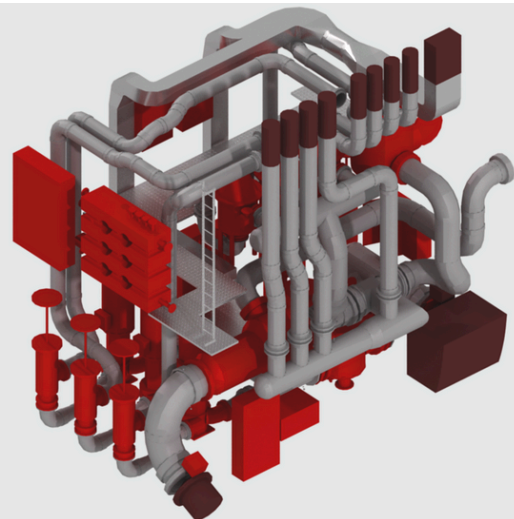
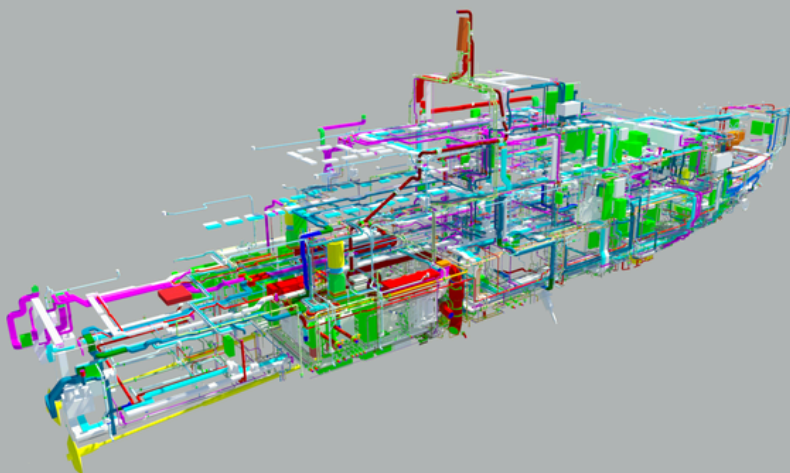


FLOWTECH
SOLUTIONS

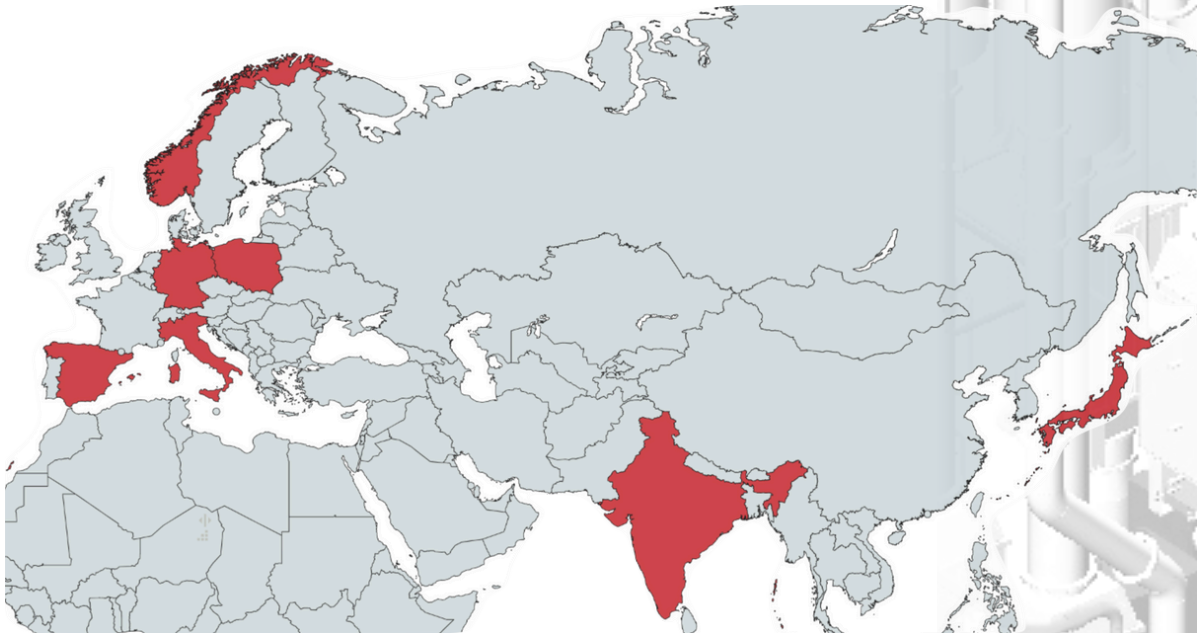


ABOUT US:

We specialize in solving complex shipbuilding design challenges for shipowners, shipyards, and design offices.

FlowTech is an independent ship design and engineering company headquartered in Rijeka, Croatia.

With more than 10 years of experience and involvement in 25+ shipbuilding and offshore projects, we have collaborated with over 10 shipyards and design offices across 8 countries worldwide. This international experience enables us to implement a lot of good practices and solutions into our work.





1. MARINE AND OFFSHORE ENGINEERING

1.1. INITIAL DESIGN AND BASIC ENGINEERING

- Defining positions of technical spaces, main equipment, tanks, exhaust and HVAC rooms on General arrangements in compliance with all involved disciplines
- Equipment lists and coordination with vendors
- Preliminary 3D model of HVAC, piping, outfitting and electrical equipment in main ship compartments
- Layout drawings of technical spaces
- Preliminary calculations

1.2. DETAIL ENGINEERING

- Detailed 3D modeling of equipment, piping, outfitting, HVAC and cable trays in machinery and accommodation areas
- Quality control of 3D models using detailed checking procedures
- Custom software applications
- Technical consulting and coordination
- Team leading and organization

1.3. PRODUCTION DOCUMENTATION

- Pipe installation drawing
- Pipe penetration drawing
- Coordination drawings
- Pipe and duct production sketches
- Material reports
- Other drawings required by the yard

2. INTERIOR OUTFITTING

2.1. NETSPACE AND INTERIOR DETAILED OUTFITTING

- Netspace optimization according to shipbuilding standards and designers wishes
- Netspace includes walls, floors, ceilings, and the needed subconstructions for the public, owner, crew, and outside areas.
- Implementation for all door types (A-type, B-type, C-type, and WTD, hinged and sliding), windows, electrical supply boxes, and inspection hatches.
- 3D detail interior model preparation and 3D render visualization

2.2. INTERIOR DETAILED DRAWINGS

- Netspace drawings
- Detailed room arrangements
- Floor plan
- Barewall and decoration wall arrangement
- Ceiling plan with all service and inspection hatches
- Interior production drawings

3. SCRUBBER SYSTEM INTEGRATION AND RETROFIT ENGINEERING

- Feasibility studies to determine optimal scrubber system implementation
- 3D laser scanning resulting in a point cloud file able to recreate all required spaces in a CAD software
- Detailed engineering - pipe sketches, installation, coordination and existing pipe modification drawings
- “As build” documentation
- Technical assistance throughout fabrication and installation
- Project management

4. ON-SITE ENGINEERING

- Preparing proposals and solutions to improve building strategy based on project preparation and feasibility studies in compliance with yard technologies
- Fully flexible engineering support and cooperation depending on customer requirements
- On-site coordination with yard and project office in order to find the best possible solution in the shortest possible amount of time
- Transfer of knowledge through various training projects and courses
- Project management support

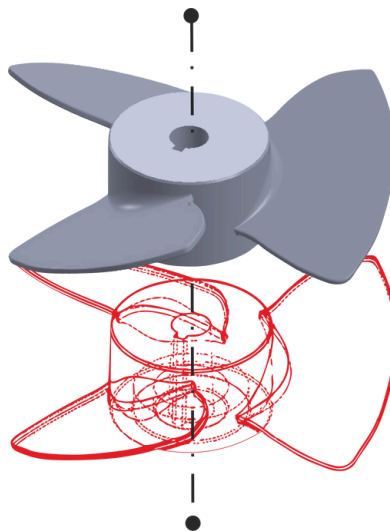
5. RESEARCH & DEVELOPMENT

5.1 CFD ANALYSIS

- CFD analysis in various engineering domains:
 - Hydrodynamic analysis
 - HVAC analysis and design
 - Fluid-structure interaction analysis
- Pressure drop calculations
- Product design optimization

5.2 CUSTOM SERVICES

- Programming – development of specific custom engineering applications for automation in the working process
- Project development and organization – creating workflows, guidelines, databases and internal standards improving the quality and efficiency of a specific project
- Education and training services



EXPERIENCE IN USING THE LATEST SOFTWARES FOR MARINE AND OFFSHORE INDUSTRIES:



CADMATIC
ShipConstructor
AVEVA Marine
FORAN
Micro Station V8
SolidWorks
CATIA
ANSYS
Siemens FEMAP

PREVIOUS PROJECTS



YACHT BUILDING – PRINCIPAL AND DETAIL ENGINEERING

- Title: M/Y Omega - **on going project**
Client: Lürssen Yachts, Germany
Environment: CADMATIC, AutoCAD, On site
- Title: M/Y Yacht 120m+ (confidential)
Client: Lürssen Yachts, Germany
Environment: CADMATIC, AutoCAD, On site
- Title: M/Y Shackleton
Client: Lürssen Yachts, Germany
Environment: CADMATIC, AutoCAD, On site
- Title: M/Y Cosmos
Client: Lürssen Yachts, Germany
Environment: CADMATIC, AutoCAD, On site
- Title: M/Y JASSJ
Client: Lürssen Yachts, Germany
Environment: CADMATIC, AutoCAD
- Title: M/Yacht Diamond Binta
Client: Tankoa, Italy
Environment: ShipConstructor, AutoCAD, On site
- Title: Yacht Project PHOENIX 796
Client: Nobiskrug, Germany
Environment: AVEVA Marine, AutoCAD, On site

INTERIOR OUTFITTING

- Title: M/Y Yacht 140m+ (confidential) - **on going project**
Client: Lürssen Yachts, Germany
Environment: Siemens NX, AutoCAD
- Title: M/Y Boardwalk
Client: Lürssen Yachts, Germany
Environment: Siemens NX, AutoCAD
- Title: M/Y Defy
Client: Lürssen Yachts, Germany
Environment: Siemens NX, AutoCAD
- Title: M/Y Honolulu
Client: Lürssen Yachts, Germany
Environment: Siemens NX, AutoCAD, On site

RETROFIT – INSTALLATION OF EXHAUST GAS (SCRUBBER) CLEANING SYSTEMS

- Title: BIG FISH
Client: Tekno Consulting S.r.l, Genova
Environment: ShipConstructor/AutoCAD
- Title: CRUISE BONARIA
Client: Tekno Consulting S.r.l, Genova
Environment: ShipConstructor/AutoCAD
- Title: CRUISE FESTOS PALACE
Client: Tekno Consulting S.r.l, Genova
Environment: ShipConstructor/AutoCAD

- Title: CRUISE EUROPE
Client: Tekno Consulting S.r.l, Genova
Environment: ShipConstructor/AutoCAD
- Title: CRUISE OLBIA
Client: Tekno Consulting S.r.l, Genova
Environment: ShipConstructor/AutoCAD
- Title: FLORENCIA
Client: Tekno Consulting S.r.l, Genova
Environment: ShipConstructor/AutoCAD

- Title: CORFU
Client: Tekno Consulting S.r.l, Genova
Environment: ShipConstructor/AutoCAD

SHIPBUILDING – PRINCIPAL AND DETAIL ENGINEERING

- Title: Scenic Ikon - **on going project**
Client: Scenic / Kongsberg Maritime, Australia
Environment: Aveva Marine
- Title: Confidential - Military ship - **on going project**
Client: Fassmer / Kongsberg Maritime, Germany
Environment: ShipConstructor
- Title: UT 782 WP AHTS SIEM OFFSHORE
Client: Remontowa S.A. Poland
Environment: FORAN and AutoCAD
- Title: UT 776 WP MONKSTER GONDAN
Client: Astilleros Gondan S.A. Spain
Environment: FORAN and AutoCAD
- Title: NVC 387 LIVE FISH CARRIER KLEVEN YN375
Client: Kleven Maritime, Poland
Environment: FORAN and AutoCAD
- Title: UT540WP DONG GONDAN
Client: Astilleros Gondan S.A. Spain
Environment: FORAN and AutoCAD
- Title: NVC 387 BAKKAFROST KLEVEN YN380
Client: Kleven Maritime, Poland
Environment: AVEVA Marine and AutoCAD
- Title: UT 777 CD KAWASAKI
Client: Kawasaki heavy industries, Japan
Environment: AVEVA Marine and AutoCAD
- Title: P17A Shivalik-class frigate
Client: Indian Navy / Fincantieri, Italy
Environment: AVEVA Marine and AutoCAD
- Title: POLAR CRUISE HURTIGRUTEN
Client: Kleven Maritime, Norway
Environment: AVEVA Marine, AutoCAD, On site

CFD ANALYSIS PROJECT - CARGO SPACES VENTILATION

- Title: NB 526 Livestock Carrier
Client: Uljanik
Environment: ANSYS Fluent, ICEM CFD

CONTACTS:



www.flowtech.hr



flowtech@flowtech.hr

MANAGEMENT DEPARTMENT



boze.lucin@flowtech.hr



+385 99 818 2999



Bože Lučin



dean.kranjcec@flowtech.hr



+385 91 274 6463



Dean Kranjčec

TECHNICAL DEPARTMENT



dominik.pesa@flowtech.hr



+385 99 813 4700



Dominik Peša

