CURRICULUM VITAE

NAME	**Angel Octavio FRACCHIA**
DATE OF BIRTH	October 5th, 1956
NATIONALITY	Italian
EDUCATION	Doctor's Degree in Mechanical Engineering, La Plata University, Argentina, 1980 Doctor's Degree in Electrical Engineering, La Plata University, Argentina, 1985
LANGUAGE AND DEGREE OF PROFICIENCY	-Spanish and Italian mother tongues. -English: written: Excellent, read: Excellent, spoken: Excellent.
MEMBERSHIP IN PROFESSIONAL SOCIETIES	-Former Member, National Institute of Argentinean standards, High Voltage and Transformers Committee -Former Member, Argentinean CIGRE Committee, SC15 insulating Materials
More than 40 years with working experience in the following countries:	Algeria Argentina Bahrain Bosnia Herzegovina Brazil Bulgaria China Colombia Croatia Egypt Finland Germany Greece Hong Kong Hungary Iran Italy Jordan Macedonia Malaysia Norway Pakistan Perú Portugal Saudi Arabia Serbia Slovenia Spain Sweden Switzerland Thailand Turkey United Kingdom United Arab Emirates United States of America

EMPLOYMENT RECORD:

FROM 2008 TO DATE

EMPLOYER	HIGH VOLTAGE COMPONENTS COMPANY S.R.L. Milan, Italy
POSITION HELD AND	Founder and General Manager
DESCRIPTION OF DUTIES	Specialist for Diagnostics, Life Assessment and Failure Analysis in high voltage apparatus. Specialist for power transformers design, design review and testing.

FROM 1996 TO 2008

EMPLOYER	CESI S.p.A. Milan, Italy
POSITION HELD AND	Specialist for Diagnostics, Life Assessment and Failure Analysis in
DESCRIPTION OF DUTIES	high voltage apparatus. Specialist for power transformers design and design review.

FROM 1990 TO 1995

EMPLOYER	CESI S.p.A. Milan, Italy
POSITION HELD AND	Senior Researcher
DESCRIPTION OF DUTIES	Development of diagnostic techniques for high voltage components

FROM 1988 TO 1989

EMPLOYER	AUTOPLAT SA (Argentina)
POSITION HELD AND	Project Engineer
DESCRIPTION OF DUTIES	Design of a city omnibus

FROM 1986 TO 1987

EMPLOYER	LA PLATA UNIVERSITY FOR THE ARGENTINEAN ENERGY DEPARTMENT PROJECT (Argentina)
POSITION HELD AND	Project Leader Engineering design of a High Voltage and High Power
DESCRIPTION OF DUTIES	(Short Circuit) Laboratory

FROM 1986 TO 1990

EMPLOYER	LA PLATA UNIVERSITY
POSITION HELD AND	Teacher
DESCRIPTION OF DUTIES	At La Plata University in the course of Electrical Machines for electrical engineers as Professor Assistant with supervision of laboratory work, practical exercises and examination. Also, a responsible of electrical rotating machines tests (DC, synchronous and asynchronous machines) commissioned by the local industry

FROM 1980 TO 1985

EMPLOYER	LA PLATA UNIVERSITY (Argentina)
POSITION HELD AND	Junior Researcher
DESCRIPTION OF DUTIES	High voltage testing (laboratory and field tests) on different types of high voltage components.

FROM 1980 TO 1985

EMPLOYER	LA PLATA UNIVERSITY
POSITION HELD AND	Teacher
DESCRIPTION OF DUTIES	At the La Plata University in the course of Electrical Machines for electrical and electronics engineers as Graduated Assistant for experimental work at the laboratory and collaborator in the theoretic numeric exercises for the regular course

List of PAPERS

-F. Chillè (FCSolutions, Milan, Italy), **A. Fracchia** (HVCC, Massalengo (LO), Italy), M. Andreini, F. Boattini, S. La Mendola (European Organization for Nuclear Research-CERN, CH-1211 Geneva 23, Switzerland) "Handling Oil insulated electrical components Explosion hazard", 5th Magdeburg Fire and Explosion Days.

- F. Chillè, **A. Fracchia**, "A probabilistic approach to Transformer Explosion risk analysis", May 2013. Venice ICOLD IECS9.

- **A. Fracchia**, "More accurate input data for FLACS analysis", February 2012. Trondheim Brannforum.

- **A. Fracchia**, E. Pilo de la Fuente, "Design Review of power transformers: rules for a useful task", 3 - 5 October 2010. Santiago de Compostela – Spain

- M. De Nigris, **A. O. Fracchia**, W. Koltunowicz, A. M. Marzorati, "Gestione del ciclo di vita di stazioni blindate", SWICON 2004- Bombay, novembre 2004, 2004

- M. De Nigris, **A. O. Fracchia**, W. Koltunowicz, F. Zagliani, "Diagnosis of the functional conditions of electrical components: methods, tools and recent experiences" , AEI annual conference; Capri 1999, 1999

- M. De Nigris, **A. O. Fracchia**, W. Koltunowicz, F. Zagliani, "Diagnosi dello stato funzionale di componenti elettrici di MT ed AT: metodologie, strumenti ed esperienze recenti" , Congr. Sponsor: AEI - Location: Milano -
Year: 1999 - Congr. Title: Riunione generale 99, 1999

- **A. O. Fracchia**, G. Pirovano, A. Pigini, F. Tavano, R. Rendina - ENEL "Diagnostics of compression joints of conductors for HV overhead lines " , Congr. Sponsor: CIGRE - Location: Paris - Year: 1998 - Congr. Title: CIGRE
1998, 1998

- **A. O. Fracchia**, I. Visintainer, G. Furlan - ATM Milano "Analisi dello stato delle conoscenze scientifiche e del quadro di riferimento normativo relativo all'esposizione umana ai campi elettromagnetici." , Congr. Sponsor: AEI -
Location: Baveno - Year: 1997 - Congr. Title: 97th Meeting of the Italian Electrotechnical Association , 1997

- **A. O. Fracchia**, G. Pirovano, A. Pigini, F. Tavano, "Theoretic and experimental study on the ageing of compression mid span joints and anchor clamps for HV electrical transmission lines " , 95th Meeting of the Italian Electrotechnical Association (AEI) - Bologna, 1994, 1994

- **A. O. Fracchia**, G. Pirovano, A. Pigini, F. Tavano, L. D'Ajello, A. Sena "Development of diagnostic techniques for compression mid span joints and anchor clamps installed on electrical transmission lines: analysis of the selectivity of the measuring methods and experimental results " , 95th Meeting of the Italian Electrotechnical Association (AEI) Bologna, 1994, 1994

- **A. O. Fracchia**, G. Pirovano, A. Pigini, F. Tavano, L. D'Ajello, A. Sena "Monconi delle fondazioni dei sostegni per linee elettriche aeree AT: tecniche di rilevazione e criteri di valutazione dei fenomeni corrosivi" , 95a Riunione Annuale AEI, Bologna (Italy), 1994

- **A. O. Fracchia**, G. Pirovano, A. Pigini, F. Tavano, L. D'Ajello, A. Sena "Sviluppo di tecniche diagnostiche per giunti e morse di amarro a compressione installate su linee elettriche AT: analisi della selettività delle metodologie di misura e risultati sperimentali" , Congr. Sponsor: AEI - Location: Bologna - Year: 1994 - Congr. Title: 95a Riunione Annuale AEI, 1994

- **A. O. Fracchia**, G. Pirovano, A. Pigini, F. Tavano, "Studio teorico e sperimentale dell'invecchiamento dei giunti e delle morse di amarro a compressione delle linee elettriche AT" , Congr. Sponsor: AEI - Location: Bologna
- Year: 1994 - Congr. Title: 95a Riunione Annuale AEI, 1994

- **A. O. Fracchia**, G. Pirovano, A. Pigini, F. Tavano, L. D'AjeIlo - ENEL (DPT-ROMA); A. Sena - ENEL (DDI-ROMA) "Conduttori, funi di guardia e isolatori installati su linee elettriche aeree AT: tecniche per la rilevazione di vari tipi di difetti." , Congr. Sponsor: AEI - Location: Bologna - Year: 1994 - Congr. Title: 95a Riunione Annuale
AEI, 1994

- A. O. Fracchia, A. Pigini, "Performance of contaminated insulators under transient overvoltages . Survey of experimental data. " , CIGRE Guide by W.G. 33.07. 1992, 1992

Prize
Winner of ABB prize in the 95a AEI Annual General Meeting for the paper:
“Studio teorico e sperimentale dell’invecchiamento dei giunti e delle morse d’amarro a compressione delle linee elettriche AT”.

DETAILED PROJECTS ASSIGNED:

Project	**FAT of a Power Transformer**
Location	Italy
Year	2021
Position	Transformer expert
Duties	FAT of 75 MVA 132/30 kV power transformer

Project	**Power Transformers Factory Upgrade**
Location	Egypt
Year	2020
Position	Transformer expert
Duties	Factory upgrade for power transformers manufacturing from 245 kV to 550 kV. Equipment definition and Technical Specifications. Technical Support in procurement process

Project	**Power Transformers Factory Test bay Upgrade**
Location	Egypt
Year	2020
Position	Transformer testing expert
Duties	Upgrade of the test bay from 245 kV to 550 kV. Equipment definition and Technical Specifications. Technical Support in procurement process.

Project	**Partial Discharges Course**
Location	Italy – Perú
Year	2020
Position	Transformer expert
Duties	Webinar on Partial Discharges on all types of insulations.

Project	**Shell Type Transformer 230/34.5/13.8 kV 235 MVA**
Location	Mexico
Year	2020
Position	Transformer expert
Duties	Root Cause Analysis of transformer fault. Dielectric and thermal modelling of the transformer.

Project	**550 kV CT's FAUL ANALYSYS REVIEW**
Location	Brazil
Year	2020
Position	Instrument Transformers expert
Duties	Pear review of fault analysis on high number of Current Transformers failures with explosions.

Project	**420 kV / 150 kV HV cables procurement process**
Location	Italy
Year	2019
Position	HV cables expert
Duties	Technical support in the procurement process.

Project	**420 kV GIS manufacturing Inspections and Testing**
Location	Italy
Year	2019
Position	GIS expert
Duties	Factory Inspections and Tests of 400 kV GIS components.

Project	**Pelton Turbine testing**
Location	Perú
Year	2019
Position	Mechanical testing expert
Duties	Field Tests of 80 MW Pelton Turbine. Thermodynamic efficiency measurement.

Project	**Design Review and FAT of three Power Transformers.**
Location	China
Year	2019
Position	Power Transformer expert
Duties	Factory Acceptance Tests of 230 kV 40 MVA single phase Power Transformers

Project	**Design Review of a Power Transformer.**
Location	Portugal
Year	2019
Position	Power Transformer expert
Duties	Design Review of 230 kV 120 MVA Power Transformer

Project	**Power Transformer Repair**
Location	Perú
Year	2019
Position	Transformer Expert
Duties	Direction of the repair work in a power transformer

Project	**Oil Analysis and Maintenance Software**
Location	Perú
Year	2019
Position	Transformer Diagnosis Expert
Duties	Software supply and technology transfer in transformer dielectric oil diagnosis. Creation of a database for the transformers population.

Project	**Transformer Factory Upgrade**
Location	Egypt
Year	2019
Position	Transformer Expert
Duties	Feasibility analysis of the factory upgrade from 245 kV to 550 kV power transformers

Project	**Failure Analysis of a Synchronous Motor**
Location	Germany
Year	2019
Position	Electric Machines Expert
Duties	Failure analysis of 18 MW synchronous motor

Project	**Power Transformer active part inspection**
Location	Perú
Year	2019
Position	Transformer Expert
Duties	Active part inspection on a faulted transformer

Project	**Synchronous Generator Factory Tests**
Location	USA
Year	2018
Position	Electric Machines Testing Expert
Duties	Factory test son 240 MVA synchronous generator

Project	**Power Transformers Procurement**
Location	Perú
Year	2018
Position	Lecturer
Duties	"Semana del Capítulo de Ingeniería eléctrica, 01 al 04 octubre 2018" Exposition of the topic: Power Transformers Procurement Process, actual conditions.

Project	**Power Transformers Maintenance Workshop**
Location	Perú
Year	2018
Position	Lecturer
Duties	Workshop on power transformers maintenance, focused in insulating oil analysis and diagnosis

Project	**Power Transformers Life Extension.**
Location	Italy
Year	2018
Position	Power Transformer Diagnostic and Maintenance expert
Duties	For a population of 60 power transformers in 6 power plants, including 400 kV step up transformers and HV/MV transformers, it was established the residual life and the condition of the population to evaluate a possible life extension of 10 years. For the automation of the process, a database of the available oil analysis history population was created

Project	**Power Transformers Diagnostic and Maintenance.**
Location	Italy
Year	2018
Position	Power Transformer Diagnostic and Maintenance expert
Duties	For a 150 power transformers population in an industrial plant, including 400 kV step up transformers of 600 MW power station, HV/MV MV/MV and MV/LV transformers, it was established a maintenance program, including a diagnostic analysis tool based on DGA and oil analysis, to monitoring the condition of the population in terms of: a) Transformer condition assessment b) Insulating oil assessment c) Residual life For the automation of the process, a database of the available oil analysis history population was created

Project	**Quality Assurance in a Power Transformer Procurement.**
Location	Italy
Year	2018
Position	Power Transformers expert
Duties	The Quality Assurance in the Procurement of 240 MVA 400 kV step up power transformer included: a) Technical specification b) Design review c) Manufacturing inspections d) Acceptance tests inspection

Project	**Stator bars failure analysis of large Power Station Generator**
Location	Italy
Year	2017
Position	Generator diagnostics expert
Duties	Root cause study of stator bars insulation damage in a 320 MVA power station generator.

Project	**Design Review of a Power Transformer.**
Location	Perú
Year	2017
Position	Power Transformer expert
Duties	Design Review of 220 kV 110 MVA Power Transformer

Project	**Power Transformer Failure Analysis.**
Location	Perú
Year	2017
Position	Power Transformer expert
Duties	Failure Analysis of 220 kV 110 MVA Power Transformer

Project	**Condition assessment of MV cables.**
Location	Perú
Year	2017
Position	MV cables diagnostics expert
Duties	Condition assessment of two lines with MV cables feeders to one mine mill

Project	**Design Review of four power transformers.**
Location	China
Year	2017
Position	Transformer design expert
Duties	Design review of four HV (500 kV) power transformers

Project	**Condition assessment of power transformers.**
Location	Italy
Year	2017
Position	Transformer diagnostics expert
Duties	Condition assessment of two step-up 400 kV power transformers

Project	**GIS diagnostics after installation**
Location	Brazil
Year	2016
Position	GIS testing expert
Duties	Field PD diagnostic testing (acoustic method) of GIS after installation

Project	**Failure analysis of a power transformer.**
Location	Italy
Year	2016
Position	Transformer design expert
Duties	Failure analysis of a step-up 400 kV power transformer

Project	**Design Review of power transformer.**
Location	Germany
Year	2016
Position	Transformer design expert
Duties	HVDC 400 kV AC 500 kV DC power transformer design review

Project	**Power Transformers design Software.**
Location	Spain
Year	2015
Position	Transformer design expert
Duties	Customized Transformer Design Software developed for a transformer manufacturer

Project	**Condition Based Maintenance of power transformer.**
Location	Spain
Year	2015
Position	Transformer condition assessment expert
Duties	Definition of CBM models for power transformer condition assessment

Project	**Design Review of power transformer.**
Location	China
Year	2015
Position	Transformer design expert
Duties	Design review of three phase power transformer, 110 MVA 220/23 kV

Project	**Design Review of power transformer.**
Location	Portugal
Year	2015
Position	Transformer design expert
Duties	Design review of three phase/three loadable windings power transformer, 75 MVA 230/115/34.5 kV

Project	**Failure analysis of a power transformer in CCP of Santo Domingo**
Location	Dominican Republic
Year	2015
Position	Transformer design expert
Duties	Failure analysis of a power transformer explosion. Live testimony in the Dominican Republic Court of Justice.

Project	**Power transformer testing**
Location	Italy-Spain
Year	2014
Position	Transformer testing expert
Duties	Dynamic short circuit test on a power transformer

Project	**Design Review of power transformer.**
Location	Spain
Year	2013
Position	Transformer design expert
Duties	Design review of single phase power transformer, to be subjected to short circuit test.

Project	**Power transformer testing**
Location	Italy-Portugal
Year	2014
Position	Transformer testing expert
Duties	Dynamic short circuit test on a power transformer

Project	**Design Review of a distribution transformer in a mining plant.**
Location	Peru
Year	2013
Position	Transformer design expert
Duties	Design review of three phase distribution transformer, 2.3 MVA 23 kV

Project	**Failure analysis of a distribution transformer in a mining plant**
Location	Peru
Year	2014
Position	Transformer design expert
Duties	Failure analysis of a distribution transformer explosion

Project	**Power transformer testing**
Location	China
Year	2014
Position	Transformer testing expert
Duties	Dynamic short circuit test on a power AC/DC conversion transformer

Project	**Power transformer internal arc energy**
Location	Norway
Year	2014
Position	Transformer design expert
Duties	Failure scenarios for 150 MVA 300 kV power transformer internal arc

Project	**Failure analysis of a distribution transformer for Italian court of justice - Judge for preliminary investigations**
Location	Italy
Year	2014
Position	Transformer design expert charged by the Court
Duties	Failure analysis of a distribution transformer explosion

Project	**Design Review of power transformer.**
Location	China
Year	2013
Position	Transformer design expert
Duties	Design review of single phase power transformer, 150 MVA 500 kV

Project	**Capacitor bank internal arc energy**
Location	Norway
Year	2013
Position	High Voltage components expert
Duties	Failure scenarios for 12 kV capacitor bank internal arc

Project	**Power transformer internal arc energy**
Location	Norway
Year	2013
Position	Transformer design expert
Duties	Failure scenarios for 47.5 MVA 110 kV power transformer internal arc

Project	**Power transformer internal arc energy**
Location	Norway
Year	2013
Position	Transformer design expert
Duties	Failure scenarios for 160 MVA 300 kV power transformer internal arc

Project	**Power transformer internal arc energy**
Location	Norway
Year	2013
Position	Transformer design expert
Duties	Failure scenarios for 9.2 MVA 13.8 kV power transformer internal arc

Project	**Design Review of power transformer.**
Location	Portugal
Year	2013
Position	Transformer design expert
Duties	Design review of three phase power transformer, 37.5 MVA 230 kV

Project	**Glaninger impedance**
Location	Spain
Year	2012
Position	Testing expert
Duties	Design and manufacturing of a Glaninger impedance for impulse voltage testing of power transformers

Project	**High Voltage divider**
Location	Spain
Year	2012
Position	Testing expert
Duties	Design and manufacturing of a voltage divider for impulse voltage testing

Project	**Power transformer internal arc energy**
Location	Norway
Year	2012
Position	Transformer design expert
Duties	Failure scenarios for 50 MVA 110 kV power transformer internal arc

Project	**Design Review of power transformer.**
Location	Italy
Year	2012
Position	Transformer design expert
Duties	Design review of three phase power transformer, 55 MVA

Project	**Design Review of power transformer.**
Location	Portugal
Year	2012
Position	Transformer design expert
Duties	Design review of three phase power transformer, 240 MVA

Project	**Design Review of power transformer.**
Location	Spain
Year	2012
Position	Transformer design expert
Duties	Design review of three phase power transformer, 120 MVA

Project	**Design Review of furnace power transformer.**
Location	Finland
Year	2012
Position	Transformer design expert
Duties	Design review of three phase furnace power transformer, 22 MVA

Project	**Failure analysis on MV dry type transformers.**
Location	Turkey
Year	2012
Position	Transformer expert
Duties	Failure analysis of 5 MV transformers installed in a wind farm

Project	**Design Review of power transformer.**
Location	Colombia
Year	2012
Position	Transformer design expert
Duties	Design review of three phase power transformer, 25 MVA

Project	**Power transformer internal arc energy**
Location	Portugal
Year	2011
Position	Transformer design expert
Duties	Failure scenarios for 445 MVA 415 kV power transformer internal arc

Project	**Failure analysis in a Power Station**
Location	Mexico
Year	2011
Position	Failure analysis expert
Duties	Failure analysis of a power station Failure, involving explosion and fire of 3.3 kV switchgear, 18 MVA auxiliary transformer and 200 MVA, 400 kV step-up transformer.

Project	**Design Review of power transformer.**
Location	Portugal
Year	2011
Position	Transformer design expert
Duties	Design review of single phase power transformers, 80 MVA

Project	**Design Review of power transformer.**
Location	Portugal
Year	2011
Position	Transformer design expert
Duties	Design review of three power transformers, 60-100-100 MVA

Project	**Design Review of power transformer.**
Location	Spain
Year	2011
Position	Transformer design expert
Duties	Design review of a power transformer, 130 kV 20 MVA

Project	**Power transformer short circuit test**
Location	Holland
Year	2011
Position	Transformer testing expert
Duties	Witnessing of the dynamic short circuit test in Kema laboratory.

Project	**Technical specification of a furnace transformer**
Location	Spain
Year	2011
Position	Transformer design expert
Duties	Technical specification issue

Project	**Power transformer internal arc energy**
Location	Portugal
Year	2010
Position	Transformer design expert
Duties	Failure scenarios for 278 MVA 240 kV power transformer internal arc

Project	**Power transformer internal arc energy**
Location	Australia
Year	2010
Position	Transformer design expert
Duties	Failure scenarios for 132 kV power transformer internal arc

Project	**Distribution transformers design**
Location	Egypt
Year	2010
Position	Transformer design expert
Duties	New design for distribution transformers, 500 kVA, 1500 kVA, 3000 kVA, oil immersed.

Project	**HV bushings testing.**
Location	Germany
Year	2010
Position	High voltage test expert
Duties	Witnessing of 400 kV bushings testing

Project	**Design Review of power transformer.**
Location	Portugal
Year	2010
Position	Power transformers design expert
Duties	Design review of a power transformer, 230 kV 60 MVA

Project	**Design Review of power transformer-Shell type.**
Location	Spain
Year	2010
Position	Power transformers design expert
Duties	Design review of a power transformer, 415-230/19-21 kV 550 MVA

Project	**Power Transformer testing.**
Location	Portugal
Year	2010
Position	Power transformer testing
Duties	Witnessing of transformer testing after short circuit test.

Project	**Design Review of power transformer.**
Location	Portugal
Year	2010
Position	Power transformers design expert
Duties	Design review of a power transformer, 230 kV 60 MVA

Project	**Design Review of power transformer.**
Location	Portugal
Year	2010
Position	Power transformers design expert
Duties	Design review of a power transformer, 230 kV 75 MVA

Project	**Design Review of power transformer.**
Location	Belgium
Year	2010
Position	Power transformers design expert
Duties	Design review of a power transformer, 230 kV 60 MVA

Project	**Design Review of power transformer.**
Location	Spain
Year	2010
Position	Power transformers design expert
Duties	Design review of a power transformer, 220 kV 60 MVA

Project	**Design Review of power transformer.**
Location	Spain
Year	2010
Position	Power transformers design expert
Duties	Design review of a power transformer, 230 kV 60 MVA

Project	**Failure Analysis of two 250 MVA Power Transformers**
Location	Ethiopia
Year	2010
Position	Transformer failure analysis expert
Duties	Power transformer failure analysis

Project	**Dynamic short circuit test of a Power Transformer designed by HVCC.**
Location	Italy
Year	2009
Position	Transformer design expert
Duties	Power transformer test tested at CESI laboratory with positive result

Project	**Power transformer design, manufacturing and testing, including dynamic short circuit test.**
Location	Egypt
Year	2008-2009
Position	Transformer design expert
Duties	Power transformer design.

Project	**Dynamic short circuit test of a Power Transformer designed by HVCC.**
Location	Holland
Year	2009
Position	Transformer design expert
Duties	Power transformer test, tested at KEMA laboratory with positive result.

Project	**Power transformer design, manufacturing and testing, including dynamic short circuit test.**
Location	Spain
Year	2008-2009
Position	Transformer design expert
Duties	Power transformer design.

Project	**High voltage testing equipment**
Location	Spain
Year	2009
Position	High voltage test expert
Duties	Design of high voltage testing equipment for field test on a complete HV substation
Project	**Training course on Power Transformers Design**
Location	Spain
Year	2009
Position	Power transformers design expert
Duties	Training course on power transformers design techniques.

Project	**Power Transformers Design software**
Location	Spain
Year	2009
Position	Power transformers design expert
Duties	Software package for power transformers design.
Project	**Partial discharge testing of Power Transformers**
Location	Spain
Year	2009
Position	Power transformers testing expert
Duties	Design of a set of HV filters to allow PD measurements in the factory laboratory
Project	**Training course on power transformers acceptance tests.**
Location	Spain
Year	2008
Position	Power transformers testing expert
Duties	Training course on power transformers testing techniques
Project	**Short circuit current calculations on power transformers.**
Location	Spain
Year	2008
Position	Power transformers design expert
Duties	Calculation of short circuit currents in various power transformers.
Project	**Design Review of power transformer.**
Location	Spain
Year	2008
Position	Power transformers design expert
Duties	Design review of a power transformer, 66 kV 40 MVA
Project	**Design Review of power transformer.**
Location	Spain-Belgium
Year	2008
Position	Power transformers design expert
Duties	Design review of a power transformer, 132 kV 30 MVA
Project	**Acceptance tests and design checks of four power transformers**
Location	Portugal
Year	2008
Position	Transformer test and design expert
Duties	Witnessing of acceptance tests of four power transformers and design verification.
Project	**Design Review of Power Transformer 1000 kV – AC**
Location	China
Year	2007
Position	Expert
Duties	Design review of 1000/500 kV power transformers and 1000 kV shunt reactors
Project	**Design Review of Power Transformer 800 kV – DC**
Location	China
Year	2007
Position	Expert
Duties	Design review of 800 kV DC conversion power transformers and smoothing reactors

Project	**Course of power transformers design**
Location	Malaysia
Year	2007
Position	Project manager, Transformer Design Expert
Duties	Ten days course of power transformer design for technical staff of Malaysian manufacturer.

Project	**Design of three power transformers and one distribution transformer.**
Location	Malaysia
Year	2007-2008
Position	Project manager, Transformer Design Expert
Duties	Full design of three power transformers (7.5 MVA, 15 MVA and 30 MVA) and one distribution transformer (1500 kVA) to be tested with dynamic short circuit test, including calculation, ACAD drawings and manufacturing instructions. Control and inspection of manufacturing process.

Project	**Design review, Quality Assurance and training course of power transformers.**
Location	Malaysia
Year	2006-2007
Position	Project manager, Expert
Duties	Design review of four power transformers. Quality assurance of four prototypes construction to be full type and routine tested, including dynamic short circuit test. Ten days of training course for design and testing technicians, including laboratory exercise and final exam.

Project	**Design review and Factory inspection**
Location	Brazil-Colombia
Year	2006
Position	Expert
Duties	Design review of two power transformers, single phase 500 kV, 150 and 120 MVA and three 500 k V shunt reactors. Factory inspection of main manufacturing process on Quality Assurance of power transformer.

Project	**Design review of Power Transformer**
Location	Egypt
Year	2006
Position	Expert
Duties	Manufacturer's design review for 40 MVA power transformer to guarantee a good performance under short circuit test.

Project	**Design Review of power transformers** **CESI - Politecnico di Milano**
Location	Italy
Year	2005
Position	Expert
Duties	Definition of standard calculation procedures for design review of power transformers checks, in cooperation with Politecnico di Milano (Milan University), Prof. Mario Ubaldini.

Project	**Development of Distribution's Condition-Based Maintenance Master Plan**
Location	Malaysia
Year	2005-2006

Position	Project Manager
Duties	1.- The review of the network characteristics, its available tools and methods for the planning and execution of the maintenance plans, 2.- The identification of the most effective diagnostic indicators and methodologies for the condition assessment of electrical components in view of the implementation of a CBM approach 3.- The evaluation of the potential benefits achievable with CBM For the Implementation phase it has be considered the availability on the market of software products which, suitably configured to the specific situation and implemented with the engineering modules derived from the experience in the life-cycle management of electrical components, can be used as the core of the required CMMS system. These Commercial packages will be chosen and proposed during the Master Plan phase.

Project	**Failure analysis of 3 single phase 500 kV shunt reactors**
Location	Brazil
Year	2005
Position	Expert
Duties	Failure analysis of three single phase 500 kV shunt reactors of HV transmission network in north of Brazil

Project	**Failure analysis of two power transformers**
Location	Jordan
Year	2005
Position	Expert
Duties	Failure analysis of two step-up power transformers of Aqaba power station

Project	**Testing of HVDC power transformers**
Location	China
Year	2005
Position	Expert
Duties	Inspection of manufacturing and testing of 28 HVCD 400 kV power transformers

Project	**Failure analysis of 60 MVA power transformer**
Location	Spain
Year	2005
Position	Expert
Duties	Failure analysis of 60 MVA two secondaries and delta tertiary power transformer of Simancas substation (Madrid, Spain)

Project	**Quality Assurance for power transformers**
Location	Spain-Turkey
Year	2005-2007
Position	Project Manager
Duties	Quality assurance of power transformers production, including 9 design reviews (one for type), manufacturing inspections and type and routine tests.

Project	**Condition assessment of 30 power transformers**
Location	Peru
Year	2005
Position	Expert
Duties	Condition assessment of 30 step-up power transformers of Mantaro power station

Project	**On site testing for Life assessment on 9 power transformers**
Location	IRAN
Year	2004
Position	Project Engineer
Duties	On site tests for life assessment on 9 power transformers (400 k V and 230 kV) at Ziaran substation (Iran)

Project	**Condition assessment of 6 Rectiformers**
Location	Bahrain
Year	2004
Position	Expert
Duties	Condition assessment on 6 Rectiformers of Aluminum Bahrain.

Project	**Failure analysis of 120 MVA power transformer**
Location	Spain
Year	2004
Position	Expert
Duties	Failure analysis of 120 MVA power transformer of Cerro de la Plata substation (Madrid)

Project	**Technical consultancy for operation and maintenance of the electrical transmission network of Peru**
Location	Peru
Year	2004
Position	Expert
Duties	Technical advice about the operation and maintenance polices of the power network

Project	**China Northwest. Quality Assurance and Testing for 750 kV Power Transformers and Reactors.**
Location	China
Year	2004-2005
Position	Expert
Duties	Inspection services for factory testing

Project	**Testing and assistance during first running of 4 thermal plants**
Location	Italy
Year	2003
Position	Team Leader
Duties	Field testing and technical assistance during the first running of 4 thermal units, 250 MW

Project	**OLTC homologation at factory, Bulgaria**
Location	Bulgaria
Year	2003
Position	Expert
Duties	Complete OLTC testing at factory, Bulgaria

Project	**On-site diagnosis of 150 MVA Power Transformer**
Location	Slovenia
Year	2003
Position	Expert
Duties	Complete on-site diagnosis testing of 150 MVA Power Transformer of ELES - Slovenia

Project	**On site testing specification for Power Transformers**
Location	Venezuela
Year	2003
Position	Specialist
Duties	Complete on site testing specifications according to international standards of power transformers

Project	**Life assessment on power transformers**
Location	Iran
Year	2002
Position	Specialist
Duties	On site tests for life assessment on 9 power transformers (400 k V and 230 kV) at Tehran Pars substation (Iran)

Project	**Project for reconstruction and privatization of "ELEKTROSTOPANSTVO NA MAKEDONIJA"**
Location	Macedonia
Year	2002
Position	Expert
Duties	Determination of economic assets for the privatization of thermal and hydro plants in Macedonia

Project	**Failure analysis on MV dry type power transformers**
Location	United Arab Emirates
Year	2002
Position	Specialist
Duties	Failure analysis on many MV dry type power transformers installed in Dubai public distribution network

Project	**On-site testing of step-up Power Transformer at di Mers El Hadjadj Power Station, Orano (Algeria)**
Location	Algeria
Year	2002
Position	Project Leader
Duties	On-site testing, comprising PD test of step-up Power Transformer.

Project	**Design review of a 50 MVA rectiformer - Bahrain**
Location	Italy
Year	2002
Position	Expert
Duties	Design review of a 50 MVA rectiformer

Project	**Failure analysis on GIS Project**
Location	Malaysia
Year	2002
Position	Expert
Duties	Failure analysis of 300 kV GIS

Project	**No load losses analysis on 100 MVA Power Transformer**
Location	Iran
Year	2002
Position	Expert
Duties	No load losses analysis on 100 MVA Power Transformer

Project	**Failure analysis and transient overvoltages measurements on a Power Transformer at a refinery**
Location	Greece
Year	2002
Position	Expert
Duties	Failure analysis with on-site visual inspection of Power Transformer and overvoltages measurements at a refinery (Greece)

Project	**Inrush current on 100 MVA Power Transformer**
Location	Hong Kong
Year	2002
Position	Expert
Duties	Inrush current measurements on a 100 MVA Power Transformer

Project	**Design review of Power Transformer**
Location	Hungary
Year	2001
Position	Expert
Duties	Design review of 50 MVA Power Transformer manufactured in Hungary

Project	**Failure analysis and testing after repair of a 50 MVA Power Transformer.**
Location	Pakistan
Year	2001
Position	Expert
Duties	Failure analysis with visual inspection during dismantling and complete tests of a 50 MVA Power Transformer

Project	**PD measurements on 7 step-up power transformers**
Location	Spain
Year	2001
Position	Expert
Duties	Factory PD tests of 7 step-up 100 MVA single phase power transformers

Project	**On-site PD measurement on a 50 MVA rectiformer**
Location	Bahrain
Year	2001
Position	Expert
Duties	PD measurements on a 50 MVA rectiformer at Alba Bahrain factory

Project	**Software for power transformers diagnostic**
Location	Italy
Year	2000
Position	Expert
Duties	Development of dedicated software for power transformers diagnostics, based on DGA and other diagnostic indicators

Project	**Failure analysis of 150 MVA Power Transformer**
Location	Jordan
Year	2000-2001
Position	Expert
Duties	Failure analysis with on-site visual inspection of a 150 MVA Power Transformer at Aqaba Power Station (Jordan)

Project	**Failure analysis of three Power Transformers at Quetta Power Plant (Pakistan)**
Location	Pakistan
Year	2000-2001
Position	Expert
Duties	Failure analysis of three step-up power transformers at Quetta Power Station

Project	**Installation review of the cable network of a refinery**
Location	Saudi Arabia
Year	1999
Position	Expert Engineer
Duties	To carry out the installation review of the cable network of a major industrial plant, pointing out, by means of a multi-criteria approach, the areas where refurbishment and modification area necessary to improve the plant reliability and to enhance the safety.

Project	**GIS testing after erection**
Location	Malaysia
Year	1998-2002
Position	Expert
Duties	On site Partial Discharge measurements (acoustic method) and High voltage testing of Gas Insulated Switchgears after erection (before commissioning)

Project	**Application of life extension procedures for power plant and distribution network electrical components**
Location	Italy
Year	1998-2000
Position	Expert Engineer
Duties	To apply procedures to assess the possibility of extending the service life of electrical components for different voltage levels.

Project	**Diagnostic on power transformers based on DGA**
Location	Italy, Pakistan, Iran, Jordan
Year	1998-2002
Position	Expert
Duties	Power transformers diagnostics based on Dissolved Gas Analysis, Furans and Physical parameters

Project	**Condition assessment of power transformers**
Location	Italy
Year	1998-2002
Position	Expert Engineer
Duties	To carry out, the condition assessment of power transformers, for several utilities and industrial users.

Project	**Condition assessment of medium voltage power cables**
Location	Italy
Year	1998-2002
Position	Expert Engineer
Duties	To carry out the condition assessment of medium voltage power cables, in several power generation plants (fossil and hydro plants), distribution companies, and industrial users.

Project	**Development of tools and methods for the condition assessment of electrical components**
Location	Italy
Year	1997-2000
Position	Expert Engineer
Duties	To set up methods, procedures and tools for the condition assessment of power components, with particular reference to the setting up of data collection questionnaires, visual inspection checklists and instrumental checks procedures for the assessment of the conditions of components in service.

Project	**Failure analysis investigations of power transformers**
Location	Italy, Argentina, Pakistan, Greece, Spain
Year	1997-2002
Position	Expert Engineer
Duties	To carry out the failure analysis of power transformers for several users in the world (utilities and industrial users).

Project	**Design review of power transformer**
Location	Italy, Argentina, Saudi Arabia, Brazil, Pakistan
Year	1996-2002
Position	Expert Engineer
Duties	To carry out, in collaboration with other experts (Eng. Coppadoro, Prof. Bossi, Harold Moore et al) from the manufacturers and utilities, the review, the design of large step-up or specialist trans formers, normally in the frame of the failure analysis of the machines considered.

Project	**Testing and Research Activity**
Location	Italy
Year	1990-1997
Position	Testing and Research engineer at Cesi laboratories
Duties	HV testing of equipment in MV, HV and EHV range, as: • Power transformers • Switchgears and Controlgears • Circuit breakers • Disconnectors (Isolators) and Earthing switches • Cables • Capacitors • HV lines accessories • Insulators

Project	**High Voltage-High Power Laboratory Project**
Location	Argentina-Italy
Year	1986-2000
Position	Project leader
Duties	Design of the general layout and building dimensions. Design of the EHV hall, equipped with a 3.6 MV impulse generator and 2 x 500 kV test transformer cascade. Design of the HV hall, equipped with a 1.6 MV impulse generator and a 500 kV test transformer. Design of the pollution chamber with a special bushing for 500 kV. Design of Auxiliary Laboratories with a Faraday Cage, surge arrester test area, insulators test area, organic materials test area, etc. Technical specifications for bid enquire for the main equipment: impulse generators, test transformers, voltage divider, measurement components, etc. and preliminary offers analysis. On 1986, five months of stage at CESI with CESI experts assistance for the laboratory project. Technical visits to European companies and laboratories as: ASEA-HAEFELY plant, Basel (Switzerland) CERAVER S.A. plant, Saint Yourre (France) NUOVA INDUSTRIE ELETTRICHE DI LEGNANO s.p.a., Legnano (Italy) PASSONI E VILLA s.p.a, Milano (Italy) ABB-ADDA COSTRUZIONI ELETTROMECCANICHE s.p.a., Lodi (Italy) SOCIETA` CAVI PIRELLI s.p.a., Milano (Italy) HIGH VOLTAGE LABORATORY OF BAZET, Bazet (France) LES RENARDIERES LABORATORY, Moret sur Loing (France) ENEL - SUVERETO 1000 kV PROJECT, Suvereto (Italy)
Project	**Solid insulation materials testing**
Location	Argentina
Year	1984
Position	Testing engineer
Duties	Design and construction of a test facility for testing solid and liquid insulation materials
Project	**Artificial rain tests**
Location	Argentina
Year	1983
Position	Testing engineer
Duties	Design and construction of an artificial rain equipment for standard HV tests
Project	**Temperature cycles test for solid insulations**
Location	Argentina
Year	1982
Position	Testing engineer
Duties	Design of a system for performs extreme temperature cycles tests

Project	**Testing activities**
Location	Argentina
Year	1980-1985
Position	Testing engineer
Duties	PD measurements on electrical components, as current and voltage transformers, power transformers, cables, capacitors, etc. Capacitance and loss factor by means of Shering bridge. Expert on power transformers impulse test with more than 300 machines tested. Temperature rise test of power transformers. RIV measurements on EHV apparatus (525 kV) for lines and substations. HV testing (impulse and AC tests) of equipment in MV, HV and EHV range, as: • Power transformers • Switchgears and Controlgears • Circuit breakers • Disconnectors (Isolators) and Earthing switches • Cables • Capacitors • HV lines accessories • Insulators • Other minor components