

Национальная  
технологическая инициатива

Пространство возможного

# MARINET

Innovation High Speed Ships



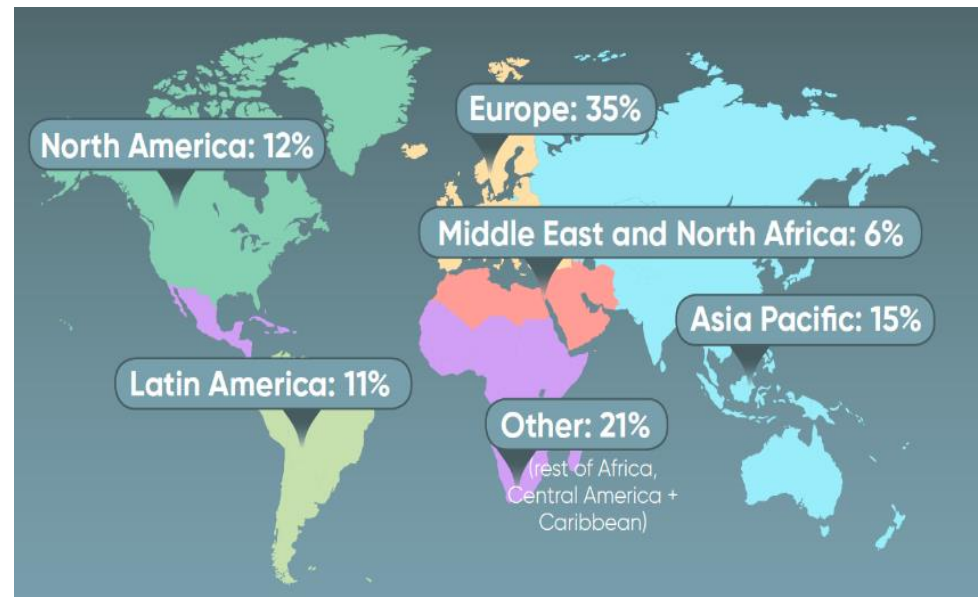
Hydrofoil «Sea Knife»

Next generation ultra high speed hydrofoil

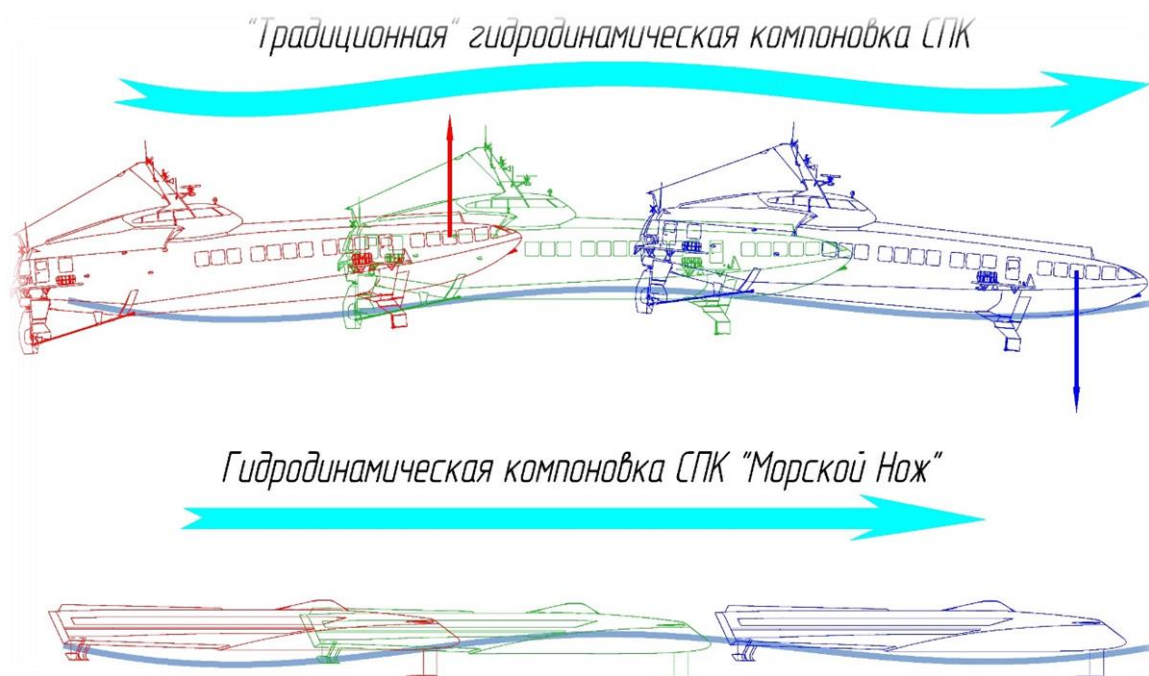
## FAST FERRY PASSENGERS TRANSPORTATION

- Fast Ferry transportation market more than US 15 Bln a year
- Number of ships in operation more than 1800
- Average hydrofoil fleet age more than 20 years
- By 2035 market will require up to 600 new Fast Ferries
- Our goal is to build and export 60 pcs. of «Sea Knife» Hydrofoils until 2031

	2006	2014	Forecast	
			2022	2030
<b>Europe</b>	<b>707</b>	<b>805</b>	<b>902</b>	<b>992</b>
Annual Growth		14%	12%	10%
CAGR		1.64 %	1.43%	1.2%
<b>Rest of the World</b>	<b>911</b>	<b>1 388</b>	<b>1 804</b>	<b>2 166</b>
Annual Growth		53%	30%	20%
CAGR		5.4%	3.3%	2.31%
<b>Total World</b>	<b>1 618</b>	<b>2 193</b>	<b>2 706</b>	<b>3 158</b>



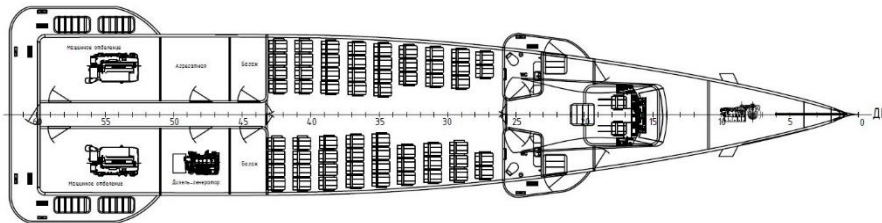
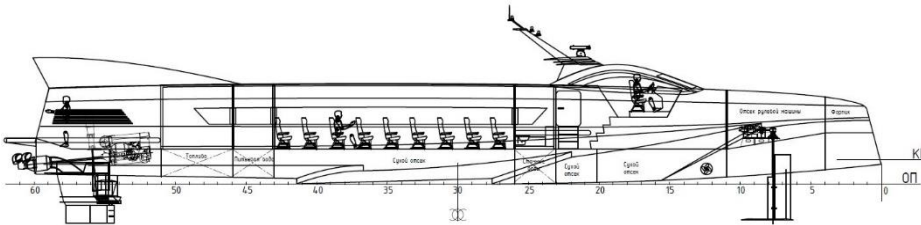
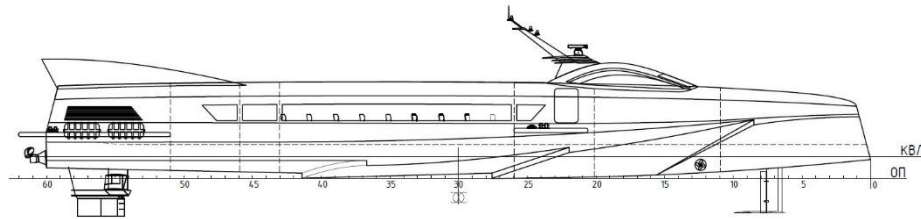
- Existing hydrofoils capacity 120-350 ( lack of sea hydrofoils with passengers capacity 60-70 people)
- Low seaworthiness with reduction of the hydrofoils size
- Trend to increase Fast Ferry passengers capacity ( niche market 60-70 passengers not served )



# PRINCIPAL CHARACTERISTICS



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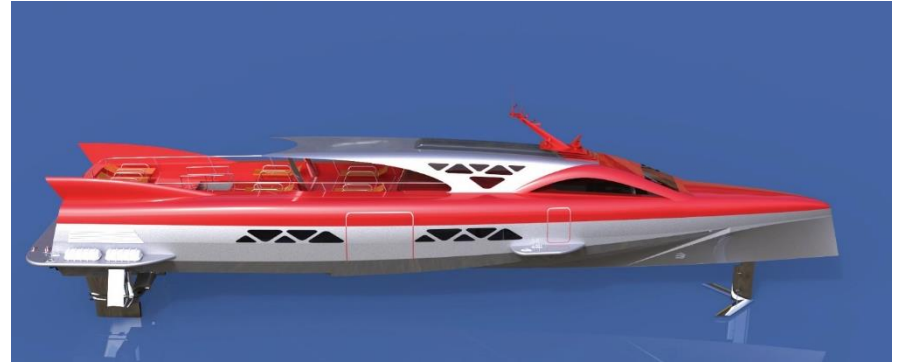
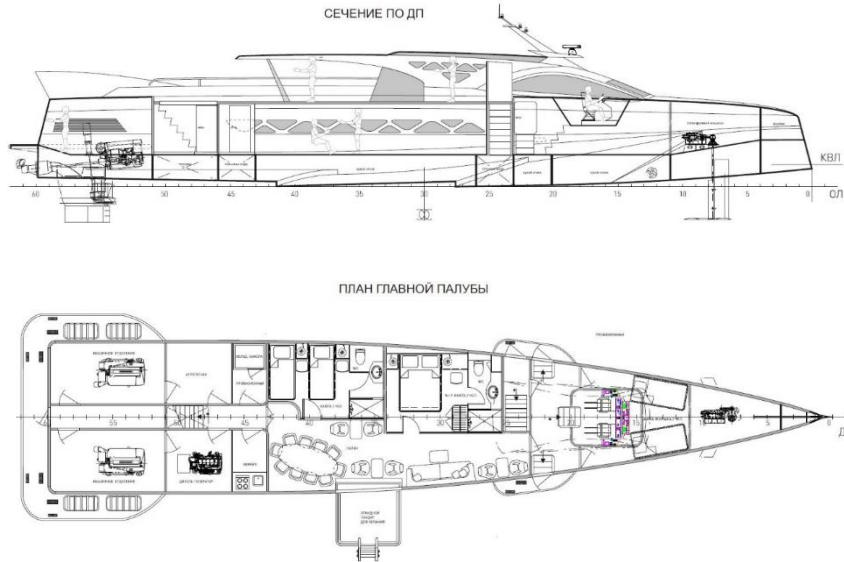
Parameter	Units.	
Length overall	м	31
Width	м	8,6
Beam	м	5,9
Length on waterline	м	30
Width on waterline	м	5,59
Width largest	м	6,2
Draft with hydrofoils	м	0,94
Draft	м	2,2
Deadweight	т	36,5
Speed	knots	48,6
	km/h	90
Powerplant	кВт	2x1200
Maximum range	Miles	400
Passengers	people	60
Crew	people	4



# HIGH SPEED YACHT CONCEPTUAL DESIGN



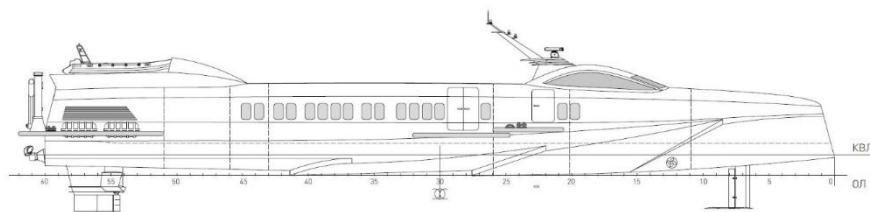
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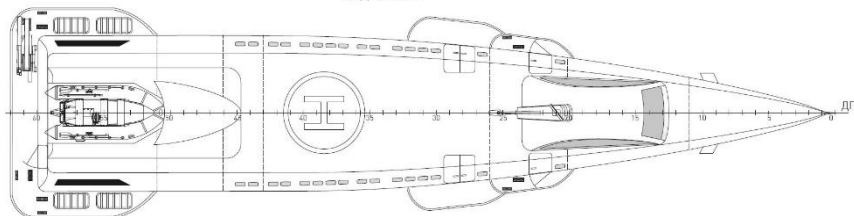
# EMERGENCY SERVICE BOAT CONCEPTUAL DESIGN



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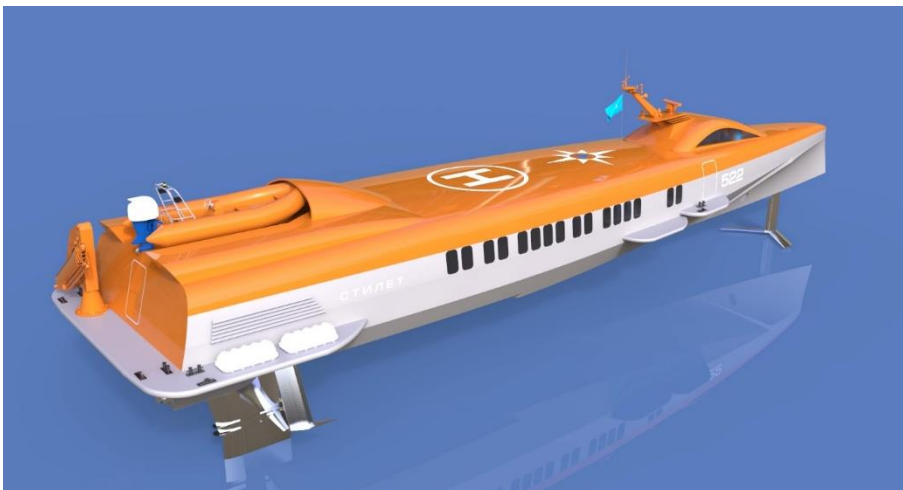
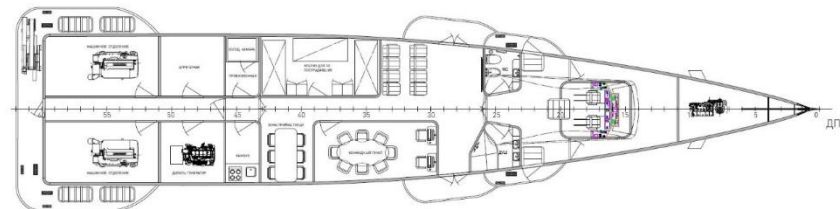
ВИД СВЕРХУ



СЕЧЕНИЕ ПО ДП



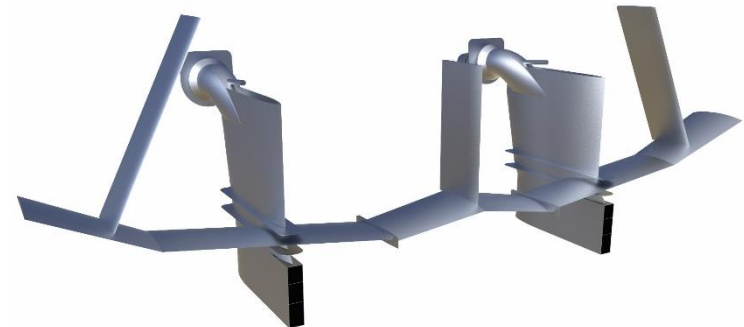
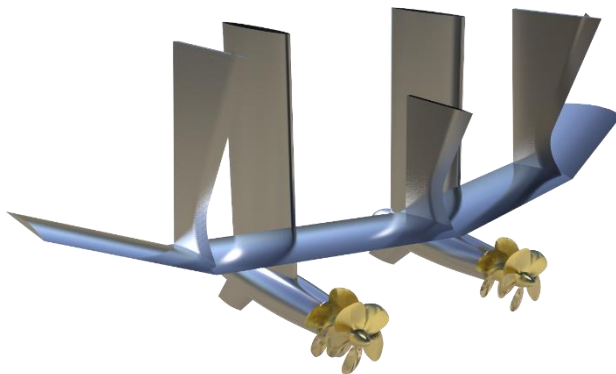
ПЛАН ГЛАВНОЙ ПАЛУБЫ



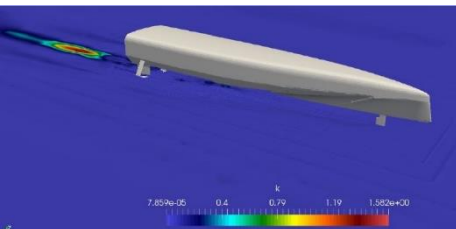
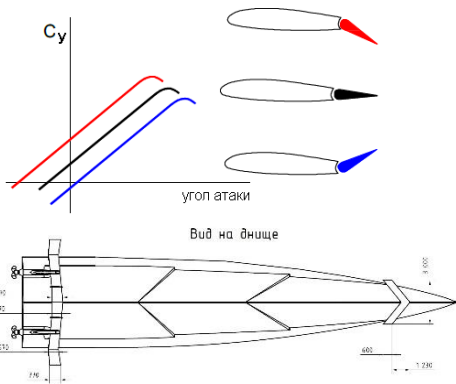
## SHIP RESOURCE PLANNING (SRP) – CLOUD BASED SOFTWARE FOR SHIP LIFECYCLE SUPPORT AND MANAGEMENT



## OPTIONS IN PROPULSION – WATERJETS AND PROPELLERS



## COMBINATION OF THE «SEA KNIFE» CONCEPT WITH AUTOMATIC CANARD HYDROFOIL



## PROS AND CONS ALUMINIUM AND COMPOSITE DESIGNS

### ALUMINIUM

- Good combination of cost-quality
- Many shipyards worldwide capable to construct aluminium hulls
- Complex production of hull shapes with high hydrodynamics parameters

### COMPOSITES

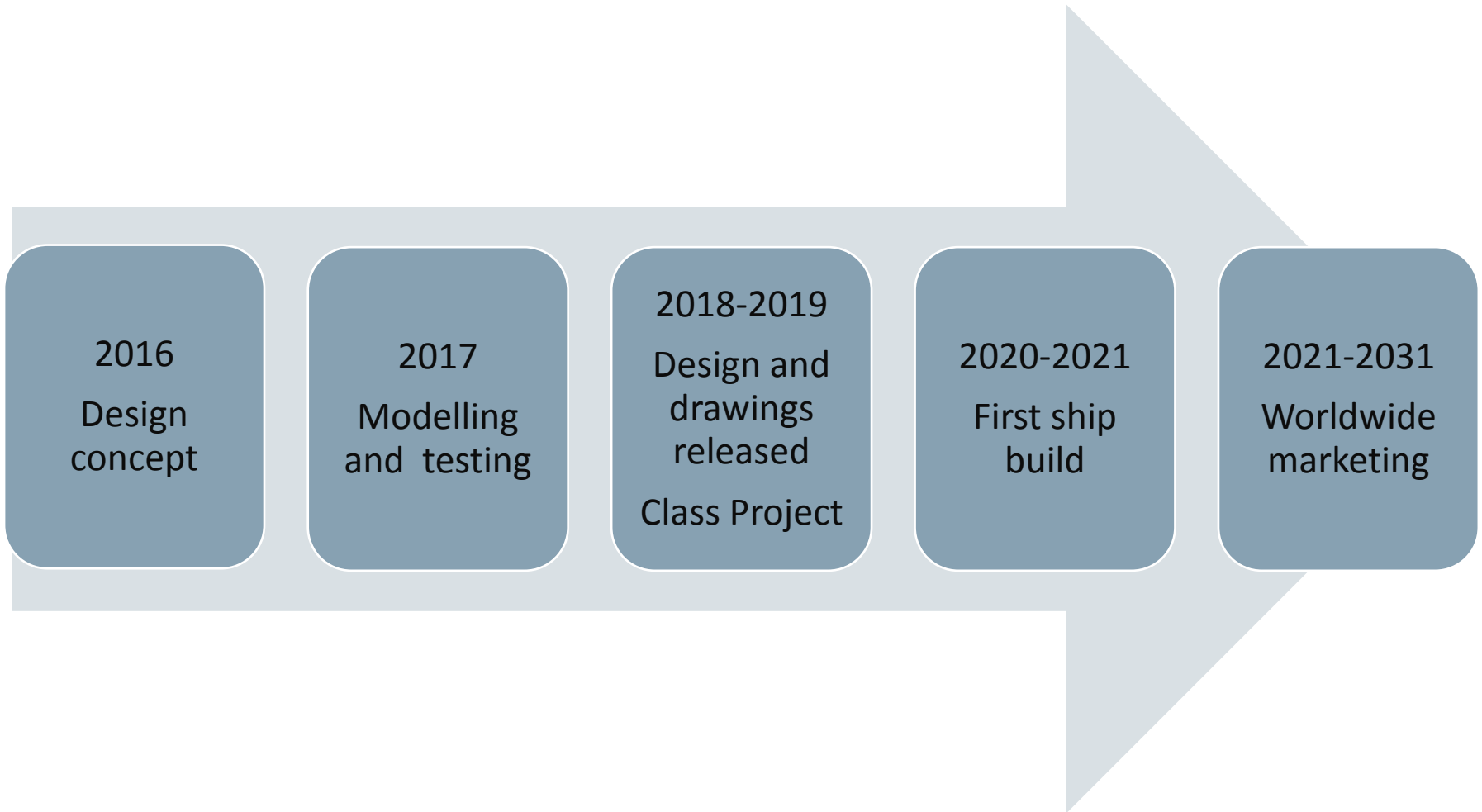
- Simpler than aluminium production of complex hull shapes with high hydrodynamics parameters
- 20-30% lower weight comparative with aluminium
- High cost

#### OUR PARTNERS IN ALUMINIUM ( RUSSIA)



#### OUR PARTNERS IN COMPOSITES ( TURKEY-SWEDEN)





## HYDRO AND AERODYNAMICS



Central Aerohydrodynamic Institute

## SHIPYARDS IN RUSSIA AND TURKEY



## EXPORT SUPPORT AND FINANCING



RUSSIAN  
EXPORT CENTER

EXIMBANK OF RUSSIA

## NOVEL ALUMINIUM ALLOYS



## COMPOSITE TECHNOLOGY



**WE ARE LOOKING FOR INTERESTED PARTNERS –  
SHIPYARDS AND FAST FERRY OPERATORS WORLDWIDE ...**



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