

Amphenol

BUSINESS PLAN

WIND POWER @ North America

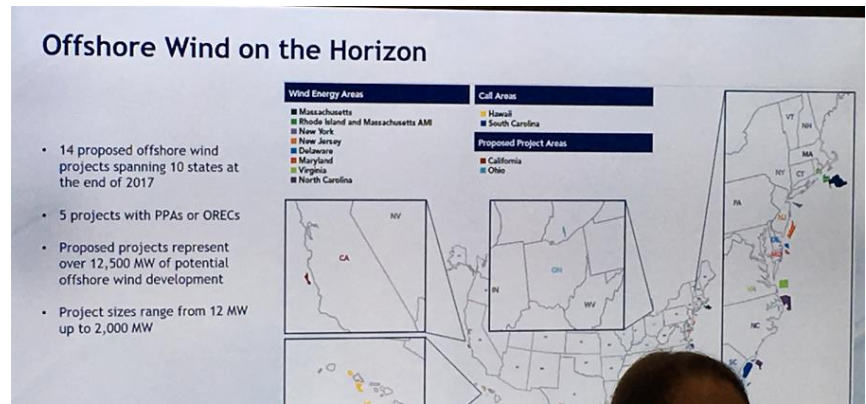
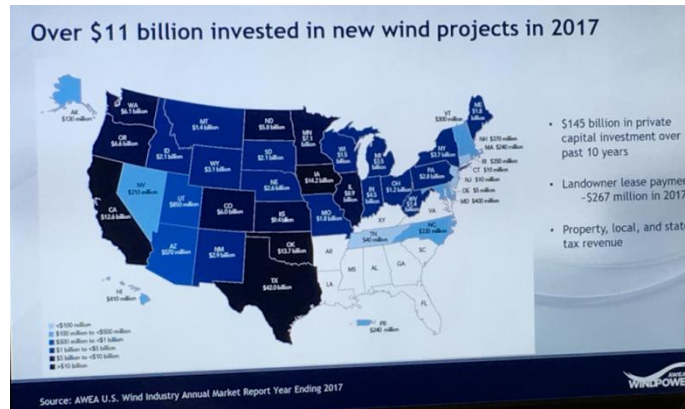
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- Wind Power Market
- Opportunity Analysis
- USA Wind Turbine OEM
- Wind Towers Builders
- Components OEM
- EPC and Contractors

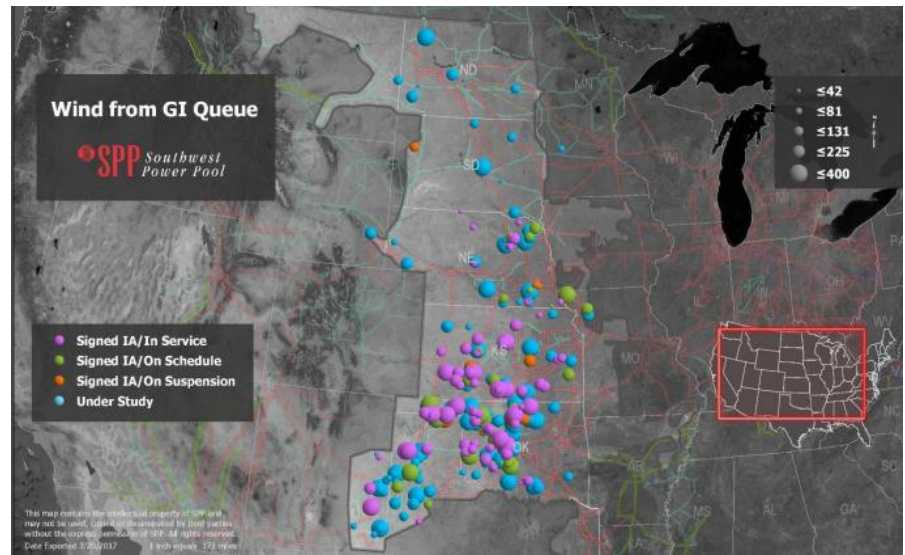
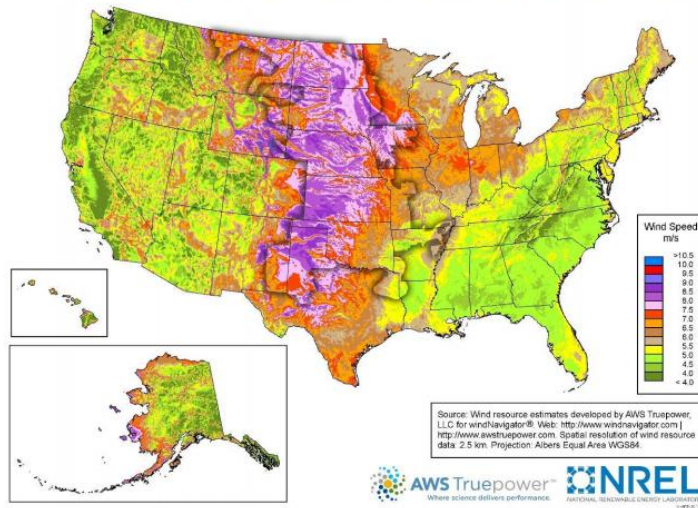
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WIND POWER @ North America Market

USA WIND POWER MARKET (AWEA)

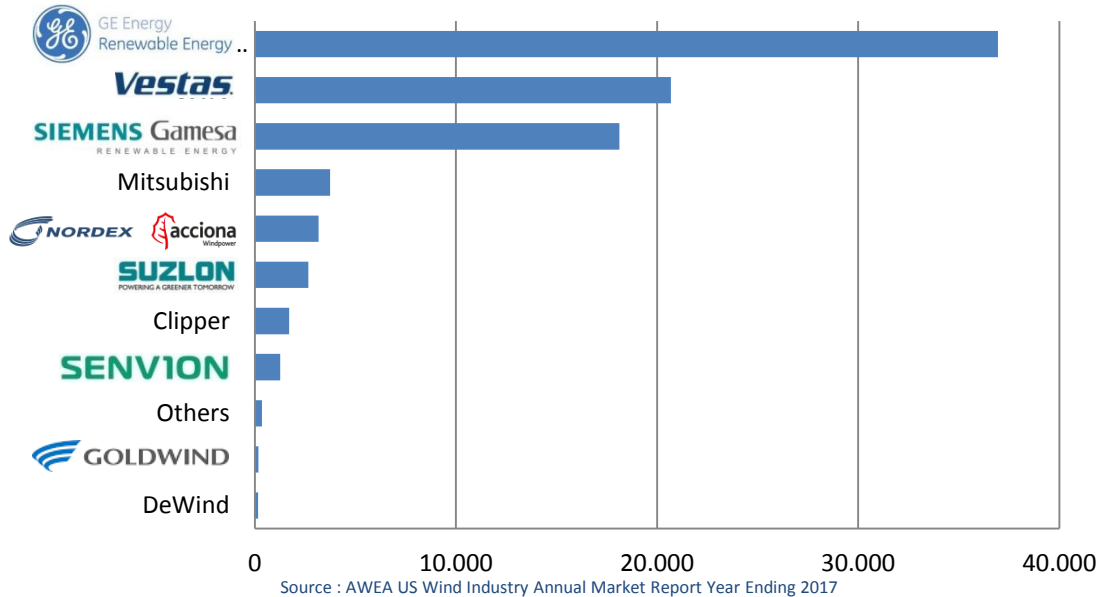


ANNUAL AVERAGE WIND SPEEDS

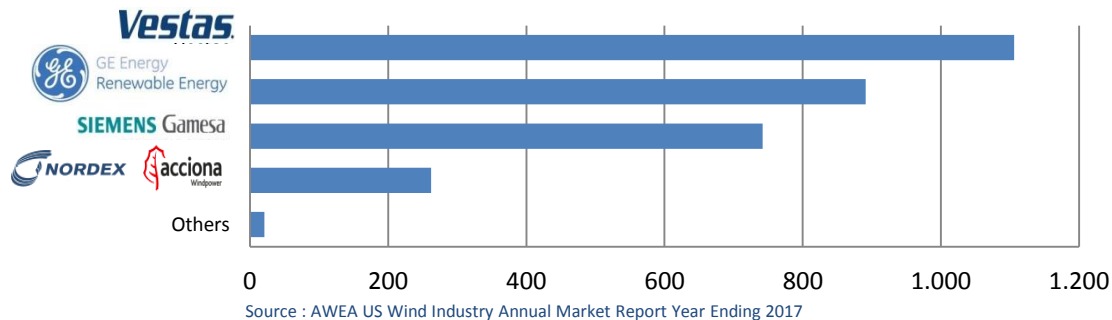


USA WIND POWER MARKET

USA Cumulative Wind Fleet Market share by Capacity (MW) 2017



2017 Turbine Manufacturer Market share (# Turbines)



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WIND POWER @ North America

Opportunity Analysis

Plug and Play Value @ Onshore Wind Turbine Installation

Sources
<https://www.youtube.com/watch?v=84BeVq2Jm88>
https://www.youtube.com/watch?v=r0DZUDQyw_0



Reduce Interconnection time between components
 Electrical Check in Facility instead "On-Site"
 Specialized Electrician just in Turbine Check



Turbine foundations



Turbine foundation Reinforcement



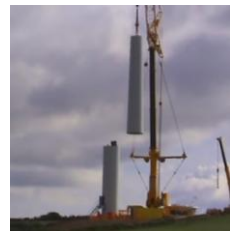
Cable trench at Baulker Farm



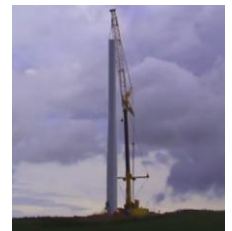
Convoy Delivery
 ->Lower Tower
 ->Middle Tower
 ->Upper Tower
 ->Nacelle



Lower Tower Erection



Middle Tower Erection



Upper Tower Erection



Nacelle Installation



Convoy Delivery
 ->3 Blades
 ->Rotor



Blades Assembly



Blades Installation

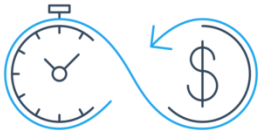


Turbine Check

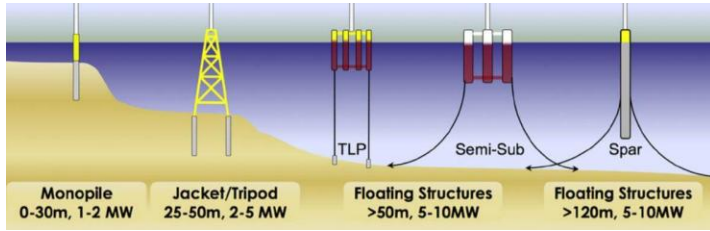


Plug and Play Value @ Offshore Wind Turbine Installation

Sources
<https://www.youtube.com/watch?v=88hu818WO4k>

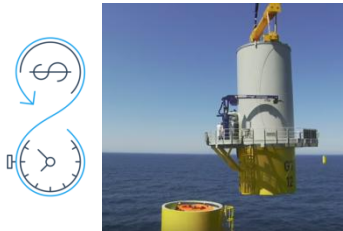


Reduce Interconnection time between components
Electrical Check in Facility instead "On-Site"
Specialized Electrician just in Turbine Check step



Convoy Delivery (+ than 1 Turbine)
->Lower Tower
->Middle Tower
->Upper Tower
->Nacelle
->Blades Assembled

Base Installation



Lower Tower Erection



Middle Tower Erection



Upper Tower Erection



Nacelle Installation



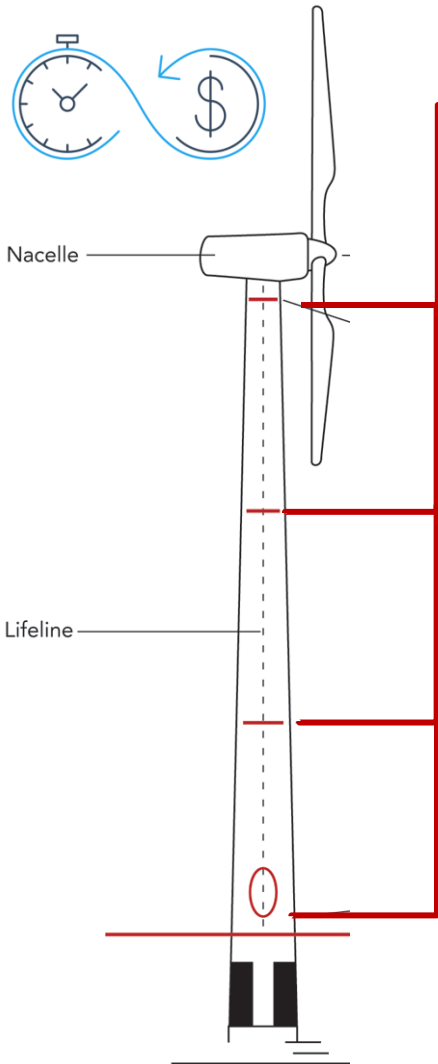
Blades Installation



Turbine Check

Plug and Play Value To reduce Installation Cost

OPPORTUNITY



POWER

9 to 27 Cables for power transmission @ 3 phases
Some times Aluminum cable – Copper
240SQMM to 300SQMM

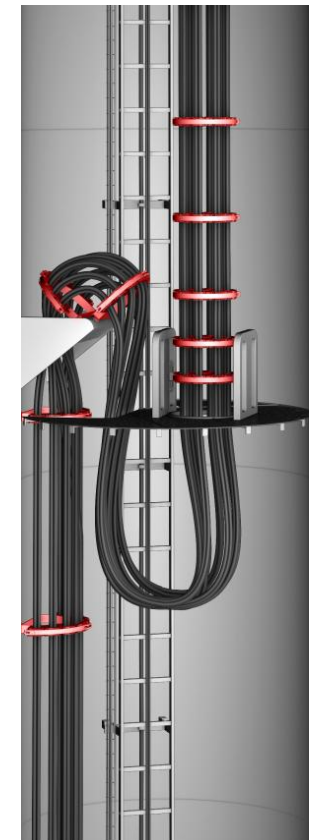


TAM USA

3022 Wind Turbines Installed @2017
4 mating points
9 to 27 Power cables

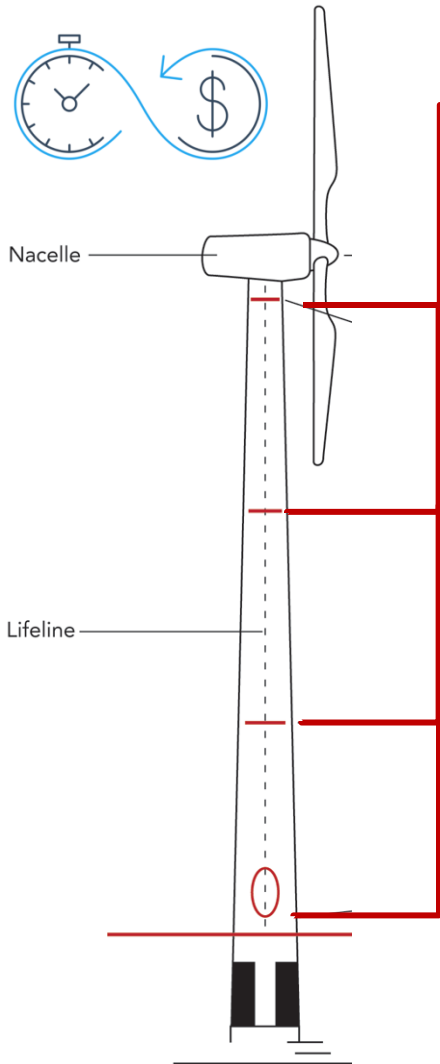
		Worst Case	AVG
2017 Turbine Manufacturer Market share	# Turbines	9 cables	18 Cables
Vestas	1.106	39.816	79.632
GE Renewable Energy	891	32.076	64.152
Siemens Gamesa	742	26.712	53.424
Nordex USA	262	9.432	18.864
Others	21	756	1.512
Total	3.022	108.792	217.584

Penetration %	# Turbines	9 cables	18 Cables
10%	302	10.879	21.758
20%	604	21.758	43.517
30%	907	32.638	65.275



Plug and Play Value To reduce Installation Cost

OPPORTUNITY



Current Technology

AL Lugs



CU Lugs



Bi-Metal Lugs



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Crimping Lugs

PRO

- > Better performance than Mechanical pressed lugs
- > Lower Component cost compared to Connector

CONS

- > Crimping is Difficult inside tower
- > required test and certified Electric Engineer OnSite
- > Insulation with heat shrink is no the best
- >Require test OnSite con confirm Current performance

Mechanical Lugs

PRO

- > Easier to terminate than Crimping
- > Lower Component cost compared to Connector

CONS

- > Lower Performance than Crimping Lugs
- > required test and certified Electric Engineer OnSite
- > Insulation with heat shrink is no the best
- >Require test OnSite con confirm Current performance

Connectors

PRO

- > Reduce Installation time/cost by
 - > No need of Certified Electrical Eng.
 - > Supply of pre terminated Cable assy ready to Plug
 - > Tested in Facility instead of Onsite
 - > Radsok Superior Power Performance

CONS

- > Higher upfront cost not seen by Turbine OEM
- > EPC &/or Tower Builder see savings but don't have Design power

RADWIND

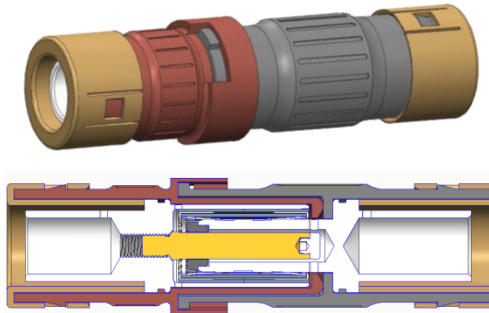
-Value Proposition

Affordable Radsok 18mm single power with Bimetal crimping capabilities

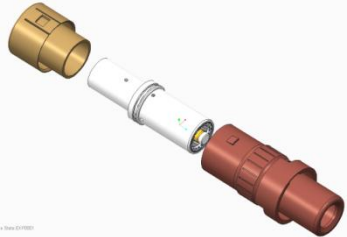
Target price Mated Pair

Low Qty ~100 usd

High Qty ~60 usd to 80 usd



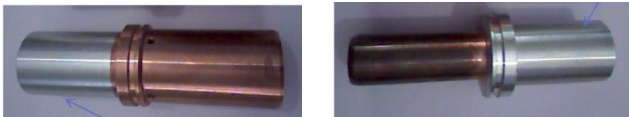
Exploded View of Receptacle Assembly



Exploded View of Plug Assembly

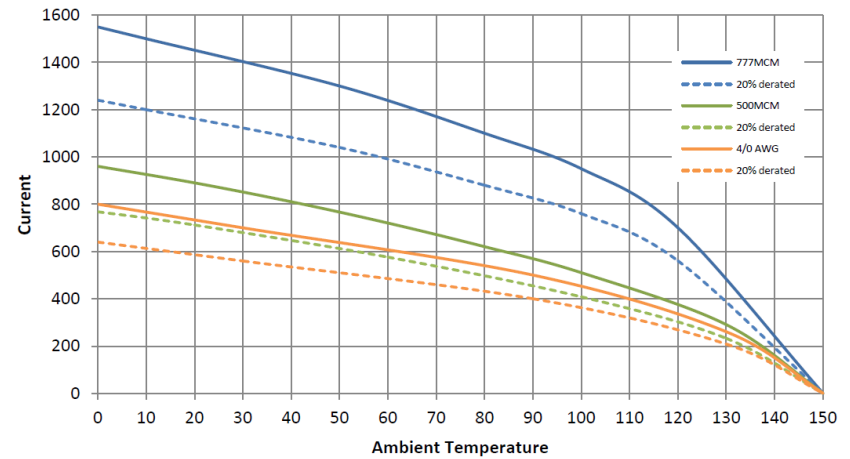


BI-METAL Contacts CU-AL



AL CRIMP BARREL TO CRIMP AL CABLES WITHOUT RISK OF GALVANIC ACTION AND OXIDATION OF CRIMP JOINT
INTERFACE IS COPPER FOR GOOD CONDUCTIVITY BETWEEN PIN AND SOCKET
THIS ALLOWS TO USE AL CABLES OR COPPER CABLES WITH THE SAME CONNECTOR, JUST REPLACING THE CONTACT

18mm R1 Radsok Derating



Radsok Key Benefits

Low contact resistance

- Higher contact coverage, IP to 65%
- Low Temperature rise
- Low Voltage Drop
- High conductivity materials

Low Engagement Force

- Uniform normal force distribution
- Relatively small spring deflection

High Cycle Durability

- 10K mating cycle life standard Ag
- Up to 100K cycle in specific apps

High Reliability & Durability

- Resists fretting
- Absorbs vibration due to cube grid
- Self-cleaning during mating

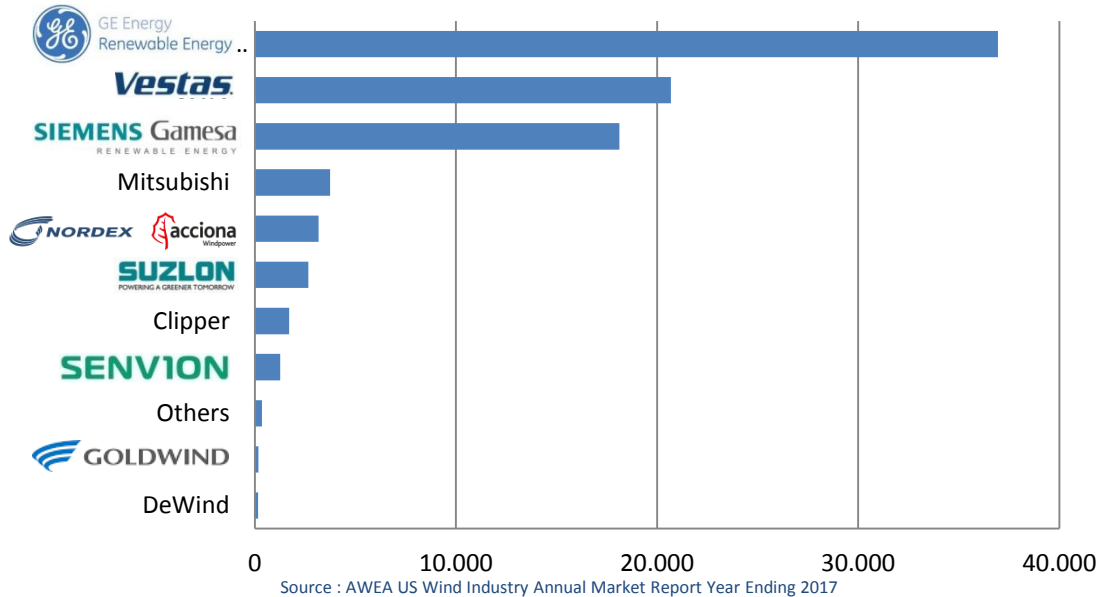
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WIND POWER @ North America

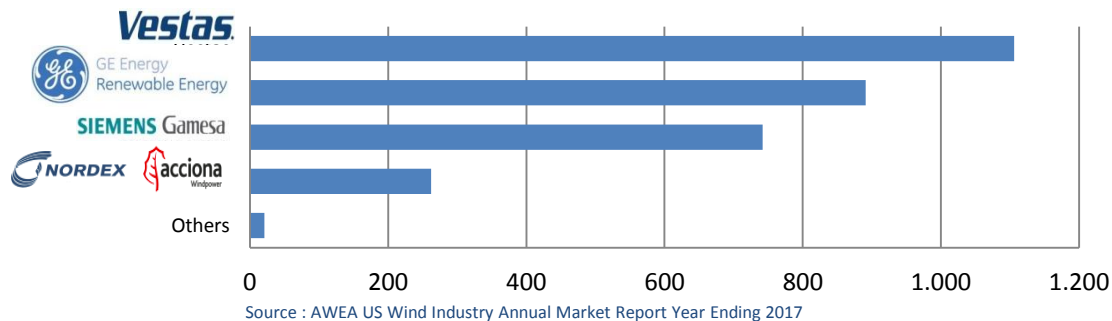
Wind Turbine OEM

USA WIND POWER MARKET

USA Cumulative Wind Fleet Market share by Capacity (MW) 2017



2017 Turbine Manufacturer Market share (# Turbines)



USA WIND POWER MARKET

Vestas.

<https://www.vestas.com/>

Installed 1106 WindTurbines @2017

Key People USA

Source LinkedIn

Søren Bredgaard, Construction Manager at Vestas, Austin, Texas Area

Cayleigh Allen, Electrical Engineer at Vestas, Portland, Oregon

Benjamin Davis, P.E. Electrical Engineer at Vestas, Portland, Oregon

Nathan Nixon. Electrical Professional at Vestas, Alpine, California

Nicole Clock, PE, Engineer – Vestas, Portland, Oregon

HQ Denmark

USA

Vestas Towers America

100 Towers Road

Pueblo, CO 81004

United States of America

Phone: (+1) 719 288 2200

See tower market slide



Vestas, Pueblo, CO
100 Tower Road, Pueblo, CO 81004, EE. UU.

Wind turbine tour Vestas

https://www.youtube.com/watch?v=8wK1qmRv_l8

USA WIND POWER MARKET



<https://www.ge.com/renewableenergy>

Installed 891 WindTurbines @2017

Key People USA

Source AWEA

Tom and Mariano Talked with Sheri Hickok and suggested to talk to

-> Bob Karl

Chief Operating Officer - On-Shore North America at GE Renewable Energy
Albany, New York Area

<https://www.linkedin.com/in/robert-karl-4409a11b/>



GE Renewable Energy

Sheri E. Hickok
General Manager
Global Product Development
OnShore Wind

M +1 248 444 6002
sheri.hickok@ge.com
www.ge.com
1 River Road
Bldg. 53-450
Schenectady, NY 12345
USA

USA

NY, Schenectady, USA-> Onshore wind business headquarters and engineering office

1, River Rd, Schenectady, NY 12306, EE. UU.



SC, Greenville, USA-> Onshore wind turbine engineering office



FL, Pensacola, USA-> Onshore wind turbine machine head and hubs assembly facility



Blades ->

ND, Grand Forks, USA
AR, Little Rock, USA
Gaspé, Canada

<https://www.ge.com/renewableenergy/about-us/locations>

USA WIND POWER MARKET



<https://www.ge.com/renewableenergy>

Installed 742 Wind Turbines @2017

Key People USA

Source LinkedIn

Alberto Vivi

Head of Commodity Management - Procurement North America

<https://www.linkedin.com/in/alberto-vivi-1276401/>

Guillermo Schmidhuber

Procurement Director North America at Siemens Gamesa

<https://www.linkedin.com/in/guillermoschmidhuber/>

USA

Siemens Gamesa (Hutchinson,KS)

1000 Commerce St, Hutchinson, KS 67501, EE. UU.



<http://www.hutchnews.com/news/20180121/new-nacelle-coming-to-hutchinson-siemens-gamesa-plant>

USA WIND POWER



**Do not have manufacturing plant IN north America.
Import Nacelle and Source locally**

<http://www.nordex-online.com/en>

Installed 262 Wind Turbines @2017

Key People USA

Source LinkedIn

Chester Zapotoczny

Senior Electrical/Project Engineer at Nordex Group.

Greater Chicago Area

North American region, supporting Sales, Project Management, Engineering, Procurement and Cost of Energy. Managing SCADA implementations and grid requirements for new projects, utilizing Acciona Wind Power & Nordex wind turbines technology.

<https://www.linkedin.com/in/chetzap>

USA WIND POWER MARKET (AWEA)



**Do not have manufacturing plant IN north America.
Bring components from China and Source locally**

<https://www.ge.com/renewableenergy>

Installed 262 Wind Turbines @2017

Key People USA

Source AWEA

Talked with Violet Wang Strategic Buyer @ Chicago



Violet Wang
Strategic Buyer

Goldwind Americas

20 N. Wacker Dr.
Suite 1375
Chicago, IL 60606

Tel: +1-312-948-8022
Cell: +1-312-343-4367
Fax: +1-312-948-8051
E-mail: wwang@goldwindamericas.com
Web: www.goldwindamericas.com

USA WIND POWER MARKET (AWEA)



<http://www.suzlon.com>

Installed

Key People USA

Source AWEA

Booth pointed us to Director of engineering Dennis Ford
<https://www.linkedin.com/in/dennis-ford-8385bb/>



Dennis Ford • 2nd
Director of Engineering at SUZLON WIND ENERGY LIMITED
Chicago, Illinois

SUZLON WIND ENERGY LIMITED
State University of New York Maritime College

No manufacturing plant in USA
Import Nacelle and Source locally

Suzlon Wind Energy Corporation
8750 W. Bryn Mawr Avenue, Suite 300E,
Chicago, IL 60631.
+1-773-328 5077



Suzlon Wind Energy Corporation
North American Subsidiary

Phone : +1 773 328 5077
E-mail : Info-NorthAmerica@suzlon.com

Suzlon Wind Energy Corporation
8750 W. Bryn Mawr Ave., Suite 300E
Chicago, Illinois 60631
www.suzlon.com

Dennis Ford
Dir of Eng.

USA WIND POWER MARKET (AWEA)

SENVION

<https://www.ge.com/renewableenergy>

Previously known as REpower

Key People USA

Source AWEA

Talked with Samer El itani, Electrical Team leader

We explain the cut cost that interconnection can deliver to Wind turbine installations and show interest to make an exercise.

SENVION

Samer El Itani, M. Eng., PMP
Team Leader, Electrical & SCADA
Sales & Project Engineering,
North America

samer.el.itani@senvion.com
www.senvion.com

Senvion Canada Inc.
1100 René-Lévesque Blvd. W.,
Suite 1910
Montreal, Quebec, H3B 4N4

T +1 514 935 4595 227
M +1 514 235 9312
F +1 514 935 4568

HQ @ Hamburg Germany

Comercial USA @ 1600 Stout Street, Suite 2000, Denver, CO 80202 · USA

Senvion USA Corp. is responsible for sales, project management and the service and maintenance of two megawatt Senvion turbines and the Senvion 3.XM in the US.

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WIND POWER @ North America

Wind Tower Builders

WIND TURBINES TOWERS MANUFACTURERS

Sources

<https://www.youtube.com/watch?v=beCyYOPPrAo>

<https://www.youtube.com/watch?v=MgGk2WvK80M>

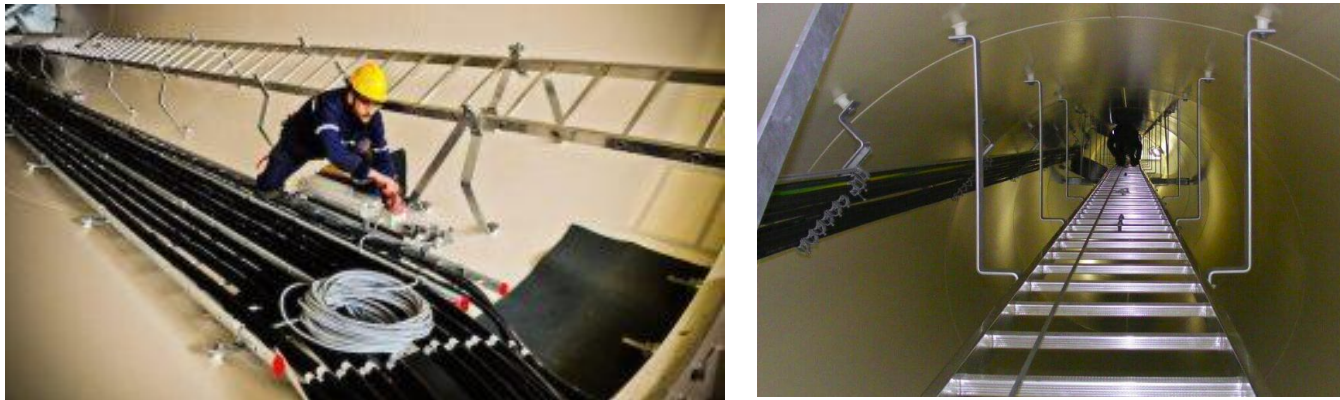
Concrete Segments Tower



Steel Segment Towers



Ladder and cable installation when they deliver the tower segment



OPPORTUNITY

USA WIND TURBINES TOWERS

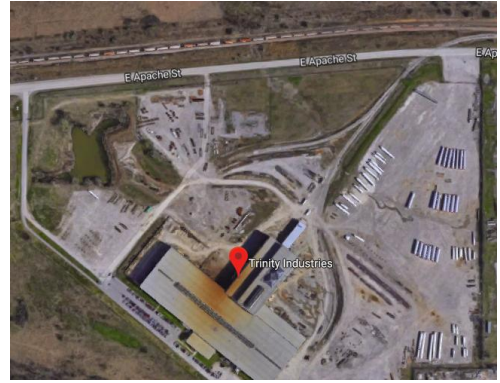
OPPORTUNITY



Trinity Structural Towers, Newton, IA
801 N 19th Ave E, Newton, IA 50208, EE. UU.



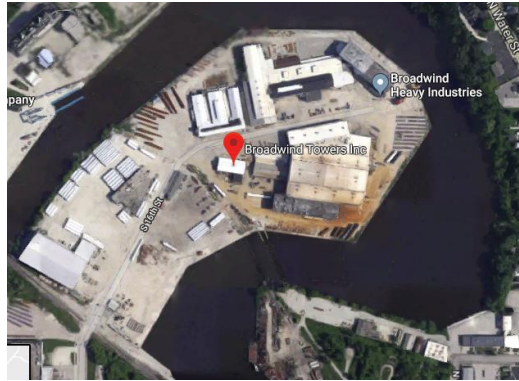
Trinity Structural Towers, Clinton, IL
10000 Tabor Rd, Clinton, IL 61727, EE. UU.



Trinity Structural Towers, Tulsa, OK
15300 Tiger Switch Rd, Tulsa, OK 74116, EE. UU.

USA WIND TURBINES TOWERS

OPPORTUNITY



Broadwind Towers, Abilene, TX
1126 Arnold Blvd, Abilene, TX 79603, EE. UU.

Broadwind Towers, Manitowoc, WI
101 S 16th St, Manitowoc, WI 54220, EE. UU.

Marmen Energy, Brandon, SD
1820 N Plum Ave, Brandon, SD 57005, EE. UU.

USA WIND TURBINES TOWERS

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Ventower, Monroe, MI
111 Borchert Park Dr, Monroe, MI 48161

Vestas, Pueblo, CO
100 Tower Road, Pueblo, CO 81004, EE. UU.

GRI Renewables, Amarillo, TX
9200 NE 24th Ave, Amarillo, TX 79108, EE. UU.

Tom and Mariano Talked in AWEA with Scott Viciano interested to parter up

SCOTT J. VICIANA
Vice President



Ventower Industries
111 Borchert Park Drive
PO Box 589
Monroe, MI 48161
(734) 682-4001
Cell: (757) 477-8103
sviciano@ventower.com
www.ventower.com

ISO 9001:2008

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WIND POWER @ North America

Components OEM

USA WIND POWER MARKET (AWEA)

OPPORTUNITY



Slip-Rings Manufacturers
->Heavy Mate Cable assy



United Equipment Accessories UEA
<http://www.uea-inc.com/products/slip-rings>
Jesse Shearer (Slip Ring Engineering) AWEA
Nick Addington (Mgr Design Engineer) AWEA
2103 East Bremer Ave ,Waverly , IA

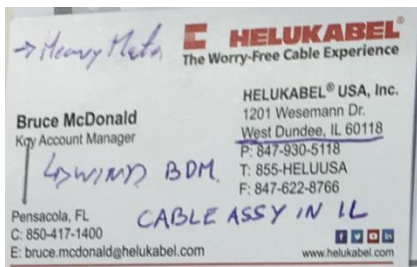


COBHAM **COBHAM**
3030 Horseshoe Dr S #300, Naples, FL 34104, EE. UU.
-> More military oriented but they do a lot of Wind power slip rings Maintenance
Other France facility Fabian Stephen
18 Rue de Montréal, 74100 Ville-la-Grand, Francia
<http://www.cobham.com/the-group/locations/>



BGB Technology, Inc. **BGB TECHNOLOGY INC.**
[1060 Port Walthall Drive, Colonial Heights, Virginia, 23834 USA](http://www.bgbtechnology.com)
James Wood
Chief Design Officer at BGB Technology Inc
To design new products for our customers specific requirements
<https://www.linkedin.com/in/james-wood-1a3a9254>

Helukabel



Helukabel HQ USA
1201 Wesemann Dr, West Dundee, IL 60118

OPPORTUNITY

Product offering

http://www.helukabel.com/publication/us/brochures_flyers/flyer_windkraft_en_2016-04-12_wm-us.pdf

AL & CU Cable

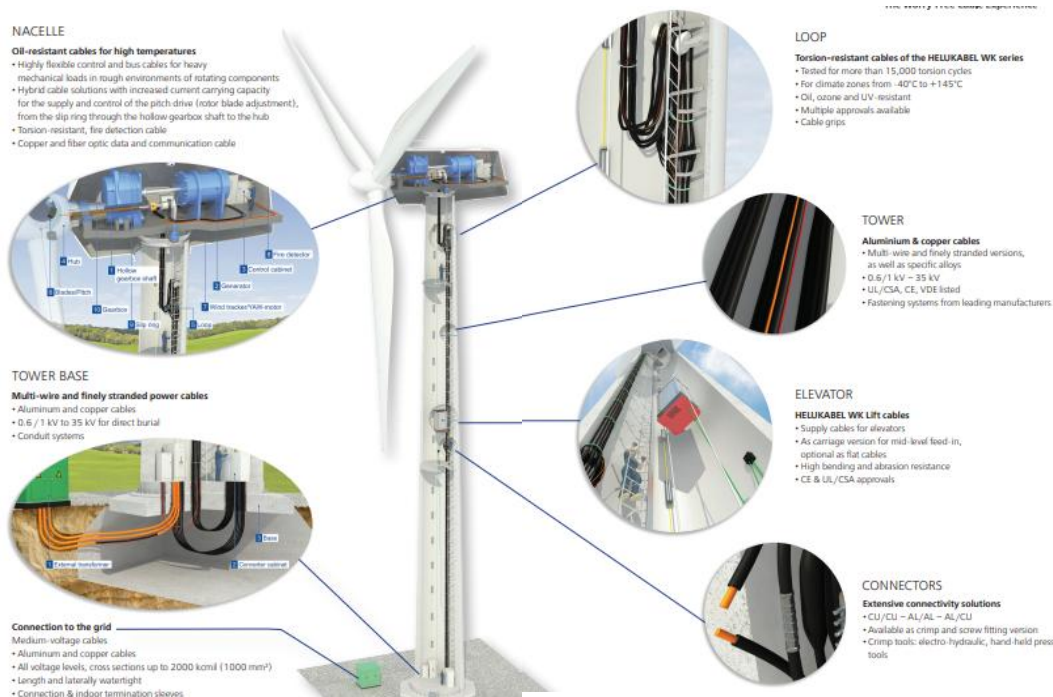
Torsion-resistant cables of the HELUKABEL WK series

0.6/1 kV – 35 kV

UL/CSA, CE, VDE listed

Crimping Lugs - CU/CU – AL/AL – AL/CU

Deliver to customer cable assy already with LUGS interested in RADWIND. They will ship a cable sample for test. Tom will follow up



CAMERON WIRE & CABLE

OPPORTUNITY

CAMERON WIRE & CABLE, INC.
Scott Moore
Director of Energy
1900 W. 65th Street, Suite 8
Little Rock, AR 72209
www.cameronwire.com
scott@cameronwire.com
Ph: 501-850-0099
Fax: 501-850-0098
Cell: 570-449-9532

CAMERON WIRE & CABLE, INC.
Robert Cameron
1900 W. 65th Street, Suite 8
Little Rock, AR 72209
www.cameronwire.com
robert@cameronwire.com
Ph: 501-850-0099
Fax: 501-850-0098

Wind & Solar

Cameron Wire & Cable is the leading Wind and Solar industry resource for durable, high-performance cables, cable kits, custom hardware packages and cable assemblies. We work in partnership with our customers to help maximize productivity and profitability through innovative cable solutions and services.

Bulk Cable
Cables designed for durability in harsh, isolated operating environments. In-stock and ready to ship:

- 600-2000V Low Voltage Power Cable*
- 5-35kV Medium Voltage Power Cable*
- WTTC (Wind Turbine Tray Cable) Control
- Type PV and TC Solar Cables

*Single and Multi-Conductor

Custom Kits
Cameron packages and stocks customized cable and hardware kits that match your specific application requirements:

- Lugs / Connectors / End Caps
- Pre-Cut Lengths
- Reduces Inventory and Order Processing Costs

Plug & Play Systems
Arrives ready for immediate installation. Eliminates the need for on-site termination expert or high-cost assembly inventory.

- Power, Control and Instrumentation Cables
- High-Quality, Long-Lasting Connector System

Custom Cables
Customer-directed service where cable is cut-to-length, prepped, packaged and made ready to ship.

Cut to specific lengths
Terminated, coiled with end caps

Hardware
Compression & ferrule lugs, Ty-Raps, Kopr & Alumina shield, tape, heat shrink and other mission-critical parts.

345,000 sqft. Corporate Warehouse

- Great customer service and engineering support
- Reliable on-time delivery
- Industry-best lead times
- Emergency service

CAMERON WIRE & CABLE, INC.
Little Rock, AR • Houston, TX • Salt Lake City, UT

Cameron wire and cable

Worked with AIO for an opportunity with Windlok in the past but price is too expensive against bimetallic lugs

We met with
Scott Moore (director of Energy)
+1 570 449 9532

Robert Cameron
+1 501 850 0099

Nexans / Amercable

Not interested in Partnership
AL & CU Cable

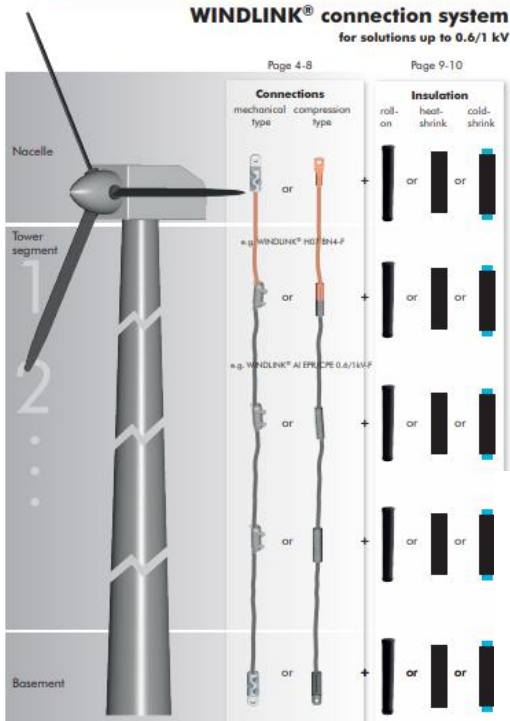
Mechanicals Lugs - CU/CU – AL/AL – AL/CU

http://www.nexans.es/eservice/Spain-es_ES/navigate_343908_-4695_20_16531/Products.html

Deliver to customer cable assy already with Mechanicals lugs and not interested to partner up at least people from AWEA Booth

They push really hard -> Nexans WINDLINK® connection system
They Consider us as Competitors

http://www.nexans.es/eservice/Spain-es_ES/fileLibrary/Download_540252162/Corporate/files/Windlink_connection_system_%20oct2013



C400 x 16 AL2 SW19
 - installation tool size (6-8 allen key size)
 - 13-24 outer heagren size
 - conductor material and class acc. DIN EN 60228
 - palm hole size
 - conductor cross-section
 - C = lug series



M240-400 CU5/AL2 SW19
 - installation tool size (6-8 allen key size)
 - 13-24 outer heagren size
 - conductor material and class acc. DIN EN 60228
 - conductor cross-section
 - M = mechanical connector series

Connector body	Cross-section
	50-150 mm ²
	95-240 mm ²
	120-300 mm ²
	185-400 mm ²
	300-630 mm ²

Components Competitors



BIMETALLIC BOLTED LUGS VCXI TYPE

Not a lot of product offering just lugs and T Branches

<http://www.te.com/commerce/DocumentDelivery/DDEController?Action=srchrtv&DocNm=EPP-2323-VCXI&DocType=Data+Sheet&DocLang=English&DocFormat=pdf&PartCntxt=1351532-1>

<https://www.digikey.com/en/product-highlight/t/te-connectivity/solarandwind>



Instruction assembly Bi-metal cable lugs for highly flexible, low and medium voltage aluminium cables

http://cdn2.hubspot.net/hubfs/514555/Datasheets/Datasheet_Assembly_cable_lugs_to_PowerAmp-A_cables2.pdf

Components Players



Hydac,
Manufacture in Pennsylvania
Met with Jonathan Mc Kinnis (MIDWEST territory MNG)
Main Focus in Cable retention systems
Potential partnership

<https://www.hydac.com/fileadmin/pdb/pdf/PRO0000000000000000000010113030011.pdf>



HY-ROFLEX for mounting cables

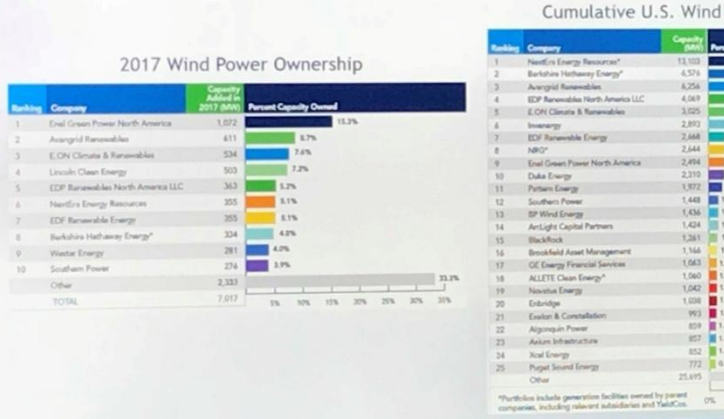
Amphenol

WIND POWER @ North America

EPC and Contractors

USA WIND POWER MAINTENANCE

Market Rankings: Wind Project Ownership



Cumulative US WindPower Ownership	Percentage
Nextera Energy Resources	14,70%
Berkshire Hathaway Energy	7,40%
Awandgrid Renewables	7,00%
EDP Renewables North America LLC	4,60%
E.ON Climate & Renewables	3,40%
Invenergy	3,30%
EDF Renewables Energy	3,00%
NRG	3,00%
Enel Green Power North America	2,80%
Duke Energy	2,40%



NEBRASKA PUBLIC POWER DISTRICT -> Maintenance

Devin Painter

+1 402 760 1770

dapaint@nppd.com

->Mariano and tom met with NPPD looking for heavy mate cable assy for V82.

USA WINDPOWER EPC AND CONTRACTORS



FAGEN -> Full service Contractor
Jeremiah Clore
+1 507 829 7391

jclore@fageninc.com

->Mariano and tom met with Jeremiah ans show interest to reduce installation time and delocalization of assy from turbine to facility.



Orsted- > Need to make paperwork and be approved vendor
<https://orsted.com/en/Our-business/Wind-Power>



SNC - Lavalin

Carmello Torresi
VP Utility Sector
20 North Wacker #2243. Chicago, IL
416-252-5316

Amphenol

WIND POWER @ North America

AWEA LEADS

Top Wind Show 2018 Opportunities

Company Name	Contact Name	Title	Address	City	State	Phone	Salespers on (Who)	Opportunity (What)	Status (When) No later than
Bay State Wind	Paul Vigeant	Director	628 Pleasant St	New Bedford	MA		Karen Mulligan	Online Vendor Registration and supply chain forum for New Bedford Wind Project/ 3 EPC in running for project	6/4/2018
UEA	Jesse Shearer Nick Addington	Slip Ring Engineering Mgr Design Engineer	2103 East Bremer Ave	Waverly	IA	319-352-3946	Karen Mulligan	Cable assy with Tuchel Heavymate	6/7/2018
Nebraska Public Power	Devin Painter	Engineer	42897 Wild Turkey Rd	Ainsworth	NE	402-387-1056	Karen Mulligan	Looking for cable assy w/ Heavy mate	6/7/2018
Ergytech	Javier Yuguero	BDM	2400 Augusta Dr #310	Houston	TX	713-953-0300	Karen Mulligan	sending us complete connector list for MRO of turbines	5/22/2018
Cameron Wire & Cable	Robert Cameron	President	1900 W 65th St	Little Rock	AR	501-850-0099	Karen Mulligan	Sub contractor for Suzlon discuss Windlok and Radwind	6/12/2018
Goldwind USA	Tim O'Malley Violet Wang	Operations Manager Supply Chain manager	20 N. Wacker #1375	Chicago	IL	815-357-7389 312-948-8022	Tom Bliznik	Get cable assy package	5/28/2018
Ventower Industries	Scott Viciana	VP	111 Borchert Park Dr	Monroe	MI	734-682-4001	Tom Bliznik	Cable assy 50-300 assy annually	6/1/2018
Helukabel	Bruce McDonald Marcus Dannheim	Wind BDM President	1201 Wesemann Dr	W Dundee	IL	847-930-5118 847-970-8525	Tom Bliznik	Interested in Cable assy do presentation of capabilities	5/28/2018
SNC-Lavelin	Carmello Torresi	VP Utility Sector	20 North Wacker #2243	Chicago	IL	416-252-5316	Tom Bliznik	cable assemblies	5/28/2018
Suzlon	Dennis Ford	Director of Engineering	8750 W. Bryn Mawr Ave., Suite 300E	Chicago	IL	773-328 5077	Tom Bliznik	Interested in Radwind/cable assy	5/28/2018

Amphenol

WIND POWER @ North America

Power Products

USA WIND POWER MARKET

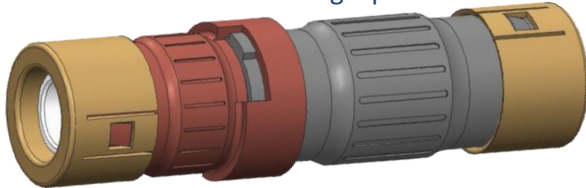
POWER

A

SINGLE CONTACT

-Radwind

Affordable Radsok 18mm single power



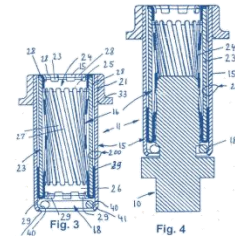
-Vortex (Riglok/ Windlok)

Hard aluminum reverse bayonet 18mm Radsok
EMI grounding
Double finger proof protection



-R24

Radsok 23.1mm
Finger proof and padlock capabilities
Colorful Metal-Rubber hardware



Radsok Key Benefits

Low contact resistance

- Higher contact coverage, IP to 65%
- Low Temperature rise
- Low Voltage Drop
- High conductivity materials

Low Engagement Force

- Uniform normal force distribution
- Relatively small spring deflection

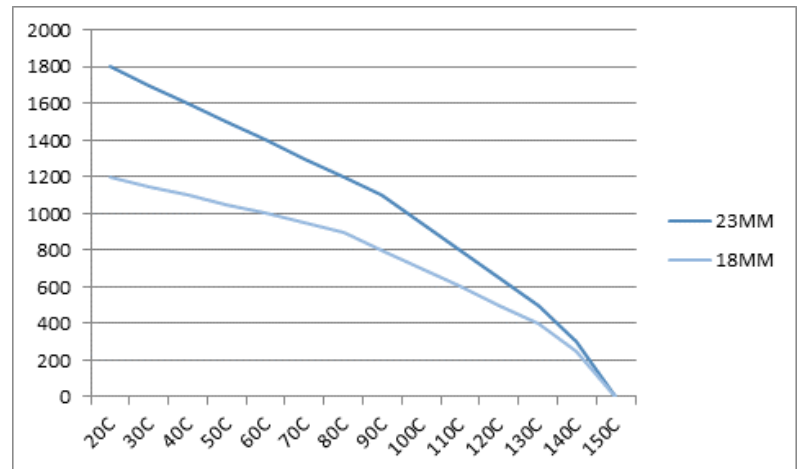
High Cycle Durability

- 10K mating cycle life standard Ag
- Up to 100K cycle in specific apps

High Reliability & Durability

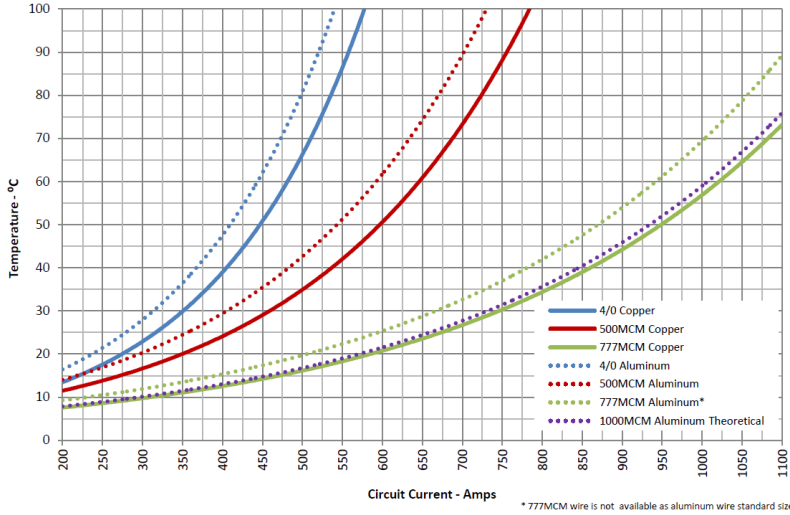
- Resists fretting
- Absorbs vibration due to cube grid
- Self-cleaning during mating

De rating curve Radsok contact 23mm and 18mm

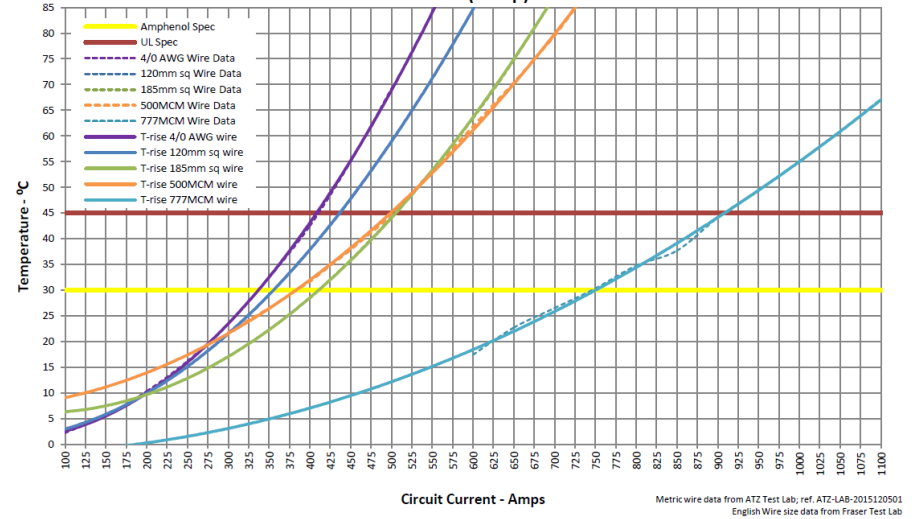


RADSOK 18mm Performance

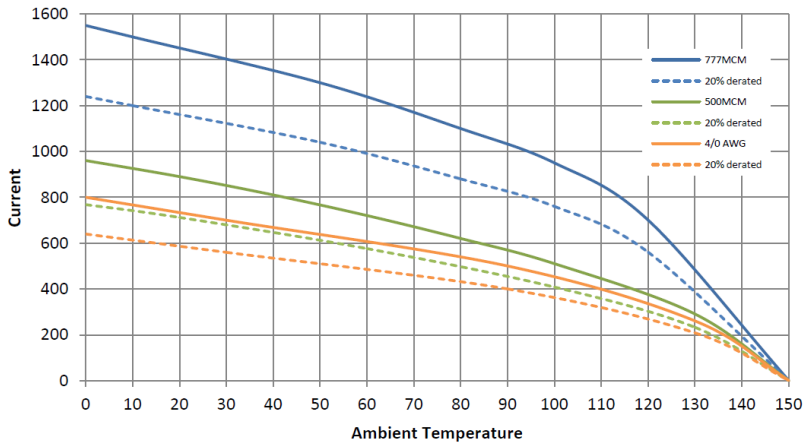
**18mm R1 Wind-Lok/Vortex Radsok Contact
T-rise Copper/Aluminum Wire Comparison**



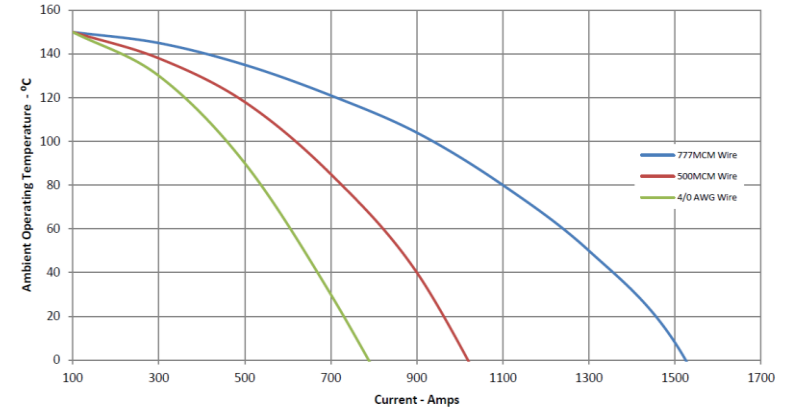
**Wind-Lok Connector Thermal Performance
Wire Terminal (crimp) T-rise**



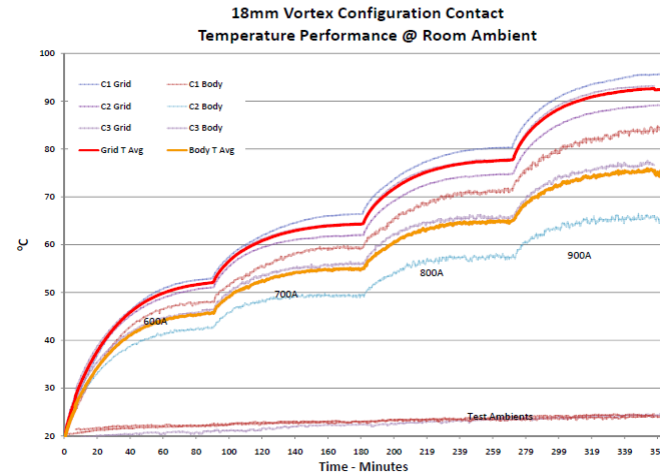
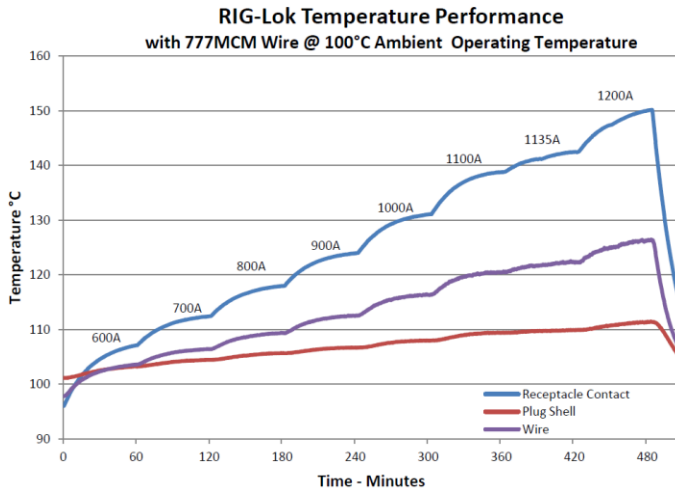
18mm R1 Radsok Derating



18mm R1 Radsok Current Carrying Capability



RADSOK 18mm Performance



BI-METAL Contacts CU-AL



FEMALE BI-METAL CRIMP CONTACT

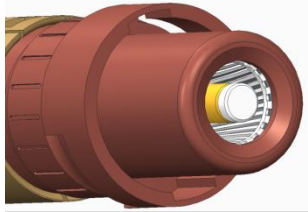


MALE BI-METAL CRIMP CONTACT

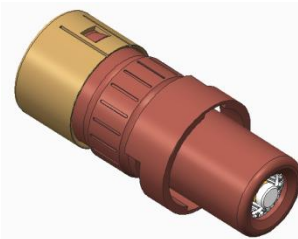
AL CRIMP BARREL TO CRIMP AL CABLES WITHOUT RISK OF GALVANIC ACTION AND OXIDATION OF CRIMP JOINT INTERFACE IS COPPER FOR GOOD CONDUCTIVITY BETWEEN PIN AND SOCKET
THIS ALLOWS TO USE AL CABLES OR COPPER CABLES WITH THE SAME CONNECTOR, JUST REPLACING THE CONTACT

RADWIND (18mm Radsok)

View showing entry keyways



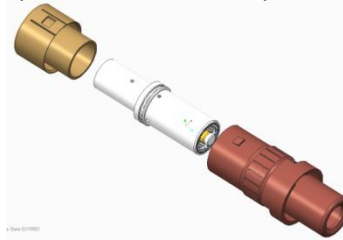
Receptacle Assembly



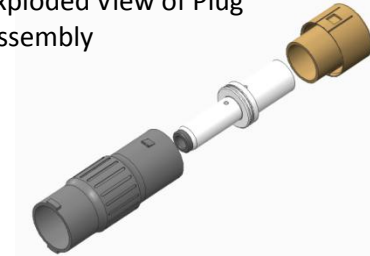
Plug Assembly



Exploded View of Receptacle Assembly



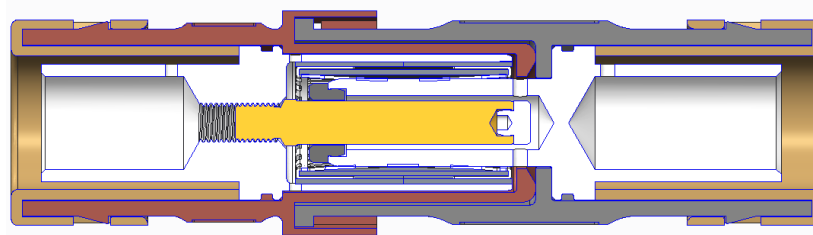
Exploded View of Plug Assembly



Fully Mated Assembly
(Twist to lock)

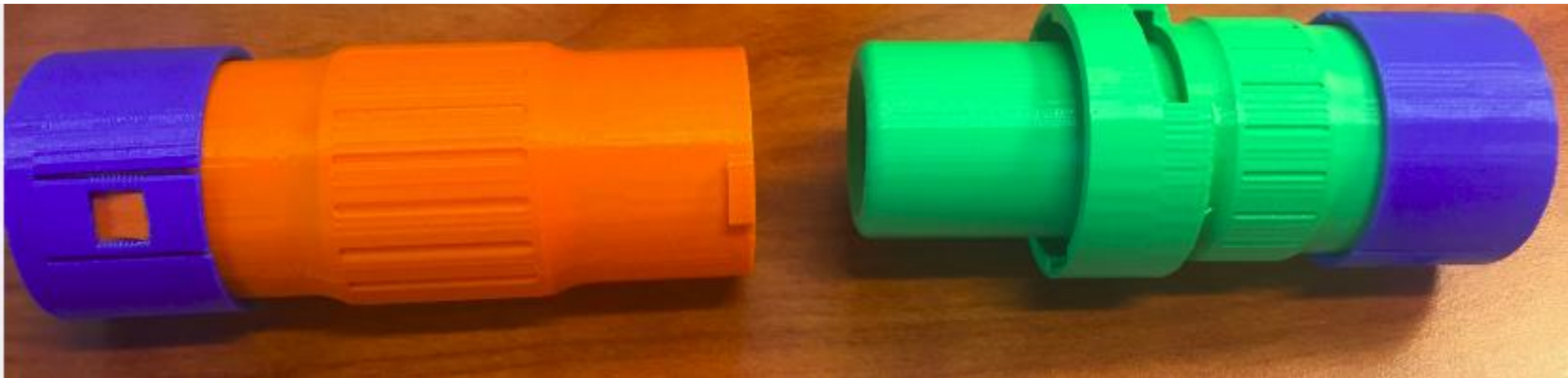


Fully Mated Cross
Sectional View



RADSOK 18mm WIND-CN

3D Prototype



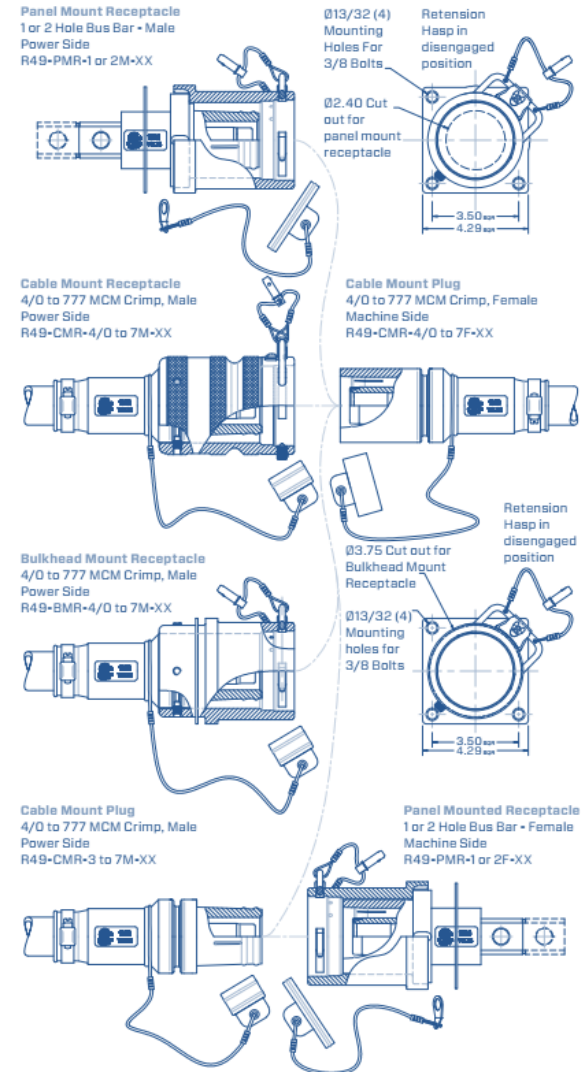
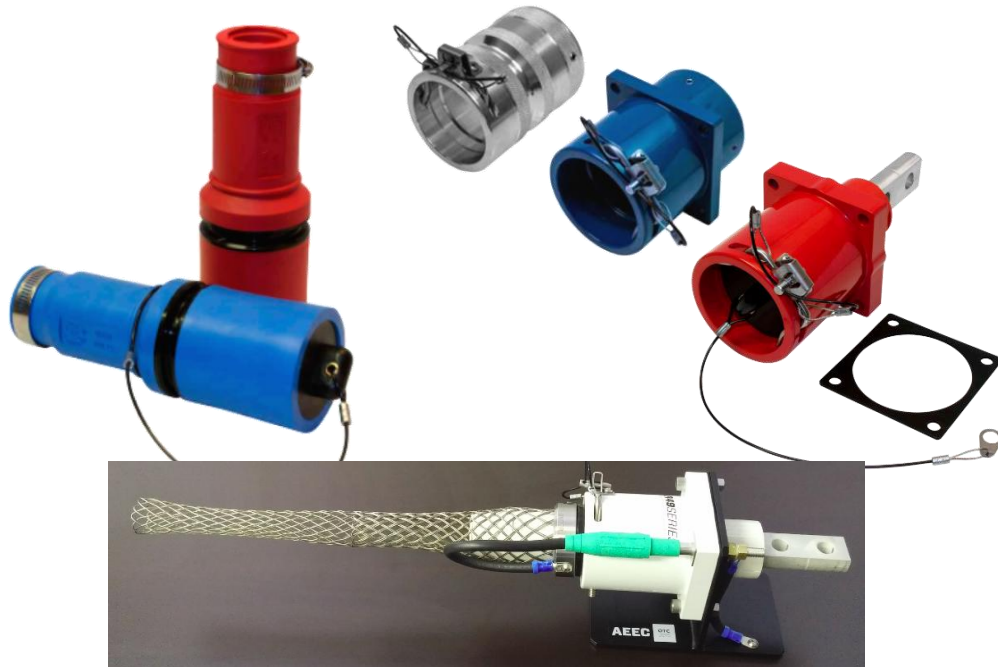
R24 Power Connector

NEW

Key Benefits

- 9 Different color coded mounting
- Contacts Sizes from 4/0 AWG(120sqm) up to 777MCM (400sqm)
- Synthetic Hypalon® based Thermoset Rubber
- Inline or panel mount receptacles
- **R24-> Radsok 23,1mm up to 1500A**

Links
• [Catalog](#)



Rig-Lok (Vortex) Power Connector

Links
• [Catalog](#)

Key Benefits

- Radsok 18,1mm up to 1100A
- color coded mounting
- Contacts Sizes from 4/0 AWG(120sqm) up to 777MCM (400sqm)
- Hard Coated Aluminum
- Can warrant grounding continuity
- Reverse Bayonet quick connection



Cable assy

