

The logo for OSK, featuring the letters 'O', 'S', and 'K' in a stylized, rounded, gold-colored font. The 'O' is a simple circle, the 'S' is a continuous curve, and the 'K' is a simple block letter.

DESIGN



Operational Excellence
Sustainable Implementation

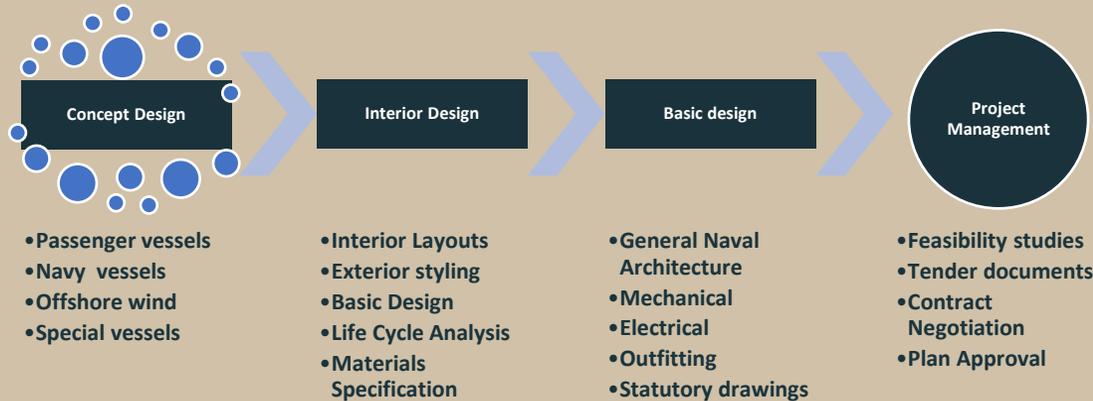
Efficient Port Turnaround

OSK Group - Company Profile

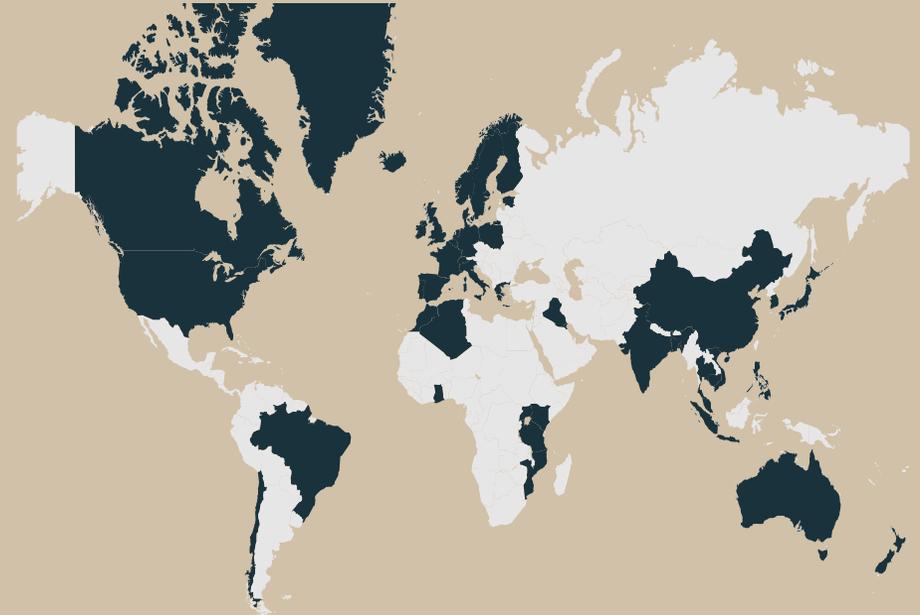
With you all the way!

With more than fifty years' experience in marine consulting and vessel design, we have in-depth knowledge and insight in all aspects of the maritime market and assist our clients on everything from concept development, ship interiors, newbuildings and retrofits to project management, tendering and contract negotiation, Owner's Representative, supervision and much more.

Consultancy Services



Global Consultancy



Annual Turnover/EBITDA

Unit	2018-19	2019-20	2020-21	2021-22
OSK-Group	63,7/10,2	69,3/6,8	61,8/8,4	60,7/6,1

Full time employees

Unit	2018-19	2019-20	2020-21	2021-22	2022-23
OSK-Group	50	60	56	61	70

OUR PURPOSE

We are here to design and enable sustainable seaborne solutions together with our customers.

We want to be recognised for bold and responsible ship design with maximum impact on our industry and minimum impact on the environment.



Purpose

To help companies to
operate efficiently
and sustainable

Vision

To improve our clients
operational efficiency,
decreasing carbon footprint
and at the same time
improve overall value creation

Our mission

To be the leading Nordic
implementation firm,
assisting our clients
realising their full
potential

We are implementers



Facts sheet

- ▲ Largest implementation firm in the Nordic area
- ▲ Active across Northern Europe
- ▲ Established in 1997
- ▲ Over 150+ senior professionals, all with extensive operational and management experience
- ▲ Over 550 implementation projects





Efficient port turnaround



Efficiency – Time between customer arriving in port and leaving port

Sailing time shall be maximised

- **Reduced sailing speed**
- Improvement of manoeuvrability
- Acceleration time

Port turnaround time shall be minimised

Automation of:

- **Mooring**
- Linkspans/ramps and gates

Improvement of:

- Light intensity on car decks
- Internal flow – vertical / horizontal
- **Width of ramps**
- Wayfinding onboard from car decks to accommodation
- Congestions when unloading the ship
- Stop and go effects when loading the ship
- Cars are not ready for loading



Efficiency – Automated mooring and linkspan operation

Dover	AVERAGES	Automooring	Difference	Saving
Pier Heads-Pads	00:11:37	00:11:37	00:00:00	
On the pads-Fast Aft	00:02:13	00:00:30	00:01:43	00:08:18
On the pads-Fast Fwd	00:02:32	00:00:00	00:02:32	
All fast to F.W.E.	00:03:17	00:00:15	00:03:02	
F.W.E-Ramps In	00:01:31	00:00:30	00:01:01	
Ramps In-Discharge commenced	00:00:30	00:00:30	00:00:00	
Discharge Commenced-Discharge complete	00:12:04	00:12:04	00:00:00	
Discharge Completed-Start loading	00:05:13	00:05:13	00:00:00	
Start Loading-Completed Loading	00:28:28	00:28:28	00:00:00	
Completed Loading-Ramps	00:01:11	00:00:30	00:00:41	00:04:49
Ramps out-Let go	00:03:41	00:00:30	00:03:11	
Top line/let go-All gone and	00:01:26	00:00:30	00:00:56	
All gone and Clear -Pier heads	00:05:24	00:05:24	00:00:00	
Pier heads-FAOP	00:01:39	00:01:39	00:00:00	
				00:13:07

Calais	As of today	Automooring	Difference	Saving
Pier Heads-Pads	00:10:02	00:10:02	00:00:00	
On the pads-Fast Aft	00:02:21	00:00:30	00:01:51	00:08:49
On the pads-Fast Fwd	00:03:38	00:00:00	00:03:38	
All fast to F.W.E.	00:04:10	00:00:15	00:03:55	
F.W.E-Ramps In	00:00:29	00:00:29	00:00:00	
Ramps In-Discharge commenced	00:03:06	00:03:06	00:00:00	
Discharge Commenced-Discharge complete	00:12:08	00:12:08	00:00:00	
Discharge Completed-Start loading	00:16:22	00:16:22	00:00:00	
Start Loading-Completed Loading	00:23:43	00:23:43	00:00:00	
Completed Loading-Ramps out	00:01:21	00:01:21	00:00:00	00:03:47
Ramps out-Let go	00:03:15	00:00:30	00:02:45	
Top line/let go-All gone and clear	00:01:32	00:00:30	00:01:02	
All gone and Clear -Pier heads	00:10:56	00:10:56	00:00:00	
Pier heads-FAOP	00:06:26	00:06:26	00:00:00	
				00:12:36

Efficiency – shorter port time is energy saving

Potential Savings on Dover Calais

- Potential savings with double ender (105 minutes daily)
- By not turning in port on Calais-Dover route 21 minutes
- Potential savings with 3 lanes on linkspans in new Calais port (30 minutes daily)
- Calais port 3 lanes – 6 minutes each Calais turn
- Potential savings with remote operated link span (10 minutes daily)
- Remote operated link span – (1 minute each port call – already included in auto mooring savings)

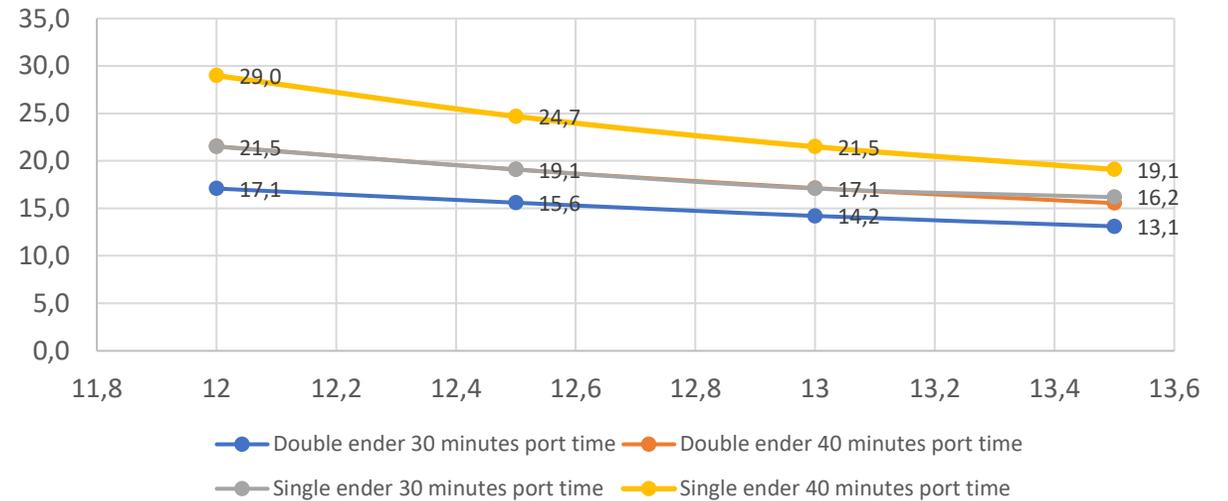


Efficiency – shorter port time is energy saving

Sailing time shall be maximised

- Reduced sailing speed
- Improvement of manoeuvrability
- Acceleration time
- Hull/propulsion flow lines

Speed requirements (knots)



Type of vessel	hours operation for 3 double runs			
	12	12,5	13	13,5
Double ender 30 minutes port time	17,1	15,6	14,2	13,1
Double ender 40 minutes port time	21,5	19,1	17,1	15,6
Single ender 30 minutes port time	21,5	19,1	17,1	16,2
Single ender 40 minutes port time	29,0	24,7	21,5	19,1

Step 1 – Fact finding study

- ▲ End to end process – interfaces / silo mentality
- ▲ RFQ – screening, qualification and priority
- ▲ Data gathering – ferry operations and port operations
- ▲ High level statistical analysis
- ▲ Site visits
- ▲ Interviews key stake holders
- ▲ Operational observations
- ▲ Conclusions and preliminary improvement opportunities

Step 2 – In-depth operational analysis

Step 3 – Implementation



▲ Shipowner

- Optimal ship design – no design compromises which could be avoided
- Fuel / energy savings
- Reduced service and maintenance cost
- Customer satisfaction
- Improved environmental footprint

▲ Port operator

- Infrastructure – improved / better utilisation
- Lay-out (fit for purpose – now and then)
- Process efficiency - savings
- Opportunities for automation and digitalisation
- Improved utilisation and compliance
- Customer satisfaction – less waiting time
- Improved environmental footprint

▲ Ferry operations – additional opportunities

- Better knowledge about passenger mix and relevant offerings
- Flexible manning – based on traffic and volumes
- Efficiency and upselling in restaurants, shops, etc.
- Improved customer service
- LEAN at sea - Performance management system, variance management, motivation, etc. Customer satisfaction

OSK

DESIGN



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