

BÖNING SHIP AUTOMATION

SOLUTIONS FOR WIND FARM VESSELS

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

BÖNING

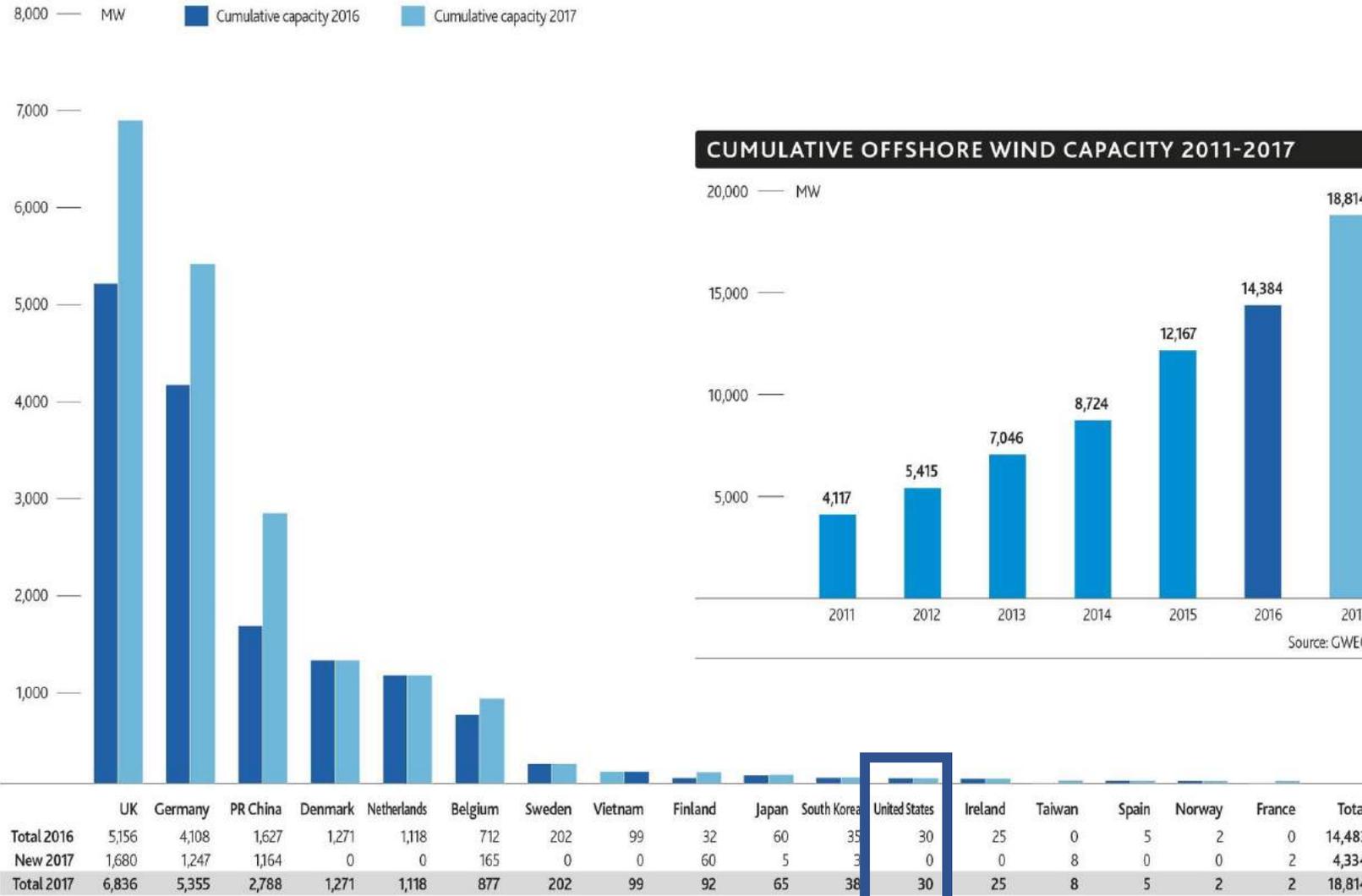
Offshore Wind Energy Development in the U.S.

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

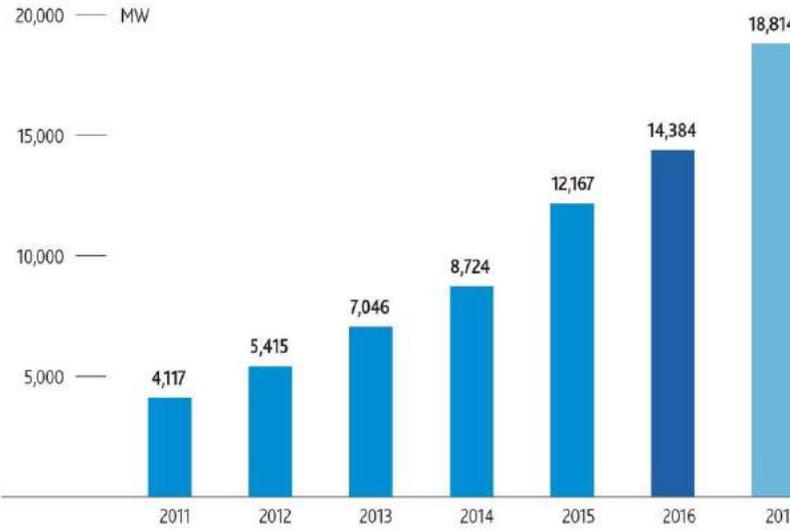


The wind energy in the world

GLOBAL CUMULATIVE OFFSHORE WIND CAPACITY IN 2017



CUMULATIVE OFFSHORE WIND CAPACITY 2011-2017



Source: GWEC

Source: GWEC



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

BÖNING

Wind farm support vessels (WFSV)





Alan Greenwood
MarineTraffic.com



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)





SCAMS RADAR 2 ECDIS OCTV

RADAR 1

böning

Menu Corning Engine Gauges Engine Gauges Alarm

Engine Speed 1783	Engine Press. 3.6 bar	Engine Temp. 91°C	Engine Oil Temp. 98°C
Water Temp. 12.7°C	WASP Health OK	Battery Voltage 0.0V	Lead 86%
Boat pressure 1.8 bar	WASP Health OK	Gear Lead	Engine Oil Temp. 85°C
Engine Hours 246.3 h	Exhaust Temp 66°C	Fuel Level 215%	Engine Hours 246.3 h
Speed Over Ground 23.1 km	Total Consumption 131 l/h	Range 785 NM	Fuel Rate 86 l/h
		Position N 50° 43.83'	Engine Hours 246.3 h
		E 1° 53.75'	Engine Hours 246.3 h

09:26 27.04.2011

Böning IBS
(Integrated Bridge System)

Customer References

DAMEN



- Damen FCS 2610
- Class notation: Fast Utility Vessel Sea Area 3 – BV approval

• Operators:

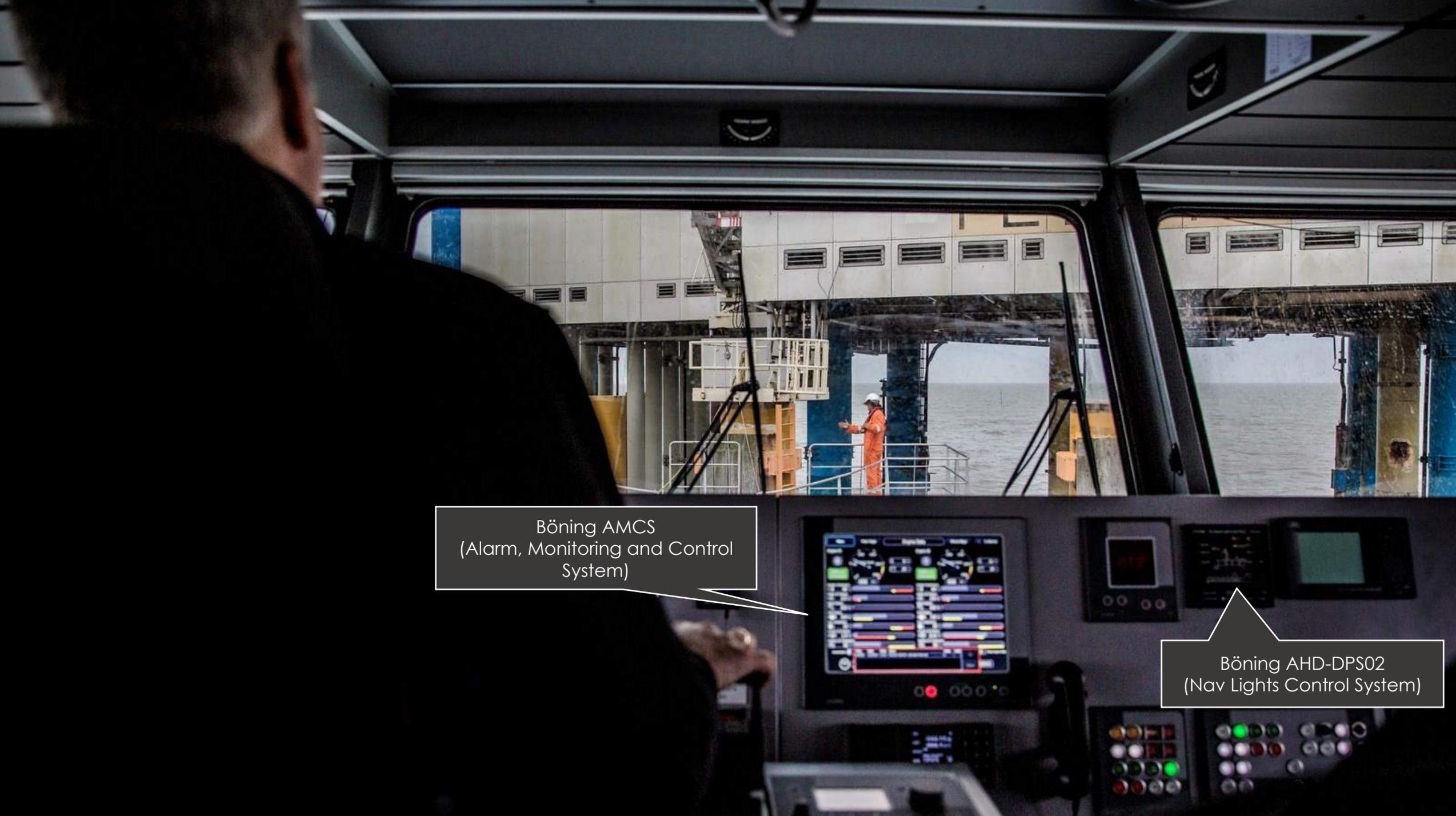
- Maritime Craft Services (UK)



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



BÖNING



Böning AMCS
(Alarm, Monitoring and Control
System)

Böning AHD-DPS02
(Nav Lights Control System)

Customer References



Denmark



UK



• Operators:

• Dong Energy



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



BÖNING



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



Böning AMCS
(Alarm, Monitoring and Control
System)

Böning AMCS
(Alarm, Monitoring and Control
System)



Menu Bilges Main AC Power 21 Alarms

Engine Speed 1/min Engine Oil Pressure bar Engine Coolant Temp. °C Engine Oil Pressure bar Engine Speed 1/min

Fuel Total Fuel Pakit. Range Engine Alarms

Time	Date	Point	Alarm	Value	Units
15:41:08	12/19/2011	1.8.6	Failure Sea Water Pressure Sensor	0	bar
15:41:08	12/19/2011	1.8.5	Failure Engine 1 Service Battery DC Voltage	0	V
15:41:08	12/19/2011	1.8.4	Failure Engine 1 Starter Battery C/D Box DC Voltage	0	V
15:41:08	12/19/2011	1.9.3	Failure Fuel Tank Starboard	0	%

Speed over Ground 15:51:57 12/19/2011

Menu Bilges Conning AC Power 23 Alarms

Engine Speed 1/min Engine Oil Pressure bar Engine Coolant Temp. °C Engine Oil Pressure bar Engine Speed 1/min

Depth Graph inv m

Outside Ambient
Atm. Pressure Temp. Humidity

Wind Gauge

Roll & Pitch

Vessel Heading

Speed over Ground inv kn Range inv nm

AUSTAL

Position inv 12:28:43 12/20/2011

Menu Bilges Bilges AC Power 23 Alarms

Engine Speed 1/min Engine Oil Pressure bar Engine Coolant Temp. °C Engine Oil Pressure bar Engine Speed 1/min

Pumps Portside Pumps Starboard

FWD Void Accommodation Tank Room Emergency Engine Room Engine Room Jet Room

Black & Grey Water Discharger Sea Water Pump Hot Water Heater Hot Water Circ. Pump Fresh Water Pump Fuel Transfer Pump

Speed over Ground inv kn Range inv nm

AUSTAL

Position inv 12:24:30 12/20/2011

BÖNING

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



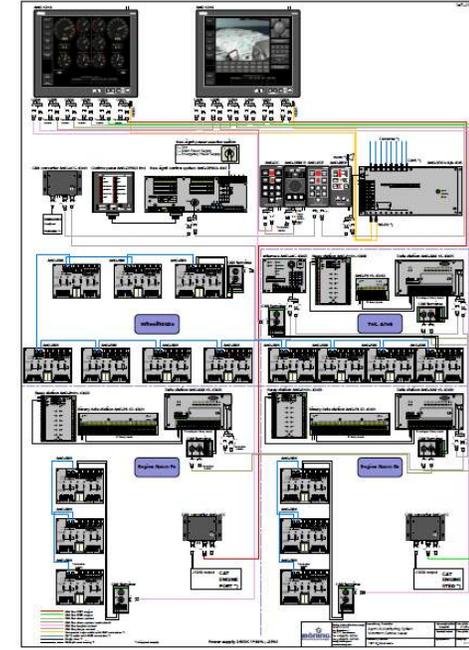
UK

- 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



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>



BÖNING

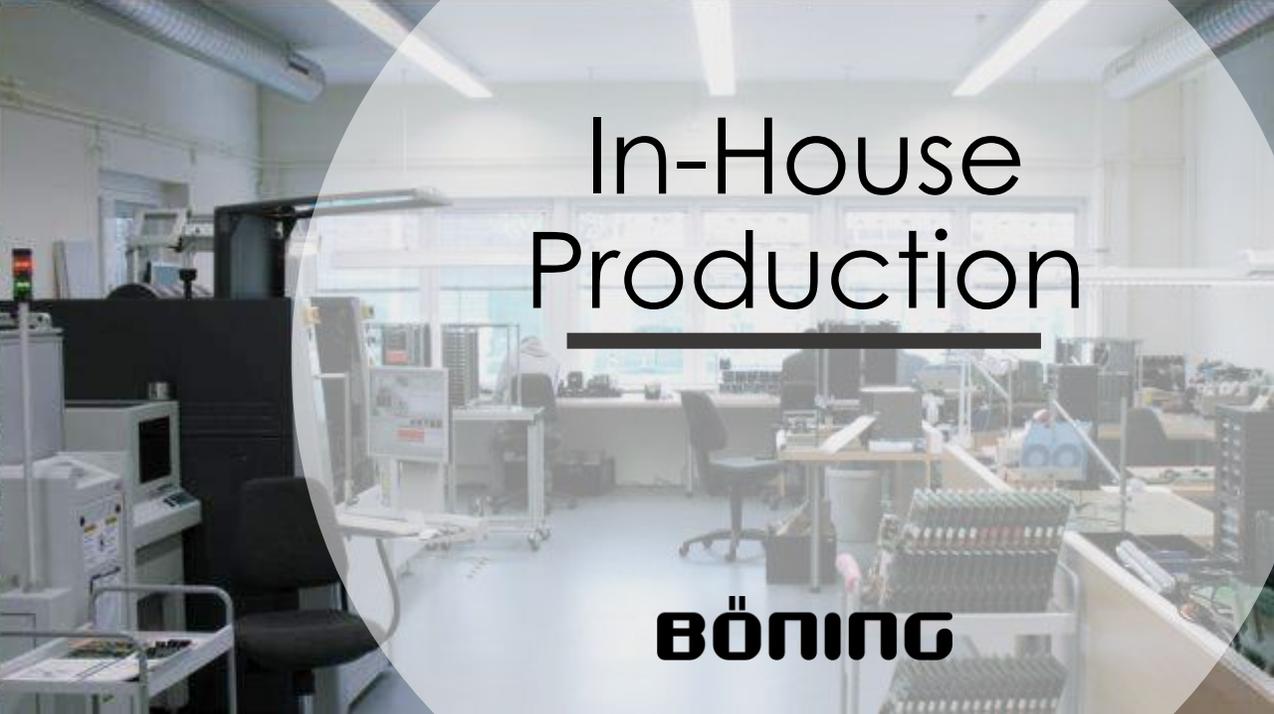
Böning Ship Automation

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



BÖNING

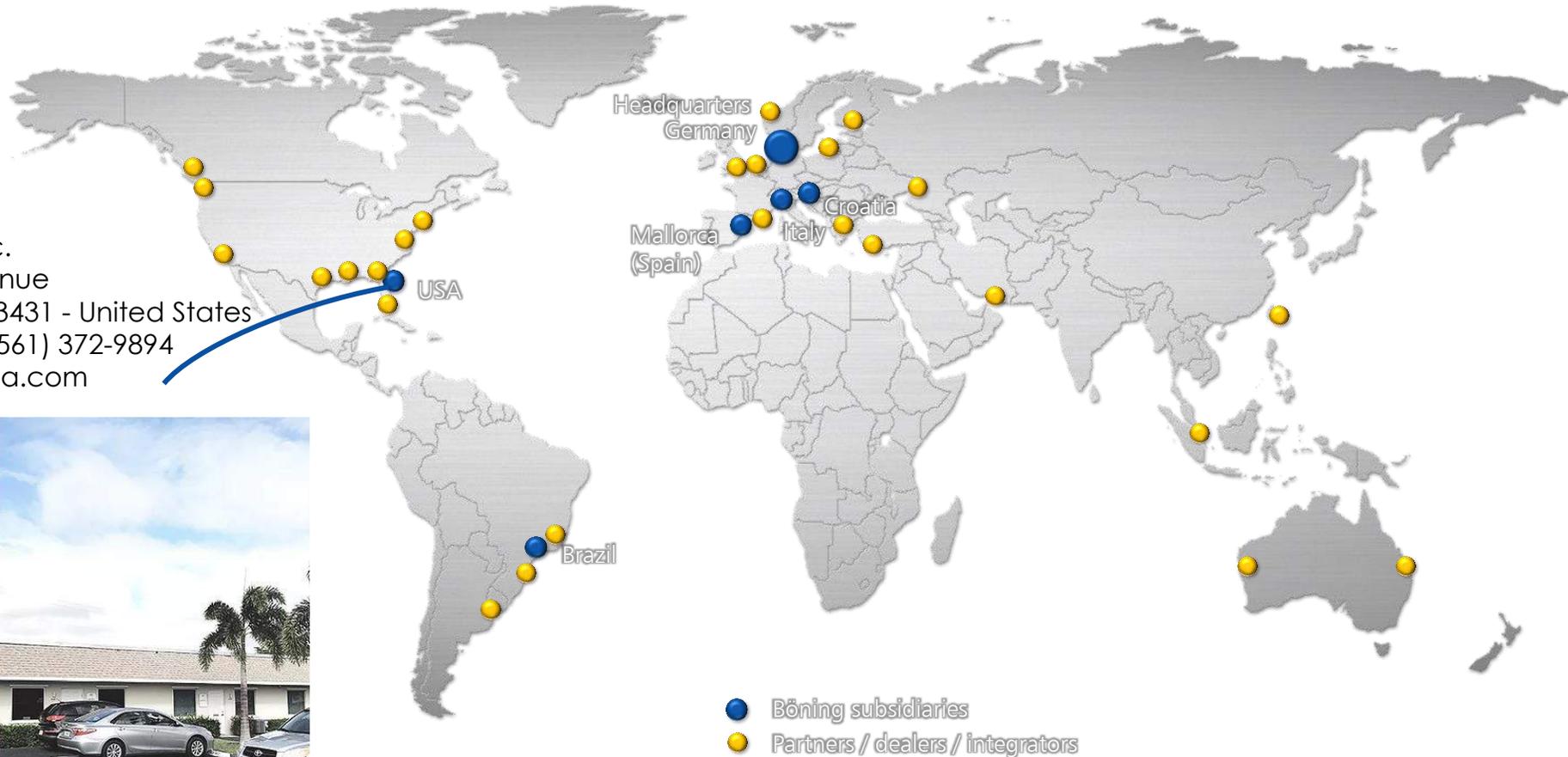


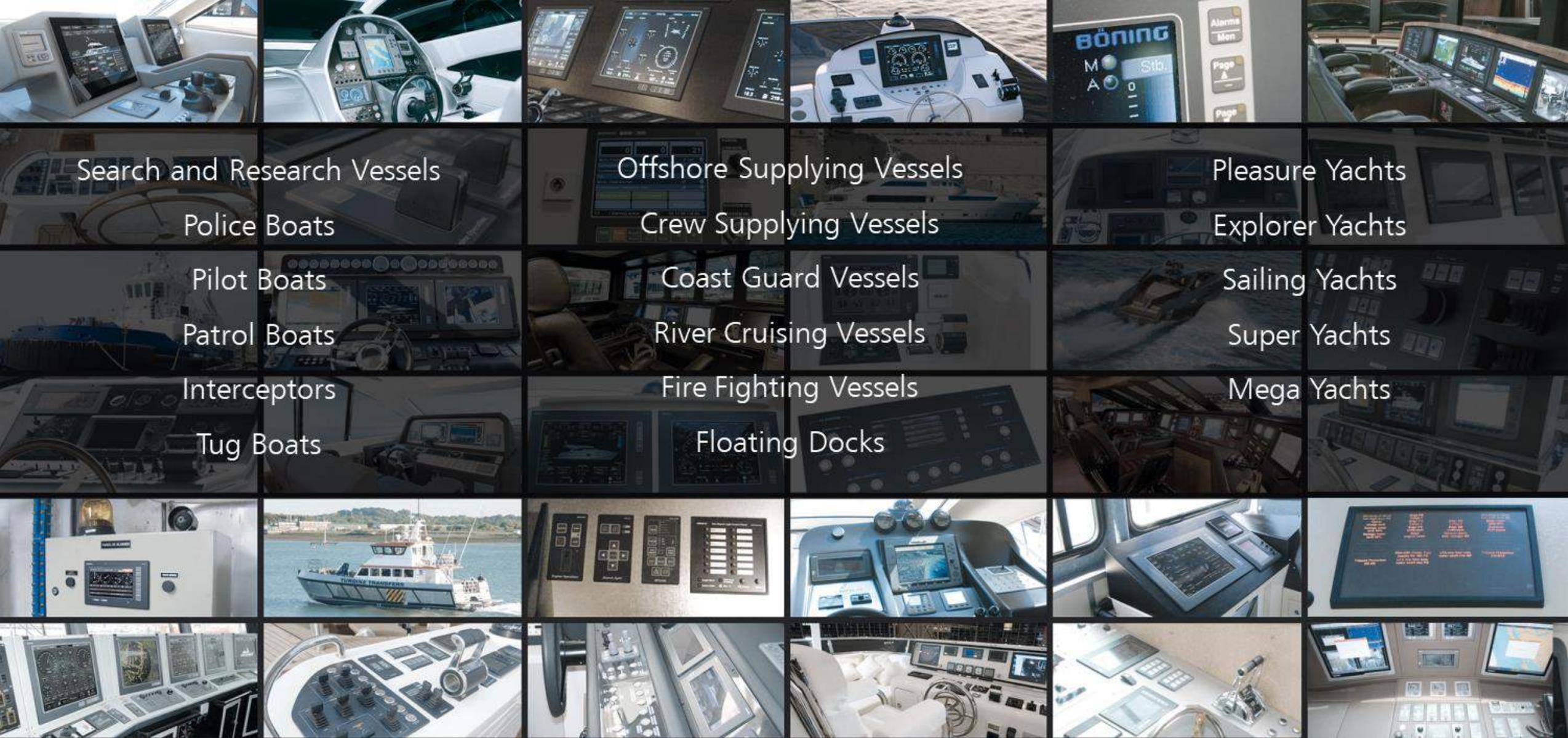
In-House Production

BÖNING

Sales & Service Locations

Boeing USA, Inc.
4281 NW 1st Avenue
Boca Raton FL 33431 - United States
Phone/ Fax: +1 (561) 372-9894
info@boeing-usa.com





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

BÖNING



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

Seamless integration to increase flexibility and usability.

Watch video:

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



Virtual Radar Keyboard



Video Switch Page



BÖNING SMARTBRIDGE

BÖNING SMART BRIDGE



UNLIMITED SOLUTIONS FOR SHIP
ALARM, MONITORING AND CONTROL

BÖNING

Thank you. Contact us for inquiries.

www.boeing-usa.com

🏠 4281 NW 1st Ave, Boca Raton – FL (33431)
☎ +1 (561) 372-9894
🌐 www.boeing-usa.com
✉ info@boeing-usa.com
📺 www.linkedin.com/company/boeingusa/
📷 www.instagram.com/boeing.usa/
📘 <http://www.facebook.com/boeingusa/>

BOEING