

**We connect a
greener world**

Pushing innovation since




1891

6154



People worldwide

Complete provider of power cables and accessories from




1 kV to 640 kV



SCIENCE BASED TARGETS

We have reduced our total scope **1&2 emissions (77%)** since 2019

2024 Revenue (★)



AU\$

5.812 bn



Global organization

Our business is global



You can find us at more than 36 locations around the world

Australia

- Brisbane
- Melbourne
- Perth

Czech Republic

- Kladno
- Velke Mezirici

Denmark

- Asnaes
- Broendby, AMS
- Broendby, HQ

France

- Enghien-les-Bains

Germany

- Berlin
- Cologne
- Nordenham
- Troisdorf

Great Britain

- Redcar
- Runcorn

India

- Chennai
- Gurgaon
- Mumbai

Lithuania

- Kaunas

Netherlands

- Rotterdam

Norway

- Drammen
- Oslo

Poland

- Warszowice
- Knurów
- Gdynia

Portugal

- Esposende

Spain

- Barcelona

Sweden

- Alingsås
- Falun
- Karlskrona
- Malmö
- Stockholm
- Västerås

UAE

- Dubai

US

- Cary, North Carolina
- Dallas, Texas
- Cranford, New Jersey

Geographical footprint – key locations



NKT operates globally with a stronghold in Northern Europe

- Shared Service Centre
- Solutions production sites
- Applications production sites
- Accessories production sites
- Service hubs
- Technology consulting
- Headquarters



Our Business Lines cover the entire path of electricity



Resources

People

NKT's core consists of a diverse, engaged and highly skilled workforce

Innovation

More than 130 years of pioneering the power cable industry with innovative technology for the future

Partners

NKT's business is built on long-standing relations and strong partnerships

Business

Value creation

A greener world

Sustainability is at the heart of NKT with a strong focus on connecting a greener world and have net-zero emissions by 2050

Societal value

NKT has a strong focus on ensuring equal opportunities in the organization, actively engaging in local communities and operating according to high safety standards

Customer value

NKT supports its customers with extensive experience, high quality and solutions and services and strong project execution

Shareholder value

NKT is creating shareholder value through business performance



Business lines

Solutions

Specialized in high-voltage power cable solutions for on- and offshore installation

Applications

Markets building wires, low- and medium-voltage power cable solutions

Service & Accessories

On- and offshore power cable services and accessories of accessories for power cable systems

At a glance: NKT covers a comprehensive product portfolio



Portfolio	Joints	Terminations	Connectors	Other
<p>HVDC</p> <p>Transmission as part in system offering</p>	<p>80kV – 640kV</p> 	<p>80kV – 640kV</p> 	<p>320 kV</p> 	
<p>HVAC EHVAC</p> <p>Transmission Sub-transmission</p>	<p>52kV – 550kV</p> <p>1-piece 3-piece</p>  <p>EPDM 145-420kV SiR 52-550kV</p>	<p>52kV – 550kV (oil) 123 – 245kV (dry)</p> <p>Composite and porcelain SiR and EPDM</p> 	<p>52kV – 420kV (oil) 72,5kV – 550kV (dry)</p> <p>GIS and Transformers SiR and EPDM</p> 	<p>Offshore applications</p> <p>Wind farm applications</p>
<p>MVAC</p> <p>Distribution</p>	<p>12kV – 42kV</p> <p>SiR and EPDM</p> <p>PILC</p> 	<p>12kV – 42kV</p> <p>PILC</p> 	<p>12kV – 42kV</p> <p>Screened Shrouded SiR and EPDM</p> 	<p>Busbar systems</p> <p>OEM solutions</p>
<p>LVAC</p> <p>Distribution</p>	<p>1kV</p> 	<p>1kV</p> 	<p>1kV</p> 	 <p>MV Branching cabinets</p>

A challenge in cable routing for wind farms

In typical onshore wind farm designs, turbines are connected in strings in a 'daisy-chain' layout.

Because turbines are often installed along hills or ridges to capture the best wind, the MV cables linking them must follow the contours of the terrain.

This means the cable often travels down from one turbine and back up to the next, creating long double-runs of cable.

This increases material usage, installation effort, and project cost.

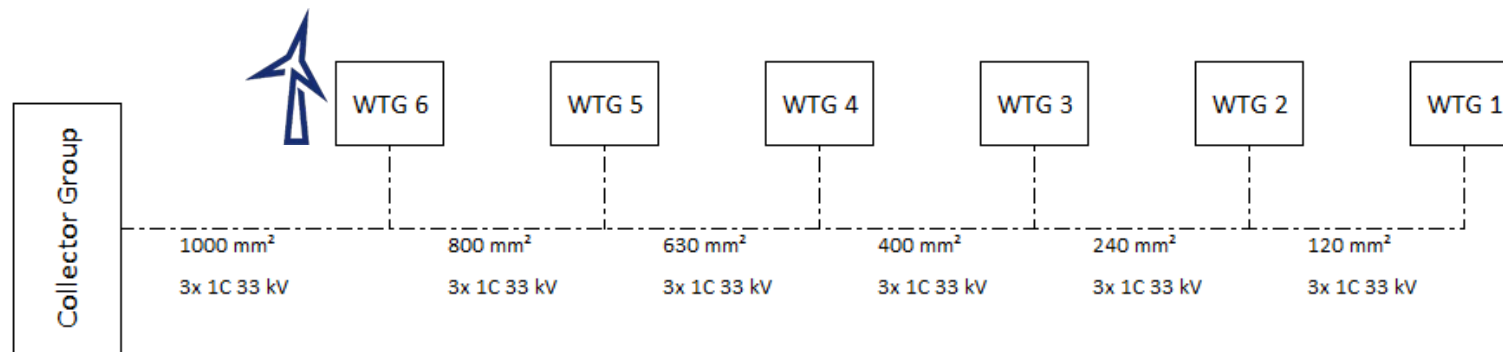
Cast resin distribution joint

Standard wind farm topology

This new joint relates to medium-voltage (MV) power distribution networks, particularly those employed in utility-scale wind farms.

In the conventional design of wind farm collector systems, the turbines are typically arranged in arrays or "strings." These turbines are interconnected electrically using a "daisy-chain" (or series) topology, wherein the MV cable exits one turbine and connects to the next, and so forth, for a plurality of turbines, often up to ten wind turbines per string.

A significant challenge arises from the typical geographical siting of wind turbines, which are often placed at optimised elevations, such as on hilltops or ridges, to maximise wind capture. Consequently, the MV cables connecting the turbines in a series must follow the undulating topography of the terrain. This routing necessitates the cable descending from one turbine's elevation and ascending to the next, creating extensive "double runs" or redundant cable lengths between units. This suboptimal cable routing results in excessive material costs and increased installation complexity.



Cast resin distribution joint

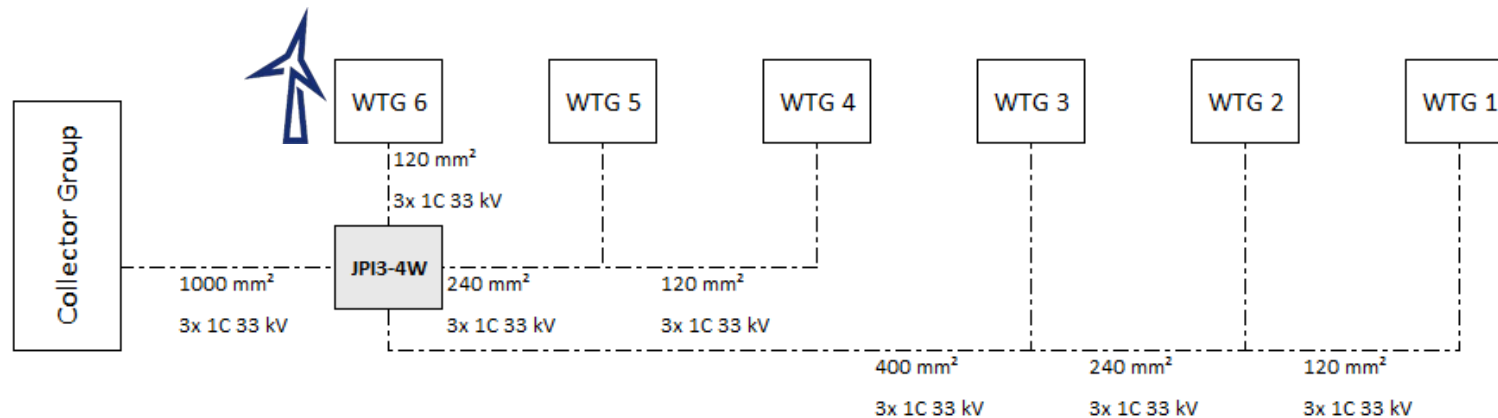
Optimised wind farm topology

Our new solution seeks to overcome these limitations by providing a novel MV distribution joint. This distribution joint is designed to facilitate an alternative network architecture, such as a branched, reticulated, or "spiderweb" configuration, moving away from the rigid series topology of the prior art.

By enabling this improved topology, the joint obviates the need for the redundant "double runs" of cable that are characteristic of daisy-chained systems in complex terrain. The joint allows for a more optimised and direct cable routing scheme, significantly reducing the total length of MV cable required to interconnect the array.

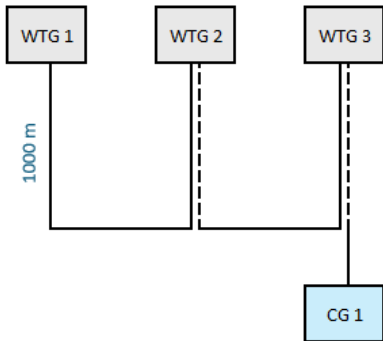
As a direct result, the invention provides **substantial economic benefits**, reducing the material procurement and installation costs for the project.

This reduction in CAPEX presents a significant advantage for project investors, consultants and/or EPC-contractors.

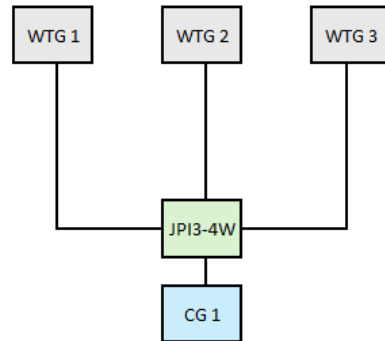


Example of potential savings

Standard topology



Optimised topology



- Delta: 2000 m
 - Trenching cost: \$145.00/m
 - Cable cost 1C 400 mm² Alu 19/33 kV CWS: \$ 45.00/m
1. 2000 m x \$145/m civil works (trenching) = 290 k\$ AUD
 2. 2000 m x (3 x \$45/m cable) = 270 k\$ AUD

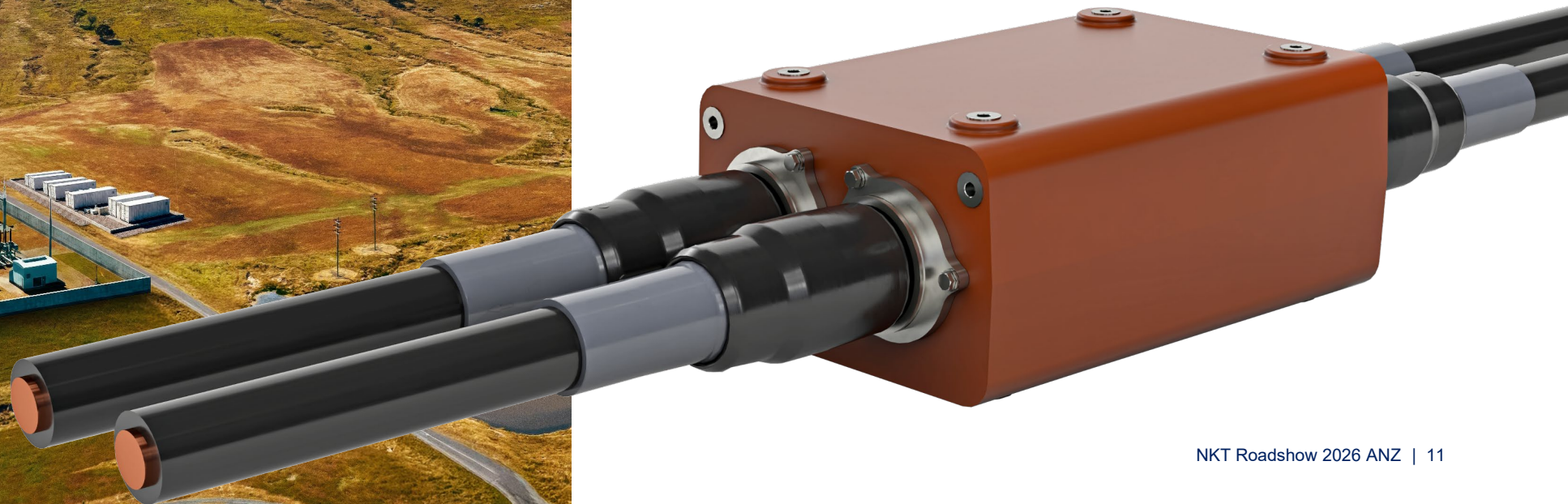
Potential saving on cable and civil:

560 k\$ AUD

Key features

NKT

- U_{\max} : 52 kV
- I_{\max} : 1250 A
- 100% Routine test: AC, PD & X-ray
- Direct buried
- Termite protected
- Disconnectable
- Connects up to 3 turbines



NKT's technical solution

NKT

1. Classification: Joint
2. Type tested as a joint in accordance with the IEC 60840 (52 kV | HV)
3. No assembly required
4. IP 68 by design, solid cast resin
5. Solid construction, not prone to collapse
6. Termite proof by design. Epoxy resin has a minimum hardness of 80 Shore D, as per AS 3660.1 requirement
7. Current rating I_{max} : 1250 A
8. Parallel or staggered configuration, individual joint per phase
9. Accepts longitudinal micro-movements in the contact bushing due to its free moving contact spring of the conductor contact
10. The design allows for easy disconnection and provides direct conductor access without requiring the disassembly of the enclosure. Each cable is individually accessible and can be disconnected independently.

Metal enclosure

1. Classification: Metal enclosure
2. Not type tested, only separable connectors
3. Complete assembly required
4. IP 68, only when assembled correctly
5. Hollow construction, prone to collapse under heavy weight
6. Termite proof only when installed correctly.
7. Current rating I_{max} : 900 A (derated due to air trapped within the enclosure)
8. Parallel configuration only, combined (3 phases) solution
9. Does not accept any micro-movements of the conductor under the bolts of the cable lug.
10. Access is restricted by a metal enclosure that requires dismantling. There is a high risk of water ingress because the gaskets cannot be adequately resealed once opened. Due to the piggyback configuration, the bottom cable cannot be disconnected without first removing the piggyback cable; furthermore, the piggyback cable cannot be reinstalled until the bottom connection is secured.



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