

Eng. Francesco

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Curriculum Vitae

Name and Surname Francesco Sintoni.
Birth Date and place Rome, On February the 13th 1955.
Military Service Acquitted as an Officer in the Italian Army

- **School and University Curriculum**

Higher Education Scientific Diploma (60/60 grade)

University Diploma in Nuclear Engineering Degree at Rome University "La Sapienza" with a dissertation on: "*Recovery of Sr-90 and Cs-137 from radioactive high level activity wastes*" (110/110 grade).

Post-graduate degree in Nuclear Engineering two-year course with a dissertation on: "Use of ferritic steels in steam generators of Liquid Metal Cooled Fast Breeder Reactors" (Being placed third this dissertation was awarded by the Italian ENEA Agency).

One-year scholarship at Centro Sviluppo Materiali on "materials and processes Technology" with a final dissertation on "Advanced technologies of surface coating and treatment".

University Diploma in Aerospace Engineering Degree at Rome University "La Sapienza" with a dissertation on: "*Use of the nuclear propulsion technology in the exploration of the Solar System*" (108/110 grade).

Currently enrolled in the Spatial and Astronautic Magistralis degree at the University of Rome "Sapienza":

- **Languages and computer tools Knowledge**

English written and spoken fluently

French written and spoken fluently

German written and spoken

Chinese Official HSK Certificate

Current use of Microsoft Office tools

- ***Working experience***

Cooperation with Rome2 Section Luigi Broglio of the Italian Aeronautical Army Assosiacion for which I have coordinated an event on the Additive Manufacturing, carried out two lectures on, respectively, “Nuclear propulsion for mission to Mars”, “The Ekranplan a good idea of the past or a real perspective for the future” and contributed with a chapter to the book “The Conquest of the Space” which is going to be issued within this year

Seminar on “High Temperature Composite Ceramics” in cooperation with Toscana Formazione

Seminar on “Propulsion Technologies for a Human Scale Access to the Solar Planets and the Intergalactic Space” for the School of Astronautics of La Sapienza University of Rome (2019 e 2010)

Course on “Polimeric Composite” in collaboration with Ingegneri di Roma

Cooperation with Startef Start-up on advanced thermoelectric solutions for glass windows applications

An expert of M-ERA.net (M-ERA.net is an EU funded network born to support and increase increas the coordination of european research programmes and related funding in materials science and engineering) in evaluating European projects in the field of materials Expert

Collaboration as freelance professional with Pangea Formazione s.r.l company on Bayesian approach to reliability modeling training

Collaboration as freelance professional with Iter s.r.l (Milan) Company in the field of specialized technological training

Editorial collaboration with Teknedit s.r.l company (Milano) on Composite Materials (Current)

Editorial collaboration with Dedalo Litostampa s.r.l Company Scientific Magazine “Sapere” (Current)

Technical and Scientific committee Member in Aerospace CESMA Organization (Current)

CSM-Centro Sviluppo Materiali S.p.A. (Past-time)

Employee from January the 1st, 1987 and length of service with effect from the acquisition of an scholarship on April the 1st, 1986 with a number of positions and roles over the years according to the following:

- ✚ Market Developer Manager (2010-2011) of CSM Oil & Gas Directorate

- ✚ East Asia Market Developer Manager (2005-2009) with the task of promoting CSM steel, Energy

and Oil&Gas capabilities in the Chinese market

- ✚ Corporate Marketing Manager (2004-2005), responsible of a project on the up-grading of the company website and project manager of an R&D project on the development of innovative sensors for the detection of CWA (*Chemical Warfare Agents*).
- ✚ Aerospace and Defense Business and Market Manager of CSM "Diversification, transfer & Territory Directorate" (1998-2005) with responsibility (See the "Projects").
- ✚ Market Manager for the automotive, valves and packaging sectors for CSM "Innovative Materials and Components Directorate" (1997-1998).
- ✚ Head of CSM "Rolling Technologies and Industrial Diagnostics function " (new rolled steel products, optimization of production flows, development of predictive maintenance systems, improvement of steel plant equipments life extension through anti wear and corrosion treatments, and so on) (1994/1996) and in charge with the project aimed to reinforce the company relationship with Apulia SMEs.
- ✚ Switching to Company "Top Executive Middle Manager" (1994).
- ✚ Manager of CSM "Maintenance Engineering function" (1992/1994) and Project leader of projects on Steel Plant Maintenance, and equipment reliability and cost/benefit analysis of plants (1994).
- ✚ Manager of CSM "wear-resistant and functional materials function " (1989/1992) the main target of which were the development of ferrites used in electrical equipments and drive systems, coatings and anti-wear /self-lubricating materials, ceramic, optical and anticorrosion and lubricant substances.
- ✚ Researcher (1987/1989) on activities concerning wear and corrosion -resistant coatings, and thermal barrier ceramics, high temperature steel and superalloys materials; responsible of the Tribology laboratory

- ***Tecnogeco Engineering S.r.l***

- ✚ Senior Engineer plants designer (1985/1986) (Main project on the CIRENE nuclear reactor).

- ***Most Relevant Projects***

2008-2009 - China Project: Implementation of business activities in China and Vietnam steel, Oil&Gas and Energy Markets

2006-2007 - Lazio Aerospace District: Reinforcement of business relationship and commitment from SMEs

1998-2005 - CSM Diversification Project. Creation and reinforcement of relationship and commitment from Aerospace and Defence companies and agencies. *Main projects carried out within this industrial area:*

- ThalesAleniaspace company

Development and characterization of antisticking thin coatings for satellite actuators

Development of inorganic optical coatings for satellite actuators

Development of titanium-based metal matrix composites panels for reusable launchers thermal protections

Development of next-generation reusable launch vehicles airfoils made by composite materials (Project funded by Agenzia Spaziale Italiana -ASI)

- Magnaghi Aeronautica company

Development of alternative coatings to chromium and of carcinogenic cadmium for aircraft landing gears

- Alenia Aeronautica company (Now a Division of Leonardo company)

Protective coatings against erosion caused by solid-fuel missile plume

Anti-infrared and visible coatings for supersonic aircraft airfoils

Development of optical selective windows

Development of titanium-based metal matrix composites for box structures of jets

Development of a low radar cross-section materials

Development of laser welded light 2000 and 7000 series Aluminium alloys panels

- Avio company

Development of convergent-divergent wolframium nozzles for rocket engines

Development of injection plates for the Italian VEGA space launcher engine

Development of Ti-Fe intermetallic materials for low-pressure turbine blades

Development of methodologies for the characterization of the resistance of high temperature materials to coupled mechanical and thermomechanical fatigue at very high temperature

Development of anti-oxidation / corrosion coatings for turbine blades in avioaero applications

-  Piaggio Aero Industries company

Development of the welding laser technology for aircraft engine combustion chambers

Development of fast-machining methodology of aircraft engine metallic components

- Umbria Cuscinetti company
 - Development of Screwed light flaperon actuators
- Galileo Avionica company (Now a Division of Leonardo company)
 - Development of Silicon carbide mirrors for the infrared and visible band
- Selex Integrated Systems company (Now a Division of Leonardo company)
 - Development of multi-layer radar absorbing composite panels
- Fincantieri company
 - Development of stealth technology to low infrared emissions from hot parts of ships
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 - Development of stealth technology to low infrared emissions from hot parts of ships
- Italian Aerospace Research Center – CIRA
 - Development of Ultra-Temperature Ceramics for future generation USV
- Italian Ministry of Defence
 - Development of advanced materials for hypersonic missiles
 - Development of functional gradient lighter materials for ballistic protections
- European Space Agency
 - Development of advanced ceramic materials for reentry vehicles
- EU Frameworks Programme
 - Development of innovative structural solutions for Airbus A380 aircraft (Tango Project)
 - Supply chain within the aviation industry
- European Defence Agency
 - Investigation on materials for the cooling electronic equipments
- MIUR
 - Development of a low cost process for the on-continuous manufacturing of MMC strips.
- EU CSFR
 - Development of the Thermoelectricity technology for iron and steel industry applications

Packaging industries . Main R&D commitment:

Development of Sintered self-lubricating components for the auto motive industry (Fiat Iveco, Federal Mogul and Eaton Automotive companies)

Diamond tools development (Maco company)

Development of anti-wear and corrosion materials for packaging machines (IMA, GD companies)

- **Training, Working Groups and organization/participation in events**

- Training

1997. Luiss University course on "Marketing methodologies for the promotion and sale of intangible products "

1986-1992. Attended at the following courses:

Tribology and surface treatments at the Royal Institute of Technology (Cranfield - UK)

Thermal Spray Conference (Stratford-on-Avon - UK)

Course on les materiaux ceramiques at the Ecole Polytechnique (Paris - Fr)

CERTEM Course on tribological Materials (Bologna-It)

IFAP-IRI training course on budget design and management, statistical programming, the company's income statement and balance sheet, marketing, theory of experiments applied to the analysis of industrial processes, and so on.

- Working Group

1997-2005. Attended at the following activities

AIAD Ritec, Equipments and SMEs

CEPA3 WEAG as Italian representative

AIAD ACARE.Italia

1992- 1996. Italian Representative in

European Plant Engineering Committee

1997 – Today

Air Power Symposium (Rome, Italy)

Unmanned Air Vehicles for the protection and Security Symposium (Rome, Italy)

Strategic Defence Communication networks Symposium (Rome, Italy)

2nd International symposium on hypersonic flight (Rome, Italy)

Symposium on space debris (Rome, Italy)

CESMA conferences

"R&T" Annual meeting on military technologies by contributing to the "green books"

Annual "AECMA" and successively "ASD" conventions

"International Bourget les salons" (Paris-Fr)

Exhibition "Naval Technologies" (La Spezia-It)

Light alloys training course Alitalia company (trainer)

The 18th and 19th "European Conference on materials for aerospace applications" (Pa -Fr & Munchen-Ge)

Conferences on "New trends for the manufacturing in the aeronautic industry" (San Sebastian and Bilbao

- E)

"CMC Days" workshop in ESA (Estec - NI)

"Robotics and MEMS for Vehicle Systems" Conference (Rome, IT)

"Atmosphere Reentry Vehicles and Systems" conference (Arcachon - Fr)

" First international Workshop on ASI futuristic Space technologies " (Ts - It)

" 55th IAC conference " (Vancouver -C) conference on " maintenance in aviation ", held in conjunction with the aerospace exhibition ILA Berlin

"Rio Pipelines" and Houston "OCTG" conferences

"Magnesium – New Business Opportunities" (Montichiari, Br-Italy)

Kick-off meeting of EU European, WEAG and, successively, EDA projects

B-To-B events in ESA-Estec, Naples, Moscow (Russia)

"Event Myth and Speed: The made in Italy Seminar " chaired by Alenia Aeronautica (Moscow-Ru)

Meetings with Boeing, Lockheed Martin and NASA.

- Seminars

1992 - 1996. Participated in seminars on:

Maintenance in the steel industry (Rovaniemi - Finland)

Continuous Casting Technology (Taranto-Italy)

Reduction of NOx and CO2 emissions from steel plants (Taranto-Italy)

Supported IRI delegation in the meetings with the Soviet Academy of Sciences.

Organized training course on "Materials and Technologies" for students of technical colleges

Organized training for staff on the maintenance of establishments ASTTerni-and-Lucchini Lovere.

- **Presentation Articles and Memoirs**

"Deposition of welded coatings to improve hot wear and thermal fatigue resistance of hot die steels" - Conference on tribology at Amsterdam - NI)

"Effect of the second hard phase on the wear behavior of surface coatings" - the 6th National Congress of Tribology: friction, wear and lubrication held in Milan

"Microstructure and tribological characterization of grade 60-NiCrBSi welded coatings deposited by PTA technology on steel substrate" - 1992 Thermal Spraying Conference (Orlando - Florida)

"Development of improved performance automotive components manufactured through PTA" - International Congress on materials development in rails, tire, wing, hull transportation (Genoa-It).

"Cost/benefit analysis methodology for the improvement in the utilization of an industrial plant: an application on Continuous Casting 2 of ILP-Ta" - XV National Congress of Maintenance (I-It)

"Cost/benefit analysis for the improvement in the utilization of an industrial plant: applying the system of Continuous Casting 2 of ILP-Ta" - Special Issue of Ilva International Papers n. 10 - March/October 1993

"Design, development and installation of a diagnostic system managed by Expert System onto cell cooling machines of Ilva-Ta Sintering Plant" - 14th meeting of the "European Plant Engineering mittee" (Finland).

The expert system technology: an advanced solution to lower the maintenance cost, improve the product quality and raise the performance of industrial plants" - 15th meeting of the "European Plant Engineering mittee" (Netherlands).

"New technologies and materials for engineering performance improvements" - 16th meeting of the "European Plant Engineering mittee" (UK).

"Nano-structured composite materials and structures for anisogrid lattice aerospace applications" - "55th IAC Conference" (Vancouver-Canada).

F. Sintoni, M. Regi - Analysis of development potential in the use of composites and metal alloys in the field multipurpose - dual use (Part I), Composites Magazine Association Assocompositi n. 14, 2009

F. Sintoni, M. Regi - Analysis of the development potential in the use of composites and metal alloys in the field multipurpose - dual use (Part Two), Composites Magazine Association Assocompositi n. 15, 2010

M. Regi, F. Sintoni, - Analysis of the RTM process for the manufacture of structural components - aside,

Italian magazine Composites and Nanotechnology, Vol. 8 No. 2, June 2013

M. Regi, F. Sintoni, M. Nava - Design development and management of complex systems - activities of the Committee of complex systems for engineers of the province of Rome, the Italian Journal of Composites and Nanotechnology, Vol. 8 No. 3, October 2013

M. Regi, F. Sintoni - analysis RTM process for the manufacture of structural components - part II, Italian Journal of Composites and Nanotechnology, Vol. 8 No. 3, October 2013

M. Regi, F. Sintoni - Transfer technologies - scenarios, opportunities and criticalities, Composites Magazine Assocompositi Association, year IX, number 31, March 2014

M. Regi, F. Sintoni - Back to the future, Portal Composites Magazine of TECNEDITEDIZIONI, www.compositmagazine.it/ritornoalfuturo, 09/23/2014

M. Regi, F. Sintoni – Prospects of nanotechnologies applications in the aviation field” Sapere Magazine, Dedalo Agosto 2015

M. Regi, F. Sintoni - Impiego di materiali e strutture in composito nell'accesso umano ai voli interplanetary, Teknedit, Marzo 2020

R. Gionetti, M. Regi, F. Sintoni – Problematiche e prospettive delle comunicazioni nell'ambito delle missioni spaziali e voli interplanetary, Radiokit elettronica, Giugno 2020

- ***Education and Teaching***

Course on *Marketing and Business* at the Mechanics Department of the Faculty of Engineering, University of Tor Vergata, October 15, 2010

Course of Marketing and Corporate Business at the Order of Engineers of the Province of Rome, 13-20-27 October 2010

Seminar 'Introduction to Nanotechnology' at the Order of Engineers of the Province of Rome, January 26, 2011

Seminar “Business in the Management” at the Master in " Composites for Aerospace and Nanotechnologies ", University of Rome " La Sapienza ", November 2011.

Seminar on " Aeronautical and Industrial Maintenance" within the course "Technologies of Aerospace Constructions” at the Faculty of Civil and Industrial Engineering of the Sapienza University of Rome, December 13, 2011

Lecturer at the Seminar "Decision Making School" at the Italian Ministry of Defence November 2014

Lecturer at the Seminar "Decision Making School at the Italian Ministry of Defence May 2015

Lecturer at the Seminar "Decision Making School" at the Italian Ministry of Defence November 2015

Lecturer at the Seminar "Decision Making School" at the Italian Ministry of Defence November 2015

Lecturer at the Seminar "Decision Making School" at the Italian Ministry of Defence May 2016

Lecturer at the Seminar "Decision Making School" at the Italian Ministry of Defence November 2016

Lecturer at the Seminar "Decision Making School" at the Italian Ministry of Defence May 2017

Seminars on composite materials, maintenance, nanotechnology, at the Iter company (2014-2016)

NanoInnovation 2019_ Lecture on “Materiali nanostrutturali ad elevate prestazioni meccaniche ottenuti per processi di lavorazione meccanica

- **Patents**

Development of a dynamic process for the production of Metal Matrix Composite low cost of manufacture

