

FABIANO TUCCILLO

Senior System Engineer - Technical Manager , R&D

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Date of birth: 21/08/1975 (Naples, Italy) Resident in Via A. Pisano 7, 04019 Terracina (LT, Italy)

PROFILE SUMMARY

Electronic engineer with responsibility for technical leadership of complex projects in the field of electronics and optoelectronics with particular reference to the following contexts: aerospace, industry, railways, R&D.

Innovative and experienced in risk management, particularly regarding customer relations and stakeholders' needs. Solid background in all aspects of engineering and in systems development for their entire life cycle up to validation and implementation in accordance with ISO9001 quality assurance procedures, ECSS (Cosmo-Skyimed Project and VEGA) CENELEC Railways (MSIS e SMCV Projects), FIAT 9.90111 and VW 800 00 (Automotive Projects).

LANGUAGES: Fluent English (spoken and written)

Technical Management

- ✓ Technical and financial feasibility, sustainability and efficiency
- ✓ Reorganisation of company's technical structure
- ✓ Definition of business strategy, risk analysis and suggestions for corrective actions
- ✓ Support for creation of industrial team for development of Technological Concept

Project Management

 complex multi-projects

- ✓ Business Case Analysis and Stakeholder Needs Analysis
- ✓ Preliminary, final and executive design
- ✓ Budgeting, planning and reporting
- ✓ Procedure standardisation at each stage of the contract and monitoring of the product's life cycle
- ✓ Coordination and training of motivated teams
- ✓ Negotiations with sub-suppliers

System Engineering

- ✓ In-depth analysis and drawing up of requirements
- ✓ Design and set-up of testing and integration system architecture and productivity control

Personal Attributes

- ✓ Tact, patience and courtesy even under pressure and when working to very strict deadlines
- ✓ Decision making, initiative and proactivity towards the company's board.
- ✓ Conflict management and excellent motivational skills

Know-how

- ✓ Model (*Model Based Systems Engineering-MBSE*) with framework based on ISO9001, ECSS and CENELEC (SysML Language)
- ✓ Project documentation, WBS, WP, PDR, CDR, DDP product tree, product manuals
- ✓ Sensor data processing (*recognition, measurement, analysis algorithms*)
- ✓ Optoelectronic and electronic systems for: Sensor conditioning and acquisition (*Temperature, Deformation, Optical, Infrared, Electrical Parameters, Strain Gaging, Encoder*)
- ✓ Project implementation on FPGA platform, microcontrollers and SoC
- ✓ Data transmission (*SPI, I²C, RS-232 e RS-485*)
- ✓ Actuator interfaces (*Stepper Motors, Power Drivers*)

WORK EXPERIENCE

09/2018 - today **Hidra Innovate s.r.l.** Product and *Engineering Consultant Company* Terracina - LT(ITA)

Owner

Area: **R&D**

- In charge of managing and developing of system architecture, Electronics PCB, Software embedded, web and mobile app, Linux embedded, Fpga, Mechanical Enclosure for project:
 - **SenS** Distributed Sensor System - Hidra Innovate
 - **OFDR** Fiber Optics High voltage Cable strain monitoring - Prysmian Group
 - **Sistema Tracciabilità** GPS Tracker - Mutti s.p.a.
 - **Switx** IoT Solution Web and Mobile app - Hidra Innovate
 - **TrainR** Multi tenant Events WebApp Scheduler - AVPTWorkout
 - **BCwaves** Infrared measurement system - Electronic System s.p.a.
 - **NRC Noise Reduction system** - Lavoro Sostenibile
 - **TPLC** Thin film measurement system - Electronic System s.p.a.
 - **WSN** Soil Sensor System - Feed s.r.l.
- Development SW: Altium, Vivado, AMD-Xilinx SDK, ST CubeMX, Freecad, vsCode, Labview, Flutter.
- Skills: Components procurement management to mitigate shortage , Mechanical element Procurement , requirements definition and analysis.
- Soft Skills: Customer requirement management in order to reach the best technical solution and always attentive to customer needs.

04/2017 - 09/2018 **CMD Combustion Engine Engineering**

Caserta(ITA)

Senior System Engineer Area: **R&D**

Reporting to: **Technical Director**

- Team Leader for development and implementation of sensor system for ECO 20 (mCHP) model identification task.
- Management of "end of line" test for production and commissioning for Operation phase of the mCHP.
- Requirements definition, design and development of distributed Monitoring Cloud solution for the predictive maintenance and remote control of mCHP Plant.
- SW Design of process for gasification plant (pyrolysis).

Results: The innovative solutions proposed brought financial revenue thanks to government incentives.

03/2012 – 12/2016 **ART Group S.p.A. Aerospace Systems Engineering**

Benevento /Torrita di Siena (ITA)

Since March 2014 **Technical Director** Area: **R&D**

Reporting to: **CEO**

- Feasibility study on introduction of new technologies into the company and impact on other industrial sectors (OFDR)
- Budgeting (sourcing materials, recruiting, calculating man hours) and R&D quality assurance system
- Motivational meetings with the project team to improve performance

January 2014 - **Project Manager** Reporting to: **CEO** Projects: Bit, OTDR and OFDR (see enclosed overview)

- Optomechanics and electronics team management
- Planning and preparing project budgets according to ISO 9001 and contract compliance
- Team training on requirement management and trade-off analysis

Results: Alternative solution proposed: development of a new project (OFDR Reader) to mitigate the technological risk due to the difficulty of implementation of the electronic demodulation system for OTDR technique.

03/2012 – 12/2013 **Project Leader - System Engineer** Area: **R&D**

Reporting to: Program Manager

Project: OPSIS (radio satellite subsystem for photographic monitoring of Planet Earth).

- Management of Phase 0, phase A and Phase B of the aerospace project in accordance with ECSS standards
- Trade-off and preliminary project analysis; coordination of team made up of electronic engineers, computer scientists and mathematicians
- Model definition and development (simulations) on Microsemi Proasic3 FPGA platform.
- Devising of data communication protocol with high-speed SERDES systems, (non-volatile memory management, systems architecture, TCM modulation and steering antenna management)
- Documentation management in accordance with ECSS standards (*European Cooperation on Space Standardization*).

02/2011 – 03/2012 **Marini Impianti Industriali S.r.l. Railway System Engineering** Cisterna di Latina (LT, Italy)

Project Leader - System Engineer

Customer: RFI

Reporting to: R&D Technical Director

Projects: *MSIS(power lines insulation measurement for railway systems)* and *SMCV (Vertical load measuring system for railway rolling stock)*

- Coordination of several design teams
- Spec definition with emphasis on electric insulation capacity of the function blocks in accordance with CENELEC standards for system Engineering.
- PCB development management in Real Time with supplier according to cloud repository procedure.
- Prototype experimental tests and simulations of electric parts using SPICE sw

Results:

- Introduction to company's portfolio of two new measurement devices and a new sw to design more efficient electronic systems (configuration control, shared libraries and concurrent design) (Altium Design).

04/2008 – 02/2011 **E.L.V. S.p.A. - Engineering for aerospace systems**

Colleferro (Rome)

Project: *Using FBG sensors (Fiber Bragg Grating) for Vega Launcher navigation system*

2008 - 2011 **Responsible for Development of Research Activities**

- Feasibility study and creation of steering committee, work groups and overseeing groups
- Selecting partners and defining business plans for funding applications
- Developing and planning validation tests for demonstrator's technological concept
- Coordination of Altran Italia, AVIO Colleferro and Unisannio research teams at the presentation

Results:

- Involvement of team members (Research Centre of the University of Benevento, AVIO, Altran) in the funding

- Research successfully presented at the workshop on research innovation
- Part of the research was the starting point to apply for structural innovation funding
- Test timing and cost optimisation (with a saving of 450,000 € on the budget) thanks to the executive SS-System project.

2008 - 2009 **Responsible Functional Test Campaigns and Support Systems**

Subsystems: *Vega Launcher Self Destruction, Communication, Telemetry Telecommand and Power Systems* and test support systems (see enclosed overview)

- Planning and budgeting (requirements, acceptance test, set up and validation within the facility)
- Monitoring preparation of testing and validation procedures according to MIL-STD and ECSS standards
- Presentation of results to the end customer (ESA) highlighting solutions of nonconformities

10/2006 – 03/2008 **Andromeda S.r.l. Industrial and Systems Engineering start-up** Naples

Electronic Subsystem Design Engineer

Project: *CTP Optotec (Computer To Plate)* development in OFFSET industrial moulding of polymer sheets for newspapers, weeklies, posters

- Project-spec management, productivity and updating flexibility control
- Design and implementation of simulation systems for testing of individual subsystems (*National Instrument HW CompactRIO in LabView Real-Time and FPGA*)
- Polymerization and simulations in Matlab

Results: Product patented, approx. 50 printers sold worldwide (unit cost: 25,000 €)

Tools: Xilinx EDK 9.1 9.1 the ISE Foundation, the Xilinx, Switchercad III, Matlab, Labview (SDK, Realtime And FPGA), Orcad, Visio, Project, Sharepoint, Oscilloscopes, Function Generator, Compactrio, Rf Generator, Photodetector, Microsleeds, Optical Devices, Tools For Electronic Manufacture.

08/2005 – 09/2006 **Thales Alenia Space (TAS- I) Aerospace Systems Engineeringi** Rome

Project: *Cosmo SkyMed* Developed by the Italian Space Agency and the Ministry of Defense

Since 2005 **Responsible for Set-UP** Emission and electrical susceptibility, Thermal vacuum

- Coordination of Deployment and Testing team for Thermal vacuum and of EMC Team.
- Logistics planning and deployment within the TAS-I facility for development of thermal tests in collaboration with the person in charge of the thermalVacuum chamber, EGSE test equipment and Special Equipment in Cannes (France)

Results: Development of an acquisition system of temperature sensors with corresponding measurement plan (350 thermocouples) and introduction of 3d drawing techniques for preliminary definition of set-up techniques and timing.

2005 **Integration & Testing Engineer**

- Electric integration of navigation subsystems
- Creation of Satellite qualification test set-up

Results: Bragg fibre-optic sensors suggested for temperature and deformation measurement on satellite.

Tools: Sectrum Analyzer, Function Generator, Oscilloscope, Digital Multimeter, Rf Componets, Cst Studio, Orcad, Mplab

BACKGROUND

2004 - 2005 **Electronics Engineer, Optical Sensors R&D C.I.R.A. Systems Design** Capua, Caserta (Italy)

- LabView development (bragg sensor system) for seismic measurements based on an optic system. Project S.I.MON.A.

Tools: MATLAB, Labview, Autocad, Working Model 2d, Word, Oscilloscope, lasers, Bragg Cells, Adc, Photodetectors, Mechanical Tools, Optical Table

2003 **Media Developer** with 3D Studio Max **Jonata Dental Technician Lab** San Benedetto (Caserta, Italy)

2000 **Software Engineer - R&D Federico II University** Naples

- LabVIEW development of fibre optic thermometers for "*Formula 1*" in association with C.I.R.A. Capua and Unina.

1999 **Electronics Engineer** standard midi systems embedded on Microchip™ Microcontroller Caserta, Italy

1995 - 2003 **Software Engineer Web Antonio Calabrò Web Media Market Studio** Naples

EDUCATION

- 2008 – 2011 Basic Communication and PMBOK (Project Management Body of Knowledge), “Altran Italia”
- 1994 – 2004 **Electronic Engineer: Microwave and Optical Devices** “Federico II” University, Naples
- 1988 – 1993 Electronics and Telecommunications Technician “Francesco Giordani” Caserta

COMPUTER SKILLS

- Microsoft Office Visio/Project CAD simulation, PCB, Optics CAD

INNOVATION

- Application of MBSE to automated management, Design, test and validation process.
- Patenting of Printing Plate Handling Apparatus: WO2008145764 – CTP Optotec Project
- Testing of fibre optic deformation measurement system for monitoring VEGA space launcher propellers. VEGA Project (Advanced Generation European Carrier Rocket)
- Introduction of new software for the design and simulation of electronic systems (Altium Design).
- Application of CLOUD to documentation management, including manufacturing contracts – MSIS Project
- 3D modelling for preliminary definition of set-up timing and techniques - Cosmo Skymed Project.
- Implementation of mathematical polymerization model using infrared laser and simulations in Matlab - S.I.MON.A. Project.
- Development of mechanical shock detector system with elastomeric materials and carbon fibre composite materials - S.I.MON.A. Project.

I hereby authorise the processing of my personal information pursuant to Italian Legislative Decree no. 196 of 30 June 2003.