

CARLA SANTOS

Technology Executive | Engineering Transformation & Organisational Scale

carlasantos.dev | linkedin.com/in/carla-azevedo-santos | cscarlasantoscs@gmail.com | +351 919 777 290

Technology executive with 15+ years leading large-scale engineering transformations across Europe. Proven record scaling distributed organisations from 2 to 100+ engineers, owning €5M+ budgets, and shipping full commercial product portfolios spanning embedded systems, firmware, mobile, and cloud. Single-handedly implemented ISO 27001 in 6 months — half the industry average — with no external consultants. Recognised speaker at industry, EU-level, and academic forums. Operates at the intersection of people, architecture, and business strategy — with hands-on credibility across the full technology stack.

► SIGNATURE ACHIEVEMENT Engineering Transformation at Tridonic

Took a globally fragmented, outsourced engineering function and rebuilt it from the inside out — insourcing in waves, structuring 10 autonomous product teams, and delivering a full commercial portfolio to market: LITECOM (Zumtobel Group's highest-selling lighting management system), companionSUITE, nBox emergency battery system, ILIORA smart city lighting, and a suite of mobile, web, firmware, and embedded applications. Zero delivery disruptions throughout.

EXPERIENCE

Technical Director

IoT Software Center of Competence

Tridonic — Zumtobel Group

Apr 2019 – Present
Porto, Portugal

- **Designed and led a multi-stage engineering transformation from a heavily outsourced model to a fully in-house organisation — scaling from 2 to 100+ engineers across software, embedded, and firmware disciplines in Portugal, Austria, and Switzerland.**
- Accountable for end-to-end delivery of Zumtobel Group's commercial product portfolio — including LITECOM (highest-selling building-wide lighting management system), companionSUITE (luminaire manufacturer toolchain), nBox (emergency battery system launched from scratch, 2021), and a portfolio of mobile apps, web applications, and firmware.
- Built and scaled an embedded engineering team over the past 3 years delivering drivers, sensors, common libraries, and shared architecture — culminating in ILIORA, a fully autonomous solar-powered smart city lighting system co-delivered with Tridonic's Shenzhen R&D team, from concept to first market version in 6 months.
- Built and scaled the IoT Software Center of Competence into a 70+ engineer R&D hub, sustaining a “Best Workplace” culture for six consecutive years with attrition below 9%.
- Owned €5M+ annual engineering budget; drove headcount planning, financial forecasting, and multi-year investment allocation across distributed teams.
- Single-handedly implemented ISO 27001 end-to-end in 6 months — roughly half the industry average — embedding secure-by-design engineering practices with no external consultants.
- Drove strategic integration of AI-assisted tooling across embedded and software development pipelines, improving QA throughput and developer productivity.
- Defined unified technology and methodology strategy across geographies; contributed to executive committee decisions on technology investment at Zumtobel Group level.
- Recognised external voice for engineering leadership — featured on RTP3; speaker at pan-European industry conferences, EU forums, and universities across Portugal.

R&D Director

INOVA+

Jan 2015 – Mar 2019
Porto, Portugal

- **Tripled unit funding by transforming the R&D operating model from proposal participation to direct execution and consulting delivery across EU-funded innovation programmes.**
- Secured multi-year contractual revenue ensuring over two years of team salary coverage, strengthening organisational stability and reducing financial risk exposure.
- Led regulated HealthTech programmes across Health, Sustainable Cities, Intelligent Buildings, and Digital Security — including photonics systems for early cancer detection, coordinating software delivery with hardware and clinical partners.
- Based in Brussels for 8 months representing INOVA+ at the European Commission; coordinated pan-European consortium partnerships, acted as independent judge for EC innovation proposals, and represented the company as speaker and jury member at knowledge transfer events.

Project Manager & Lead Software Engineer

Jul 2011 – Dec 2014
Porto, Portugal

INOVA+

- Led cross-functional medical technology initiatives from concept to delivery, managing scope, timelines, and regulatory constraints in structured R&D environments.
- Architected and integrated software-hardware modules for an endoscopic diagnostic and therapy capsule; designed full-stack systems (C#, Unity 3D, Web Services) for Parkinson's rehabilitation and therapeutic platforms for special-needs education.

Software Engineer / Analyst

2009 – 2011
Porto & Lisbon

K2C Solutions · GMS · CPCis

- Early career across telecoms and financial services — AI-based routing optimisation in Java, telecoms mediation and billing (Oracle APEX), and financial impairment modelling (SQL Server, C#) in high-reliability production environments.

SELECTED DELIVERABLES

LITECOM

Zumtobel Group — ongoing

Zumtobel Group's highest-selling product. Next-generation building-wide lighting management system spanning controller hardware, touch panel, interface, mobile app (LITECOM APP), and multiple LITECOM infinity software modules. Porto team responsible for the majority of software delivery.

companionSUITE & Apps

Tridonic — ongoing

Full software toolchain for luminaire manufacturers — deviceGENERATOR, deviceCONFIGURATOR, deviceANALYSER, 4service NFC app, 4remote BT, and sceneCOM S commissioning and remote apps. Spans web applications, mobile (iOS/Android), and firmware integration.

nBox

Tridonic — launched 2021

Emergency group battery system launched from scratch by the Porto team. 48V low voltage, state-of-the-art communication technologies, companion apps. Recognised as uniquely compact and reliable in the market.

ILIORA — Smart City Lighting

Tridonic × Shenzhen — v1 delivered, v2 in progress

Fully autonomous solar-powered outdoor lighting system. D4i-certified DC/DC LED driver, MPPT energy management, sensor integration, and smart city connectivity. First version to market in 6 months. Installation savings up to 80% vs. traditional grid systems. Embedded team now delivering v2.

EDUCATION

M.Sc. Informatics & Software Engineering

University of Porto | 2005–2010

LANGUAGES

Portuguese — Native
English — Fluent (CAE)
Spanish — Professional

CERTIFICATIONS

ISO 27001 Foundations — Advisera, 2026
PMP Certification — PMI, 2015
Certified ScrumMaster — Scrum Alliance, 2014

VISIBILITY & SPEAKING

- RTP3 — national media
- European Commission — Brussels & EU forums
- Pan-European industry conferences
- University of Porto & Portuguese universities

CORE STRENGTHS

- Engineering Transformation & Org Scaling
- Full-Stack Product Portfolio Delivery
- Embedded Systems & Firmware Leadership
- ISO 27001 Implementation (end-to-end)
- Budget & Financial Planning (€5M+)
- AI & Emerging Tech Integration
- Regulated & Mission-Critical Systems
- Executive Stakeholder Leadership
- Cross-Cultural Distributed Teams