DANIEL PEREIRA VALADÉS

Research, Development & Innovation | Power Plant Modelling | Energy Engineering | Renowned Matlab Expert
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SUMMARY

My name is Daniel Pereira. I am 33 years old and I am **Industrial Engineer** by University Carlos III of Madrid, where I studied two specialties: "Machines and Structures" and "Energy Technologies". While I was finishing my final degree project, I started my journey in the world of energy, in which I accumulate more than 9 years of experience.

After having worked in **two international companies**, where I earned valuable knowledge about **energy engineering**, I am **Director of Technology and Innovation and Lead Simulation Engineer at Cobra Industrial Plants and Energy**, one of the biggest EPC contractors in the world.

WORK EXPERIENCE

Cobra Industrial Plants and Energy — EPC Contractor
Director of Technology & Innovation — **Oct 2018 – PRESENT (2 years)**

- Responsible for the Technology & Innovation department, personnel and exploitation result, with 7 people under my direct responsibility.
- Budget and personnel assignment and management.
- Follow-up and coordination of the 17 projects achieved and preparation of new proposals for the financing authorities (resources, budget, invoices, time schedule).
- **Achievements**: 7.6 Million Euros in R&D funding, including Spanish and European-funded projects, with an assigned budget of 10 Million Euros for Cobra Industrial Plants and Energy.
- **Technologies**: Concentrating Solar Power, Photovoltaics, Wind Offshore, Electric Grid and Storage technologies, Green Hydrogen, Digital and Data driven technology oriented to Operation and Maintenance.

Cobra Industrial Plants and Energy — EPC Contractor
Lead Simulations Engineer — **Jun 2015 – PRESENT (5 years & 5 months)**

- Development of in-house energy-production and financial models, for evaluation of all kind of power plants (solar, conventional, hybrid). Achieved: Optimization of the financial revenue, fine adjustment to restrictions, maximization of the production and minimization of the LCoE of the final combination of technologies.
- Application of the developed models in different bids: CSP Tower with thermal storage, CSP Parabolic (with thermal storage), CSP Fresnel (with thermal storage), ISCC, Syngas Rankine Cycle, PV + Batteries, Hybrid CSP + PV, Hybrid PV + Batteries + Hydrogen generation + Hydrogen Fuel Cell, Hybrid PV + Wind, Hybrid PV + Gas Turbine + Batteries.
- Technical and Economical evaluation of technological providers: Heliostats, Parabolic Trough collectors, Molten salts, Li-Ion Batteries, Flow Batteries, Floating platforms, Hydrogen generation systems.
- Guarantee management and technical defence of plant performance through actual performance data analyses and simulation, for Crescent Dunes Solar Energy Project (United States) and Ilanga-I (South Africa).
- Creation of a heliostat characterization method based on the available hardware, for Crescent Dunes Solar Energy Project.

ÅF Consult — Energy Consultancy
Energy Consultant — **Dec 2014 – May 2015 (6 months)**

- Electrical interconnection analysis and optimization for Bolivia with surrounding countries with SDDP software.
- Electricity tariff justification (amortization and operational cost model revision) for Consorcio Energético Punta Cana – Macao and Consorcio Energético de Bayahibe in Dominican Republic.
- Re-design of the user interface and user experience of a financial gap calculation model for Saudi Electric Company.
- Pumping-Hydro power plant revenue optimization in Serbia.

Sun to Market Solutions (S2m) — Solar Energy Consultancy
Process engineer and Power plant modeller — **Feb 2011 – Nov 2014 (3 years & 9 months)**

- Solar power plant modelling in Matlab and Simulink. Development of process models from scratch of several CSP plants (Tower and Parabolic), considering historical data from main equipment and real operation. Used for

operation optimization and guarantee assessment. Simulations aided to find critical equipment error or wrong logic programming. Best **success case:** CSP Puertollano, incremented efficiency from 8.29% to 10.92% (Sun aperture normal irradiance to electricity), incrementing the specific production by a 31.7% thanks to the differences found with respect to the theoretical modelling. Remarkable clients of this service: Iberdrola, Acciona, Cobra, TSK.

- Similarly, process model creation for CSP plant sizing and optimization. Relevant customers: Cobra, IDOM, Lauren Engineers & Constructors, Técnicas Reunidas, North China Power Engineering, China Huadian, Envi-con.

VOLUNTEER EXPERIENCE

University Carlos III of Madrid — Public University
M.Sc. Final-year project advisor — **Dec 2013 – Sep 2014 (9 months)**

Asempyme & Consulting — Financial, Tax and Legal Consultancy
Web & Brand Identity Designer and Administrator — **Oct 2014 – PRESENT (6 years)**

La Canaleja Sports Center — Sports Center
Swimming instructor with children, adults and seniors — **Aug 2004 & Aug 2005 (2 months)**

EDUCATION AND TRAINING

ÅF Academy — Company-funded academy
Project Management Methodology — **Feb 2015**

Official School of Languages — Public school for foreign languages
German, Level A1 (CEFR) — **Oct 2014 – Dec 2014**

University Carlos III of Madrid — Public University
Project Management: Orientation to PMP certification — **Mar 2013 – Aug 2013**

Ignacio Martín García (Acknowledged as Microsoft's MVP in MS Project) — Consultant
Microsoft Project for project managers — **Apr 2013**

University Carlos III of Madrid — Public University
Industrial Engineer — **Oct 2005 – Oct 2011**

- Industrial Engineer (5-year degree), equivalent to Mechanical Engineering 4-year degree + M.Sc.
- 2 specializations ("Machines and Structures" and "Energy Technologies") in 6 years, while average time for one specialization is 7 years, considering that in 2011 I had a full-time job in Sun to Market Solutions.
- 4 honourable mentions during the career, one of them in the final year project (Advanced constitutive equations for FCC materials).

LANGUAGES SPOKEN

SPANISH	★★★★★	Mother tongue	
ENGLISH	★★★★☆	Level: C1	Certified level B2: First Certificate by British Council in Dec 2004 Level B2 by Official School of Languages in Jun 2004
FRENCH	★★☆☆☆	Level: A2-B1	Certified level A2: Niveau debutant A2 by English Systems in Jun 1994

JOB-RELATED SKILLS

- Expert in modelling Thermal Power Systems.
- Wide knowledge of power plants and operation processes, gained through many projects.
- Good Communication and organizational skills.
- Proficient and acknowledged MATLAB and Simulink programmer.
- Very good at programming and automating tasks.
- Proficient Microsoft Office user, together with VBA (Macros) programming.