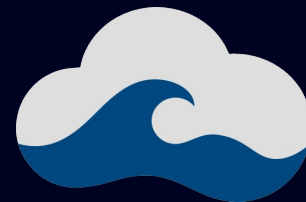
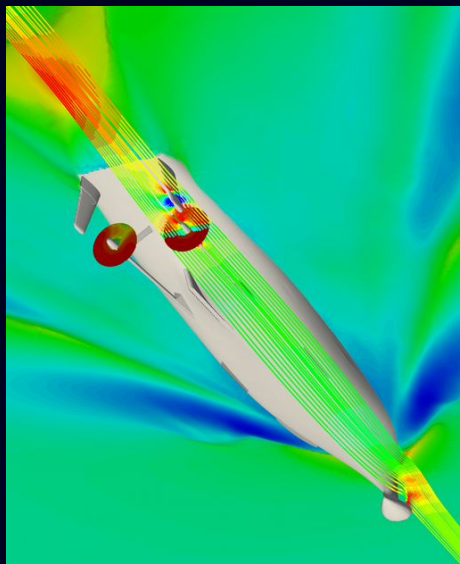


# Naval Hydro CFD: Smanjenje potrošnje goriva trgovačkih brodova

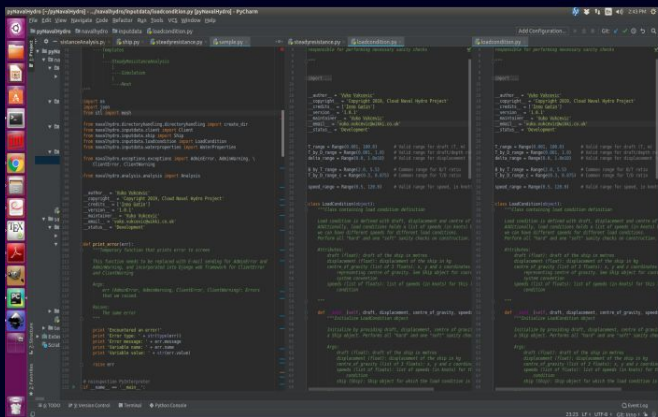
Vuko Vukčević, Robert Keser, Inno Gatin



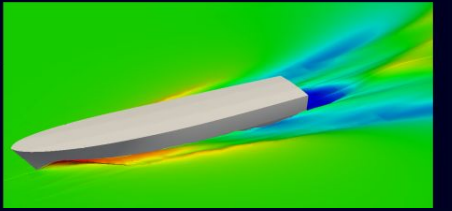
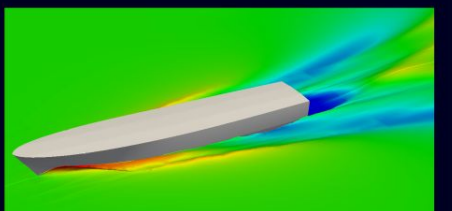
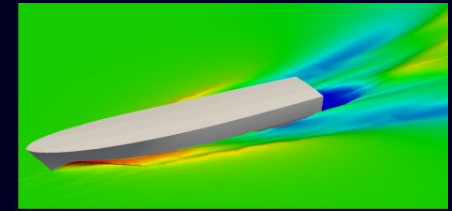


Svjetska flota trgovačkih brodova je odgovorna za emisiju **1 milijardu tona CO<sub>2</sub> godišnje**

**Tipična potrošnja: 300 tona teškog goriva dnevno**



```
Name : JBC ,
"Lpp" : 280 ,
"Loa" : 285 ,
"B" : 45 ,
"D" : 25 ,
"displacements" : [178369900, 89185900],
"drafts" : [16.5, 8.615],
"speeds" : [13.5, 14.5],
"COG" : [147.133, 0, 13.292],
"nu" : 1.054e-6,
"rho" : 1025.0,
"propellerDct" :
{
  "p1" :
  {
    "diameter" : 8.12,
    "hubDiameter" : 1.46,
    "position" : [4.06, 0, 5.18]
  },
  "p2" :
  {
    "diameter" : 8.12,
    "hubDiameter" : 1.46,
    "position" : [4.06, 6, 5.18]
  }
}
```





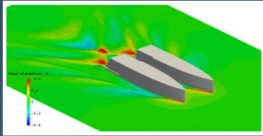
# Welcome To The Cloud Towing Tank

For Naval Architects, By Naval Architects

[Instructions](#)

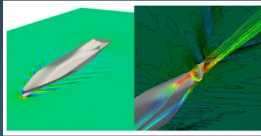
[How does it work?](#)

## Our services



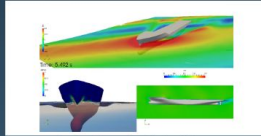
Calm water resistance

[Start analysis](#)



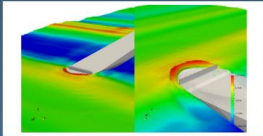
Self-propulsion

[Ask for a quote](#)



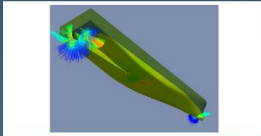
Seakeeping and added resistance

[Ask for a quote](#)



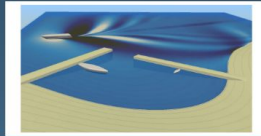
Wave loads and green water

[Ask for a quote](#)



Manoeuvring

[Ask for a quote](#)



Coastal

[Ask for a quote](#)

## Calm water resistance analysis

### Client information

Company

Private

Email

Company

VAT number

Given name

Family name

City

Address

Postal code

Country

### Ship particulars

Ship name

Length between perpendiculars, m

Length overall, m

Breadth, m

Ship depth, m

Draft, m

Displacement, t

Centre of gravity (x), m

Centre of gravity (y), m

Centre of gravity (z), m

Speed, kt (knots)

Wake field analysis

[Add speed](#)

[Add draft/displacement](#)

### Physical properties

Density, kg/m<sup>3</sup>

Kinematic viscosity, m<sup>2</sup>/s

### Geometry

STL

IGS/IGES

3DM

Hull STL file

Choose file [Browse](#)

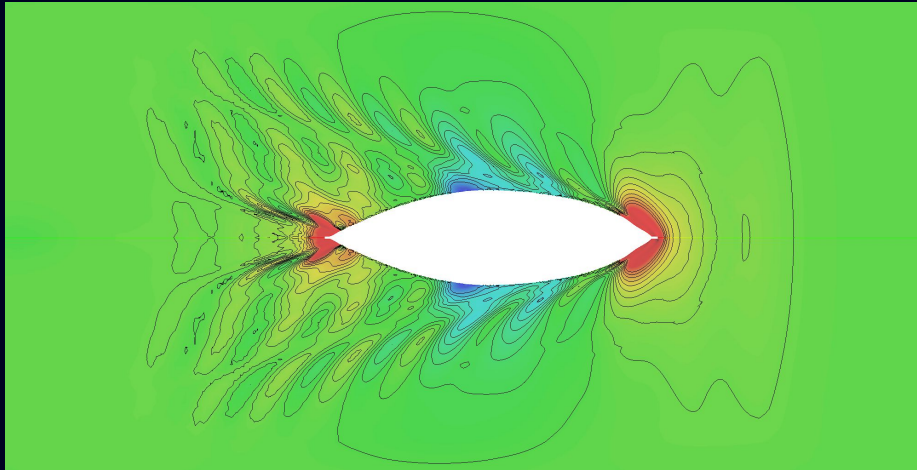
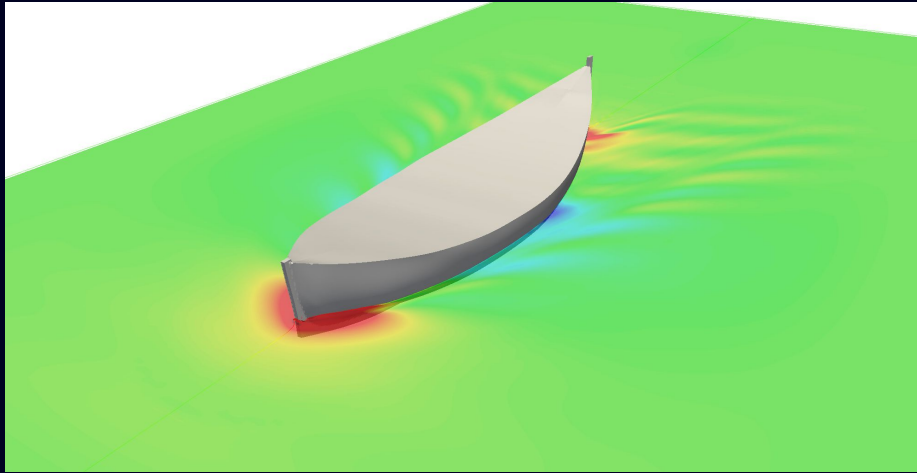
Deck STL file

Choose file [Browse](#)

Appendages stl file

Choose file [Browse](#)

[Next](#)



# Report

*Calm water resistance*

Date: 25-09-2019  
 Name: Grgo Jerat  
 Company: FSB

## — Ship particulars

Item	Value	Unit
$L_{pp}$	12.665	m
$L_{oa}$	14.222	m
$B$	4.243	m
$D$	4.1	m

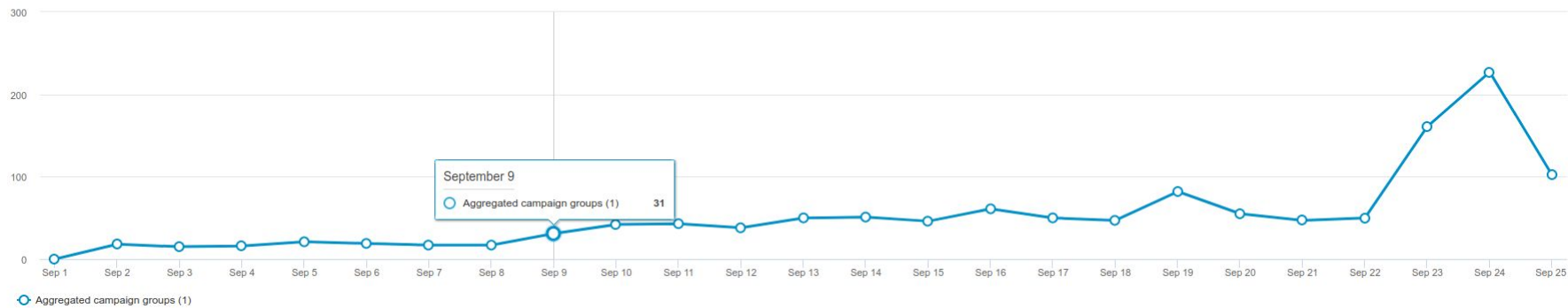
## — Load condition1

$T_1$	1.36	m
$m_1$	22.0	t
$V_1$	0.5	kt
$V_2$	1	kt
$V_3$	2	kt
$V_4$	3	kt
$V_5$	4.0	kt
$V_6$	4.5	kt
$F_{r,1}$	0.0231	
$F_{r,2}$	0.0461	
$F_{r,3}$	0.0923	
$F_{r,4}$	0.138	
$F_{r,5}$	0.185	
$F_{r,6}$	0.208	

## — Resistance data load condition 1

View: Performance ▾ Display: Clicks ▾ Time range: 9/1/2019 - 9/25/2019 ▾





























Total clicks: 1,306



View: Performance ▾ Display: Impressions ▾ Time range: 9/1/2019 - 9/25/2019 ▾

Total impressions: 121,657



Name ↕	Impressions ↕	Clicks ↕
Shell	 5,401 (4.44%)	 19 (1.45%)
MSC Mediterranean Shipping Company	 4,590 (3.77%)	 29 (2.22%)
CMA CGM	 3,216 (2.64%)	 35 (2.68%)
Chevron	 2,915 (2.4%)	 16 (1.23%)
Saipem	 2,445 (2.01%)	 23 (1.76%)
Hapag-Lloyd AG	 1,467 (1.21%)	 12 (0.92%)
Schlumberger	 1,457 (1.2%)	 7 (0.54%)
Baker Hughes, a GE company	 1,320 (1.08%)	 8 (0.61%)
Halliburton	 1,196 (0.98%)	 6 (0.46%)
Subsea 7	 1,152 (0.95%)	 7 (0.54%)
BP	 866 (0.71%)	 4 (0.31%)
Total	 860 (0.71%)	 5 (0.38%)
DP World	 854 (0.7%)	 6 (0.46%)
APM Terminals	 852 (0.7%)	 4 (0.31%)