efficient non-stationary analysis of spatially extended infrastructure (*TCD to PLAXIS*)**
- **Finite Element analysis of geotechnical systems and software interface standards (*PLAXIS TO TCD*)**
- **Expose TCD SDVG postgraduate researchers to users modelling infrastructure systems**
- **Train algorithm developers at Plaxis B.V. in the state-of the art of wavelet based vibration analysis and signal processing algorithms**



Secondments & Recruitments

- Secondments - TCD
 - 2ER (4-10 yrs) 24 months
 - 1ER (> 10 yrs) 2 months (multiple 2-3 weeks visit)
 - Secondments - Plaxis
 - 1ER (> 10 yrs) 2 months (multiple 2-3 weeks visit)
 - 2ESR 4 months
- (ESRs postgraduate students on stipend)
- Recruitments - Plaxis
 - 2ER (4-10 yrs) 24 months
 - Management activities -TCD (funds stay with TCD)
 - Part-time Research Manager



Research Partner

- Initial Contact
- Flexibility of topic - IAPP
- SMEs/Industries are unaware
- Had an initial meeting in TU Delft
- Followed up by Plaxis
- Proposal preparation-negotiations
- Transfer of knowledge - IPR
 - possible IP from plug-in modules developed



Support

- Financial - Enterprise Ireland travel support (for the meeting in Delft)
- Proposal preparation (Research Office, NCP)
- Negotiations (Contracts Section, Treasurer's Office)
- Other/Technical (Colleagues from TCD and other Universities)



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- NCP Marie Curie - Dr Dagmar Meyer

