

Company Presentation



Selected References



Moby Fantasy – 70.000 GT Cruise ferry



P&O – Pioneer – 230m - 40% fuel saving



TT-Line – Peter Pan – 4.600 LM ferry



Fanølinjen – all electric ferry



Molslinjen – Nerthus – all electric ferry



Gotlandsbolaget – 31 knots LNG ferries

1,5 hour Battery operated High speed light craft



Electrification – a new possibilities for High Speed Ferries

Vessel type:	Battery-electric high-speed catamarans
Size:	129m long, 30.5m beam
Capacity:	1,483 passengers, 500 cars
Speed:	>40 knots
Crossing time:	1,5 hours
Battery capacity:	~45,000 kWh
Charging:	55 MW, 30 min at Aarhus & Odden Including battery storage in port
CO ₂ reduction:	~132,000 tons/year

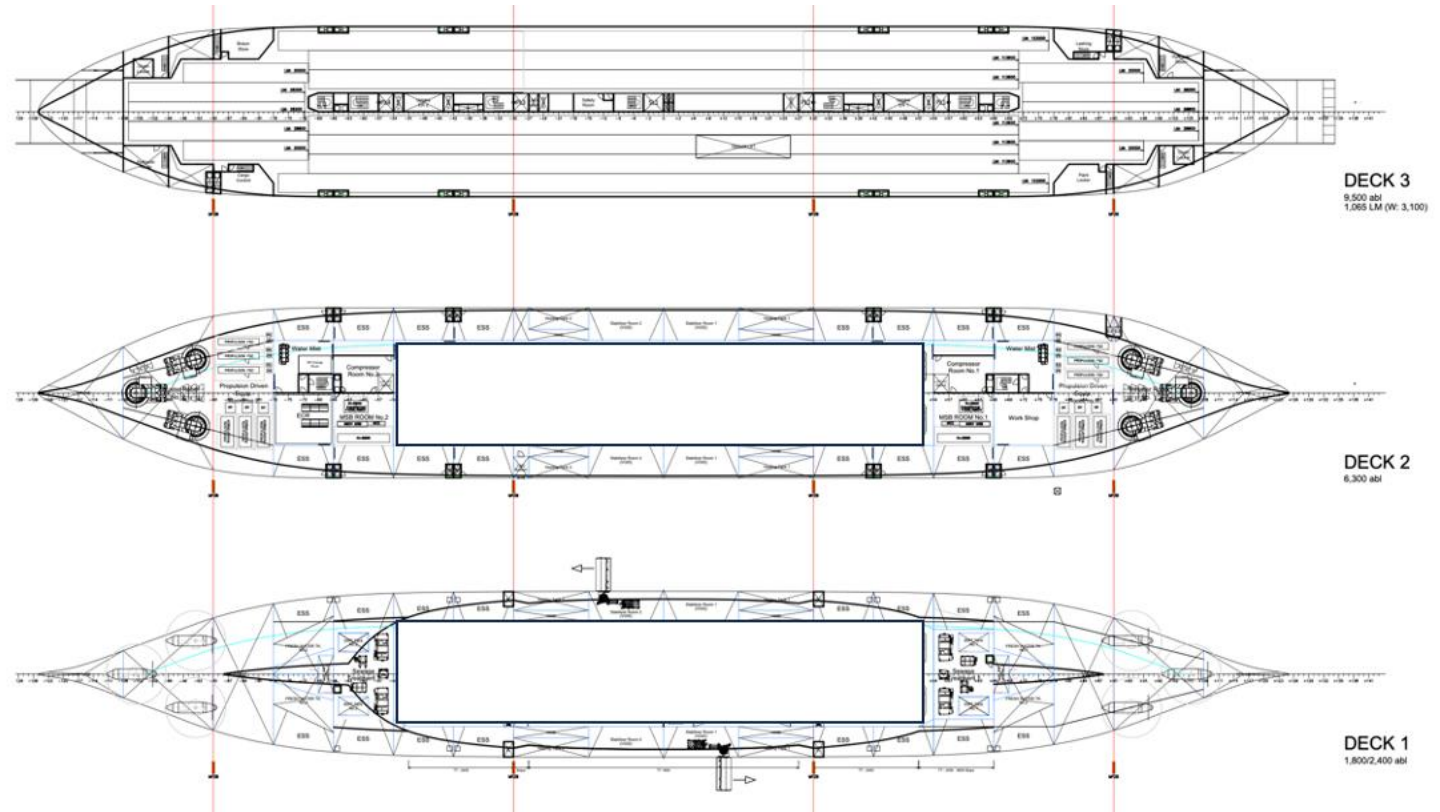


+3 hours Battery operated ferry



Electrification – 3:15 hours crossing – 26 knots

- Length: 200m
- Lane capacity: 2300 LM
- Max persons: 2000
- Service Speed: 26 knots
- Port: Two tier loading
- Power Train:
 - Diesel Electric (Hybrid) – Pods
 - Energy Storage System
- Light weight:
 - Steel hull
 - Alu superstructure
 - HSC type furniture and interiors



Proposed Design – more than 3 hours crossing – Energy consumption

	kWh	Maks kW	Maks speed	kWh/hr	Distance
Route 1 – 3h 15min	43674	16678	22,8	13438	65

- In 2024, the average CO2 emissions from electricity generation in Sweden are approximately 41 grams of CO2 per kilowatt-hour (gCO2/kWh)

New Electrical ferry			Existing vessel
kWh pr crossing	gram co2/kWh	Tons Co2 pr crossing	Tons Co2 pr crossing (MRV)
43.674	41	1,8	43,4

- Similar results can be obtained at similar routes:
 - Frederikshavn – Gøteborg
 - Tallink - Helsinki
 - Visby – Stockholm

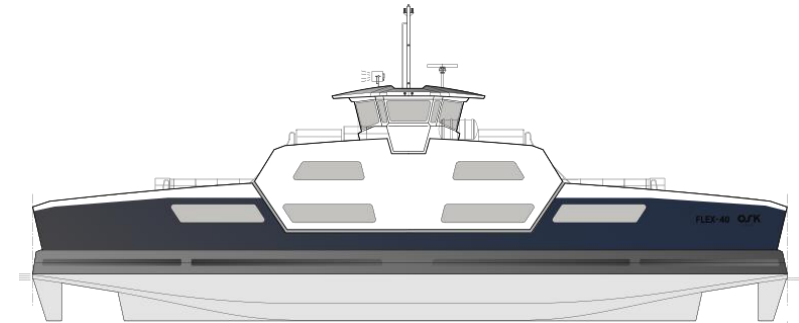
OSK Lightcraft



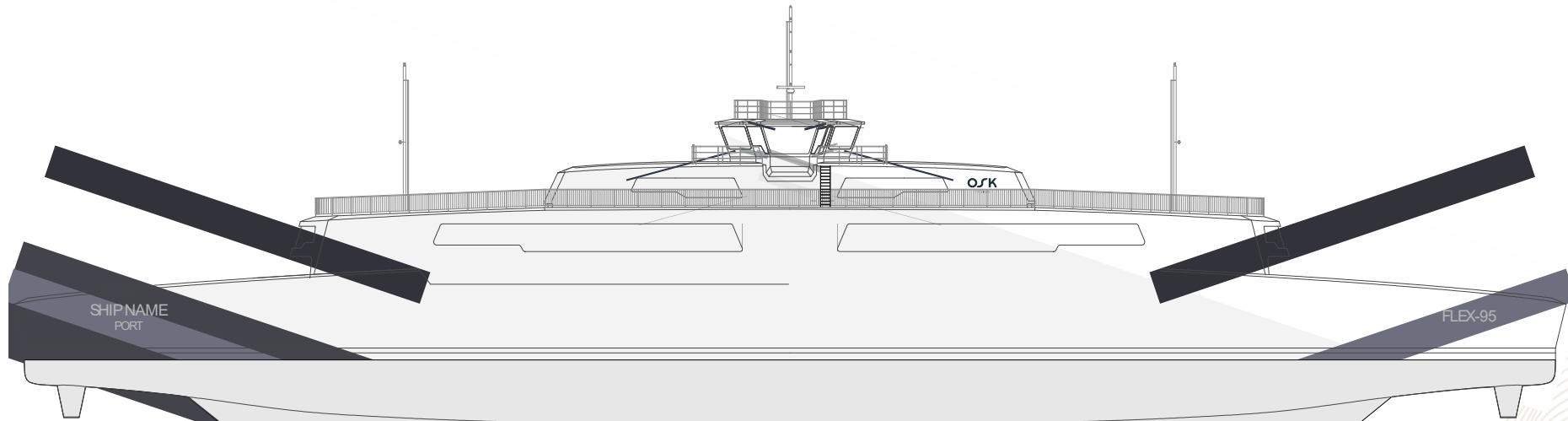
LightCraft^{OSK} – a series of aluminium lightweight double enders



70m double ender



40m double ender



95m double ender

OSK Flex design – Flex 95



	Electrical Ellen	Electrical Grotte	Electrical As LightCraft Grotte	Electrical Nerthus Tyrfing (Ballen Kalundborg)	Electrical As LightCraft Tyrfing	Conventional MF Princesse Isabella	As LightCraft MF Princesse Isabella	Electrical Flex95
Length o.a. (m)	59,50	49,90	49,90	116,80	116,80	99,90	99,90	95,00
Beam (m)	12,80	13,40	13,40	18,20	18,20	18,00	18,00	18,50
Speed (knots)	14,00	11,50	11,50	17,00	17,00	15,00	15,00	15,00
Propulsion Power (kW)	1.500	750	750	3.600	3.600	3.200	3.200	2.100
BESS installed (kWh)	4.500	1.100	600	3.800	3.800	N/A	1.900	2.000
Gross Tonnage	996	925	860	4.318	4.058	5.087	4.749	4.000
Lightweight (ton)		550	300	2.400	1.400	2.500	1.200	1.000
Deadweight (ton)	192	230	230	600	600	600	600	650
Displacement (DWL)		780	530	3.000	2.000	3.100	1.800	
Private Car Capacity (PCU)	31	33	33	188	188	163	163	129
Passenger Capacity (summer)	196	396	396	600	600	600	600	450
Construction	Steel/Alu	Steel/Alu	Alu	Steel/Alu	Alu	Steel	Alu	Alu
Crossing Time		10	10	105	105	60	60	60
Propulsion Energy per Crossing (kWh)		90	60	1.995	1.295	1.850	1.200	1.100
Crossing Distance (nm)	11,5	1,3	1,3	17,8	17,8	11	11	11
Distance DWT (ton nm)		299	299	10.680	10.680	6.600	6.600	7.150
Energy per DWT nm (kWh/DWT nm)		0,301	0,201	0,187	0,121	0,280	0,182	0,154
Savings if LightCraft			33%		35%		35%	

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