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COMPANY PROFILE



Since **1928** Bonomi's production units are specialised in the engineering and production of solutions to support electrical conductivity and insulation. Our particular expertise lies in the railway, energy and custom sectors.

Over the last 10 years' the group has broadened its product base and expertise by acquisition, establishing itself as an international market leader.

WHO WE ARE



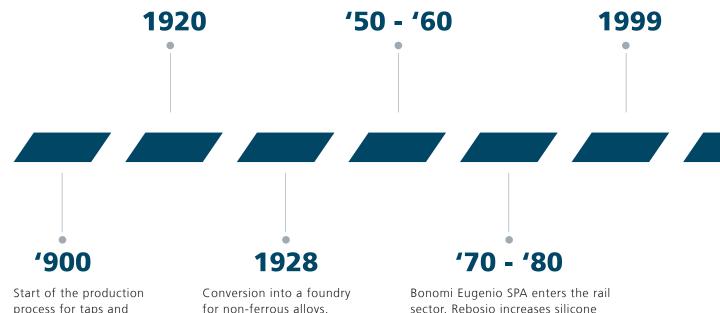
Excellence in electrical conductors and insulation through innovative engineering and production techniques.

Our dedicated customer support team is on hand to support your business.



Start-up of the electromechanical department Bonomi specialized in components with application in electrical conduction. In the same period, Rebosio is among the first manufacturers in Europe to introduce silicone composite insulators.

Bonomi Eugenio SPA production site moves to Montichiari (the current company headquarters).



process for taps and valves by Serafino Bonomi.

for non-ferrous alloys.

sector. Rebosio increases silicone composite insulators production.

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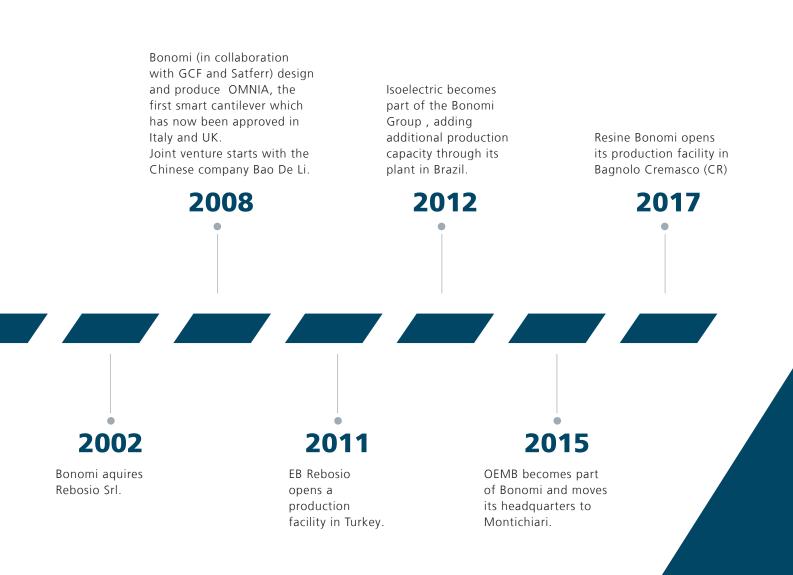
We utilise our engineering expertise to seamlessly transform customer ideas to finished products. To ensure quality we manufacturer everything in house. In partnership with our clients we engineer cost out of our processes.

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We provide our customers with a single named point of contact to ensure continuity of serves.



Our quality systems ensure continuous performance improvement.



REFERENCES, **QUALITY**,

e

Certifications, approvals, patents.

Bonomi has transformed what used to be a family business into a global organisation through investment in research and development, a skilled workforce and entrepreneurial initiative.

We are energy, we live following our ideas, we stimulate ingenuity and concretize it into high-performance solutions: **the numerous certifications, approvals and patents** tell us that we are operating correctly and are synonym for **top-level references**. We are energy – through innovation and design we deliver high performance products. **Our skills are evidenced by international accreditations and approvals**.

Our certification



Our references

ENDESA - TERNA - CPFL ENERGIA - ENERGISA - CODENSA - TEIAS OFFICE NATIONAL DE L'ELECTRICITÉ - TENNET - CEMIG - ENEL RED ELECTRICA DE ESPAÑA - EQUATORIAL ENERGIA - SAUDI EDUSER EGYPTIAN ELECTRICITY HOLDING COMPANY ELECTRICITY COMPANY - IBERDROLA - SWISSGRID EVN VIETNAM ELECTRICITY - NATIONALGRID

RETE FERROVIARIA ITALIANA - NETWORK RAIL SLOVENSKE ŽELEZNICE - INFRABEL - SAR TCDD - ADIF - SNCF - ONCF - JR-EAST



ABB - SCHNEIDER ELECTRIC - BTICINO INTERCABLE

WE OWN THE KNOW-HOW OF DIFFERENT MATERIALS AND TECHNOLOGIES

The structure of the group allows us to transform silicone, resin and non-ferrous alloys, ensuring a unique and highly controlled supply chain. In this way we are able to offer **extremely cost effective solutions and timely responses to the clients.** Moreover, in Bonomi we invest every year to have the latest generation plants. The combination of group company specialisms and control of a dedicated supply chain allows Bonomi to create excellent products at least costs. Our continued investment in the latest equipment ensures short lead times and high customer satisfaction.

INTERNAL PRODUCTION

- Casting
- Hot forging
- Blanking and coining
- CNC and robot machining
- Silicone and epoxy resin injection

QUALITY CONTROL AND TESTS

- Controls in line
- Final controls
- Mechanical, electrical and chemical test rooms
- Internal tests led by external qualified certifiers
- We also test our products internally in the presence of external and qualified certifiers.
- (Czech Republic), CESI (Italy), ICMET (Romania) etc.



people working in the production departments



30 group

group certifications

>50 employees working in R&D

>25.000 км

VILWAY

WUJ

Track that has been electrified with our cantilevers and components

>250.000 installed cantilevers

>15 railways we have supplied to

2008 OMNIA is patented





Aligh Speed

Engineering of 25 kV lines. Components and cantilevers production.

回 TRADITIONAL RAILWAYS

Engineering of 1,5 – 25 kV lines. Components and cantilevers production.

圅 LIGHT RAIL

Engineering of underground, tram and suburban lines. Components and cantilevers production.

Image: Constant of the second seco

Engineering of special projects for tunnels. Components and cantilevers production.

WE HELP TO DEFIND STANDARDS IN RAILWAY ELECTRIFICATION.

Our engineering and production departments support the electrification of overhead contact lines. We are market leaders in technical advice and suppprt.

CUSTOMIZED AND CO-DESIGN ENGINEERING.

Our technical department works in co-design with the customer, to offer a constant support since the study phase of the line.

Our dedicated technical team and designers provide customer support during the planning phases of project.

A SINGLE SUPPLIER, MANY DIFFERENT MATERIALS AND A DETAILED INDUSTRIALIZATION.

Bonomi's structure ensures the **complete processing and supply of all materials for railway electrification.** Our industrialization optimizes production time and costs. The Bonomi manufacturing processes efficiently process materials four use in rail electrification. We optimise our production to provide short lead times at least cost.



1 Complete systems for overhead lines

2 Railway insulators from 3 kv to 25kv

3 Catenary, grounding and signaling components

4 Tensioning devices

5 Section insulators

6 Steady arms (both insulated and non)



8 Rigid catenary



1

5

7

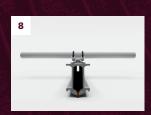


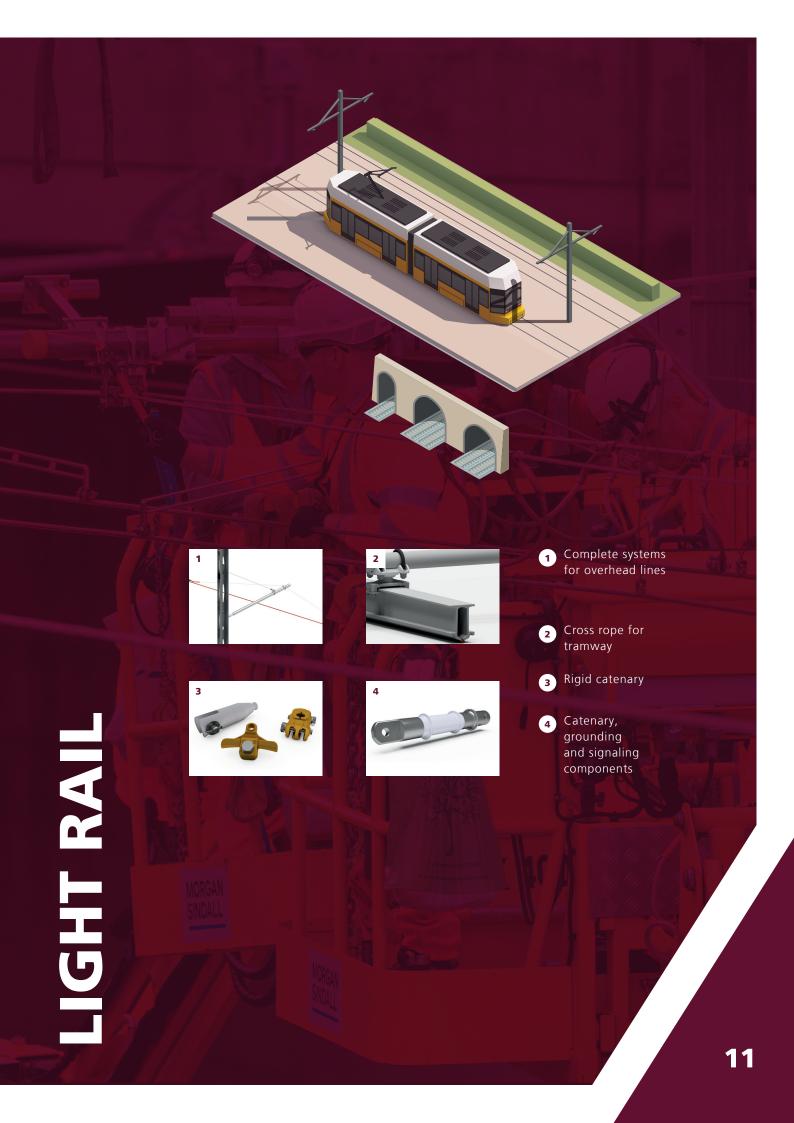


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>200.000 insulators - monthly

ENERGY

production capacity

>10 MLN installed insulators

>40 energy authorities we have supplied to

100% internal production

會 ENERGY TRANSMISSION

6

Suspension, tension and post silicone composite insulators from 66 up to 800 kV.

THE WIDEST RANGE OF PRODUCTS IN THE SECTOR.

From high to medium voltage, Bonomi's energy department offers the **widest range of silicone and resin composite insulators now available on the market,** as well as air and gas-insulated switchgrears.

INTERNAL DESIGN, TESTING AND PRODUCTION: OUR CUSTOMIZABLE SOLUTIONS COME FROM HERE.

Customers and electricity companies ask for **more customizable and performing solutions:** in Bonomi we desing, test and produce all our solutions on our own. We also manufacture our production molds internally, in order to carry out any type of request.

Through innovative design, rigorous testing and efficient production we define bespoke customer solutions. Our customers require specific solutions for each project, we work in partnership with end users and contractors to provide these solutions

WE PROVIDE A SINGLE POINT OF SUPPLY FOR TRANSMISSION AND ELECTRICAL DISTRIBUTION.

We are able to provide all elements of the complex production cycle: **through manufacturing excellence we provide all the necessary products components for electricity transmission and distribution.** We work with silicone, resin, metal components and air and

gas-insulated to provide bespoke and practical solutions.

帝 ENERGY DISTRIBUTION

Silicone and epoxy resin composite insulators, cut-outs, surge arresters as well as terminals and connectors and special components up to 66 kV.

TRANSMISSION

1 Silicone composite insulators for transmission lines 66 – 800 kv

2 Post insulators for substations

3 Surge arrester

NSULATION









7 Epoxy resin insulators

8 Terminals for lv and mv



DISTRIBUTION

4 Silicone composite insulators for distribution lines up to 66 kv





6 Surge arresters



TRADITIONAL SYSTEMS

1 Load Break Switches—ESG

2 GIS – MV switchboards with LBS in SF₆ gas — ENERGY 24 and 36

3 RMU – Metal enclosed Ring Main Unit





- Martin

4 Automatic Sectionalizer

SYSTEMS

AUTOMATED

ESG MATIC

Full panel for ESG MATIC management

RMU Protection Relays

GRID ADVISE SENSORS

5 Smart bushings and smart sensors

15

>1 MLN

kilos of aluminium we work every year

>850.000

kilos of copper we work every year

>350.000

every year

>150.000 kilos of bronze we work every year

*numbers related to the consumption in all the sectors



CUSTOM



DESIGN: PRIMARY COMPANIES CHOOSE US TO DEVELOP THEIR IDEAS.

We cooperate with the most important multinationals in the automotive and electromechanical sectors. **Their R&D office relies on our engineers** to develop optimal solutions and improve their processes. **Bonomi technical offices becomes the external engineering** for precise, innovative and concrete results.

We work with mot international automotive OEMS and leading companies in the electromechanical sectors. Many of our customers rely upon the innovation of our designers, and skills of our engineers to define their processes. Bonomi's technical departments provide excellence in design and innovation.

INDUSTRIALIZATION: OUR ENGINEERING WORK FOR YOU.

Our know-how is at the client's disposal in order to **study high performance solutions, industrialize the product, contain costs and increase the quality level of the production.** Furthermore, all our equipment is produced internally for **rapid prototyping and sampling.** We utilise our experience to support customers in the delivery of high-performance outcomes. We are swft to react via rapid prototyping and sampling.

PRODUCTION: INTERIOR CASTING AND HOT FORGING DEPARTMENTS, PRECISION MECHANICAL MACHINING.

We own the **know-how of different technologies and materials and invest in latest-generation systems.** Thanks to our structure, we are the only ones to work materials such as silicone and resin, ensuring **cost-effective solutions and timely responses.** We have intellectual property rights to support our processes, investing in state of the art machinery to support the best production at lowest cost with short lead times.

Electrical contacts and clamps automotive OEMS.

ELECTRO-MECHANICAL

Active parts of switchgears, ring units, switches and substations in noble metals such as copper and related alloys, aluminum and related alloys. Insulating coating and superficial treatments in resin and/or polyamide.









■ REQUEST, TENDER, ORDER: IN THIS WAY WE REALIZE YOUR IDEAS.

Our sales department is structured to answer incoming requests in different languages. We take part to many international tender and we have a clear and simple approach.

We work in partnership with you to interpret your request, support the tender and efficiently process your order.

■ IN BONOMI YOU WON'T BE ONLY A CLIENT, BUT A REAL PARTNER.

We have been working in partnership with our customer for many years, supporting the largest multinationals and companies in the multiple sectors in which we operate. We are able to transform ideas into projects and finished products.

■ A DEDICATED FEASIBILITY AND DESIGN STUDY.

The customer always has a dedicated internal team, who will help htoim to develop a customized project from the design and engineering stage to the production of each individual piece.

Whether it is transmission, distribution or electrification, we have learned over the years that products must adapt to every single condition of use.

■ RAPID SAMPLING AND PROTOTYPING.

We manufacture equipment and moulds internally: this allows us to rapidly prototype and sample, when necessary.

■ PRODUCTION OR SUPPLY OF JUST IN TIME

We ensure the shortest production and supply times on the market. Why? In Bonomi most of the passages are internalized and this gives the customer a considerable advantage.

We guarantee the shortest production and supply times on the market by owning and controlling all elements of the production process

STRICT QUALITY TESTS AND APPROVALS.

Our products are tested both in internal and external laboratories, in order to ensure the highest quality. All components produced in Bonomi are rigorously checked during and after the production process.

SERVICE ALWAYS AT YOUR DISPOSAL.

You will always know who to talk to, even in the after-sales service. For this we have long-standing and trusted relationships with the major players in the sector. Our customers are provided with a single point of contact, who will work with them to develop long and rusted relationships



Morocco, high speed line. Bonomi's insulators, steady arms, tensioning devices, power and grounding connectors have been installed on over 7,000 cantilevers.



Belgian high speed speaks italian thanks to Bonomi. Bonomi has developed the

electrification of over 240 km of Belgian double-track line, with a speed that reaches up to 330 km/h

Over 7,000 Bonomi's cantilevers were used to electrified the following routes:

• L1 Brussels - French border;

- L2 Brussels Liège;
 L3 Liège German border;
- L4 Antwerp Dutch border.

MAIN



Italy, high speed has been electrified For the development of the high-speed line, Bonomi has provided over 22,000 3kV OMNIA and more than 6,000



Algeria, Oued – Tlelat – Tle mcen line. Bonomi has supplied

over 1.500 25 kV cantilevers for the development of the Algerian high speed railway.



Medina—Mecca: the high speed line that links the . two holiest cities

The Mecca–Medina is an inter-city high-speed railway which is 453 km long. This line links the Muslim holy cities of Medina and Mecca passing by King Abdullah's economic site. Bonomi has supplied more than 80,000 25kV railway insulators for the construction of the line, whose main aim is to intensify and boost the tourism opportunities in the region.



Egypt: Bonomi for 435km of line

Bonomi supplied almost 9,000 500 kV composite insulators to the Egyptian electricity company EETC to support the lines of Assuit — New Akhmem and Borg Al Arab — Marsa Matrouh, for a total of 435 km.



OMNIA – the first smart cantilever - was patented in 2008.

It was developed by our engineers under a specific request by RFI. Today OMNIA represents the Italian and UK standard.



Bonomi supports the design. Bonomi has installed its insulators on the pylons that have been designed by Norman Foster's and by the Rosental's studio for "Tralicci d'autore" and "Tralicci del futuro", projects by Terna and Enel.



Fuerteventura: insulators are by Bonomi. We supplied 1,300 145kV

insulated cantilevers for T&D which have been installed on the island of Fuerteventura, Spain. Together with Red Electrica Española, Bonomi studied a special creepage distance which guarantees greater performance and better resistance in particular climatic conditions such as those of the Canary Islands, where wind and salinity are important.



Turkey: Teiaş gained the record for the biggest insulators supply.

TEIAŞ, Turkish electricity company, has installed 22,600 silicone composite insulators (170 and 420 kV) designed and produced by EB Rebosio Turkey. This is the largest supply ever made by Bonomi throughout Europe and the Middle East.



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