

Annuario Eolico Italiano 2012

UNA COPIA € 5

**TUTTI I
PROTAGONISTI
DELL'ENERGIA
DAL VENTO**

- ▶ Le aziende
- ▶ Persone e contatti
- ▶ Prodotti e novità

**ENGLISH
VERSIONS
TOO!**



Promosso da

WindEnergy elettricità dal vento

10th ANNIVERSARY
Eolica
EXPO
MEDITERRANEAN

IL MERCATO

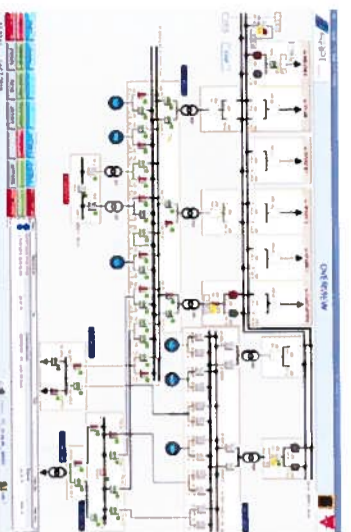
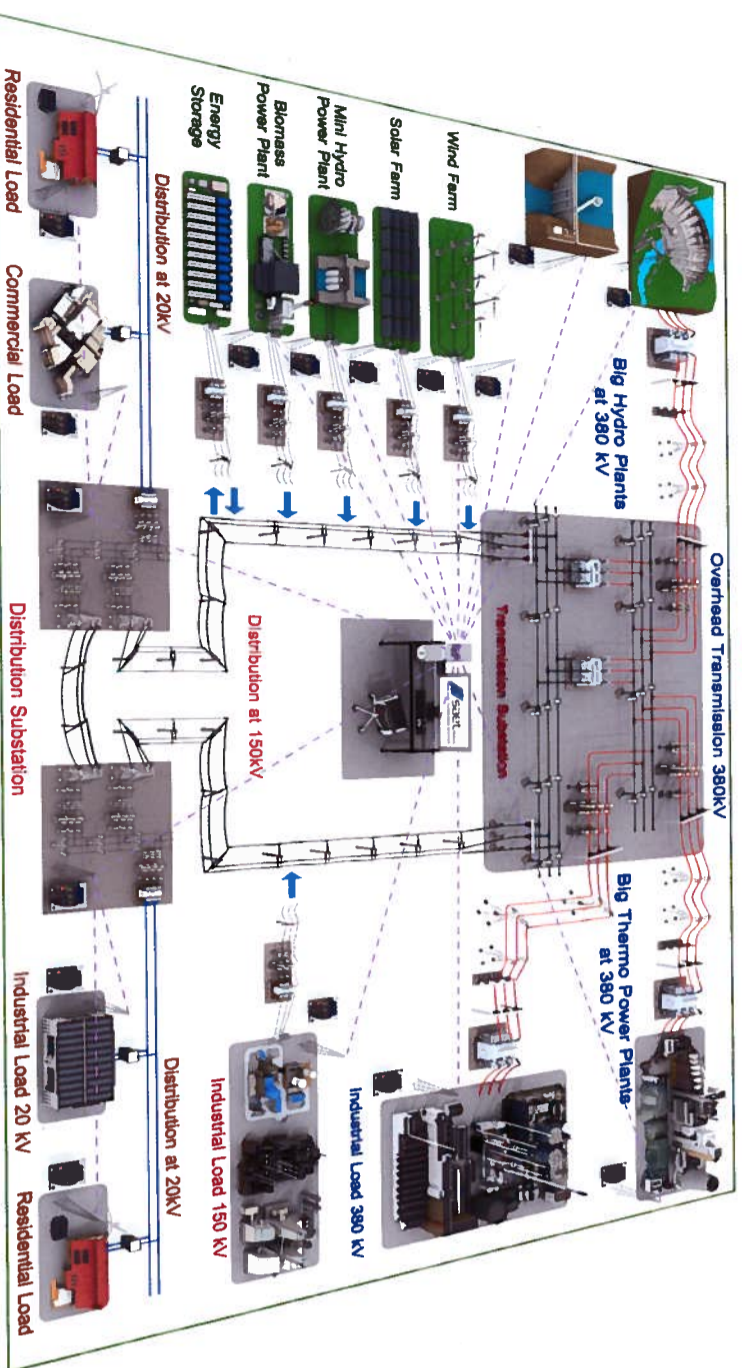
GLI IMPIANTI

NORME E LEGGI

SAET connecting energy

for Managing your Plant
for Energy Management IEC61850
for Load Shedding and load Sharing
for Dispatching Interface IEC60870-5-104
for Energy on demand (predictable profile)

Can We Smart Your Grid?



saet Padova



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Saet

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DATI AZIENDA

Contatti

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Anno di fondazione
1956

Capitale sociale
1.500.000 €

Numero dipendenti
50

Fatturato 2011
23.148.890 €

Percentuale di fatturato da eolico
20%

Impianti produttivi
SelvaZZano Dentro (PD)
Filiali e consociate
Milano

Parchi eolici in Italia
San Gregorio Magno (SA),
Bonero (CB), Campagna (SA),
Deliceto (FG), Erchie (BR),
Bisaccia (AV)

“Can we smart your grid?” È questo il motto che Saet lancia per sottolineare le competenze necessarie per impiantare nella rete elettrica nazionale (Rtn) l'energia del vento prodotta dai generatori eolici in maniera smart. Le rinnovabili devono avere infatti un collegamento intelligente con la rete in termini di potenza e informazione che devono essere sincroni e congruenti. Il flusso di informazione con l'operatore di trasmissione può così essere gestito adeguatamente consentendo, ad esempio, di parzializzare il campo eolico quando la rete non può sopportare sovraccarichi anziché staccare completamente, oppure garantire con apposito software il profilo prevedibile per i campi fotovoltaici, oppure partecipare alla regolazione della potenza reattiva per evitare i distacchi indesiderati con i “buchii di tensione”.

SISTEMI E D I M P I A N T I
ENERGIA E AMBIENTE INDUSTRIA DI PROCESSO AUTOMAZIONE LOGISTICA



In questo ambito Saet si propone come:

- **Bop contractor** (Balance of plant contractor) in cui si occupa di tutte le problematiche di implementazione dei generatori eolici (forniti in contratto a parte dal cliente): studio e progettazione dei collegamenti MT dalle torri eoliche alle eventuali cabine di smistamento, realizzando le connesse opere civili ed elettromeccaniche;
- **Substation provider**: fornitore della sottostazione AT di utente e di connessione, provvedendo alla progettazione e realizzazione elettromeccanica e civile della sottostazione elettrica, completa di quadri ausiliari e di protezione, comando e controllo.
- Lo Scada di supervisione regola i rapporti di interfaccia con il gestore della rete;
- **Networking & Service**: lo Scada di supervisione, oltre a regolare in maniera intelligente i rapporti di rete (potenza attiva, reattiva, velocità e direzione del vento), ha un'importante interfaccia con il service per la manutenzione. Il servizio assistenza ha a disposizione un centro di diagnostica in remoto per la manutenzione preventiva e per eventuali emergenze. Da oltre cinquant'anni Saet lavora nel settore energia, in impianti per la produzione, trasmissione e la distribuzione dell'energia elettrica, presso i produttori di energia, le utility e gli stabilimenti industriali.

- Tra le principali realizzazioni:
- Sottostazioni AT chiavi in mano;
- Sistemi di distribuzione MT-BT;
- Sistemi di protezione comando e controllo;
- Scada di supervisione della rete elettrica;
- Sistemi di controllo con DCS o PLC;
- Sistemi di telecontrollo e di teleprotezione di sottostazione;
- Electric storage system.



www.saetpd.it

ENGLISH TEXT AT PAG. 117

NTN-SNR Roulements

With about 100 years of experience in the mechanical movement sector, particular interest in the technological challenge that guides and leads us forward, solutions installed all over the world and a team ready to take action wherever needed, **NTN-SNR**

considers know-how a strictly group characteristic. NTN-SNR, part of the third most important group of manufacturers of bearings at worldwide level, offers technological products of the highest quality, offering its clients innovative solutions. The company has a strong presence on all automotive, industrial and aviation markets, developing an ambitious strategic plan, with the constant aim of guaranteeing the best service to its clients.

Bearings are part of our everyday and professional life. They are present in each and every rotating mechanism, even if they are not visible, and can be found in many items of daily use, as well as in leading industrial sectors. With international presence, NTN-SNR has always remained faithful to its role of protagonist and manufacturer of these components, both with regards to assembly and spare parts, **from standard to special solutions**, offering the widest range of products on the market (bearings, transmits



Ravioli

Ravioli has been producing electric and electro-mechanical equipment for the electric drive and lifting sector since 1926. Thanks to experience gained, the company meets changing market needs with solutions for different application areas. Eco-sensitive for some years now, Ravioli has recently expanded its already well-known range of

Rotary Limit Switches, used in the photovoltaic sector on solar track-

ers, introducing the new **FRM Drive Series**, with features designed specifically for the wind energy sector. This new FRM enables to control the correct angle of the turbine, which varies as per the direction of the wind, resulting in the safe configuration of margin settings, adjusting the angle and indicating the position by means of high precision sensors. Moreover, when applied to the



turbine, they prevent the cables from twisting when following the rotary movement of the blades and determine the degree of rotation of the turbine, with a sensor that supplies the correct position in real time. The commitment of Ravioli in these sectors is also demonstrated by the

drafting of the company **ethic Code of Conduct in 2009**, in keeping with the SA8000 norm, and by the Ravioli Green e-motion project, based on the study and creation of specific products for the support of alternative energies. Ravioli is also a member of Ewea and associated with the Confindustria project for sustainability. The FRM Rotary Limit Switches, as all Ravioli products, have been designed according to international safety rules and regulations, such as UL, and manufactured corresponding to ISO 9001:2008 quality system.



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REpower Systems

REpower Systems SE, a German company of the **Suzlon group**, is one of the main manufacturers of onshore and offshore wind energy turbines. The company is involved in the design, manufacture, installation and maintenance of large-sized wind



turbines of from 82 to 126 metres for all types of conditions and sites. REpower also offers a wide and complete range of post-sales services for assistance and maintenance of machinery. REpower turbines, well-known for their reliability, are designed at the R&D offices of Osterröföld, and manufactured at the German production units in Husum, Trampe, Bremerhaven, as well as in Portugal and China.

The company, which was founded in 2001, and was listed on the stock exchange the following year, has almost 2,800 employees all over the world. REpower is headquartered in Hamburg, and can rely upon the experience gained from the production and installation of almost 3,800 wind turbines worldwide. REpower Systems has diverse subsidiaries in the European market: France, Belgium, UK, Italy, Portugal, Sweden, Poland and Spain, as well as globally in the US, China, Australia and Canada. REpower Systems SE is present in Italy with its subsidiary **REpower Italia Srl**, set up in 2005 to support Italian clients in the development

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and construction of wind parks on national territory. Its commercial staff, always ready to provide assistance and information, works side by side with technical experts who supply precise and detailed support for both design and authoritative phases. The team also includes project managers, reference persons for clients during the execution phase of delivery, and technicians of post-sales who guarantee precise and continuous assistance and maintenance for the turbines installed all over Italy. At present, REpower Italia has more than 300 turbines installed, with 654 MW total installed power.

Saet

"Can we smart your grid" is the slogan that **Saet** uses to underline the skills needed to put wind energy produced by wind turbines into the national electricity grid in a smart way. Renewables, in fact, must have an intelligent connection with the grid with regards to power and information, which must be both synchronous and consistent.

The flow of information with the transmission operator can, in this way, be suitably managed and therefore enable to section the wind energy park when the grid cannot support overloads instead of switching off completely, or guarantee, by means of dedicated software, the foreseeable profile for photovoltaic parks, or also participate in the control of reactive power so as to avoid unwanted blackouts caused by "voltage dips".

In this context, Saet presents itself as: **Bop contractor** (Balance of plant contractor) in which it manages all the implementation issues

regarding wind energy generators (provided in a separate contract by the customer); the study and design of MT connections from wind turbines to any sorting cabins, carrying out the related civil and electromechanical works;

- **Substation provider**: supplier of user and connection AT substations, ensuring the electromechanical and civil design and execution of electric substations, complete with auxiliary and protection, command and control panels.

The SCADA supervision regulates the interface with the grid manager;

- **Networking & Service**: Other than intelligently regulating grid relations (active and reactive power, wind speed and direction), the SCADA supervision also has an important interface with the maintenance service. The assistance service has a remote diagnostics centre for preventive maintenance and for possible emergencies.

Saet has been working in the energy sector for more than 50 years, with



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regards to plants for the production, transmission and distribution of electricity, with energy producers, utilities and industrial industrial plants.

The main achievement of the company include:

- Turkey AT substations
- MT-BT distribution systems
- Command and control protection systems
- SCADA supervision for the electricity grid
- Control systems with DCS or PLC.
- Systems for the remote control and remote protection of substations
- Electric storage system.