FDUEG

Special and dry type transformers, reactors and engineering

CERTIFIED SYSTEM QS ISO 9001

ESYD Certification Body No. of Certificate 1008

REALISING PRODUCTS OFFERING SOLUTIONS

FDUEG Realising Products, Offering Solutions

WHO WE ARE

FDUEG was founded in **1995** thanks to the partners' experience. We are a group of **professionals with over 25 years of experience** in the electromechanical sector.

Since then it is an important Italian company that produces **dry-type transformers, cast resin transformers, oil-filled transformers, special transformers, air reactors, reactors with a magnetic core, active filters and passive filters**. Thanks to the know-how of highly specialized engineers and technicians, it has sold products and systems in over 45 countries worldwide.

The production site is **located in Italy**, in Carpignano Sesia in the provinces of Novara and Vercelli in Piedmont. It covers a covered area of over 3,000 square meters, on a property of 18,000 square meters.

Customer is king. Even since its foundations the company has found a niche in various sectors where machines for particular applications that require highly-competent design are needed. In his history it has built lasting relationships with some manufacturers of power electronics and has developed competitive solutions in the field of transformers and reactors in series.

FDUEG has a dynamic structure focused on a **UNI EN ISO 9001:2015 certified Quality System**.

TIMELINE

1995 Beginning of Company activities
Power transformers design up to 100 MVA 220 kV

1996 Starting of dry type transformers and reactors production

2000 Entry into the steelworks sector; European market

2001 Start of collaborations with research institutes and universities

2004 Consolidation of the partnership with research centers in the field of grounding systems

2005 Consolidation of the company's presence in the steelworks sector
Production of reactors for motor starting at 6 kV - 9300 KW and 6 kV 10 MVA
Study and design of 1.000.000 Volt isolation

2006 Entry into the North African market

2010 Consolidation of the company's presence in the heavy chemical industry

2011 Entry into the naval and offshore and oil & gas sectors; North Sea Market
GOST Certification

2012 Production of high frequency cast-resin water cooled transformers for welding machines

2013 Consolidation of presence in the naval and offshore and oil & gas field
South East Asia market

2014 Starting deliveries to European Country Navy

2015 Starting presence in Russian market with filtering systems

2016 Cooperation with Politecnico di Torino in the field of electrical vehicles

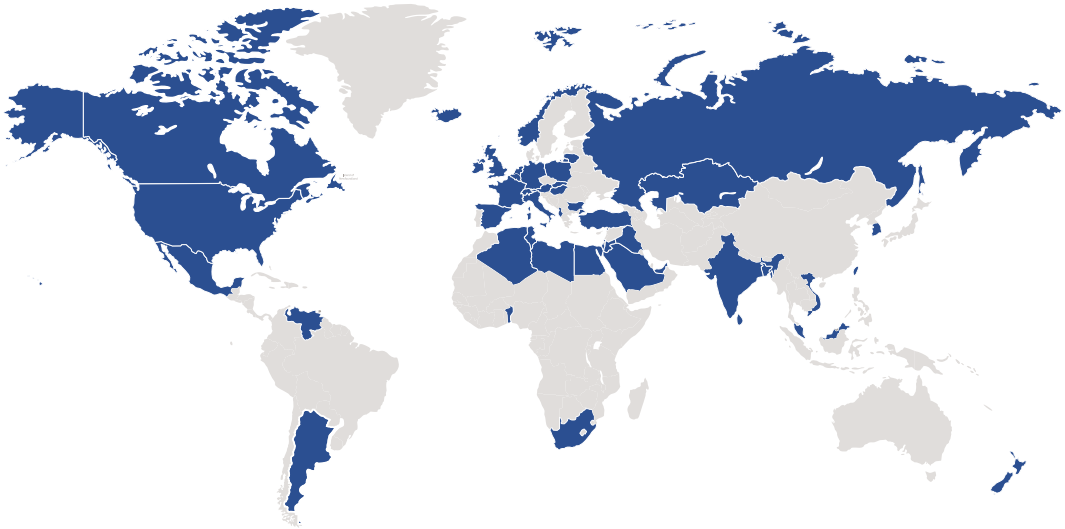
2019 Supply of CERN in Geneva

2020 25° years of presence in the market

ECO

Worldwide Market Group

FDUEG



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- Saudi Arabia
- Slovakia
- South Africa
- South Corea
- Spain
- Sri Lanka
- Switzerland
- Taiwan
- Tunisia
- Turkey
- UK
- United Arab Emirates
- United States
- Venezuela
- Vietnam

+45
PRODUCTS AND SYSTEMS SOLD IN +45 COUNTRIES

+45
EMPLOYEES AND COLLABORATORS

30
THIRTY YEARS KNOW-HOW IN THE ENERGY SECTOR MADE IN ITALY

360°
BEST ENERGY EFFICIENCY ENGINEERING DESIGN

OUR **CLIENTS**

ABB · CERN · Faiveley Transport A Wabtec Company · SIEMENS · ALSTOM · CESI · GE · TAMINI ENERGY TRANSFORMERS · Terna

The Partner Towards Innovation

Internal R&D Department

Considering Innovation as its mission, FDUEG holds R&D as its strength point, continuously evaluating new solutions through finite element simulations and validating them in the company's test room.
The fundamental purpose of the R&D Department of FDUEG is to improve the adopted technologies, selecting the materials from trustworthy suppliers, implementing the products by the most recent and demanding standards while finding the best solutions in terms of efficiency and efficacy to cope with the customers' necessities. Each member of the Department makes use of the best software on the market for 2D and 3D modeling.

Partnerships with Universities and Research Institutions

Through the years, the company cooperated with many prestigious Universities and Research Centers, both in Italy and abroad. Among the Institutions: Politecnico of Turin and the University of Pavia.
Among the research institutions: the RFX Consortium, the CNAO (National Center for Oncologic Adrotherapy) and the INRiM, the Italian Metrology research institute.
Each research activity on transformers and reactors allows FDUEG to offer a wide array of innovative products both in medium (MV) and in low voltage (LV).

OUR VALUES

- Honesty and Integrity
- Team work
- Innovation
- Quality and Efficiency
- Leadership

OUR SERVICES

Guarantee
3 years

Logistics
and Transport

Testings

Customer
Care

Eco Design
Standard

FDUEG

Special and dry type transformers, reactors and engineering

YOUR NEEDS OUR SOLUTIONS

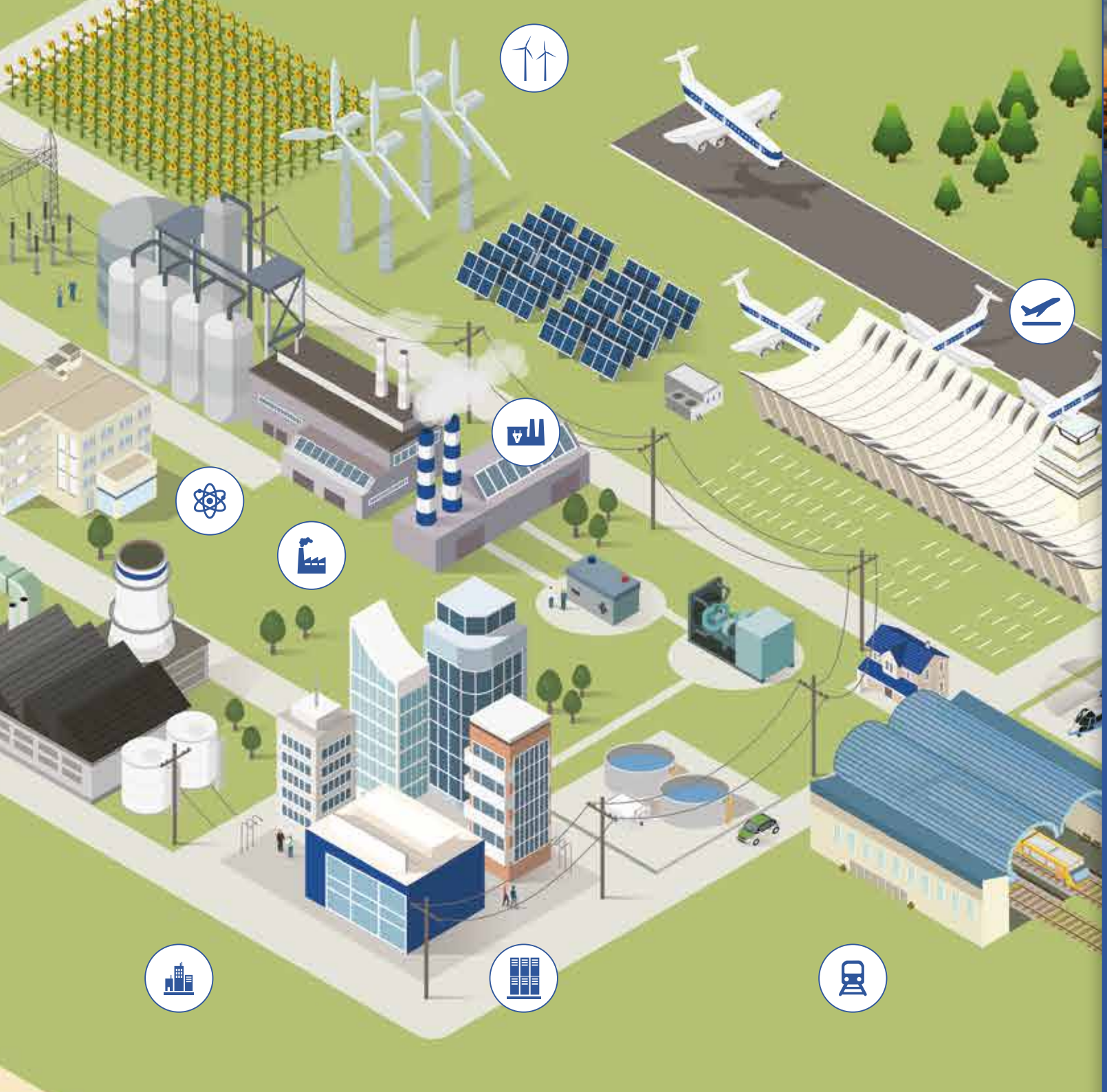
OFFSHORE

NAVAL AND MARINE

INDUSTRIAL POWER SUPPLY

DATA CENTRE

FDUEG has been designing and manufacturing dry type, cast resin and oil filled transformers, air and iron core reactors, passive filters and enclousers for over 25 years.
They are dedicated products, on specific customer's request, for all these applications.



INDUSTRIAL

- POWER PLANTS
- INDUCTION HEATING
- STEELWORKS
- NEUTRAL EARTHING

RENEWABLE ENERGY

AIRPORTS

TEST LAB & RESEARCH INSTITUTES

POWER ELECTRONICS

COMMERCIAL & PUBLIC BUILDINGS

RAILWAY

Our Transformers

TRANSFORMERS FOR NAVAL ENVIRONMENT

These transformers are designed to operate in critical environmental conditions, both for temperatures and for humidity level.
The high power and the need for maximum reliability require controlled production processes, in order to obtain a secure and efficient outcome. We provide protection and cooling systems that ensure optimum performance of transformers even in emergency conditions.

TRANSFORMERS FOR POWER ELECTRONICS

They are designed with particular attention to the electrical key parameters of the electronic components.
They are often realised with an integrated reactor and they ensure short circuit voltages and vacuum currents sized to optimize of the conversion system.
We also provide customised solutions for rectifiers up to 48 pulses and for medium frequency conversion, always ensuring high reliability and efficiency.

The high expertise in design and production of dry type transformers allow us to study and produce transformers in single model, in small or medium series, which fully meet customers' demands.
Each transformers is designed according to the requirements of the specification and installation with power up to 16 MVA and insulation classes up to 52 kV.

ACCURACY

EFFICIENCY

DURABILITY

TEST LAB TRANSFORMERS

FDUEG specialises in manufacturing custom products and transformers suitable for industrial test labs, facing a variety of working conditions and specific requests.
Transformers with variable frequency operation, multiple outlets, high currents and heavy duty cycles, short circuits withstand features are only some of the typical characteristics present in the portfolio of FDUEG.

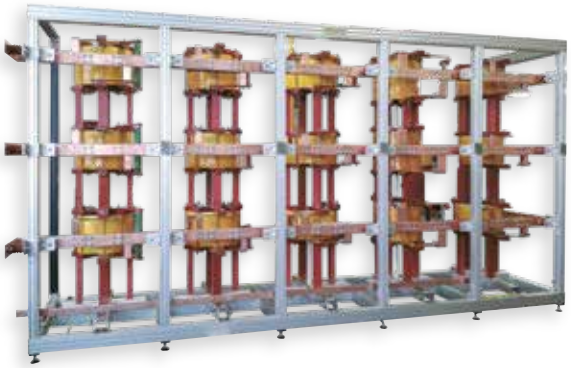
TRANSFORMERS FOR INDUSTRIAL INSTALLATION

These products are intended for various industrial applications, and all guarantee high efficiency and reliability at a competitive cost. These transformers are designed to be installed in industrial power systems, with purposes ranging from power supply insulation to high power loads working, both electronic and electro-mechanical, in variable conditions.

RENEWABLE ENERGY TRANSFORMERS

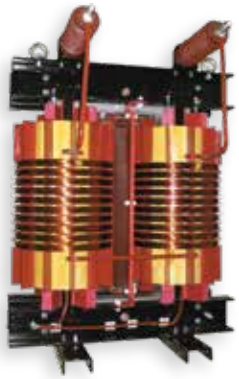
The production of renewable energy requires products that are designed paying particular attention to efficiency and performance.
The transformers for solar, wind and hydropower plants and numerous other alternative energy sources have in common the reduced load losses and the use of materials that ensure maximum reliability, with the aim to minimise a system's losses and maximize productivity.

Our Reactors & Filters



TEST LAB REACTORS

They are designed according to the customers' needs to be used in test rooms, to generate of artificial loads to reproduce the service conditions of the equipment under testing.
The diverse combinations in connections and tapping allow to satisfy all testing necessities, with intermittent high current cycles and particular working conditions.



NEUTRAL EARTHING REACTORS

They connect the system's neutral to ground while limiting the current in case of fault to earth.
When properly designed, they absorb and reduce fault currents, protecting the other components in the system and the personnel.
FDUEG takes particular care for the mechanical strength of these devices, so that multiple faults can be handled over time.

POWER ELECTRONICS REACTORS

They are coupled with rectifiers and inverters to filter the noise on the power line, for the reduction of voltage spikes and interferences due to the electronic switching.
FDUEG also produces interbridge reactors to balance the behavior of rectifiers. Moreover, smoothing reactors for DC systems are available to reduce harmonic currents, ripple and overcurrent to improve the system performance.

CUSTOM DESIGN

EFFICIENCY

RELIABILITY

SHORT-CIRCUIT LIMITERS

They limit the maximum current circulating inside the plant to levels compatible with the protection coordination, making up for a low-cost solution for design and expansion of plants. These reactors can operate in continuous service, ensuring the needed mechanical resistance.
Alternatively, they can operate intermittently as motor starters, limiting the inrush current.

AC GRID REACTORS

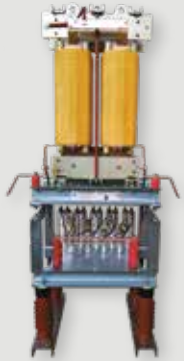
In shunt connection, they can compensate for capacitive currents and stabilise the voltage. When series-connected, they allow the damping of the inrush currents present during the switching of capacitor batteries and reduce short circuit current in case of fault. During normal operation they reduce dielectric stress on insulating materials, preventing capacitor damage.

PASSIVE FILTERS

FDUEG offers a measurement service on site with the purpose of realising dedicated passive filters. This way, issues involving harmonic distortion, poor power factor, overvoltages and unbalance can be solved.
Power systems can be exploited at their full immediately after the filter installation.
Each solution is strictly customised; in particular, LC series filters, passive notch filters and lowpass filters are available.

We gained a great experience in design and manufacture of reactors with magnetic core or in the air for industry, outdoor applications and special loading conditions.

FDUEG



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