CURRICULUM VITAE -
OF MR. MAURO CREPALDI - WWW.INGCREPALDI.COM

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SUMMARY CURRICULUM VITAE -
OF MR. MAURO CREPALDI - WWW.INGCREPALDI.COM

PLACE OF BIRTH: TURIN-MAY 12, 1966.

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DEGREE IN ELECTRONIC ENGINEERING :
OBTAINED AT POLYTECHNIC
TURIN -19 -07-1991
KNOW-COURSES. PROGRAMMING IN C, C +, VISUAL BASIC;
SPECIALIZATION COURSE ENGLISH LANGUAGE
GOOD KNOWLEDGE OF ENGLISH AND FRENCH SPOKEN / WRITTEN.

REGISTRATION: REGISTER OF ENGINEERS OF NOVARA N ° 1781
FROM 1993.

1- QUALIFICATIONS :

1. Responsible for prevention and protection RSPP (*) **Update ***
   2 Safety Coordinator 14/08/96 Decree 494 of 2004;
2. **Update ***
   Ministerial Decree 03.25.85 2003 and subsequent TUS DLG 81-8
   3 List nr.NO1781I00261 Ministry; (Dlg 818)
   Certification firefighting equipment
   Certification heat engineering

   COURSES * Law 46/90 - Taking place in Turin from CEI

3. **Update *** ATEX and EN 60079-10 - installations in hazardous areas
   explosion - Risk Analysis -
   Held in Turin from CEI into three sections;
   * CEI 81-1 and 81-8 - lightning protection systems -analysis and assessments.
   Held in Turin from CEI

4. **Update ***
   * CEI 64-8 - Installations general and higher risk in case of fire.
   Held in Turin from CEI
   * CEI 64-17 - Guidance on performing electrical installations in
   yards.
   Held in Milan from CEI

5. **Update *** FMEA –FMEDA calculation – Oil and gas installation – loop circuit diagram
   Fault free calculation- risck analysis-SIL certifications
6.
   Conference Sponsored by the Order of Engineers and Architects.
   - Design of installations in accordance with
   existing (ref: CEI 64-15)

   All previous conferences (I mentioned the most 'important) held from 2005 to November 2014.
7. **Update * Safety fire protection technical standard :**

   NFPA 12 STANDARD ON CARBON DIOXIDE EXTINGUISHING SYSTEMS
   NFPA 10 STANDARD FOR PORTABLE FIRE EXTINGUISHERS
   NFPA 15: STANDARD FOR WATER SPRAY FIXED SYSTEMS FOR FIRE PROTECTION
   NFPA 13: Standard for the Installation of Sprinkler Systems
   NFPA 16 Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems

8. Functional safety management , by Exida

   (*) In update

2 MAJOR PROFESSIONAL POSITIONS:

Main tasks performed on behalf of companies or entities in the design of technological systems, fire fighting and fire prevention practices, consulting various techniques, risk assessment of the workplace, training, testing and measurement instruments, construction supervision, etc. (work carried out in their own name or in cooperation with third parties the Company of which I was an employee and / or worker):
(Only the most 'important as the average amount of work in chronological order since 2010)

2.1 OIL AND GAS

01-2013 – Today : Iraq's State Company for Oil Projects (SCOP)-

LPG STATION OF DEWANYA

Design of electrical MV / LV and classification AD zones (API 505 -500)
with explosion hazard studies and risk assessment, practice Fire manage , automatic fire extinguishing systems design.

LPG STATION OF KUT

Design of electrical MV / LV and classification AD zones (API 505 -500)
Sil analysis of safety loop diagram of loading und loading LPG station ,
Classification pipe rack , main distribution , offgas distribution to flare
SIL Report to EN 61508 NFPA –API 500 final report – Electrical calculation report .

LPG STATION OF SHUAIBA

Design of electrical MV / LV and classification AD zones (API 505 -500)
Sil analysis of safety loop diagram of loading und loading LPG station ,
Classification pipe rack , main distribution , offgas distribution to flare

LPG STATION OF TAJI

Design of electrical MV / LV and classification AD zones (API 505 -500)
Sil analysis of safety loop diagram of loading und loading LPG station ,
SIL Report to EN 61508 NFPA –API 500 final report – Electrical calculation report .

LPG STATION OF AUMARA - **ONGOING**

Design of electrical MV / LV and classification AD zones (API 505 -500)
Sil analysis of safety loop diagram of loading und loading LPG station ,
Classification pipe rack , main distribution , offgas distribution to flare
SIL Report to EN 61508 NFPA –API 500 final report – area classification report .

Oil and gas extraction site AND distribution, Atk, fuel oil, diesel OF SAMAWA

Design of electrical MV / LV and classification AD zones (API 505 -500)
Sil analysis of safety loop diagram of loading und loading station and pipeline crude oil .
Classification pipe rack , main distribution , offgas distribution to flare.
SIL Report to EN 61508 NFPA –API 500 final report – Electrical calculation report .

2.2 Pharmaceutical chemistry

01-2008 – Today • **PROCOS SPA CBC GROUP** / (Cameri plant – Novara)
Design of electrical MV / LV classification AD zones (ATEX) with explosion hazard studies and risk assessment, practice VV.FF. own account
Automatic warning systems in relation to EN60849.
Project automatic and non-explosion proof ventilation.94/9/CE- UNI EN1127-1 –UNI EN13463-1
Certification and installation project: gas detection systems (CEI 31-33)
Conformity assessment and project CEI31-10 intrinsically safe and ATEX 99/92 / EC
Conformity assessment and project safety electrical installations in compliance 'ATEX 99/92 / EC
Conformity assessment and project safety electrical installations in compliance 'ATEX 99/92 / EC and EN50281 (combustible dusts)

•**01-2010-to today** **TEVA GROUP Italy Spa (Sicor plant – Santhià (VC)) .**
Design of electrical equipment to gas monitoring toxic
Final design
Fire safety analisys of plant , fire detection compliance UNI9795
Conformity assessment and project safety electrical installations in compliance 'ATEX 99/92 / EC
Conformity assessment and project safety electrical installations in compliance 'ATEX 99/92 / EC

01-20014 – Today • **CAMBREX Profarmaco (Paullo plant- Milano)**

Design of electrical MV / LV classification AD zones (ATEX) with explosion hazard studies and risk assessment, practice VV.FF. own account
Fire safety analisys of plant , fire detection compliance UNI9795
Project automatic and non-explosion proof ventilation.94/9/CE- UNI EN1127-1 –UNI EN13463-1
Certification and installation project: gas detection systems (CEI 31-33)
Conformity assessment and project CEI31-10 intrinsically safe and ATEX 99/92 / EC
Conformity assessment and project safety electrical installations in compliance 'ATEX 99/92 / EC
Conformity assessment and project safety electrical installations in compliance 'ATEX 99/92 / EC and EN50281 (combustible dusts)

01-20014 – Today • **DOPPEL (Rozzano plant - Milano)**

Design of electrical MV / LV classification AD zones (ATEX) with explosion hazard studies and risk assessment, practice VV.FF. own account
Fire safety analisys of plant , fire detection compliance UNI9795
Automatic warning systems in relation to EN60849.
Project automatic and non-explosion proof ventilation.94/9/CE- UNI EN1127-1 –UNI EN13463-1
Certification and installation project: gas detection systems (CEI 31-33)
Conformity assessment and project CEI31-10 intrinsically safe and ATEX 99/92 / EC
Conformity assessment and project safety electrical installations in compliance 'ATEX 99/92 / EC
Conformity assessment and project safety electrical installations in compliance 'ATEX 99/92 / EC and EN50281 (combustible dusts)

2.3 AUTOMOTIVE

4 - (from 2008-today) Functional Safety Automotive standard
(IEC61608,ISO26262 ASPICE 3.0)
Collaboration with **Exida**

Project **Patner : Exida (consultant) , Lear Corporation Gmbh,Tr1 / Volkswagen (OEM)**
Role in the project : Support in technical safety management
Vehicle level function : body control

Project patner : **Exida (consultant), Marelli Powertrain, Tr1 / Volkswagen (OEM)**
Role in the project : Faunctional safety analysis for ASIC (Rainbow –IC) development (Marelli + ST)
Safety technical and reliability analysis

Project patner : **Exida (consultant), Lear Corporation Gmbh / Daimler (OEM)**
Role in the project: Technical HW safety management development
Light project

Project patner : **Exida (consultant), BREMBO (Stezzano ITALY).**
Role in the project : Support Quality Software manager
Compliance with ISO 26262,

Project patner : **Exida (consultant), BREMBO (Stezzano ITALY).**
Role in the project : Management of internal documentation for to have compliance to technical standard of ASPICE 3.0
Compliance with ASPICE 3.0

Project patner : **Exida (consultant), BREMBO (Stezzano ITALY).**
Role in the project : The integration of ISO 26262/IEC61508 - compliance products (guaranteeing reliable implementation of safety) to product .
Compliance with IEC61508,

2.4 Industrial Chemistry

01-2006 –Today • BASF SPA. - - various locations
Design of electrical MV / LV classification AD zones (ATEX) with explosion hazard studies and risk assessment, practice VV.FF. own account
Automatic warning systems in relation to EN60849.
Project automatic and non-explosion proof ventilation.
Certification and installation project: gas detection systems (CEI 31-33)
Conformity assessment and project CEI31-10 intrinsically safe and ATEX 99/92 / EC
Conformity assessment and project safety electrical installations in compliance 'ATEX 94/9/CE
Conformity assessment and project safety electrical installations in compliance 'ATEX 94/9/CE and EN50281 (combustible dusts)
Analysis SIL-SIF -sis systems and process control.

01-2005 to Today PRAX-AIR S.p.A. - various locations
Design of electrical MV / LV classification AD zones (ATEX) with explosion hazard studies and risk assessment, practice Fire manage , automatic fire extinguishing systems design.
Project automatic and non-explosion proof ventilation.
Project security systems, locking systems for low temperature..
Certification system: CEI31-10 intrinsically safe and ATEX 99/92 / EC
Certification system: safety electrical installations in compliance 'ATEX 94/9/CE
Conformity assessment project: gas detection systems (CEI 31-33)
Risk Analysis toxic gas emission with the risk assessment of exposure to hazardous chemicals according TLV-TWA in relation to the Decree. -81/8 TUS

• 01- 2006-01 Today : PROCOS- Cameri/Novara Milano
Classification AD zones with explosion risk in the production departments and central heating.
Calculation and verification systems of protection against atmospheric discharges. Project electrical MV / LV. own account
Certification system: CEI31-10 intrinsically safe and ATEX 99/92 / EC: safety electrical installations in compliance 'ATEX 94/9/CE

• 01- 2006-Today CAMBREX . -Milano
Design of electrical MV / LV classification AD zones (ATEX) with explosion hazard studies and risk assessment, practice VV.FF. own account
Automatic warning systems in relation to EN60849.
Project automatic and non-explosion proof ventilation.
Certification and installation project: gas detection systems (CEI 31-33)
Conformity assessment and project CEI31-10 intrinsically safe and ATEX 94/9/CE
Conformity assessment and project safety electrical installations in compliance 'ATEX 94/9/CE
Conformity assessment and project safety electrical installations in compliance 'ATEX a94/9/CE nd EN50281 (combustible dusts)

• 01- 2006-Today STAHL . -Milano
Design of electrical MV / LV classification AD zones (ATEX) with explosion hazard studies and risk assessment, practice VV.FF. own account
Automatic warning systems in relation to EN60849.
Project automatic and non-explosion proof ventilation.
Certification and installation project: gas detection systems (CEI 31-33)
Conformity assessment and project CEI31-10 intrinsically safe and ATEX 94/9/CE
Conformity assessment and project safety electrical installations in compliance 'ATEX 94/9/CE
Conformity assessment and project safety electrical installations in compliance 'ATEX a94/9/CE nd EN50281 (combustible dusts)

2.5 CIVIL PLANT

- 01-2007 -01 2010 : Hospital complex in Alexandria

Final design electrical MV / LV, the hospital complex in Alexandria:

Department ICU
department sterilization
operating department
Intensive care isolation

Automatic warning systems in relation to EN60849.
Certification system and project the various departments in fire detection systems, evacuation alert system.

- 01-2012 -09-2016: Complex civil Buildings of new university in Novara (Milan),

Planning and management systems work. electric, energy, fire detection.

Implementation and supervision of electrical systems and extinguishers to complex civil university buildings in Novara (Milan), planning systems of the interventions, managing executive civil works.

Final design of low voltage , distribution systems and electrical transformer substation.

Executive planning and assistance for energy distribution systems at the complex he plans buildings.

Executive planning and assistance in installation site plant fire detection, management of different alarms.

2.6 -(from 2005-today) **- INSPECTION - SECURITY - ATEX - Certification SIL**

- At present ongoing continuous collaboration with BASF and CAMREX group for certification ATEX chemical process.
Analysis of the neutralization process / Machine in order to control at every stage of explosiveness' potential process.

Analysis and drafting loop diagram of control and computation in SIL Report to 61508.

From 2009-ongoing - advice for specific ATEX production of new initiator / Crystal carried out in collaboration with BASF for new plant built in Mortara. AND Monthey (Suisse)
(Works amounting to more than 6 -7 EURO / million)

- At present ongoing collaboration with MESSER / RIVOIRA/ PRAXAIR Italy on the ATEX conformity assessment of production facilities and supply hydrogen - Acetylene.

- At present ongoing collaboration with Exida for failure analysis FTA, FMEA, FMEDA complex circuits in industrial environments: automotive, electronics, telecommunications, etc.

2.7 - (from 2010-today) **ISO quality assessment**

Knowledge and control of enforcement of ISO quality.
in detail :

The main topics:

•quality management system;
• management responsibility;
• resource management;
•production;
•measurement,
• analysis and improvement.

preparing final assessment of conformity 'ISO

Use of the tool SPICE which is used in defining the minimum set of requirements for conducting a software process assessment.

2.8 -(from 2014-today) **Functional Safety of industrial Plant.**
Collaboration with *TUV Intercert Saarland*

Evaluation of the safety of plants such as chemical plants, refineries or oil and gas production plants.
To refer to safety requirements of these industrial plants, such described in the standard IEC/EN 61508, parts 1-7.

The application standards EN 61511 and VDI/VDE 2180 - derived from the IEC/EN 61508 - for to define the requirements regarding the application and implementation of these safety-related systems (safety instrumented systems - SIS) in the process industry.

1- Activities of analysis and inspection of industrial facilities, chemical and petrochemical plants as inspector

2- Analysis of the documentation of plant safety, update data according to the technical standards in force.

3- Analysis of the state of the art facilities built, check overall security.

4- Drafting of security reports, drawing up safety requirements of the plants analyzed.

5- Field verification of the **production & safety plant,** preparation of final report.

SPECIFIC AREAS OF INTERVENTION

DESIGN, ESTIMATION, SUPERVISION AND INSPECTION ELECTRICAL AND FIRE DETECTION -GAS - SYSTEMS ATEX
- Feasibility studies and primary estimation
- Specifications and technical specifications executive
- Walk of MV / LV
- Equipment grounding and cathodic protection
- Plant protection against lightning
- Installations in hazardous areas with explosion
- Installations in hazardous areas with fire
- Installations in public places and public entertainment
- Systems in place for medical use
- Lighting installations for exterior and interior
- Installations in deposits Gas and Fuel
- Equipment for smoke detection / fire
- Detection of gas leaks

ELECTRICAL MEASUREMENT AND VERIFICATION ELECTRO
- Equipment grounding conductors and continuity
- Plant protection against lightning
- Touch and step voltages (up to 50A)
- Insulation of LV and MV cables (up to 32 kV)
- Protective equipment DIG MT
- Rigidity LV assemblies (up to 5 kV)
- Apparatus for difference (MV and LV)
- Medical electrical equipment (RF and AF)
- Resistance and continuity of medical locations
- Average illumination indoor and outdoor
- Soil resistivity and conductivity

FIRE PREVENTION
- Analysis of the 97 activities under the control of the Fire Department by DM 02/16/1982;
- Practices for the Test Project and the Fire Prevention Certificate from the control of Fire Department, pursuant to Law No. 966 of 26 July 1965 and Decree n ° 577 of 29 July 1982;
- Ministerial Decree 10/3/98, assessing the risk of fire;
- Determination of fire load compartment and class of buildings;
- Renewal Fire Prevention Certificate in accordance with Art. 4 of Law No. 818 of December 7, 1984;
- Sizing and designing water supply fire: fire hydrants and sprinklers
- Advice for research materials and technologies fire.
- Determine using an analytical method for fire resistance of reinforced concrete structures with software simulation of the exposure to the standard fire curve (ref Eurocodes).

CONTAINMENT OF NOISE
- Assessment of risk exposure to noise according to DL August 15, 1991 No. 277- 81-8 TUS DL
- Measures levels of noise and action plans in accordance with DPCM March 1, 1991.

ELECTROMAGNETIC POLLUTION CONTAINMENT
- Assessment of risk exposure to noise according to TUS DL 81-8
- Measures levels of exposure fields emc, 3D, low frequency -average.

CONTAINMENT OF EXPOSURE RIADIAZION The ALFA-BETA-GAMMA RAYS X
- Assessment of risk exposure to RADIATION second TUS D L81-8
- Measures levels of exposure ionizing radiation: alpha -beta-range X-rays

ULTRASONIC NON-DESTRUCTIVE ANALYSIS OF MATERIALS.
Measurements by means of instrumental analysis of ultrasonic plastic materials, metal through non-destructive analysis of the thickness and integrity 'of internal tanks, piping, support structures

ACTIVITIES 'OF COORDINATION AND SAFETY IN THE YARD

Editorial POS and PSC in respect of activities 'construction companies in accordance' with DL 81-8
Safety Coordinator at design
Coordiantore safety at run

Enabled compliance 'TUS DL 81-8

CONFORMITY ASSESSMENT OF THE RATE OF FAULT CIRCUIT CONTROL EO COMPLEX SYSTEMS ANALYSIS AND INDUSTRIAL PROCESS.
In conformita'a 61508 - IEC 61511

Evaluation of the rate of failure: failure rate of each component with respect to electro-certified database and final assessment of a drive circuit safety or process with preparation of the final rate is failure of the instrument system.

Sil - analysis
Sif - analysis
Sis - analysis

Soft- Licenses in place:

Software for risk analysis lightning
Software for risk analysis, and testing compatibility explosion 'electricity
Software project installations of artificial ventilation
Software project civil electrical installations and industrial
Software design sprinkler systems and fire hydrants.
Analysis Software SIL-SIF-SIS.

Annex to reference to the Directive 94/9 / EC equipment and protective systems.

In reference to previous Directive I have made in recent years many analyzes of equipment , security – protective systems in ATEX environment.

In detail regarding **Atex GAS** :

Equipment : for Category (1,2,3) – EN1127-1 – EN13463-1

Equipment for conveying flammable liquids, filtering systems, scrubbers, condensers for flammable solvents, pumps for flammable liquids, environmental pressure reactors, reactors in overpressure, vacuum reactors.

Always it was analyzed the process machine, in relation to potential explosion hazards, to prevent ignition of explosion, to prevent the ignition potential could become effective.

They analyzed the worst working conditions, in order to prevent potentially explosive, and eventually certify the Equipment .
Confomity assessment electronic equipment analysis of protection : d / ia /ib / e / o ..

In detail regarding **Atex DUST** :
☒
Were analyzed, mills, mills for grinding pharmaceutical powders, screw conveyors, pneumatic conveyors, dryers, silos for cereals (rice, wheat, corn), filters and others.

Always it was analyzed the process machine, in relation to potential explosion hazards, to prevent ignition of explosion , to prevent the ignition potential could become effective.

They analyzed the worst working conditions, in order to prevent potentially explosive, and eventually certify the Equipment .
Confomity enclosure – tdA ..

Protective systems : for GAS and DUST .

The protection systems was analyzed on every failure so as to prevent the formation of dangerous failures.

The dangerous failures of the protection system have always been highlighted in a report dedicated in relation to the category (1,2,3) of the atex- equipment to which was applied the protection system to prevent explosion .

With realization of redundancies for to have security of process plant as established by Directive 94/9 / EC and eventually certify the Protective systems.

IL SOTTOSCRITTO È A CONOSCENZA CHE, AI SENSI DEGLI ARTT. 46 E 76 DEL D.P.R. 445/2000 E S.M.I., LE DICHIARAZIONI MENDACI, LA FALSITÀ NEGLI ATTI E L'USO DI ATTI FALSI SONO PUNITI AI SENSI DEL CODICE PENALE E DELLE LEGGI SPECIALI IN MATERIA.
IL SOTTOSCRITTO AUTORIZZA AL TRATTAMENTO DEI DATI PERSONALI, SECONDO QUANTO PREVISTO DAL D.LGS. 196/03.

Dr. Ing Mauro Crepaldi
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