

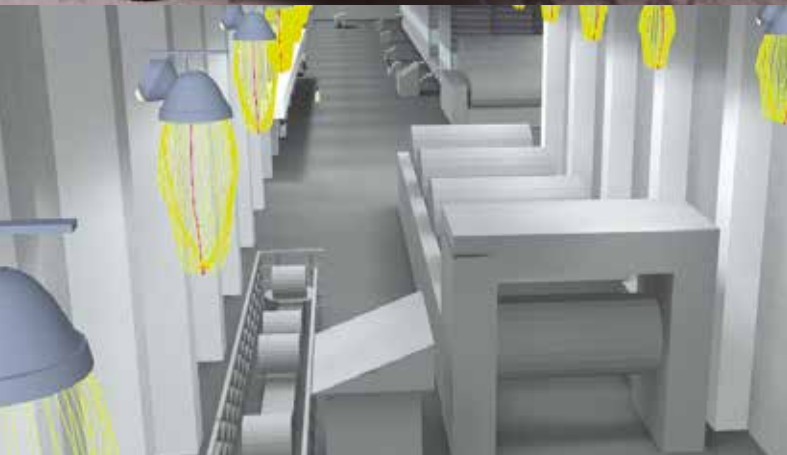


2003 - 2013



 **ENERGETIKA**[®]

POWER UNDER PROFESSIONAL CONTROL



ENERGETIKA



O nás

ENERGETIKA Ružomberok, spol. s r. o. was founded in 2003 with the goal of offering quality services to industry and the power industry in particular. For ten years we have been building upon our values of continuously providing quality products and services and satisfying and maintaining clients, while always thinking about our greatest strength - the professionalism of our employees.

We are active in ensuring sustainable increases in the quality of the services and products distributed by our company and the results of these efforts have been the receipt of multiple certificates from leading Slovak and international certification authorities.

The company's primary activities include:

- Erection and delivery of materials for Low, Medium and High voltage applications in the power industry
- Measurement and diagnostics of electrical equipment - access to an SQL database of completed measurements
- Conducting inspections and completing analysis of the condition of electrical equipment
- Conducting maintenance, repairs, service and refurbishment work on equipment
- Erection and consulting services in the power industry.

Consulting and sales activities connected with lighting equipment is another area of focus and primarily deals with lighting solutions for demanding industrial applications and environments.





Low, Medium and High voltage erection activities

Our company has permits needed to erect, repair, refurbish and maintain electrical equipment rated at up to 400 kV including the production of low voltage switchgear.

Professional activities are only conducted by employees with requisite professional electrical certification pursuant to Section 16 of Act No. 124/2006 Coll. and Ministry of Labour, Social Affairs and Family Decree No. 508/2009 Coll.

We also deliver Medium voltage solutions for the power industry, in particular erection, maintenance, professional management and refurbishment of electrical equipment, switchgear and transformer stations.

Delivery of electrical equipment (transformers, circuit breakers, contactors, inductors, etc.)

Delivery of custom measurement equipment for the power industry - **Measurement instruments for the power industry – Energopomiar**



STN EN ISO 9001:2009
Quality Management System
Certificate number: Q 0902-1



STN EN ISO 14001:2009
Environmental Management System
Certificate number: E 0902-1



STN OHSAS 18001:2009
Occupational health and safety management system
Certificate number: B 0902-1



Diagnostics and maintenance activities

We conduct diagnostics and maintenance on **Low, Medium and High voltage** equipment including:

- **Circuit breakers (oil-filled, SF6, vacuum and air-type)**
- **Disconnectors, Contactors and Switches**
- **Transformers**

We conduct predictive diagnostics on low, medium and high voltage equipment using our own technologies.

- **Measuring of partial discharge activities**

(Medium voltage switchgear, MV, HV power cable terminations and in Medium voltage motor connection boxes)

We perform diagnostics and maintenance services on such equipment and other related activities.

We offer specific technologies used to test circuit breakers

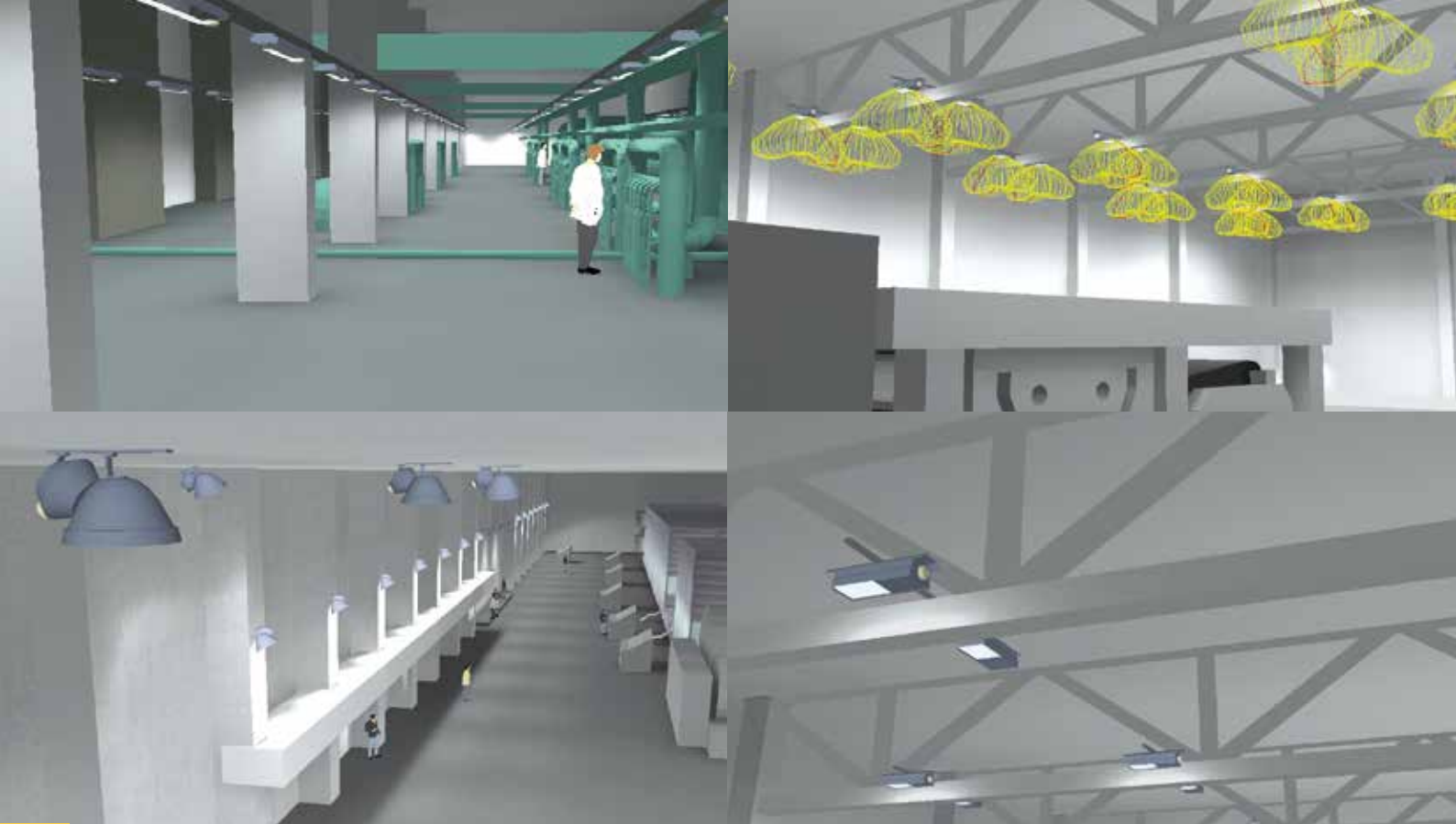
- Diagnostics of OPEN - CLOSE time for circuit breakers (IEC56 - 3.3.1) defined by the manufacturer
- Analysis of asymmetrical phase timing (IEC56 - 3.3.1)
- Measurement of contact fluctuation during the CLOSE cycle
- Measurement of contact resistance in the primary current channels (IEC60694)
- Diagnostics of OPEN and CLOSE triggers for circuit breakers (IEC60694)
- Diagnostics of electric drive components in circuit breakers (IEC60694)
- Measurement of insulation strength (IEC60060-1 - switching chamber, other components)

Špecifické technológie testovania výkonových NN vypínačov

- Primary or secondary low voltage circuit breaker tests
- Diagnostics of OPEN - CLOSE times for circuit breakers defined by the manufacturer
- Analysis for asymmetrical phase timing
- Measurement of contact fluctuation during the CLOSE cycle
- Measurement of resistance in the primary current channels
- Diagnostics of OPEN and CLOSE triggers for circuit breakers (IEC60694)
- Measurement of insulation strength (switching chamber)

In addition to equipment diagnostic measurements, we also provide the following activities critical to ensure proper circuit breaker operation recommended by manufacturers as well

- Visual inspection
- Cleaning components of Medium voltage equipment
- Checks of mechanical components of drives and blocking
- Lubrication of moving components
- Checks of current connections
- Set up and classification
- Functional and operational testing
- Professional inspections and professional testing



Industrial lighting

Our company offers lighting design and installation solutions for industry, including the heavy industry segment. We install lighting in such heavy industry applications where commonly-available lighting solutions acceptable for regular use are simply unsuitable.

As the leader on the market we prefer I-VALO branded products, which are lighting products specifically designed for industrial applications.

Our professionals use specialized software to design and calculate a lighting design that is optimized on the basis of product documentation or the as-built project documentation pursuant to all valid standards and legislation.

A typical lighting project involves:

- Consultation with the investor, analysis into the investor's objectives with respect to lighting
- Obtaining reference materials: floor plans, building cross-sectional drawings, layouts and lighting functional aspects. The information is taken from existing or in-process project documentation
- A lighting solution for the given building is designed using the reference materials and information concerning the functionality of the lighting
- The actual design of the lighting system involves specialized software, which results in a complete and specific lighting design with a 3D simulation of the design
- Consultation with the investor works to incorporate final comments into the design
- A complete lighting system design is then provided to the designer as a reference material

References 2003 – 2012

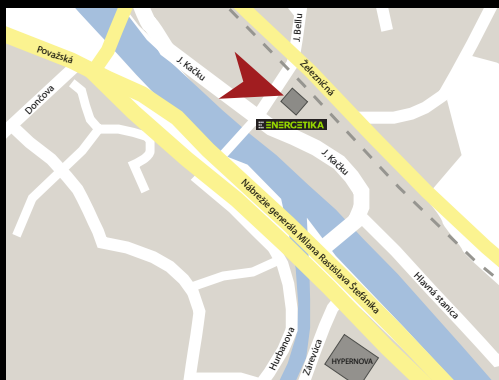
Customer and name	Type of services
RES a.s. Ružomberok - repair and verification of Medium voltage measurement in R2 6kV distribution core, 1st phase.	Automation + Medium voltage
2x10MVA SPS - ARV to IZM circuit breaker replacement in 0.4 kV distribution core, automatic low-voltage shunt - subcontracted	Low voltage
SCP a. s. - repair of Medium voltage W04 SC14 circuit breakers, testing and analysis - subcontracted	Low voltage
RES a.s. Ružomberok - measurement equipment modernisation in Medium voltage R2 6 kV distribution core, 2nd phase.	Medium voltage
ZTS a.s. Námestovo - study for renovation of Medium voltage 22kV connection.	Medium voltage
SPS a.s. Ružomberok - TG1, TG2 – oil pump controls	Low voltage
SPS a.s. Ružomberok - repair of Medium voltage HG3/8 TG1 circuit breakers	Medium voltage
SCP a.s. Ružomberok - repair of fireproof cabling penetrations, BU regeneration.	Low voltage
SPS a.s. Ružomberok - repair of Medium voltage HG 1250A circuit breakers.	Medium voltage
RES a.s. - general repairs to 4 6kV electric motors.	Medium voltage
RES a.s. - measurement equipment modernization in 6kV VH151 distribution core.	NN, VN, MaR
RES a.s. - replacement and audit of Medium voltage ATS 1000kVA transformer.	Medium voltage
SPS a.s. - repair and audit of HL6-9, VF2512, HG3-8 1250A 12kV circuit breakers.	Medium voltage
RES a.s. - automatic data acquisition from digital electric meters to EDC system for TG1 and TG2.	NN, VN, MaR
Modi Business Paper SCP a.s. - repair of Medium voltage 6kV and 22 kV circuit breakers.	Medium voltage
Modi Business Paper SCP a.s. - condenser replacement, 2nd phase.	Low voltage
Modi Business Paper SCP a.s. - measurement and analysis of Medium voltage circuit breakers in 6kV PS16 distribution core.	Medium voltage
Modi Business Paper SCP a.s. - electric heating cables for draining pipes in building PM16	Low voltage
Modi Business Paper SCP a.s., diagnostics and repairs of Medium voltage HG 3-8 2500A 12kV circuit breakers	Medium voltage
Modi Business Paper SCP a.s. - repairs to Medium voltage 6kV SC14 circuit breakers	Medium voltage
MT elektro s.r.o., low and Medium voltage compensation – subcontracted	Low and Medium voltage
Modi Business Paper SCP a.s. - Low voltage switchgear in central compressor room - 2 x 10 fields – 2000A	Medium voltage
Mondi SCP a.s. diagnostics and repairs on Medium voltage HG 3-8 2500A 12kV circuit breakers	Low voltage
Mondi SCP a.s. diagnostics and repairs on Medium voltage HL 6-9 1250A 22kV circuit breakers	Medium voltage
Mondi SCP a.s. emergency repairs to Medium voltage 22kV switchgear - AC building	Medium voltage
Mondi Ružomberok a.s., inspection and maintenance of Medium voltage protection in R6kV	Medium voltage
Mondi SCP a.s. inspection and maintenance of Medium voltage protection in PDC2-8 R6kV, R6kV PM17	Medium voltage
Mondi SCP a.s. diagnostics and maintenance on Medium voltage EBG 6kV circuit breakers	Medium voltage
Mondi Ružomberok a.s., replacement of Medium voltage compensation in R6kV PM1	Medium voltage
CZT Ružomberok s.r.o., 400V low voltage switchgear	Low voltage
Mondi SCP a.s. preventative maintenance on Medium voltage SWT6kV switches	Medium voltage
Mondi SCP a.s. inspection and maintenance of Medium voltage SFC 6kV generator disconnects	Medium voltage
Siemens s.r.o., diagnostics on Medium voltage 3AH and NX 12kV circuit breakers	Medium voltage
Mondi SCP a.s. diagnostics and repairs of Medium voltage OMZI 3150A-12kV circuit breakers	Medium voltage
Mondi SCP a.s. diagnostics and maintenance on Medium voltage EBG-12kV, 4000A circuit breaker on main feeder PM18	Medium voltage
Mondi SCP a.s. measurements in compressor room 175_RH_2	Low voltage
Mondi SCP a.s. maintenance, set up and corrective work on Medium voltage 12kV RC2 and RC3 circuit breakers	Medium voltage
Siemens s.r.o., diagnostics, maintenance and repairs to Medium voltage NXAIR 12kV circuit breakers	Medium voltage
Mondi Ružomberok a.s., diagnostics and maintenance on 12kV circuit breakers	Medium voltage
Mondi SCP a.s. renovation of 6kV RC2-RC3 compensation distribution core	Medium voltage
CZT Ružomberok s.r.o., delivery and erection of Medium voltage 22kV Irodell VH271 measurement equipment	Medium voltage
Mondi Packaging Ružomberok, a. s., maintenance on 12kV switchgear in R6kV PM1 distribution core	Low and Medium voltage
Mondi Packaging Ružomberok, a. s., repairs to Medium voltage 6kV SR7 distribution core	Low voltage
Mondi SCP a.s. diagnostics on low voltage circuit breakers - main compressor room	Medium voltage
Siemens s.r.o., diagnostics on SWG 6kV SIEMENS NXPLUS switchgear	Medium voltage
Mondi Packaging Ružomberok, a. s., work on Medium voltage 6kV switchgear for installation of 6kV	Low and Medium voltage
SE, a. s., repairs to EMO TS Červený Hrádok transformer station	Medium voltage
Mondi SCP a.s. diagnostics and repairs of Medium voltage R6kV OMZ disconnects	Low and Medium voltage
Smeččina Hofatex, a.s., replacement of high and low voltage compensation in 22kV/6kV/0.4kV transformer station	Medium voltage
Mondi SCP, a.s., diagnostics for 11kV network transformer	Low and Medium voltage
Mondi SCP, a.s., technical analysis of Medium voltage RD1 equipment for potential use to relieve loads on PM16 and PM17	Low and Medium voltage
Mondi Packaging Ružomberok, a. s., repair and replacement of Medium voltage protection in R6kV	Medium voltage
Siemens s.r.o. diagnostics on Medium voltage R6kV circuit breakers	High voltage
ŽSR a.s., delivery of power instrumentation, WP1000	Low voltage
Mondi SCP, a.s., diagnostics of partial discharge in Medium voltage 6kV and 22kV switchgear	Medium voltage
Mondi SCP, a.s., diagnostics of partial discharge in Medium voltage R110kV	High voltage
Trgji 2 – Armenia, complete delivery and erection supervision of Medium voltage 35kV and 10kV distribution cores for Mondi SCP, a.s.	Medium voltage
Mondi SCP, a.s., diagnostics of partial discharge in PTN R110kV	Low voltage
OFZ Istebné a.s., diagnostics and maintenance activities in R220kV	High voltage
Linde Gas k.s., diagnostics, maintenance and inspection of Medium voltage R6kV switchgear	High voltage
ZSE a.s., delivery of MND6 measurement instruments	Medium voltage
Mondi SCP a.s., repair of Medium voltage R6kV disconnects	Low voltage
Linde Gas k.s., diagnostics of partial discharge in Medium voltage R6kV switchgear	Low and Medium voltage
OFZ, a.s., control panel modernization for R22kV distribution core	Low and Medium voltage
Siemens, s.r.o., repair and refurbishment of R6kV PDC55 switchgear	Medium voltage

Industrial lighting

Customer and name	Type of services
Modi Business Paper SCP a.s. - repairs to lighting in PS18 I-VALO	Low voltage
Modi Business Paper SCP a.s. - installation of IVALO lighting in drying section of PM 16 paper mill	Low voltage
Mondi Ružomberok a.s., installation of IVALO lighting in drying section of PM1 paper mill	Low voltage
Mondi SCP a.s. - installation of IVALO lighting in drying section of PM 17 paper mill, 1st phase	Low voltage
Mondi SCP a.s. - installation of IVALO lighting in drying section of PM 16 paper mill, 1st phase	Low voltage
Mondi SCP a.s. - installation of IVALO lighting in drying section of PM 16 paper mill, 2nd phase	Low voltage
Siemens s.r.o. - renovation of lighting for BURE kiln - IVALO - subcontracted	Low voltage
Mondi SCP, a.s. - delivery and design of complete IVALO lighting solution for PM18 equipment hall	Low voltage
Mondi SCP, a.s. - installation of IVALO lighting in drying section of PM 18 paper mill	Low voltage
Mondi SCP, a.s. - delivery, design and installation of complete IVALO lighting solution for BUFL drying equipment	Low voltage



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