

**Rodrigo Álvarez Hernández**

**MSc. Industrial Engineer – MSc. Project Management**

Date of Birth: 19th August 1992

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## Experience

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### Flowserve

### Product Engineer

R&D Industrial Pump division dept.

1/2022 – Present

I am responsible for leading the development update of Flowserve's future line of Multi Stage pumps, ensuring they meet the requirements of fit, form, and function. This involves updating the current product lineup by generating CAD models, which not only helps suppliers to accurately cost our products but also improves the product line and reduces manufacturing costs. In addition, I am managing the complexity of product configuration by developing a tool that generates bills of materials for manufacturing, which will aid in the launch of new products.

### Lineas y Cables (Freelance)

### Lead product Engineer

R&D Dept.

1/2022 – Present

Led the design, including electronics, mechanics, and programming of tank simulator joysticks for the Spanish Army, utilizing additive manufacturing in SLA and MJF. Employed reverse engineering techniques, such as 3D scanning with mesh parametric reverse engineering of complex ergonomic surfaces, to support the design phase. Incorporated open -source hardware to reduce development time, while removing wear items to ensure product resilience, as well as improving production flexibility. This all lead to substantial cost savings and reduced tooling costs. By using very affordable techniques such as laser engraving/cutting we managed to manufacture professional products in a workshop environment.

### Universidad Pontificia Comillas ICAI

### Professor

Mechanical Engineer Dept.

09/2019 – Present

As a part-time professor, I teach courses on Machine Design, Integration and Verification, Product Design, and my passion for Manufacturing. I focus on additive manufacturing technologies such as SLA, FDM, MJF, and DLP. My classes cover all the steps from design to costing, giving students an insight into how real companies automate their processes and demonstrating how my lessons can be applied in the real world.

### Indra Sistemas, S.A

### Project/Product Manager

Airborne platforms program management dept.

10/2018 – 12/2021

End to end leading of airborne R&D Electronic Warfare projects; from budgeting to keeping track of development costs and schedules, while managing communication regarding project status with European Union officials and national stakeholders. Coordinating a consortium from different European countries to reach the development goals

### HP Inc.

### Mechanical R&D Engineer

"Wet Mechanics" Dept.

10/2016 – 09/2018

Mechanical Engineer, responsible for design, product stabilization & first customer support of the agent delivery system in HP 3200/4200 3D Multi Jet Fusion printer, as well as new platform brainstorming, modelling and test bed implementation of future 3D platform agent delivery. Prototyping fluid mechanics systems with manufacturing in mind for cost optimization, conducting my own researched knowledge of Multi jet parts manufacturing (3d Printing) and sharing it company-wise.

## Education

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### Universidad Ramon LLul – La Salle

Barcelona, Spain

### MSc. in Project Management

2016 - 2018

Final master's thesis: "Strategic purchase in the civil aeronautics industry."

### Universidad Pontificia Comillas – ICAI

Madrid, Spain

### MSc. in Industrial Engineering (ICAI)

2014 - 2016

Final master's thesis: "Development of a fixed wing drone with vertical takeoff and landing capabilities". **(Award to best thesis)**

### Universidad Pontificia Comillas – ICAI

Madrid, Spain

### Degree in Electromechanical Eng. (ICAI)

2010-2014

Final degree thesis: "Development of highly efficient unmanned aerial vehicle for small load transportation". **(Distinction with Honour).**

## Languages

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Spanish

Native

English

Bilingual - C2 CEFR Proficiency (CPE)

French

Intermediate - B2 CEFR

## Other IT & Engineering Skills

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### Computer aided Design, Engineering and Manufacturing:

Catia V5, SolidWorks 2015, Solid Edge ST6, AUTOCAD , CREO Direct Modelling.

### Design of printed circuit boards:

Eagle V7, KiCAD

### Programming languages, SW & HW:

C++, Python, Matlab, Arduino

### Advanced Microsoft Office Suite skills & VBA (Inc. MS Project)

## Additional skills & experiences

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Consultant for engineering companies in the 3d printing and reverse engineering realm.

Part time collaboration leading a team of students for "ICAI Engineers towards Development" NGO to develop drones to deliver medical aid in remote locations

Driving license

Tinkerer by nature. I undertake engineering projects for the fun of it! I encourage the visit of my site!