



**PEARL NAVAL**

**PEARL NAVALSHIPMANAGEMENT**

**RIVER-SEA SHIPPING FEB-2018**

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**Pearl Naval Ship Management established in June 2017, and incorporated in Turkey. Pearl Naval Ship Management, from his operating headquarters in Istanbul, offers the ships under management, on behalf of their principals, on voyage and time charter basis to first class Charterers and Traders.**



**Uprise Elite Residence C-315 Soğanlık Yeni Mah. Kartal, Istanbul, TURKEY**

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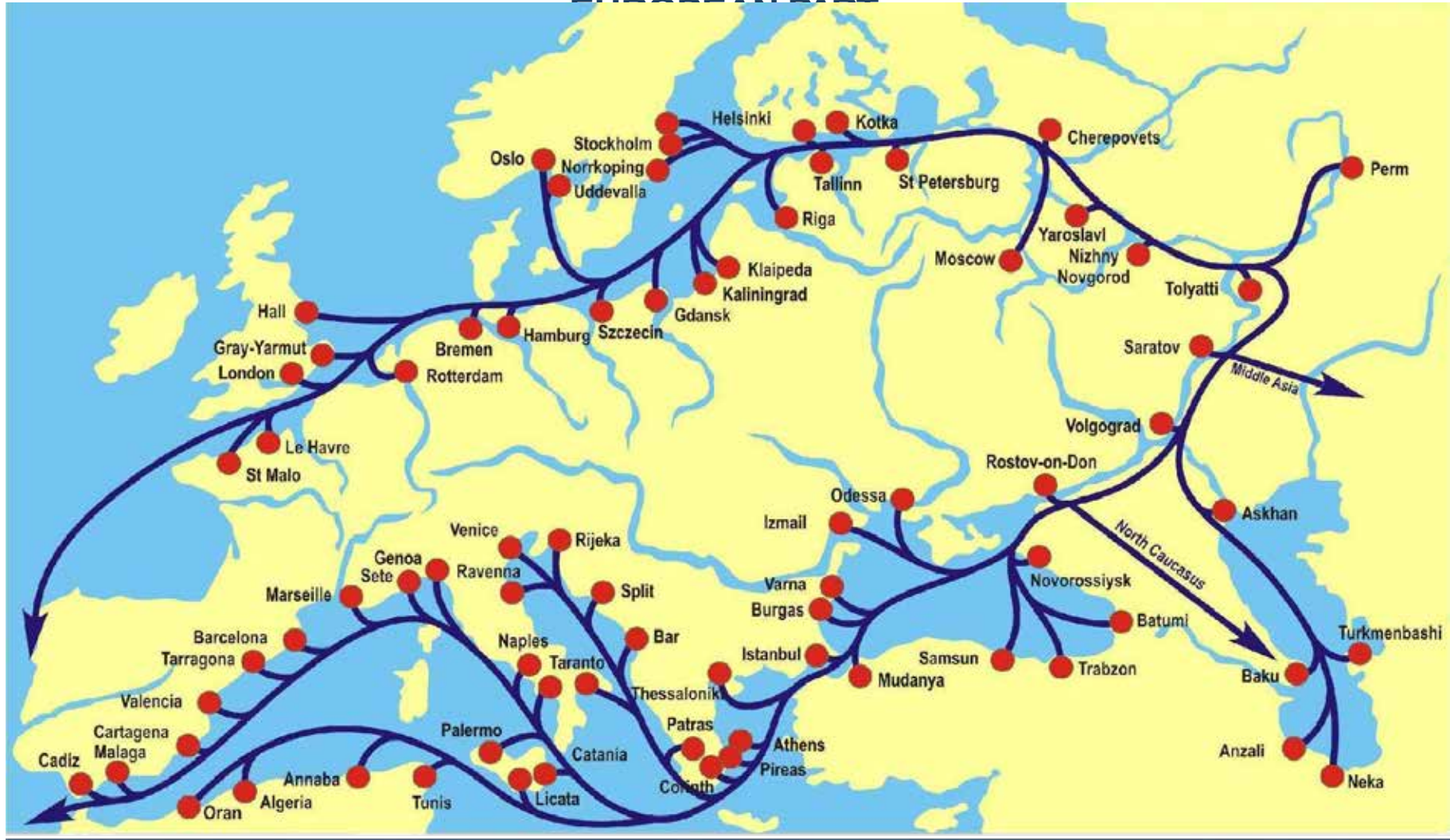
## RUSSIAN INLAND WATERWAYS



## EUROPEAN PART

Cities	103
Reservoirs	14
Hydro-systems	17
Islands	4
Channels	6
Gulfs	3
Rapid	1
Bridges	33
Lakes	5
Rivers	20

## COASTERS & RIVER-SEA VESSELS ROUTES IN EUROPE



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## PERSPECTIVES

River transport market is growing; its efficiency is bigger than for car and rail way transportations. OSC “Russian Railways” charge rates growth provides new clients inflow for river transportation. Besides Russian rail way transport transfer capability has known limit, and it becomes reached in some causes. Especially this takes place in summer seasons when additional passenger trains are provided for south directions.

Though even big river shipping companies have faced difficult or will face them in the nearest time. Cargo transportation structure changes, so carriers need for fleet update. Only very big companies are able to effect such changes.

More than 80% of vessels which are assumed for building for Russian shipowners also are of river-sea type, and changing of this parity in nearest years is not expected.

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## GENERAL RIVER-SEA TRANSPORT

In addition to foreign transportations, river-sea navigation vessels (RSV) provide execution of the most important task of north regions supply

Roads cargo transfer from RSV to marine vessels, which is widely applied in the south and the north-west OF Russian Federation is another modern direction of RSV usage. In world marine practice (USA, England, Denmark, Norway, Egypt, etc.) such operations are named as scheme of “ship-to-ship” or STS operations

The STS scheme of oil reloading from river-sea going vessels to marine vessels with use of storage tankers gives an opportunity to form larger cargo parties for marine tankers with displacement of 100-150 thousand tons. Regulations for road reloading complexes are developed in order to provide safety of STS operations. These Regulation required strict fulfillment of the Russian ecological legislation and usage of worldwide experience that reduces to a minimum risks of environmental contamination.

Sulfur, grain and mineral fertilizers also are trans-loaded through road reloading complexes. The steady export channel of Russian products which is bringing stable income in the budget of Russian Federation.

**CARGO/RIVER-SEA VESSELS OUTLOOK**

<b>Register ClassNot.</b>	<b>2007 units</b>	<b>2010 units</b>	<b>2016 units</b>	<b>Withdrawl Units</b>
<b>RS R1</b>	<b>320</b>	<b>304</b>	<b>231</b>	<b>-89</b>
<b>RS R2</b>	<b>265</b>	<b>231</b>	<b>229</b>	<b>-36</b>
<b>RS R2-RSN</b>	<b>584</b>	<b>471</b>	<b>397</b>	<b>-187</b>
<b>RS R3-RSN</b>	<b>272</b>	<b>182</b>	<b>115</b>	<b>-157</b>
<b>RRR M-SP</b>	<b>369</b>	<b>347</b>	<b>212</b>	<b>-157</b>
<b>RRR M-PR</b>	<b>372</b>	<b>347</b>	<b>351</b>	<b>-21</b>
<b>RRR O-PR</b>	<b>312</b>	<b>237</b>	<b>190</b>	<b>-122</b>
<b>Total</b>	<b>2494</b>	<b>2119</b>	<b>1725</b>	<b>-769</b>

Fleet Type & Russian River Register Database as of 2017	Age Group					Total
	< 10 years	10-20 years	21-30 years	31-40 years	> 40 years	
<b>Distribution in accordance with age groups</b>						
Self-propelled dry-cargo, units	15	3	124	248	467	857
Non-self-propelled dry-cargo, units	94	70	1041	1802	1183	4190
Self-propelled tanker, units	18	3	65	195	371	652
Non-self-propelled tanker, units	17	50	210	241	174	692
Passenger, units	192	89	189	364	502	1336
Tug-pusher, units	39	9	471	1192	1019	2730
Craft, units	61	49	380	439	787	1716
<b>Total, units</b>	<b>436</b>	<b>273</b>	<b>2480</b>	<b>4481</b>	<b>4503</b>	<b>12173</b>
<b>Age structure of fleet</b>						
Self-propelled dry-cargo, %	1,75	0,35	14,47	28,94	54,49	100
Non-self-propelled dry-cargo, %	2,24	1,67	24,84	43,01	28,23	100
Self-propelled tanker, %	2,76	0,46	9,97	29,91	56,9	100
Non-self-propelled tanker, %	2,46	7,23	30,35	34,83	25,14	100
Passenger, %	14,37	6,66	14,15	27,25	37,57	100
Tug-pusher, %	1,43	0,33	17,25	43,65	37,33	100
Craft, %	3,55	2,86	22,14	25,58	45,86	100
<b>Total, %</b>	<b>3,58</b>	<b>2,24</b>	<b>20,37</b>	<b>36,81</b>	<b>36,99</b>	<b>100</b>



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## NEW DESIGN AND CONCEPTS

Design of new vessel projects for transportation of different cargoes in European part of Russian inland waterways and building of such vessels is strategically important problem in view of Russian export/import relations development and strengthening Russian geopolitical position.

Most of all there are required dry-cargo vessels and tankers which have to change old “Volgo-Don” and “Volgoneft” vessels on the lines which are oriented for transportation of raw cargoes from Russian river ports to trans- shipping complexes at Gulf of Finland and Kerch Straits. New vessels have to differ in quality from existing ones which ideology was developed in 50-s of last century in such directions as high efficiency, ecology and reliability. This to designs have “solve” problem moments such transport queues under Neva bridges and under Rostov bridge.

Transition to qualitatively new level of transportation organization for water transport is needed.

## FOUNDATION of DESIGN FIGURES

### Dimensions about transverse section depending on the size of the bridge span

Vessel's class		Overall length $L_M$ , m	Overall breadth $B_M$ , m	Draught $d$ , m	Air draught $H_{HF}$ , m
«Volgo-Balt Max»		185	16.95-20.1	2.90-3.80	13.2
«Volgo-Don Max»		140	17.0	3.20-3.70	13.2
«BBK Max»		132	13.63	2.90-3.80	11.9
«Danube Max»	Danube - Passau	135	13.40	2.00-2.50	6.7
	Upstream Passau*	135	11.45	1.70-2.00	6.03

\*Including pass-through to Northern Sea (Danube-Main- Rhine system)

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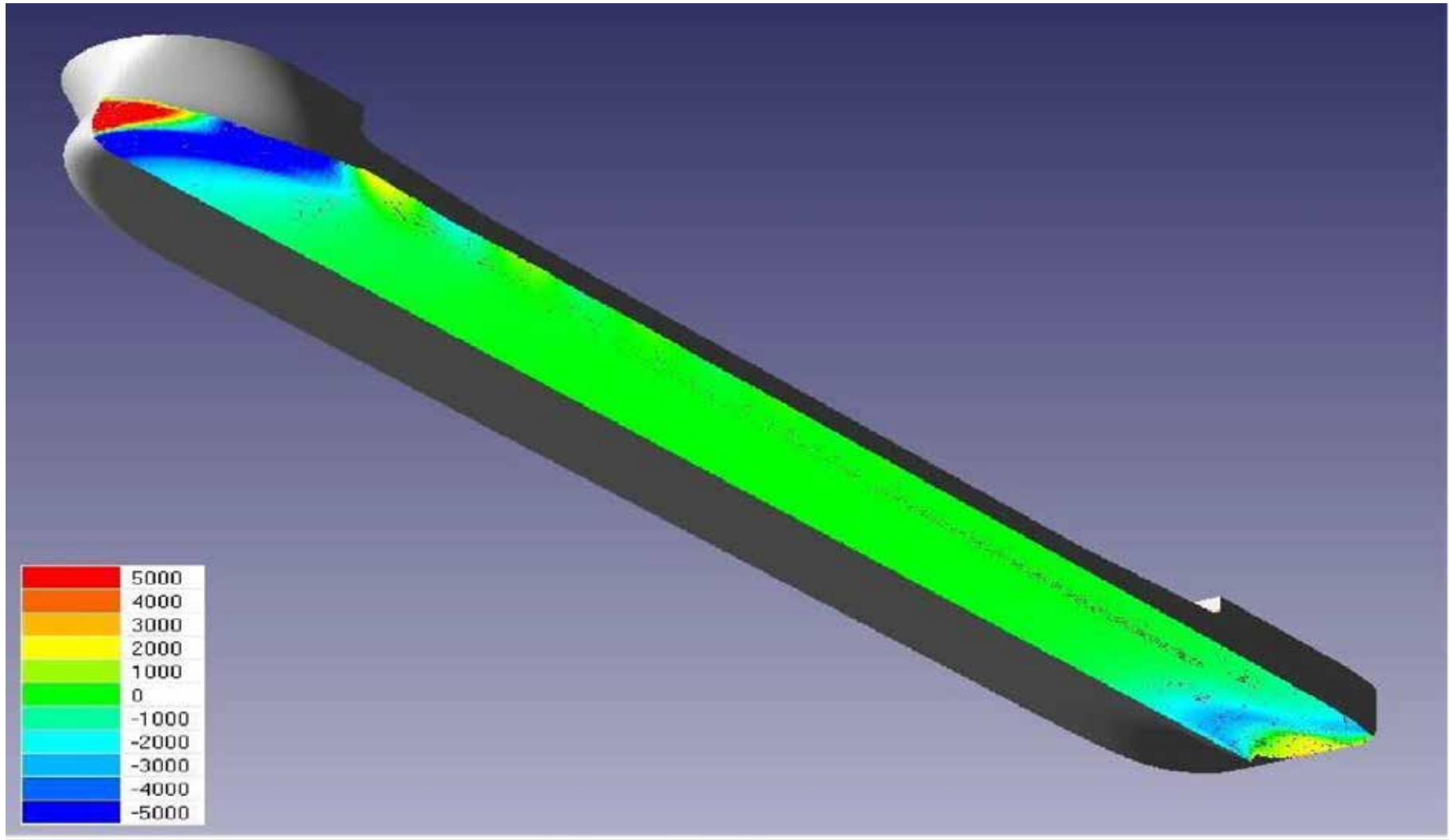
## **BENEFIT of NEWBUILDING**

**For ship owners or investors new ships should be the best in the class. Clearly, that for achievement of the greatest economic benefit of operation of the cargo ship, it is necessary, that the vessel had the as biggest as possible carrying capacity.**

**Also, greatest possible block coefficient from positions of propulsion efficiency, with increased carrying capacity in the river and the raised strength standard of ship's hull for sea operation, the raised tank capacity at minimally possible hull depth, raised maneuverability in constrained conditions, in locks, channels and on shallowwaters.**

**Your are provided with different type of designed vessels with nextslides**

## HULL LINEOPTIMIZATION

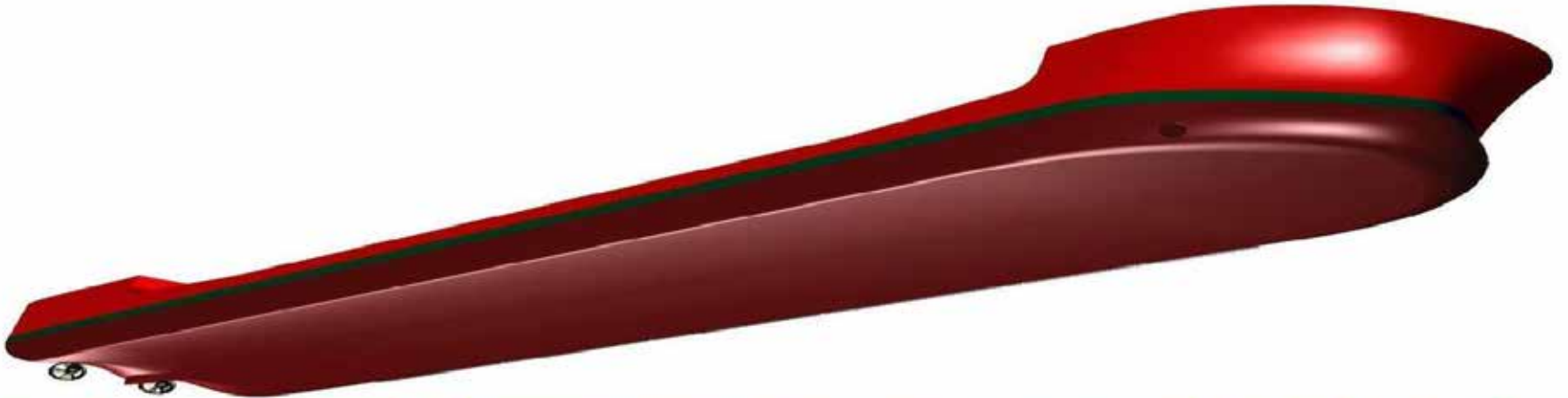


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**HULL FORM & TANK TEST & CFD**



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THANK YOU FOR YOUR ATTENTION

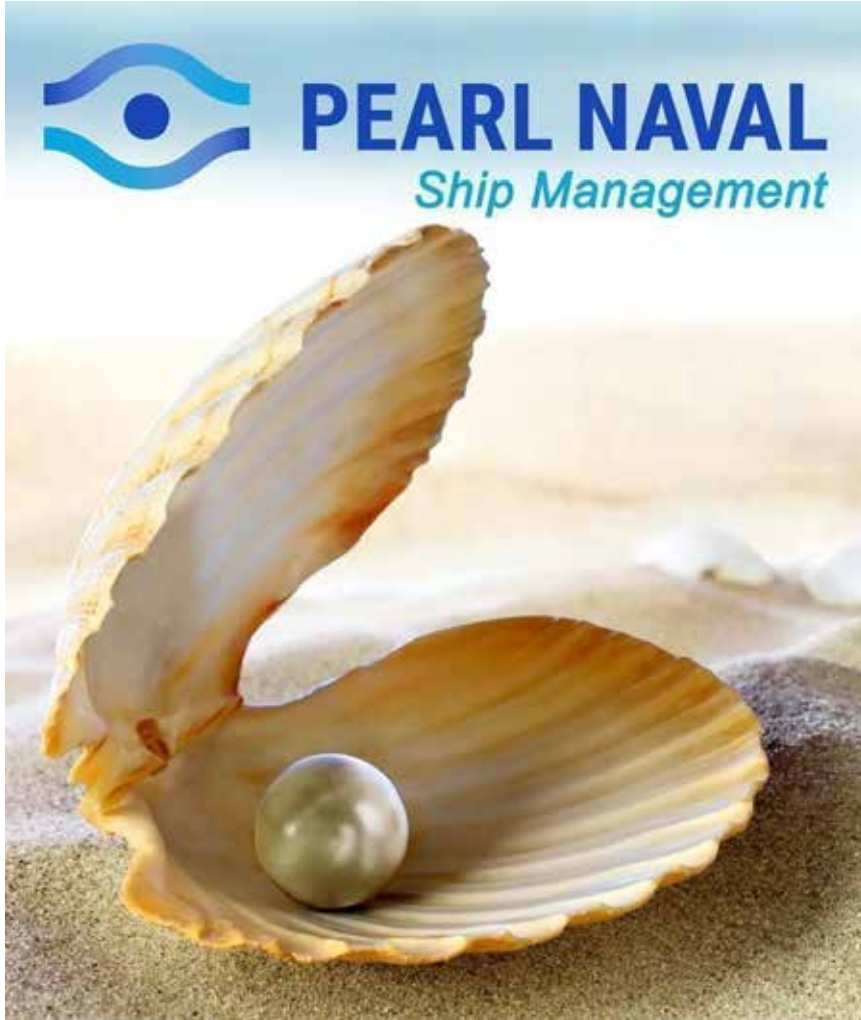


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