

BÖNING SHIP AUTOMATION

SOLUTIONS FOR WIND FARM VESSELS

Böning USA, Inc
Boca Raton – FL/ www.boening-usa.com

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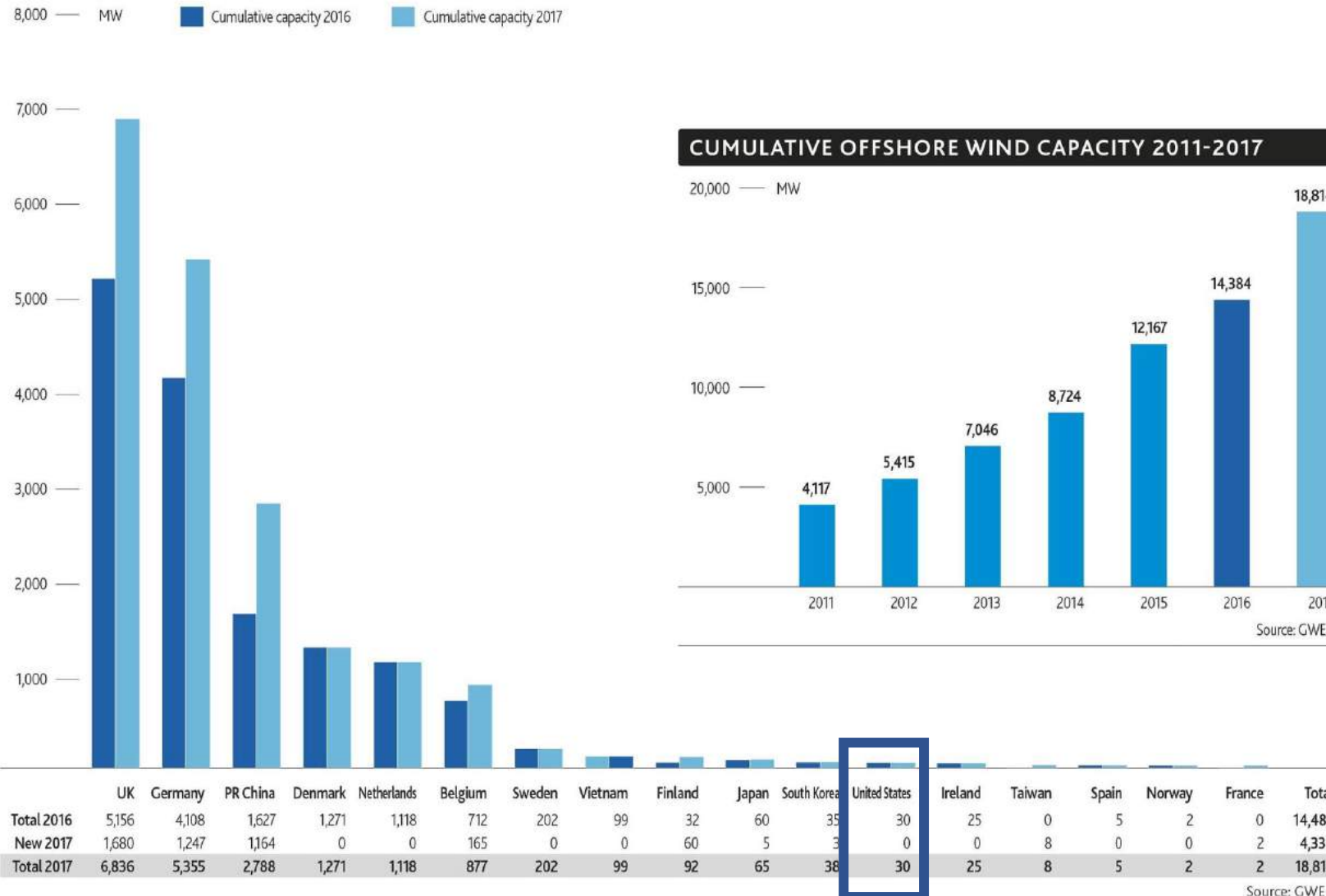
Offshore Wind Energy Development in the U.S.

The United States has a vast offshore wind energy resource with a technical potential of more than 2,000 gigawatts (GW), or nearly double the nation's current electricity use. Harnessing America's offshore wind resources presents an enormous opportunity to create tens of thousands of highly-skilled jobs, revitalize coastal communities, and deliver large amounts of clean, reliable energy to the country's biggest population centers

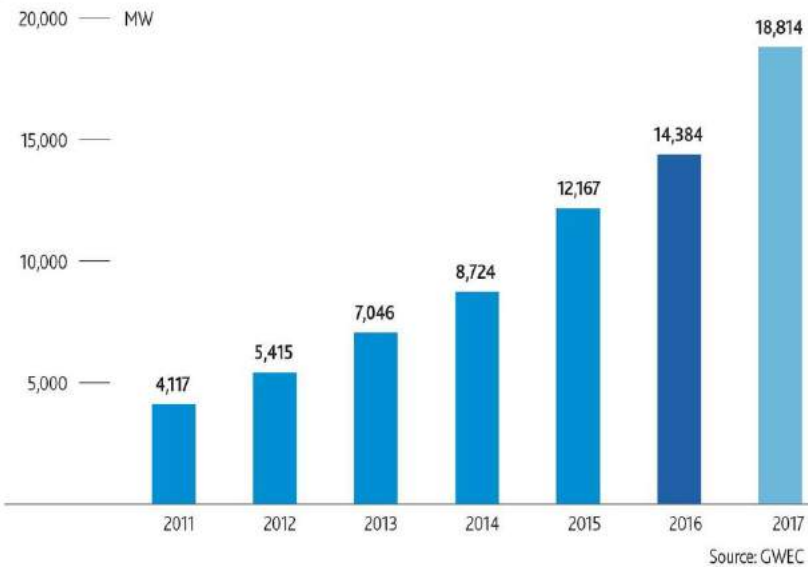


The wind energy in the world

GLOBAL CUMULATIVE OFFSHORE WIND CAPACITY IN 2017



CUMULATIVE OFFSHORE WIND CAPACITY 2011-2017



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Source: <https://gwec.net/global-figures/global-offshore/>

Wind farm support vessels (WFSV)



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Wind farm support vessels (WFSV) with Böning Systems

350 is the estimated number of wind farm vessels operating in Europe

130-150 is estimated number of vessels with Böning → (35%+)

Customer References



- 18m / 20m / 24m vessels
- Class notation: High Speed Craft vessels – DNV approval 
- Saved 400 building hours by using AHD-BMS
- Designed for robustness for rough sea
- Reliability: 97% Service Level Agreement of the operator (Wind parks in Europe)

- Operators:

- Holyhead Marine (UK)
- Seacat Services SCC (UK)
- Maritime Craft Services (UK)



Customer References

DAMEN



- Damen FCS 2610
- Class notation: Fast Utility Vessel Sea Area 3 – BV approval
- Operators:
 - Maritime Craft Services (UK)



Source: http://www.damentrading.com/-/media/Trading/For-Sale/Crewboat/07358-Damen-Fast-Crew-Supplier-2610/07358_Damen_Fast_Crew_Supplier_2610_Twin_Axe_Specification_Damen_Trading_10_05_2017.pdf



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Böning AMCS
(Alarm, Monitoring and Control
System)

Böning AHD-DPS02
(Nav Lights Control System)

Customer References



Denmark



UK



- Operators:



Source: <http://hvsa.dk/wp-content/uploads/2015/06/142120-227878.crew-transfer-vessels.pdf>



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Böning AMCS
(Alarm, Monitoring and Control
System)

Böning VDCU
(CCTV System)

Customer References



- Wind Express Catamaran
- LOA = 27m
- Class notation: Det Norske Veritas (DNV) 1A1 HSLC Windfarm Service 1 R1
- High Speed Wind Farm Support Vessel (27 knots)
- Operators:
 - Holyhead Towing (UK)



Source: https://www.austal.com/sites/default/files/data-sheet/Austal%20Wind%20Express%2027_Data%20Sheet%20updated%20image_20615_0.pdf

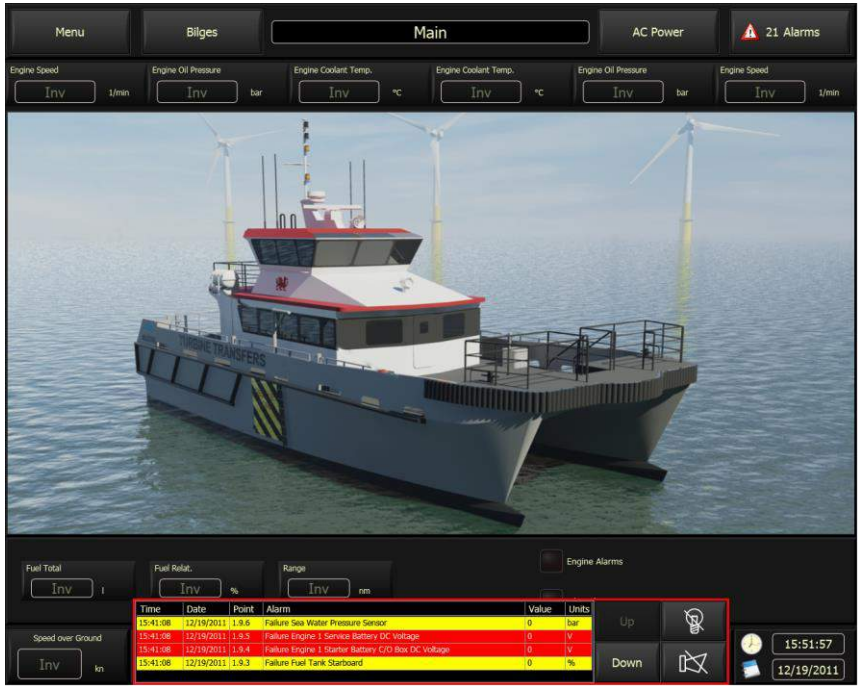


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Böning AMCS
(Alarm, Monitoring and Control
System)

Böning AMCS
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System)





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Customer References



- LOA = 19,40m
- Class notation: High Speed Craft vessels – DNV approval (wind farm service 2)
- Operators:
 - Frisia Offshore (Germany)



Source: <http://www.frisia-offshore.de/index.php?id=544&L=3>



Customer References



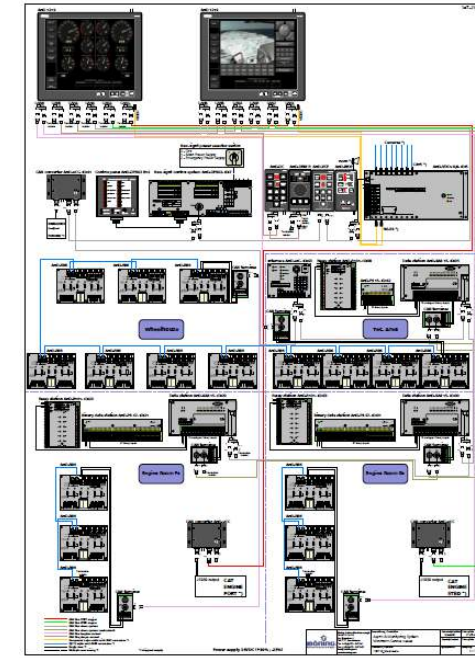
UK

- Offshore Windfarm Support Vessel
- LOA = 25.25m
- Class notation: UK – MCA – Cat1 Workboat
- Operators:
 - Mainprize Offshore (UK)



Mainprize Offshore Ltd
Four Generations of Offshore Experience Supporting the Offshore Industry

Source: http://www.mainprizeoffshore.co.uk/vessels/?page_id=177



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Customer References



France



- Offshore Windfarm Support Vessel
- LOA = 25.25m
- Class notation: UK – MCA – Cat1 Workboat
- Operators:
 - Mainprize Offshore (UK)

Mainprize Offshore Ltd
Four Generations of Offshore Experience Supporting the Offshore Industry

Source: <http://www.piriou.com/en/our-products/service/offshore-wind-farm-vessels/wind-farm-support-vessel-21m/1617.htm>



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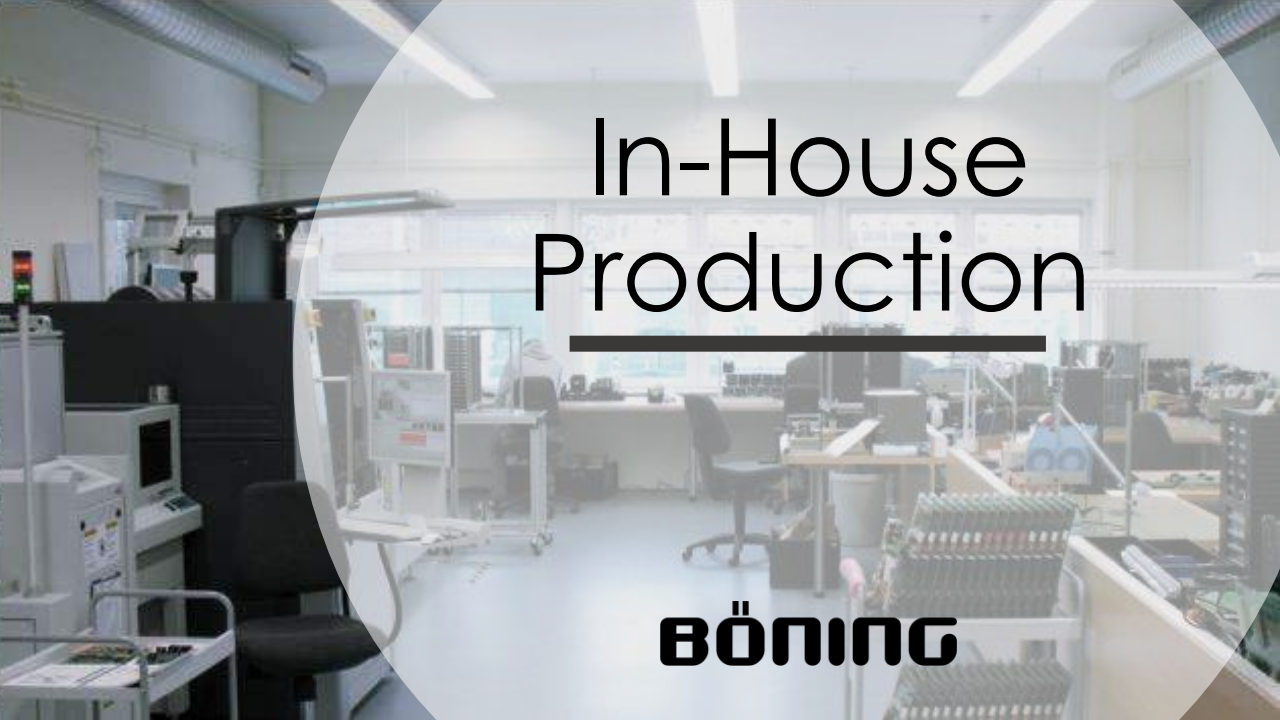
Böning Ship Automation

Head office/
factory
[Germany]

- Founded in 1977
- More than 100 employees (20% developing engineers)
- More than 20 000 devices produced per year
- Approx. 700 ships with Böning technology are put in operation every year



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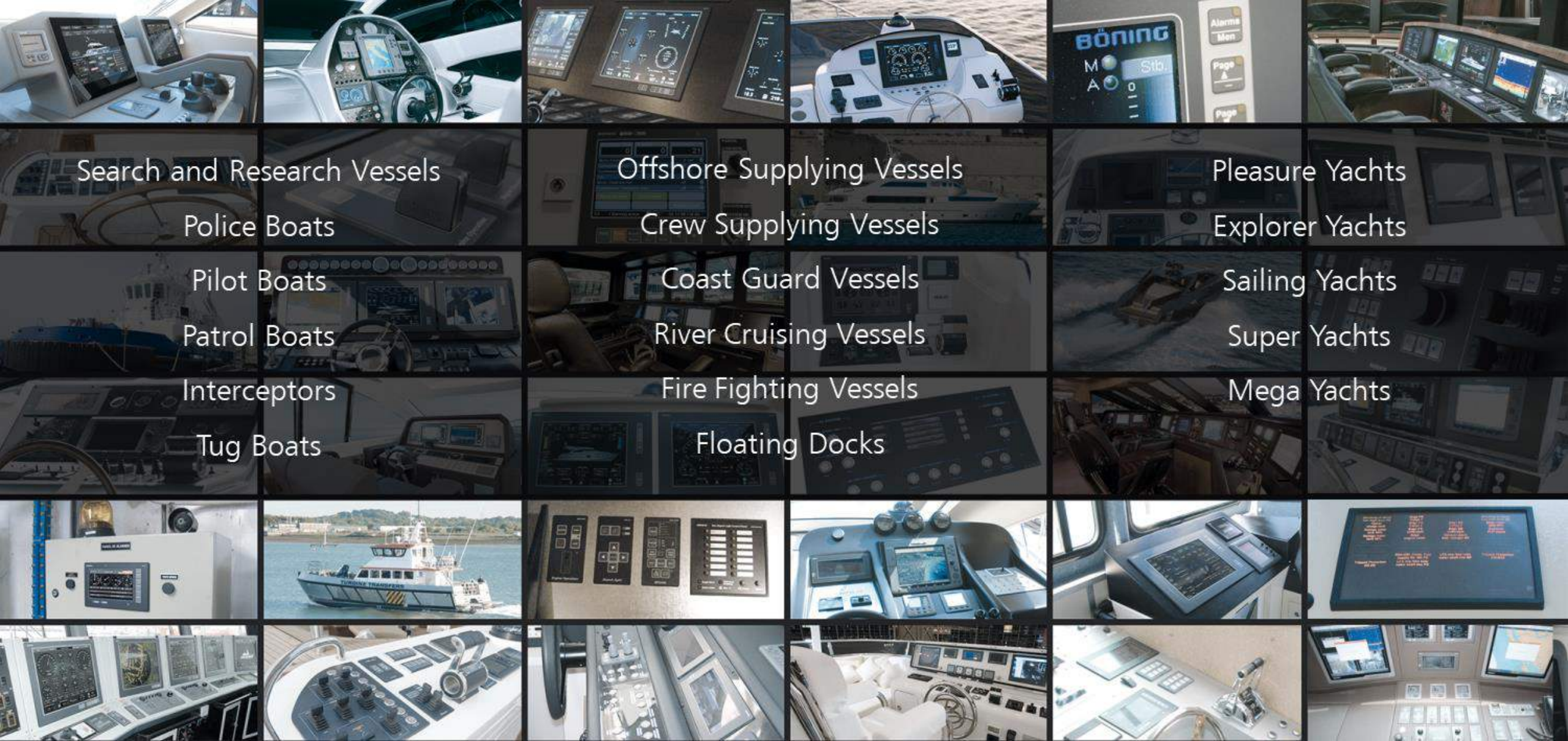
In-House Production

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Sales & Service Locations

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Search and Research Vessels

Police Boats

Pilot Boats

Patrol Boats

Interceptors

Tug Boats

Offshore Supplying Vessels

Crew Supplying Vessels

Coast Guard Vessels

River Cruising Vessels

Fire Fighting Vessels

Floating Docks

Pleasure Yachts

Explorer Yachts

Sailing Yachts

Super Yachts

Mega Yachts

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Products

- Alarm Systems
 - Bilge Monitoring
 - Tank Monitoring
 - Doors / Hatches Monitoring
 - Battery / Power monitoring
- Marine Monitors and Panel PCs
- Engine Monitoring Displays
- NMEA 2000 / J1939 Gateways
- Bridge Management Systems / Integrated Bridges

Integrated Bridge Solution



Virtual ECDIS Keyboard

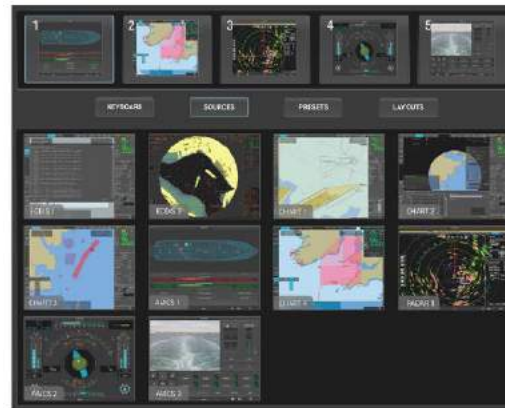


Virtual Radar Keyboard

Seamless integration to increase flexibility and usability.

Watch video:

[HTTPS://WWW.YOUTUBE.COM/WATCH?V=GQM3OWMTSQI](https://www.youtube.com/watch?v=GQM3OWMTSQI)



Video Switch Page



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UNLIMITED SOLUTIONS FOR SHIP
ALARM, MONITORING AND CONTROL

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Thank you. Contact us for inquiries.

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