



Wasa Dredging Oy Ltd

Company Presentation | May 2019

BUSINESS OVERVIEW

WASA DREDGING – LEADING NORDIC CONDITIONS DREDGING OPERATOR

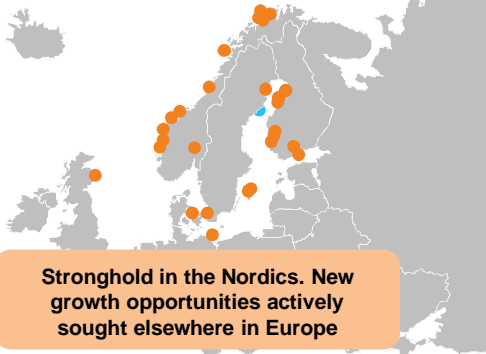


At a glance

- Wasa Dredging is the leading marine and inland water construction company with the Nordic region as stronghold
 - Core business is backhoe dredging of hard soil
 - Unrivalled skillset in underwater blasting
- Four large dredging units and fleet market value estimated close to 50 MEUR (fleet owned by the Company)
 - In-house manufacturing of the equipment
- Headquartered in Vaasa, Finland and operational throughout the Northern Europe
- Business originally founded in 1985 by Kristian Backlund (CEO and owner)
- Order backlog of 70 MEUR and strong sales pipeline supporting the financial forecast

Geographical coverage

- Key projects since 2010
- Vaasa (HQ)



Business areas



Dredging

- Ability to dredge both hard and soft soil
- Experienced to lead large and complex projects
- High efficiency and operational flexibility



Drilling and blasting

- Market leader in drilling and blasting of underwater bedrock
- Superior quality and expertise
- Capacity to blast up to 1 million m3 of bedrock on a yearly basis*



Reclamation work

- Wide offering including all from simple off-shore dumping sites to advanced bund building and filling works
- Strong experience especially from the last 5 years



Environmental dredging

- Typically relates to polluted masses or is about limiting the project's environmental impact
- WD has developed special systems and equipment to comply with the strict requirements



Equipment for charter

- Small business area
- Mainly related to barges



Manufacturing of own equipment

- Manufacturing of dredging and blasting equipment for Company's own use



BUSINESS AREAS

FULL SERVICE OFFERING WITH UNRIVALLED EXPERTISE IN DRILLING AND BLASTING



Business areas

Dredging



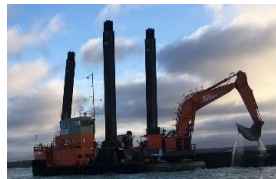
- Capabilities for all types of dredging projects (e.g. harbours and fairway building)
- Ability to dredge both hard and soft soil, although specialized in hard soil
- Modern fleet outperforming the competition in efficiency and flexibility
- Capable of working in shallow waters or even dredge its own water depth

Drilling and blasting



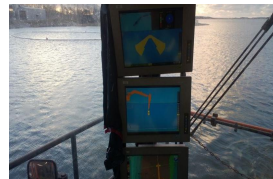
- Clear market leader and superior expertise
- Capacity to blast up to 1 million m3 of bedrock on a yearly basis*
- Today, operates two combined dredging / drilling units ("Hector" & "Boulder") with ability to execute projects stand-alone
- In 2019, the new dredger, "Harald", will also be upgraded to a combi-unit with drill-tower

Reclamation work



- Executes various tasks, from simple off-shore dumping sites to advanced bunds building and filling works
- Experience includes projects such as Rauma, Klintehamn and Korkkola
- Ability to tender for both land and sea-based construction projects
- Currently developing conveyor belt solution to decrease reclamation costs

Environmental dredging



- Refers to project execution methodology that minimizes the environmental impact
- Increasing market demand
- WD has developed special systems and equipment to comply with the strict requirements (e.g. special buckets, turbidity and vibration meters and fish and mammal control systems)

Equipment for charter



- Small part of the business mainly relating to the barges
- E.g. self-propelled barge "Sinann" was chartered to Dutch Marine Contractors for the Arkona Wind project
- Company planning to invest in a big spud pontoon during 2019 that would also be open for charter

Manuf. of own equipment



- Purpose-built equipment
- In-house production minimises the equipment costs by up to 30-40% compared to market rates (based on designs owned by parent company, WDE)
- Winter season typical time to build new equipment and repair the existing

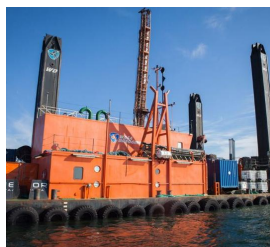
KEY UNITS IN THE FLEET

PURPOSE BUILT FLEET FOR THE DEMANDING NORDIC CONDITIONS



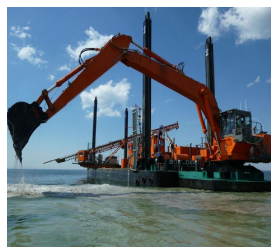
Headers Dredging unit Self-propelled barge Barge

Hector*



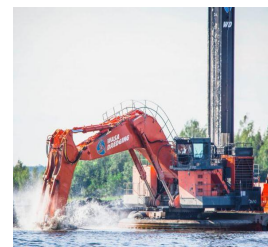
- Dredger - Wasa BHD 12000
- Length/width: 41m/15m
- Max dredge dept 22m (26m with special arm)
- Optional: Drill tower for blasting
- Software: Foreshore dredge Master Backhoe monitoring/recording

Boulder



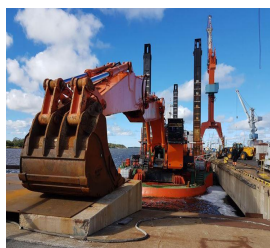
- Dredger - Wasa BHD 6000
- Length/width: 50m/12m
- Max dredge dept 17m
- Optional: Drill tower for blasting
- Software: Foreshore dredge Master Backhoe monitoring/recording

Optimus



- Dredger - Wasa BHD 18000
- Length/width: 47m/17m
- Max dredge dept 24m and up to 26m with a special solution
- Software: Foreshore dredge monitoring/recording

Harald



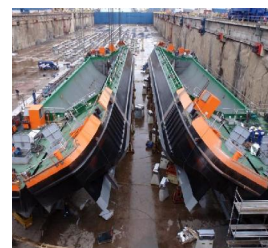
- Dredger - Length/width: 59m/14m
- Max dredge dept 22m (26m with special arm)
- Main engine: 1,044 kW
- Excavator: Hitachi EX 2500-6 (250 tonnes)
- To be refurbished during 2019 winter season**

Sinann & Boann



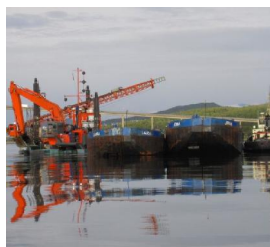
- Self propelled barges - SHB 1010-SP
- Loading capacity: 1,750 tonnes
- Length/width: 67m/11m
- Certificate: Loaded condition – 15 NM Offshore

Miika II & Dana II



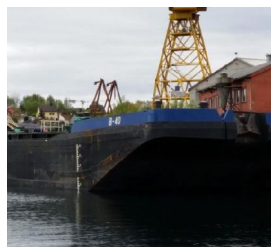
- Chartered from parent company WDE
- Towed barges - SHB 940
- Loading capacity: 1,823 tonnes
- Length/width: 64m/11m
- Certificate: Loaded condition – 15 NM offshore

Laura & Jenna



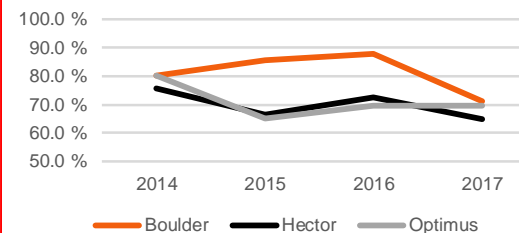
- Barges
- Loading capacity: 1,478 tonnes
- Length/width: 59m/10m
- Operation: Remote control for splitting
- Certificate: Loaded condition – 15 NM offshore

Alex & Cellu



- Barges
- Length/width: 49m/9m
- Operation: Remote control for splitting and thrusters
- Certificate: Loaded condition – 20 NM offshore

Dredging unit utilizations**





Wasa **OPTIMUS** Backhoe Dredger



Specifications

Model:	Wasa BHD 18000
Construction and in service:	2014
Length:	47 metres
Width:	17 metres
Moulded depth:	4.0 metres
Deck crane:	EFFER 240
Excavator:	Hitachi EX 3600 (360 tonne)
Main engine:	1450 kW
Auxiliary engines:	2 x 120 kW
Booms:	14, 18 metres
Arms:	7, 9, 11.7 metres
Buckets:	22, 18, 14, 12 m³
Short configuration dredging depth:	17 metres using 22-18 m³ bucket
Middle configuration dredging depth:	19 metres using 18 m³ bucket
Long configuration dredging depth:	24 metres using 12 m³ bucket
Max dredging depth, special config:	29 metres using 7 m³ bucket
Spuds:	1.6 x 1.6 x 32 meters
Software:	Foreshore dredge Master Backhoe monitoring / recording
Class:	Bureau Veritas unrestricted navigation

OPTIMUS



Wasa HECTOR

Backhoe Dredger/Drilling pontoon



Specifications

Model:	Wasa BHD 12000 / Sea bow
Construction and in service:	2010
Length:	41 metres
Width:	15 metres
Moulded depth:	3.70 metres
Excavator:	Hltachi EX 2500/6 (250 tonnes)
Main engine:	1044 kW
Auxiliary engines:	1 x 80 kW, 1 x 120 kW
Booms:	13.6, 16 metres
Arms:	7, 9, 11 metres
Buckets:	14, 12, 9, 7.5 m³
Short configuration dredging depth:	16 metres using 12-14 m³ bucket
Middle configuration dredging depth:	18 metres using 12 m³ bucket
Long configuration dredging depth:	22 metres using 7.5 m³ bucket, 23 m special configuration
Spuds:	1.4 x 1.4 x 28 metres
Optional:	Drill Tower for blasting, using Sandvik HL1560 hammer
Software:	Foreshore dredge Master Backhoe monitoring / recording
Class:	Bureau Veritas unrestricted navigation

HECTOR



Wasa **BOULDER** Backhoe Dredger / Drill Pontoon



Specifications

Model:	WASA BHD 6000
Construction and in service:	2010
Length:	50.4 metres
Width:	12 metres
Moulded depth:	2.5 metres
Excavator:	Hitachi EX 1200/6 (120 tonnes)
Booms:	11.5 , 13 metres
Arms:	5, 7, 9 metres
Buckets:	4, 5.5, 6.4 m ³
Short configuration dredging depth:	13.3 metres using 6.4 m ³ bucket
Middle configuration dredging depth:	14.9 metres using 6.4 m ³ bucket
Long configuration dredging depth:	18.5 metres using 4 m ³ bucket
Spuds:	0.8 x 0.8 x 24 metres
Optional:	Drill Tower for blasting, using Sandvik HL 1560 hammer
Software:	Foreshore dredge Master Backhoe monitoring / recording

BOULDER



Wasa SHB1001-SP



SHB1001-SP

Specifications

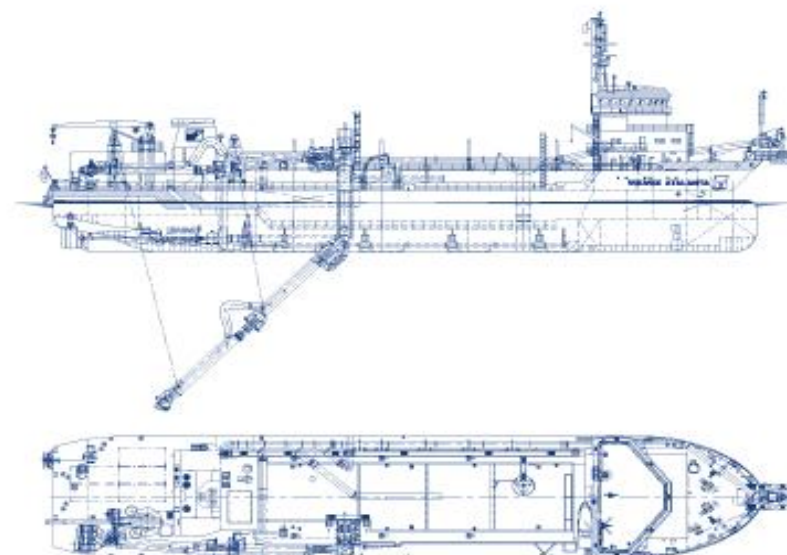
Model:	SHB 1001-SP
Type:	Self propelled
In service:	06 / 2017
Hopper volume:	1001 m ³
Length:	66.5 meter
Width:	11.36 meter
Max Draught:	3.1 - 3.8 meter
Propulsion Engines:	2 x 469 kW
Auxiliary engine (hydraulics):	210 kW
Gen-sets:	2 x 100 kW, 420V 50 Hz
Emergency Generator:	93 kW
Classification Certificate:	Bureau Veritas - 15NM Offshore / 20NM from port Transfer unrestricted



Equipment

Trailing suction hopper dredger Volvox Atalanta

Principal particulars



Volvox Atalanta

Name	Volvox Atalanta		Speed loaded	12 kn
Type	Trailing suction hopper dredger		Propulsion	2 x 1,685 kW
Classification	Bureau Veritas, I + Hull + Mach + AUT-UMS, hopper dredger, unrestricted navigation, dredging within 15 miles from shore or within 20 miles from port, dredging over 15 miles from shore with H.S. < 2.5 m		Row thruster	375 kW
Year of construction	1999		Total power installed	6,633 kW
Dimensions	Length overall	92.92 m	Inboard dredge pump	1,645 kW trailing
	Breadth overall	9.04 m	Jet pump	3,040 kW discharging
	Moulded depth	8.50 m		1,200 kW
	Dredging draught	6.77 m		
Hopper capacity	4,682 m ³			
Deadweight	6,267 tons			
Maximum dredging depth	30.0 m			
Suction pipe	ø 900 mm			
Discharge pipe	ø 750 mm			

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