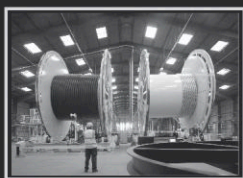




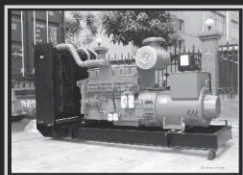
HALLEY CABLES | *Group*



Cables & Wires



*High Voltage & Extra High Voltage
Turnkey Solutions*



Power Generators & UPS



Wind Farms & Solar Power Plants



Halley Cables Group's evolution has been founded on the premises that the key to success in business comes from continuous improvement and customer satisfaction..

Our Group's goal is to ensure continuity and reliability of supply based on objective criteria such as price and quality.

The company focuses on using the best modern domestic and international engineering practice cooperating with the leading engineering institutes, suppliers and new technology developers.

Halley Cables Group is organized in four divisions:

***High Voltage & Extra High Voltage cables systems
Cables & Wires***

***Power Generators & UPS
Wind Farms & Solar Power Plants***

We work with the best products whose quality is certified and in agreement with the highest international standards.

- *Quality Management System certificate ISO EN 9001*
- *Environmental Management System Certificate ISO EN 14000*
- *Occupational Health and Safety Management System Certificate ISO EN 18001*

We make fast decisions, we are very competent and we have experienced managerial skills.

Our sales department always processes the requests in a very short time.

Halley Cables team members are coordinated effectively, adapting on a set of common goals, this being the engine that propels our company.

We have a great experience in accomplishing worldwide projects.

Since the company was founded, we have focused on finding the best solutions.



We provide the best solutions for your business

Information flow in each step

Free customer service

Product & production standardization

Accurate logistics systems

Fair price / performance

Flexible delivery process

On time delivery

As per customer's requirements

Correct packaging and appropriate delivery

Established in 2006, Halley Cables is a dynamic company specialized in power supply, which focuses on customer satisfaction.

Main objective of management and employees is to provide the clients our best service taking in consideration the price, the quality and the time limitation, keeping the business ethics as our prime standard and keeping health and safety, environmental and quality as our first priority.

Professionalism, efficiency, reliability, positive attitude and determination are the key traits for our group, guiding us in our daily work – how we relate to people, various cultures and how we do business worldwide.

Our goal is to ensure consumers that they can have confidence in our products due to their superior technical characteristics and their availability. Delivery is always prompt, being accompanied by declarations of conformity, warranty certificates test reports and certificates of origin.

HALLEY CABLES GROUP
*supplies a wide range
of clients including:*

Public & Private power utilities / Power Stations

Industrial / Infrastructures

Government agencies / Ministry of Defence

Highrise Buildings / Residential / Hospitals / Stadiums / Hotels

Schools & Colleges / Shopping Centers / Office Buildings / Universities

Refineries / Oil Platforms / Off shore / Chemical Industry

Airports / Motorways / Ports / Shipping / Railways

have the best solutions, design, service and maintenance

OUR VALUE is to give top quality/experience, quick response and short delivery terms

High Voltage & Extra High Voltage

Halley Cables, Estralin High Voltage Cables and Estralin Power Systems is a top-ranking group specialized in High Voltage and Extra High Voltage Cable Projects.

We offer full engineering services for **54-550 kV** cable line construction based on the customers' demands and project specific requirements; Supply of HV cables and accessories **54 - 550 kV** and other power engineering and electrical equipment;

The Halley Cables Services are provided by senior experts with proven education and experience. The installation technicians sent by us abroad have more than five years experience as an Erector and over ten years as Supervisors.

We owe our success to our vast and diversified range of products, expert knowledge of the markets and a reputation for superior customer satisfaction.

We provide you not only with the cables and accessories but we also offer complete project solutions that include developing, planning, logistics, cable laying, installation and testing, as well as maintenance and project management.

Standard routine tests, sample tests, type tests and after laying tests are normally performed according to IEC standards. Other international or national standards may be followed upon agreement between contractor and purchaser.

Sample tests are carried out with a frequency according to applicable IEC standards:

Conductor examination
Electrical resistance of conductor
Check of dimensions
Capacitance test
Hot set test
Electrical tests

Site testing:

Complete service scope for testing
Own resonant test sets on trailers for commissioning test for HV & EHV cable systems

Factory testing:

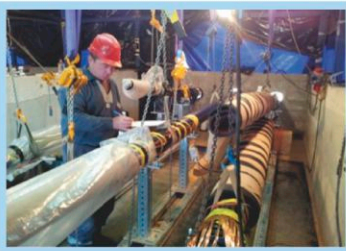
According to all standards and customer requirements
Latest technology

Routine tests of XLPE cables and accessories:

PD-measurement test
High-voltage test of main insulation
Electrical test of oversheath
Visual inspection

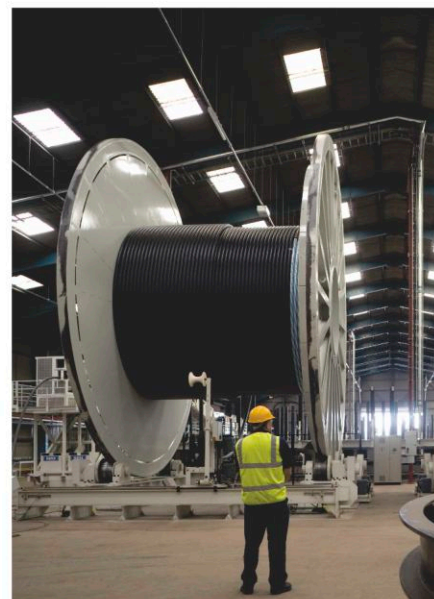
After laying tests:

DC voltage test of oversheath
AC voltage test of main insulation



High voltage & Extra high voltage projects

Austria	115 kV - 10 km of HV cables & accessories,
England	132 kV - 30 km, 232 kV - 57 km of HV cables & accessories
Germany	115 kV- 76 km of HV cables & accessories
Italy	154 kV - 5 km, 225 kV - 630 m of HV cables & accessories
Latvia	115 kV - 40 km of HV cables & accessories
Macedonia	115 kV - 23 km of HV cables & accessories
Slovenia	115 kV - 15 km of HV cables & accessories
Turkey	380 kV - 19 km, 115 kV - 320 m of HV cables & accessories
Romania	110 kV - 28 km, 420 kV 360 m of HV cables & accessories
Russia	Since 2008 to 2012 in Russia: over 1000 km 110 kV cables, 220 kV over 400 km 330 kV 20 km; 550 kV - 100 km of cables & accessories
Middle-East	In partnership with companies from Qatar, Bahrain, Iraq and Saudi Arabia: 66 kV- 379 km, 132 kV – 191 km, 225 kV – 155 km



Furthermore, the subsequent procurement, installation, commissioning and functional testing of system components are done according to strict quality assurance criteria and national - international standards. Our special attention is designing the best systems in terms of quality and costs, in accordance to your needs. We can manage even the most complex conditions in determining the load limits of your cable system, due to advanced software and years of engineering experience.

HALLEY CABLES GROUP is for your **ADVANTAGE** and **PROFIT**

- Benefit from our competence, collaboration with international contractors, efficient project management and documentation.
- Benefit from our longtime experience in developing complex engineering solutions.
- Handling of turnkey projects, by certified project managers.
- You can rely on short reaction times for clearing faults.
- You will receive a technically and commercially optimized vendor solution.
- You will receive professional advice on technical and financial questions.

Cables & Wires

Halley Cables is a leading company of cables & wires in Europe and in some regions of the Middle East.

Considering the market conditions and evolving customer necessities during the Global crisis, we managed to increase the sales despite the declining overall demand. Halley Cables works with its customers within a long-term strategic business concept and delivers all its products / services taking into consideration the right product and a suitable price.

Our product range is:

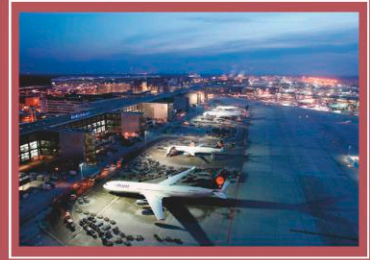
CABLE TYPE	BUILDINGS	POWER DISTRIBUTION	INFRASTRUCTURE	INDUSTRIAL	RENEWABLE	MULTIMEDIA	LIFT & CRANES	MINING & TUNNELS	AIRPORTS	PORTS	NAVAL INDUSTRY	MILITARY & DEFENSE	ON & OFF-SHORE	OIL & GAS
LOW VOLTAGE	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	
MEDIUM VOLTAGE		✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	
HIGH & EXTRA HIGH VOLTAGE		✓	✓	✓	✓			✓	✓					
SIGNAL, CONTROL & INSTRUMENTATION	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FIRE RESISTANT, FLAME RETARDANT, HALOGEN FREE & L.S.O.H.	✓		✓	✓		✓	✓	✓	✓		✓	✓	✓	
RUBBER			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	
COAXIAL, AUDIO & VIDEO	✓		✓	✓		✓		✓	✓	✓	✓		✓	
DATA, BUS & INDUSTRIAL ETHERNET	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
FIBER OPTIC & ACCESSORIES	✓	✓	✓	✓	✓		✓			✓		✓	✓	
SILICONE & HEAT RESISTANT				✓				✓	✓			✓	✓	
FIRE ALARM, SECURITY & CAMERA	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	
TELECOMMUNICATION & TELEPHONY	✓		✓	✓		✓	✓		✓	✓	✓		✓	

Used Standards: IEC, BS, NF, VDE, OVE, HAR, TS, GOST, CEI, UNEL, CENELEC, DIN, JIS, NEK, MIL, BV, NV, Lloyd's, and UL.

Always challenging & inspiring



Always upgrading & developing



Projects:

Shopping centers:

AFI Palace, Sun Plaza, Baneasa, Coloseum (Bucharest), Palace Iasi, Euromall Pitesti, Promenada Mall Braila, Cotroceni Park, Tiago Mall Oradea, Kanyon Istanbul, Ruse Mall Bulgaria.

Supermarkets:

Carrefour Iasi, Cluj-Napoca, Braila, Armonia Bucharest, Auchan Titan, Pitesti, Targu Mures, Kaufland Severin and Galati

Hospitals:

Fundeni, Cantacuzino, Giulesti, Di Monza, Colentina, Foisor, Alexandru Obregia

Office buildings:

Swan Office Park, Parliament Building Bucharest, HTC Office Building, Alcatel Office, In City, Dambovitza Centre, Casa Radio, Norwegian Boat, City Gate

Residential buildings:

West Park, New Town Voluntari, Allia Apartments, Monaco Towers, Hilton Hotel Bucharest & Cluj, Radisson SAS

Petro-chemical industry:

OMV Group, Petrom, Rompetrol, Oltchim, Lukoil, Romgaz, Navodari Oil Terminal, Constanta Oil Terminal, Doljchim, Arpechim, Azomures

Industrial:

Arcelor Mittal Europe, Alro Slatina, Holcim, Carpat Cement, Lafarge, Saint Gobain Glass, Pirelli, Siemens, ABB, Enel, Enel (Green Power), Martifer, Energy de Portugal (EDP), Vestas, Global Wind Power, Alcatel, Transelectrica, Electrica, NATO, Renault

Airports:

Otopeni, Craiova, Strejnic, Cluj, Sofia, Bagdad, Gaziantep, Cairo,

Cinemas & Theatres:

AFI Palace IMAX Cinema City, Grand Cinema Digiplex Baneasa, Arad Cinema City, Braila Cinema City, National Theatre of Romania, Romanian Opera;

Infrastructures:

Basarab Overpass, Modernization Central Station 1 Constanta, Modernization Babadag Station, Modernization Tram Line Raptuc Cluj, Tramway Line Bucharest, Lehliu Gara Project Bucharest

Wind Farms



We are a trusted partner for the worldwide renewable energy developers, investors and operators. We can get your systems up and running smoothly and safely, regardless of their size or application. Our main activities include: wind farms, photovoltaic and solar-thermal power station investments, development and electricity generation, supply of wind turbine components and solar systems, as well as engineering, procurement, construction and maintenance services of wind farms and solar power stations.

WIND ENERGY

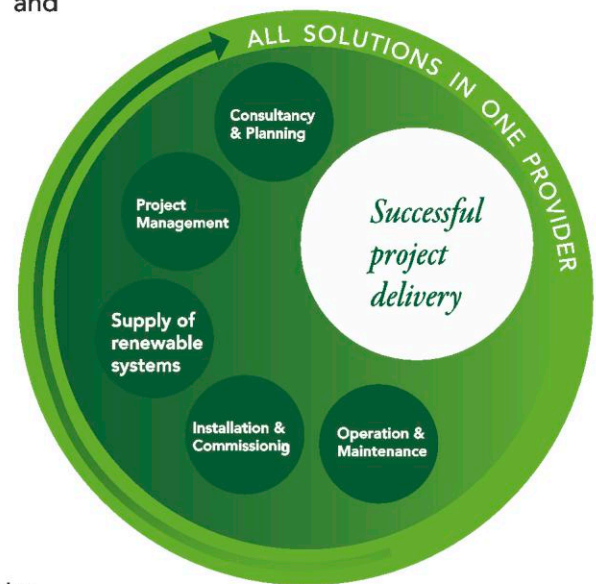
Halley Cables Group always provides electrical components, systems and services to the wind power industry.

We have an extensive experience in designing, optimizing, delivering, installing and testing products and solutions for sustainable developments.

We can supply high quality products and services and deliver comprehensive solutions for both conventional and renewable energy sources, as well as for a broad range of demanding and specialist industrial applications where reliability and efficiency are of crucial importance.

PHOTOVOLTAIC ENERGY TheSun is our strongest partner. Our company provides solar power control systems, which comprise modules, solar inverters and solar solutions. We are active on both upstream and downstream ends of the photovoltaic industry value chain. Solar application products are complete systems that the operator of a solar power system can use to generate solar energy and feed into the grid. Regardless of the size of your planned photovoltaic system, we offer the ideal solution for every project.

The success of our projects depends very much on the research, planning and key strategies within the initial steps. We design systems based on your needs, business plans and analysis and we take into consideration the specifications of the project, local conditions and administrative constraints and opportunities.



Solar Power Plants

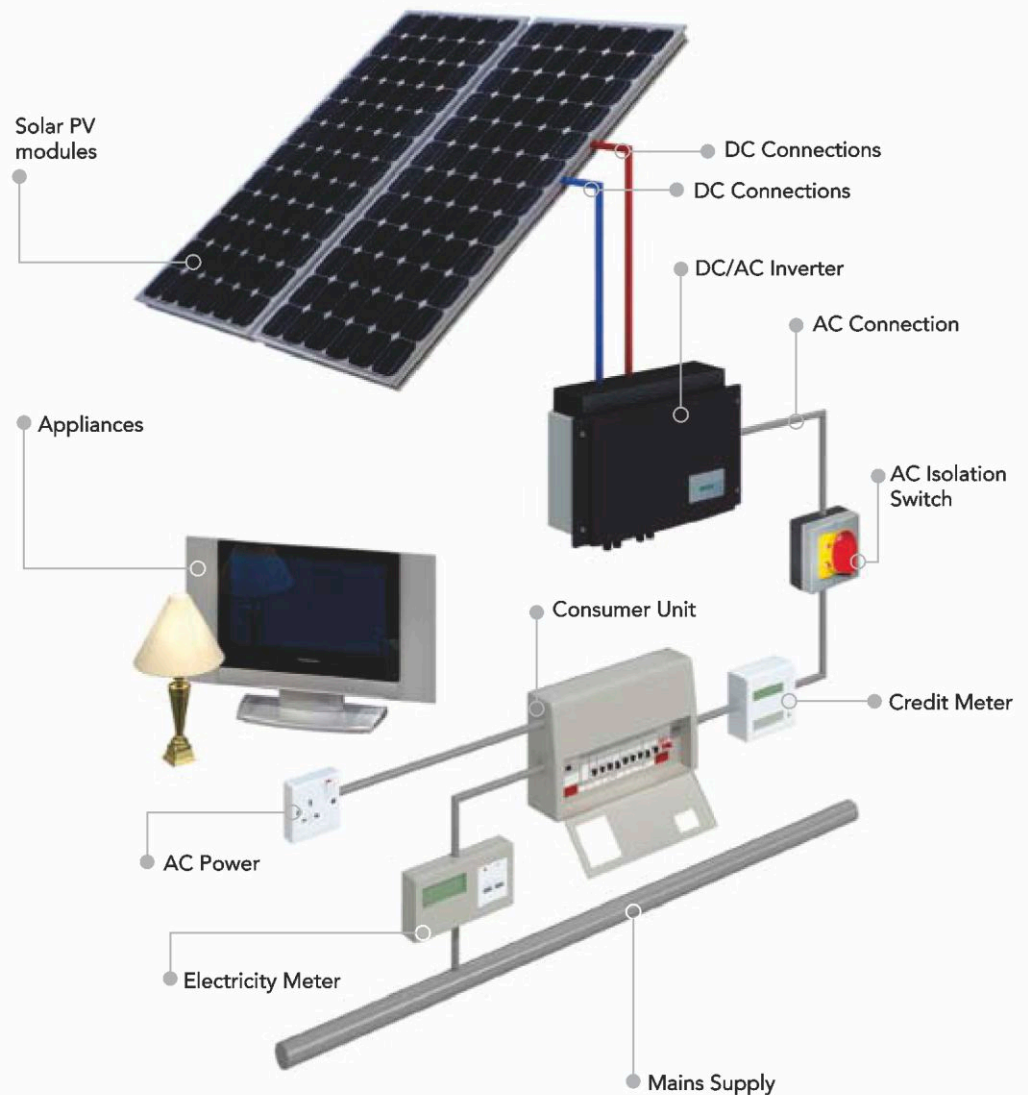


Principle of operation

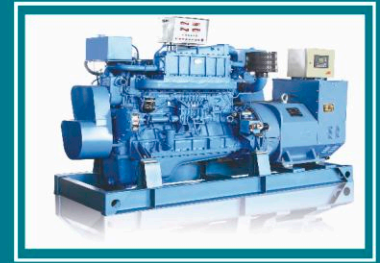
Photovoltaic conversion attempts to directly transform all the photon energy in light electricity by tacking advantages of the intrinsic photo-effect, which can be best realised in layers of today's semiconductor materials. The efficiency of the photovoltaic conversions process is theoretically close to about 85% if each photon would transfer all its energy into it.

Due to the concept conservation of energy, the excited electrons cannot have greater nor less energy than that of the incident rays from the sun. Photons with less energy than the energy gap will go straight through the semiconductor, and no electrons will be excited. Photons with greater energy than the energy gap will be absorbed, but the difference in energy between the photons and the energy gap is converted into heat by lattice vibration.

System Design



Generators & UPS



Our company provides a wide range of generators and Uninterruptible Power Supply (UPS). The generators are equipped with engines produced by well-known companies such as: **Perkins, Cummins, Volvo, Iveco, Honda, Subaru, Yanmar, Deutz, John Deere, SDEC, Foton, Doosan, Doosan Natural Gas, Ricardo and Diamond Diesel**. Power ranges from **2.2 kVA to 3200 kVA**. Also the alternators provided to the generators are produced by: **Stamford, Marelli, MeccAlte, Leroy Somer, New Era and Lisite**

Generators (gensets) are

- with engine fueled by gasoline / diesel,
- closed in sound enclosure / open (without sound enclosure),
- ATS (automatic transfer switch) - automatic start up or manual,
- with system synchronization between two or more generators,
- with system synchronization between generators and main network.

UPS (uninterruptible power supply) provided by our company have powers ranging from **0.65 kVA** up to **4800 kVA**. UPS can be equipped with operating system, parallel redundant system and it can have digital control. UPS's can be used in: data centers, telecommunications, homes, offices, shopping centers, hospitals, banks, e-business, industrial process, airports, s.a.

SPECIAL PROJECTS

- Genset sizing & selection
- Remote monitoring
- Synchronization
- Black start
- PLC controlled load switching

TECHNICAL SUPPORT

- Advisory
- Warranty
- Documentation
- On call support

MAINTENANCE CONTRACTS

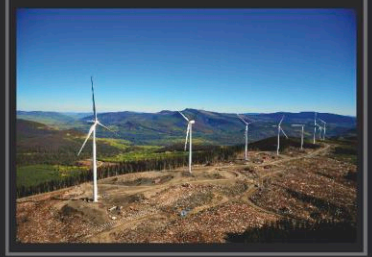
- Service agreement
- Custom-made maintenance program
- Periodical

MODERNIZATION

- Revisions
- Automation
- Control systems
- Modifications
- Adding a new genset to the system

SITE SERVICE

- Supervisory
- Troubleshooting
- Installation
- Commissioning
- On site repairing
- Diagnostic & Functional Tests



PROJECTS

Wind farms

- Wind Farm Electrica Serv 1, Vaslui, Romania
- Wind Farm Moldova Noua, Caras Severin, Romania
- Wind Farm Mihai Viteazu, Constanta, Romania
- Wind Farm Cernavoda, Romania
- Wind Farm Stupina 420 KV, Romania
- Wind Farm Mireasa IEA, Romania
- Wind Farm Casimcea, Romania
- Wind Farm Varlezi, Galati, Romania
- Wind Farm Turda, Cluj, Romania
- Wind Farm Babadag, Tulcea, Romania
- Wind Farm Pantelimon, Ilfov, Romania
- Wind Farm Valea Marului, Galati, Romania

Solar Plants

- Grevenon Photovoltaic Power Plant 100 kWp
- Fthiotidas Photovoltaic Power Plant 100 kWp
- Rethymnon Photovoltaic Power Plant 80 kWp
- Xanthi Photovoltaic Power Plant 100 kWp
- Argolidas Photovoltaic Power Plant 100 kWp
- Lassithi Photovoltaic Power Plant 80 kWp
- Rooftop Photovoltaic Power Plant Armitech
- Bulgaria Photovoltaic Power Plant
- Agios Ioannis Of Cyprus Solar Park 150 kWp
- Alexandria of Imathia Solar Park 20 kWp
- Priolo Gargallo Solar Park 3 – 20 kWp
- Chiamonte Gulfi Solar Park 25 kWp

Generators & UPS

- Romanian Central Bank – Standby rates 150 kVA
- Diesel Generating Sets with Sound Proof Canopy
- Oradea Central Hospital - Standby rates 275 kVA Diesel Generating Sets
- Hotel Hilton – Iasi - 275 kVA Diesel Generating Sets with Sound Proof Canopy
- Hotel Delta – Tulcea - 150 kVA Diesel Generating Sets with Sound Proof Canopy
- Alsys Telecommunication - Standby rates 275 kVA Diesel Generating Sets with Sound Proof Canopy working in Master Slave Mode
- Police Academy – Bucharest - Standby rates 150 kVA Diesel Generating Sets



Equipment is the material supply...

... but people are the key in achieving our vision



HALLEY CABLES - ROMANIA
HEADQUARTERS
23, Radu Negru,
Galati - 800170
Tel: +40 236 319000
Fax: +40 236 319085
office@halleycables.com
www.halleycables.com



HALLEY CABLES - QATAR
Airport Street, Doha
P.O. BOX 9709
Tel/Fax: +974 44644133
Mobile: +974 55566131
q@halleycables.com
www.halleycables.com



HALLEY CABLES - SWITZERLAND
4, Gimenenstrasse
CH - 6300, Zug
Tel: +41 767260875
Fax: +41 417287363
office@halleycables.com
www.halleycables.com



HALLEY CABLES - SWEDEN
4, Karl Jakobsväg
Lyckeby - 37164
Tel: +46 707716526
office@halleycables.com
www.halleycables.com