

Francisco Díaz Pisano

Project Manager & Structural Engineer

Finite element analysis (Abaqus) · Temporary structures, scaffolding and Eurocode certification

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PROFILE

Civil engineer and structural engineer (dual MSc: Universidade da Coruña and Chalmers) with close to ten years at RISE Research Institutes of Sweden, where I combine non-linear finite element analysis with full-scale physical testing to assess and certify temporary structures. I work as an independent third-party assessor at an accredited institute, certifying manufacturers' products against the requirements of the European standards — from the first model to the signed report — for clients across Europe and Asia. I run my projects end to end and answer for their outcome, budget included: a yearly portfolio worth around 2 MSEK.

EXPERIENCE

Project Manager & Structural Engineer | RISE Research Institutes of Sweden

Apr 2017 – Present · Borås, Sweden

Since Apr 2025 · **EN 74 certification, manuals and process automation**

- Extended the scope to testing and certification of scaffolding couplers and connections to EN 74-1/-2/-3, and to the assessment of manufacturers' assembly and use manuals.
- Automating recurring calculation and reporting workflows in Python, on a long-term plan of my own initiative.
- Integrating Claude Code on top of that automation, as support for building the tools themselves — alongside Abaqus, never a substitute for calculation.

Since Apr 2021 · **System certification and Swedish scaffolding regulations**

- Took on the assessment of complete systems against the Swedish work-environment regulation AFS 2013:4 and the Norwegian Produsentforskriften, alongside the scaffolding standards, and the drafting of the certificates themselves.
- Certified around 10 complete scaffolding systems to EN 12810 and EN 12811 as an independent third party at an accredited institute — each a 1.5–2 year project from the first Abaqus model to the signed report — for manufacturers across Europe and Asia, principally Germany, Poland, Sweden, Denmark, Portugal and China.
- Extended the calculation work to tents (EN 13782) and mobile access and working towers (EN 1004).
- Owned the projects end to end and their economics: budgeting, invoicing, cost follow-up, client dialogue and responsibility for the final result — a yearly portfolio worth around 2 MSEK.

Since Apr 2017 · **Finite element analysis and mechanical testing**

- Non-linear Abaqus models of scaffolding, grandstands and temporary roofs (contact, geometric imperfections, second-order effects), correlated against full-scale laboratory tests.
- Preparation and evaluation of mechanical and load-capacity tests to EN 12811-3 with the RISE testing laboratory — 3–5 campaigns a year: designing the set-up, acquiring the data in Catman, then calibrating the numerical model against the measured response.

Junior Consultant | Indra

Jan 2017 – Mar 2017 · Barcelona, Spain

- Functional and technical support to the regional tax administration on its revenue-management systems; data analysis over Oracle databases in SQL, and triage and tracking of incidents in JIRA.

Project Assistant — DREEAM (EU H2020) | Chalmers tekniska högskola

Jun 2016 – Dec 2016 · Gothenburg, Sweden

- Researched renewable and energy-efficient construction technologies for the European DREEAM project, focusing on façades and PV systems, and built a UK refurbishment database.

Master Thesis Researcher (Internship) | Thomas Concrete Group

Jan 2016 – Jun 2016 · Gothenburg, Sweden

- Modelled early-age thermal cracking in concrete in Diana 10, assessing the influence of shrinkage and creep on crack formation during hardening.

Research Collaborator | Rodmon Energy Invest

Jan 2014 – Jun 2014 · Oviedo, Spain

- Researched renewable-energy solutions — principally wind — and the applicable legislation for northern Spain.

SKILLS

Structural engineering: Scaffolding & temporary works · Finite Element Method (FEM) · Abaqus · Eurocodes (EN 1990-1999) · Structural analysis · Mechanical testing · Project management: budgeting, invoicing & cost control

Standards & regulations: EN 12810 · EN 12811-1/-2 · EN 12811-3 · EN 74-1/-2/-3 · EN 1004 · EN 13782 · AFS 2023:9 · AFS 2013:4 · Produsentforskriften

Software: Abaqus · Catman · SAP2000 · Diana · Mathcad · AutoCAD · SolidWorks · HEC-RAS · EPANET

Programming: Python · MATLAB · Fortran · C (basic) · Git · Claude Code

EDUCATION

MSc in Structural Engineering and Building Technology

Chalmers University of Technology · Gothenburg, Sweden · Sep 2014 – Jun 2016

Finite Element Method for structures, structural concrete, structural design, timber engineering, materials performance. Thesis on early-age thermal cracking in concrete.

Bilateral exchange — Civil Engineering

Universidade Federal Fluminense (UFF) · Niterói, Brazil · Sep 2012 – Jul 2013

Concrete structures, maritime engineering, building renovation. Two final projects: a prestressed girder bridge and building energy efficiency.

BSc + MSc in Civil Engineering (Ingeniería de Caminos, Canales y Puertos)

Universidade da Coruña (UDC) · A Coruña, Spain · Sep 2007 – Jul 2013

Mathematical modelling and computation, soil mechanics, concrete and steel structures, building construction, project management.

SELECTED PROJECTS

Early-Age Thermal Cracking in Concrete (Jan 2016 – Jul 2016)

Study and 3D modelling of the mechanisms driving crack formation during the early stages of concrete hardening.

Cultural building on the outskirts of Stockholm (Oct 2014 – Jan 2015)

Structural design of a building comprising a library, an auditorium and a glass façade.

Precast prestressed girder bridge, Niterói (Brazil) (Sep 2013 – Jun 2014)

Sizing of the superstructure of a prestressed beam bridge.

Building energy efficiency — PROCEL Edifica (Sep 2013 – Jun 2014)

Energy-efficiency analysis of buildings against the Brazilian PROCEL Eletrobras labelling requirements.

LANGUAGES

Spanish (Native) · English (Fluent) · Swedish (Professional working proficiency) · Galician (Fluent) · Italian (Intermediate) · Portuguese (Intermediate) · French (Basic)

CERTIFICATIONS

AI Fluency: Framework & Foundations — Anthropic · Jul 2026

Introduction to Claude Cowork — Anthropic · Jul 2026

Introduction to Agent Skills — Anthropic · Jun 2026

Claude Code 101 — Anthropic · Jun 2026

Claude 101 — Anthropic · Jun 2026

AI Capabilities and Limitations — Anthropic · Jun 2026