



Innovation, certainty
and confidence to
assist in the world's
transition to a low
carbon future.



Correll
GROUP



Contents

- 03 Who is the Correll Group
- 04 What we do
- 06 Global Experience
- 08 Our Services
- 10 Electrical Engineering
- 12 Cable Installation & Power Services
- 14 High Voltage (HV) Management
- 16 Equipment Rental
- 17 Training & Development
- 18 Project Experience
- 20 Find out more

A recognised leader
in the provision of
contracting and
maintenance services
to the renewable
energy industry.

Who is the Correll Group?

A leading service provider in the Onshore
and Offshore Renewable Energy Sectors.

Providing specialist support in High Voltage (HV), Low Voltage (LV) and Fibre Optic (FO)
Engineering, Control Room Asset Monitoring, HV Safety Rules, Construction Support and
Service Operations and Maintenance across the UK, Europe, Asia and USA.

With a team of over 250 technicians across the business we present a strong and
substantial offering to the onshore and offshore renewable energy sector.

What we do

Correll Group's focus is in the onshore and offshore renewable energy sector.

With our head office based in the North East of England, and offices strategically located in Europe, Asia and the USA to support global offshore wind projects.

Our team of industry professionals have extensive experience working on many of the most significant wind farms across the world. This knowledge and experience enables us to work with our customers' to develop solutions that address the challenges of any project and precisely meet their needs.

Why Correll?

- Working in the wind sector for over 20 years, 10 years offshore
- Geographical spread, and growing
- Proven track record, operationally and safety
- Breadth of services
- Qualified and experienced team, over 250 technicians
- Dynamic and easy to work with
- Investment in training / research & development



Our Vision

To continue to be a leading provider in onshore and offshore renewable energy sector. Providing our customers with seamless integrated support across all their needs, generating value and long term relationships. Combining innovation, certainty and confidence to contribute towards a net zero carbon future.

Our Values

Our core values of safety, environment, operational excellence, integrity, mutual respect and teamwork are the basic principles we follow in the collaboration with our employees, business partners and society.



Safety



Environment



Operational Excellence



Integrity



Mutual Respect



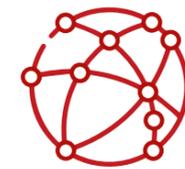
Teamwork

Global Experience

The Correll Group are proud to have been involved with the following numbers - all with a **zero-failure** record...



647k
Man Hours



10 Global Reach
10 Countries



8 Subsea Cable Repairs



1768
66kV
Connections

54

230kV
Connections

27

11kV
Connections

29

132/155kV
Connections

852

33kV
Connections



142
Projects
Completed



6
Cable Pull-In
Contracts



0
Failure Record

Our Services

The Correll Group offer a wide range of services and solutions to the onshore and offshore renewable industry.



Our dedicated team of industry professionals provide customers with seamless integrated support across all their needs, generating value and resulting in long term relationships.



Project Management



Installation Services



Asset Maintenance



Emergency Call-Out



Cable Installation Offshore



Cable Installation Onshore



Power Services Offshore



Supporting Services



Control Centre 24/7



HV Commissioning



Equipment Rental



Training & Development



Specialising in HV, LV and FO installation, termination, repair, and maintenance of energy transmission networks. Whether project works are onshore, offshore renewable energy or offshore oil & gas, our services are delivered in a safe, efficient, and reliable operation.

Regardless of where your requirements are in the world, Correll Electrical Engineering can provide exceptional project support and delivery with the following engineering activities:

- **Project management**
- **Consultancy**
- **EHV/HV, LV & FO cable stripping, jointing, termination and testing**
- **Transition joint bay works**
- **Cable fault finding**
- **Subsea cable repairs**
- **HV/LV commissioning**
- **Switching operations**
- **Secondary injection testing**
- **DAC testing**
- **Topside works - cabling, terminations, LV works, PD acoustic testing**

Project Management

At Correll we have the experience and capabilities to ensure installation projects and maintenance works are performed efficiently, through; planning, execution, delivery, lessons learned and close-out phases.

Whether we are providing in-house installation services, overseeing sub-contractors, representing clients or supplementing an existing team, our experience and enthusiastic approach ensures a successful delivery.

Correll have also been successful in developing a bespoke software, designed to capture project information for the generation of client reports, accurate project progress and support project documentation.

Installation Service

Regardless of whether the installation is onshore or offshore, Correll can enhance your project in terms of safety, quality and efficiency with the following project services and operations:

- **Pre-project engineering & meetings**
- **Pre-mobilisation induction**
- **Mock-up facilities**
- **Cable pull operations**
- **Rope access technicians**
- **Post installation testing**
- **Structural installations**
- **Jointing and terminations up to 235kV**
- **Post installation testing**
- **Fault finding**

Whether you require a fully integrated solution or individual installation elements, we can support all your needs. Developing a bespoke delivery solution, created from your initial enquiry data to final completion hand-over package.

All aspects of installation works are performed by a team that is trained, certified and fully experienced, adhering to all appropriate industry standards and requirements.

Asset Maintenance

In order to maximise the return on investment, it is essential that a completed installation is maintained to ensure all system assets are functioning with the same efficiency as when it was commissioned.

Correll can provide inspection and maintenance with the following:

- **Routine asset inspections**
- **Oil sampling**
- **Partial discharge testing**
- **Cable monitoring**

We can also support our clients' in developing a comprehensive maintenance plan for a system, including; asset register, procedures, frequencies, documentation and review.

Emergency Call-Out

To support our clients, we can offer a bespoke service, responding to an emergency call-out request through our 24/7 control centre providing the following:

- **Fault finding**
- **HV & LV cable jointing and termination**
- **Fibre optic testing & repair**
- **Subsea cable repairs**
- **Asset re-power generation**



Specialising in delivering cable pull-in solutions or turnkey packages for both cable pull-in and termination and testing services.

Our experience enables us to design, build and execute cable pull-in systems for either export or inter-array cables within the renewable wind industry.

We also offer bespoke temporary power and refuelling solutions at short notice to protect the integrity of the offshore assets during repairs or planned O&M periods, along with a range of optional support packages, and the provision of consultancy manpower.

Cable Installation Offshore

Led by a team of industry experts who combine their wealth of experience with new ways of thinking to develop new ways of working.

Correl can provide a range of services including:

- IAC cable installation
- Export cable installation
- IAC repairs / replacements
- FO cable replacements
- Cable stripping teams
- Engineering, & design for lifting operations
- Mini ROV survey works / data collection
- Messenger line installation
- Temporary hang off installations
- Bespoke packages for reporting and delivering "as built documentation"
- In house mechanical & electrical engineering
- Turnkey packages for the cable installation, termination & test, and commissioning

Cable Installation Onshore

Extensive experience in executing underground cable installations for onshore wind campaigns including:

- Beach pulls
- Engineering & civils
- Onshore windfarm installations
- Messenger line installations
- Bellmouth installations

Power Services Offshore

Our team provide bespoke temporary power and refuelling solutions at short notice to protect the integrity of the offshore assets during repairs or planned O&M periods:

- Bespoke temp power solutions
- CTV charters and refuelling programs
- Fleet of marinised 30Kva generators which will support and reduce the carbon emissions with a SWL of 750Kg
- Engineering, design & fabrications of modular set ups to interface with different types of transition pieces
- Experienced technicians for servicing, repairs and maintenance

Supporting Services

With our best in class technical teams, Correll can support with optional support packages and the provision of consultancy manpower including:

- Secondary works & inspections (including small LV works)
- Walk Downs & Reporting of the Transition Pieces
- Bolt replacements packages within the TP using hydraulic tooling
- Confined space & rescue packages
- Guano cleaning teams
- A large depth of experienced correll management and technicians
- Consultancy & client reps

Control Centre

Operated on a 24 hour/7 day per week basis, our sophisticated Control Centre, located at our head office in Skelton allows local and remote control of basic wind turbine functions, and collects data from the wind farm which can be used to analyse and report on the operational performance.

- 24/7 monitoring and control of construction and commissioning activities
- Remote alarm monitoring
- Condition monitoring

HV Commissioning

Correll's team of highly skilled and experienced HV engineers ensure that the commissioning process runs seamlessly every time.

- Hot and cold commissioning
- Factory acceptance testing
- Site acceptance testing
- HV design and site system reviews
- All tailored to site specific requirements

SAP's

Experienced team of SAP's can be called on day and night to provide fully reactive support with the following:

- Tailored HV safety rules training to engineers
- Creating bespoke HV safety rules
- HV site management - from start to finish, regarding the implementation of placing the site 'under rules' utilising the HV Control Centre

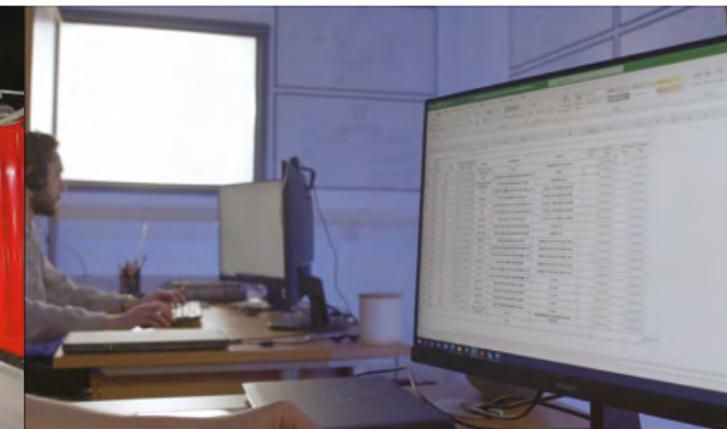
O&M Team

Experienced team of operations and maintenance engineers to carry out a full range of services including, but not limited to:

- Full maintenance on all types of HV equipment
- Thermal imaging
- Oil sampling & evaluation (DGA)
- Fault finding/rectification
- Partial discharge reporting

Surveillance

Correll HV Management can provide asset monitoring 24 hours a day, 365 days a year.





 **Correll** | **Equipment Rental**

Correll hold a large fleet of test equipment related to the installation, commissioning and maintenance of offshore wind farms, cables and systems.

The fleet of test equipment is recognised in the industry for ease of use, and the continuous investment into new assets ensures that the best equipment is always available for our clients specific application.

All equipment is competitively priced to help customers increase profits with reduced rates aligned to the duration of hire. Test fleet includes:

- VLF test sets
- Damped AC test sets
- TDR's long range
- Insulation resistance test sets
- Sheath test sets
- Partial discharge detection
- Relay test equipment
- OTDR's
- Optical monitoring system
- Smart thumpers
- Bridge test sets
- DLOR ductor test sets
- Multi-function fault location test sets
- Primary injection test sets
- Secondary injection test sets
- Specialist tooling equipment

Correll also hold a hire fleet of installation equipment and tooling such as:

- Optical fusion splicers
- Fibre optic tool kits
- High voltage tool kits
- Mechanical tool kits
- Work benches
- Ancillaries
- Hivotec CP range
- Pfisterer (size 3 to 6)
- Cable heating blankets

 **Correll** | **Training & Development**

We use both our in-house training facilities and industry leading partnerships to deliver bespoke training for HV safety, cable installation, testing, fault location and repairs.

Our qualified, experienced trainers deliver vendor specific cable termination training, and can perform mock-up trials to enable both internal and client technicians to become familiar and competent with project specific HV/FO installation, testing and maintenance.

Our set-up includes:

- Siemens 33kV gas insulated switchgear (3 cubicles)
- HV cabling (subsea, XLPE, EPR)
- Hang-off systems
- Containment
- Mock transformer bushings
- Gantry levels (as found on TP's & WTG's)
- Cable pulling equipment
- Fibre optical cables
- Fibre optical junction box (with cassettes & bulk-heads)

Having the Siemens GIS equipment as part of our set-up, enables us to train our technicians on other switchgear related activities.

- Switching operations (circuit breaker, disconnector & earthing)
- Secondary injection testing

With the subsea and transformer cables connected to the GIS, we can simulate conditions to train our technicians in the following techniques:

- Insulation resistance testing
- Sheath testing
- TDR testing
- Very low frequency testing
- Partial discharge testing
- Optical time domain testing



Project Experience

Here are just some of the offshore renewables projects we have worked on:

1 Formosa 1 (Phase 2)

- Approximately 6km off the coast of Miaoli County, Taiwan
- 128 MW project comprises 20 Siemens Gamesa 6 MW WTGs

The contract was awarded by Formosa 1 project turnkey contractor Jan De Nul Group for the subsea array and export cable termination & testing works.

Scope of work included; project documentation, export cable (HV & FO) jointing at the TJB and substation, array cable terminations (HV & FO) on 22 WTGs and post installation testing from the substation to offshore assets.

2 Kriegers Flak

Denmarks largest offshore wind farm.

- 15km - 40km of the Danish coast in the Baltic Sea
- 600 MW project comprises 72 Siemens Gamesa 8.4 MW WTGs

Kriegers Flak produces enough green electricity for the annual needs of approximately 600,000 Danish households.

The offshore wind farm forms part of a new 400 MW inter connector between Denmark and Germany.

Global Offshore awarded the contract to the Correll Group for the completion of HV and FO termination and testing works.

3 Princess Amalia

At the time of construction Princess Amalia was the world's deepest offshore wind farm.

- 23km from IJuiden, Holland
- 120 MW project comprises 60 Vestas V80-2.0 WTGs

The wind farms annual power production is approximately 435GW/h, sufficient to power 125,000 households.

The contract was awarded by Jan De Nul for the replacement of inter-array cables utilising Correll's cable pull-in and termination and testing teams under our new bespoke turnkey solution.

4 Block Island Demonstrator

First commercial offshore wind farm in the US.

- 4.8km from Block Island, Rhode Island in the Atlantic Ocean
- 30 MW project comprises 5 GE Haliade 150-6MW WTGs

The wind farm is a project of Deepwater Wind. The wind farm generates approximately 125GWh of clean energy a year, which is enough to serve approximately 17,000 households, and further reduces electric costs by 40% on Block Island.

The contract was awarded by Global Offshore to support the project with HV and FO services associated with the cable repair/replacement.

5 Saint-Nazaire

First commercial offshore wind farm in France.

- 12km to 20km off the Loire-Atlantique Coast
- 480 MW project comprises 80 GE Haliade 150-6MW WTGs

Once fully operational, the wind farm will supply approximately 20% of the domestic electricity consumption of the Loire-Atlantique region.

Contract awarded by Prysmian Group for the pull-in of two 225 kV HVAC export cables (each about 33 km in length), to the offshore 480 MW substation platform.

6 Coastal Virginia

Second offshore wind farm in the US.

- 43km off the coast of Virginia Beach, Virginia, US
- 12 MW project comprises 2 Siemens Gamesa 6 MW WTGs

The initial phase, a two-turbine, 12 MW pilot project is expected to generate enough electricity to power up to 3,000 homes. It is the first utility scale wind farm serving Virginia and the first built in U.S. federal waters.

The contract was awarded by Seaway Offshore Cables, trialling Correll's unique concept of utilising an 'integrated cable-pull and testing & termination team' for completion of the subsea cabling works within the WTGs.

7 Hornsea Two

The world's largest offshore wind farm.

- 89km off the Yorkshire Coast, UK
- 1.4 GW project comprises 165 Siemens Gamesa 8.0-167 DD WTGs

Hornsea Two offshore wind farm is expected to provide clean electricity to more than 1.3 million homes in the UK.

Prysmian Group awarded the contract to the Correll Group for the completion of HV and FO termination and testing works.

8 Formosa 1 (Phase 2)

The Correll Group - High Voltage Management division was awarded a contract from Swancor Renewable Energy to support with a Senior Authorised Person (SAP) and a Control Engineer to the Formosa 1 Offshore Wind Farm in Taiwan. Correll will deliver works both offshore, on the Wind Turbine Generators and onshore on the substation.

Our operatives will also be conducting training sessions to the local Taiwanese engineers in order to ensure future ongoing safe operation of the High Voltage Equipment both onshore and offshore.



Find out more

What can Correll Group do for you?

www.correllservices.com



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