



AITAC

Engineering Seagoing Challenges

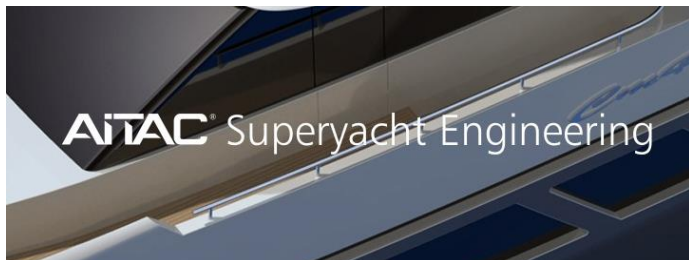


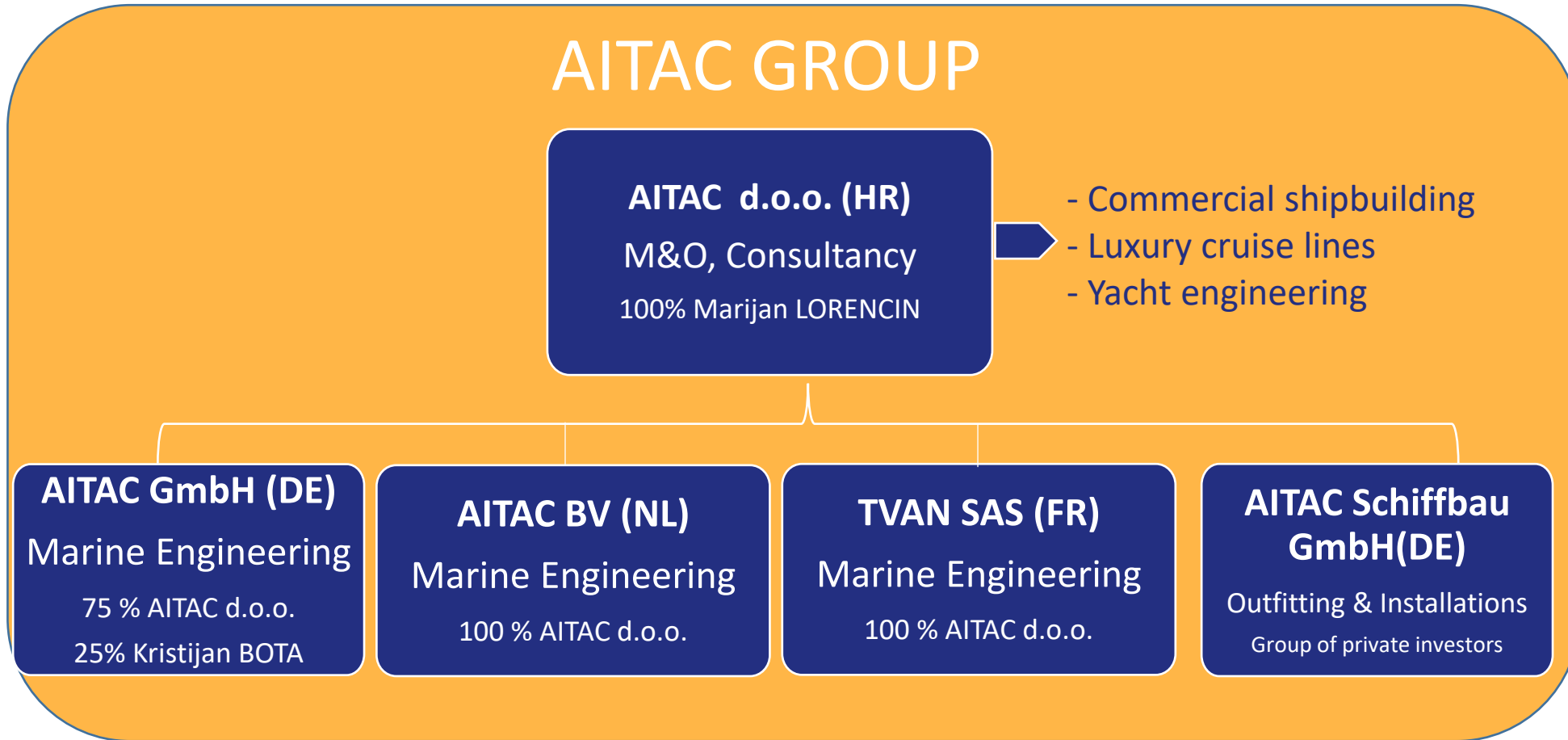
Company Presentation

 www.aitac.nl

AGENDA:

- AITAC Group
- AITAC SERVICES
- AITAC TEAM
- REFERENCES & INFO





1. Yacht design, Marine and Offshore Engineering (M&OE):
2. Consultancy and Support services for Dassault Systemes solutions – 3DEXPERIENCE (CATIA)
3. Outfitting & Installations

→ AITAC

HEADQUARTERS LOCATION | Rijeka, Croatia

CITY of RIJEKA | European Capital of Culture 2020

- Historical shipbuilding center (Torpedo invention)
- Large resource of shipbuilding manpower
- Three shipyards at distance of 30km
- Technical University
- Biggest Croatian Commercial Port
- 40+ engineering companies in the region with 900 engineers, AITAC is among Top 3 companies



- Six airports nearby:
- Rijeka (CRO) 30 km
 - Zagreb (CRO) 150 km
 - Pula (CRO) 70 km
 - Ljubljana (SLO) 130 km
 - Trieste (Italy) 75 km
 - Venice (Italy) 200 km



Žegoti 6/1, Kastav, two floor owned office space, 600 m²



Trtni 69, Matulji, one floor office space, 150 m²



Trtni 74, Matulji, one floor office space, 300 m²



Rubeši 18b, Kastav one floor office space, 150 m²

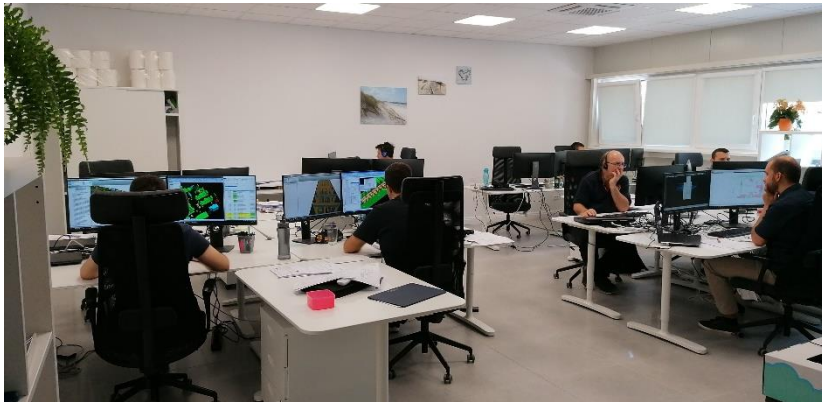
Papenburg office - AITAC GmbH & AITAC Schiffbau GmbH, Germany:



Vlissingen office - AITAC BV, Netherland:



AITAC OFFICES IN RIJEKA (KASTAV, MATULJI, RUBEŠI)



➔ Info

AITAC PRESENCE



Germany | Hamburg, Papenburg, Rendsburg



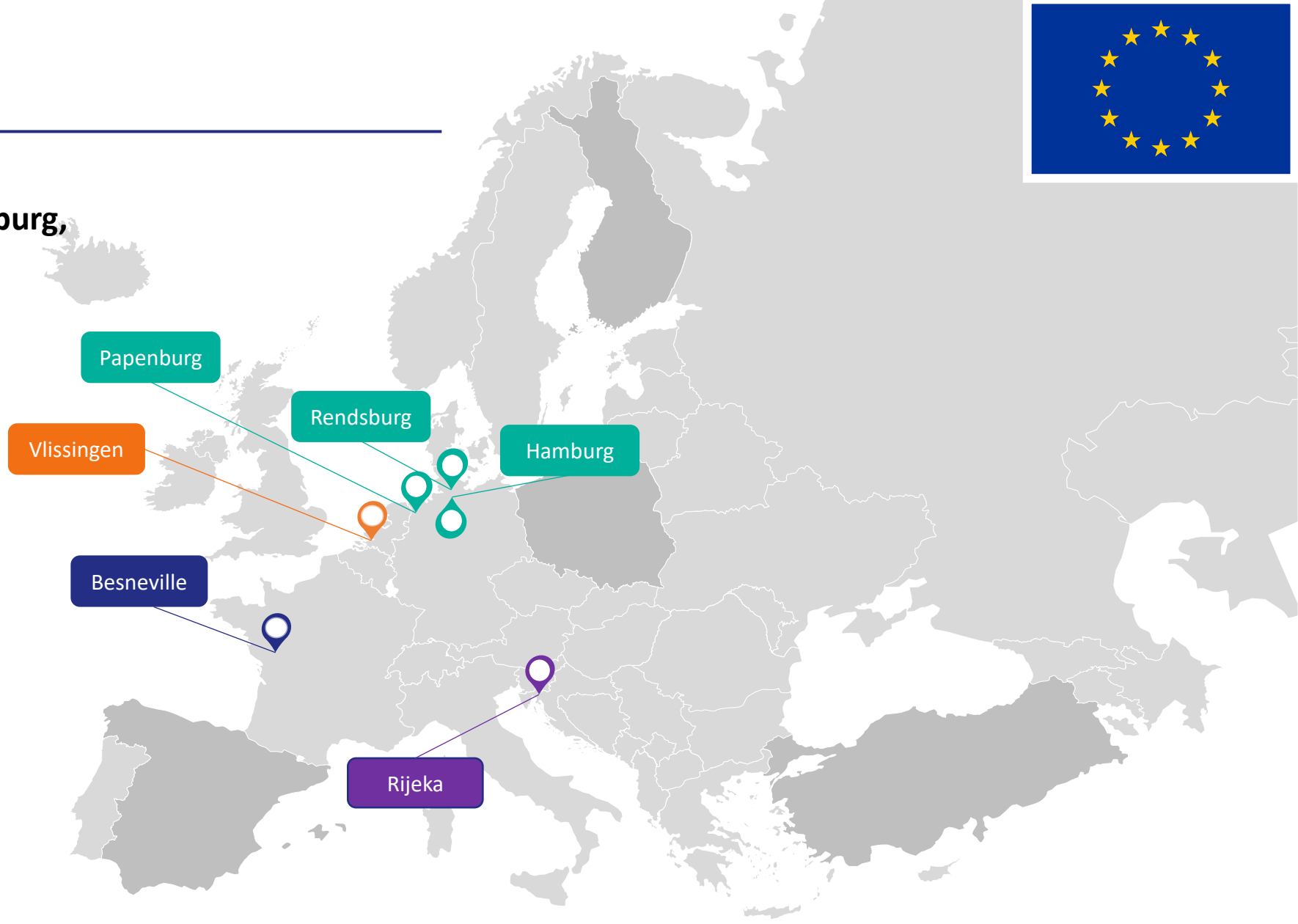
France | Besneville



The Netherlands | Vlissingen



Croatia | Rijeka, HQ



AITAC GROUP SERVICES

MARINE & OFFSHORE ENGINEERING

- **Naval architecture**
 - Concept design (new building, conversion)
 - Stability (Intact, Damage)
 - Arrangements
 - Classification drawings
 - CFD Calculations
- **Structural design (Basic & Detail)**
 - Classification design
 - Structural design Basic & Detail
 - FEM calculation (global and detailed)
- **Outfitting & Mechanical design (Basic & Detail)**
 - Mechanical system design
 - Safety plans, Fire Control Plans, Escape Plans, etc.
 - Equipment arrangement (model and drawing)
 - Principal design
 - Piping, HVAC and Cable Tray design
- **Interior design**
 - Arrangements & Plans
 - Netspace

CONSULTANCY & SUPPORT SERVICES

3DEXPERIENCE CONSULTANCY

- **Platform**
 - Installation & Maintenance
 - Configuration & Customization
 - Product Development
- **PLM & PDM**
 - Business analysis
 - Process Definition Support
 - DATA Management
- **3DX CAD Consultancy**
 - Structure
 - Piping & HVAC
 - Electrical
 - Outfitting & Accommodations
 - ASD
- **AITAC Learning Academy**
- **Modeling Agency**

3D LASER SCANNING

- Non-contact 3D scanning
- Scan of large volume objects
- Processing of 3D scanned data
- 2D drawing of scanned objects
- Reverse engineering
- Scan 2 CAD comparison - Quality Control

OUTFITTING & INSTALLATIONS

- **Complete Installation of**
 - Machinery systems (piping)
 - Electrical systems
 - HVAC
 - Supports

→ Our services

IT TOOLS COMMONLY USED

○ STRUCTURE, MECHANICAL & OUTFITTING (BASIC & DETAIL)

- ✓ **3DEXPERIENCE / CATIA V6** (hull structure, structural outfitting, interior, piping, HVAC, equipment model and drawing)
- ✓ **CADMATIC/CADMATIC HULL** (Hull model and drawing, outfitting model and drawing, piping model and drawing)
- ✓ **AVEVA MARINE** (Planar and Curved Hull, Marine drafting, Aveva nesting moduls (Aveva Hull Detailed Design applications) - structural basic and detail model and drawing, production documentation, Aveva outfitting and Outfitting draft (piping) moduls - model, arrangement drawings, instalation drawings, spools, isometrics, iso sketches)
- ✓ **AutoCad**
- ✓ **Rhinoceros** (Outfitting & Interior)
- ✓ **CATIA V4** (hull structure, foundations, piping, HVAC, equipment, drawing production)
- ✓ **CATIA V5** (detailed equipment, parametric structures, mechanical, superstructure)

○ FEM

- ✓ **CATIA V6** (detailed FEM for hull structure, foundations, mechanical)
- ✓ **Nastran** (ship global FEM and detailed)
- ✓ **ANSYS**
- ✓ **GeniE**
- ✓ **Numeca, Fluent, STAR CCM+** (CFD: hull simulation, fluid flow in equipment, exhaust simulation)

○ Hydrostatics

- ✓ **MAAT Hydro**

Other Engineering Softwares:

- ✓ SolidWorks
- ✓ Specialist software from **classification societies:**
DNV, LR, BV, (MarsRule2000, Marsin2000,etc.)

○ PLANNING

- ✓ **MS PROJECT**
- ✓ **PRIMAVERA P6**
- ✓ **MS Office (Excel)**

AITAC is CATIA backwards

→ Our team

AITAC d.o.o.

- 88 Engineers
(Naval, Mechanical, Marine, IT)
- 13 Management & Support staff

AITAC GmbH

- 20 Engineers
(Naval, Mechanical, Marine, Electrical)

AITAC Schiffbau GmbH

- 74 Pipe fitters
(Electrical)

AITAC BV

- 1 Engineer
(Naval)

TVAN SAS

- 1 Engineer
(Naval)

AITAC Group in total:

197 Permanent Employees



AITAC Schiffbau



AITAC d.o.o.

→ Our team

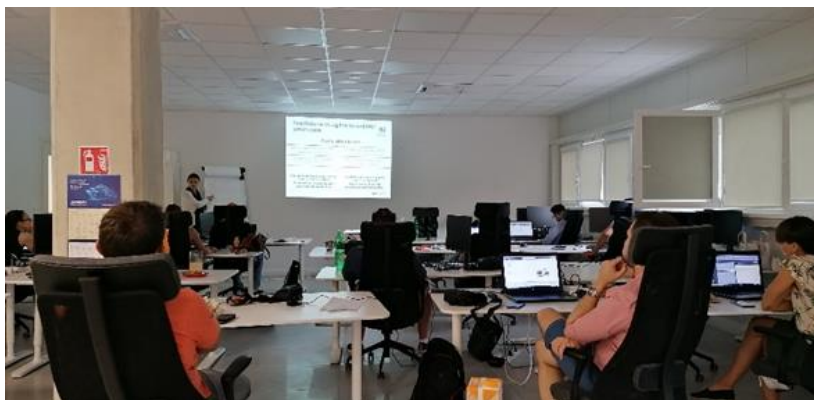
POSITIVE BELIEFS:

- ✓ I accept the challenge
- ✓ I'm evolving
- ✓ I share knowledge & experience
- ✓ I get informed
- ✓ I build trust
- ✓ I take responsibility
- ✓ I am a leader
- ✓ I am effective
- ✓ I am happy 😊



ONBOARDING, MENTORSHIP & EDUCATION

- Onboarding - welcome process and introducing AITAC to students and new employees
- Strong mentorship and sharing know-how
- Many educations and internal trainings
- Time for growth and development in a stimulating environment



→ AITAC

REFERENCES

↑ Clients?

We build long-term partnership with our clients based on our knowledge, experience, open attitude, candour and flexibility.



ABU DHABI MAR



DAMEN SCHELDE NAVAL SHIPBUILDING



saipem



江南造船(集团)有限责任公司
Jiangnan Shipyard(Group) Co.,Ltd

bp



Newport News Shipbuilding
A Division of Huntington Ingalls Industries



Government of South Australia



→ References

REFERENCES | List of major clients

CLIENT	Country	M&O Eng	3DX Consultancy
Abu Dhabi MAR	UAE	✓	
CMN	France	✓	
Dassault Systems	France		✓
Meyer Werft	Germany	✓	✓
Kleven Verft	Norway		✓
Nobiskrug	Germany	✓	
Piriou Shipyard	France	✓	
Saipem (Offshore)	Croatia/Italy	✓	
IHC Engineering Croatia	Croatia	✓	
Navis Consult	Croatia	✓	
Avangard Shipyard	Croatia	✓	
South East Asia Shipyard	Vietnam	✓	
NAOS	Italy	✓	
Uljanik Shipyard	Croatia		✓
University of Rijeka	Croatia		✓
ISC	Denmark		✓

CLIENT	Country	M&O Eng	3DX Consultancy
Jiangnan	China		✓
DAMEN - DSNS	Netherlands	✓	✓
DAMEN - AMELS	Netherlands	✓	✓
VARD Marine	Canada		✓
Japan Marine United	Japan		✓
SBM Offshore	Monaco		✓
EPZ	Netherlands		✓
South Australian Government	Australia		✓
Naval Group	France		✓
Bureau Veritas	France		✓
British Petroleum	UK		✓
Mer Forte	France		✓
Turkish Aerospace Industry	Turkey		✓
SAIPEM	Italy		✓
Unilever	UK		✓

→ References

REFERENCES | Meyer Werft Shipyard – Germany

- AITAC Group has been present in MW since 2001 (AITAC B.V.)
- Dassault Systems Product – CATIA V4, V5 and 3DEXPERIENCE since 2002
- 2012 AITAC Group has been selected as Strategic partner of MW
- AITAC Group has long term engineering contract with MW (in 2019 about 92,500 engineering hours)
- AITAC Group support MW in eight engineering departments (TSF, TSC,TPI,TCE,THA,THC,TSA,TCM)
- AITAC Group support HVAC department MAC-Hamburg - *Marine Air Conditioning Centre*
- AITAC Schiffbau – Pipe and Electrical Outfitting & Installations – (2019 about 133 000 hours)
- ATAC Group - PLM services development, implementation and customization for 3DEXPERIENCE platform
- AITAC Group trains MW engineers and subcontractors in using CATIA V4, 3DEXPERIENCE



Norwegian Getaway | 325m, 2014



World Dream | 335m, 3300 passengers, 2017



Norwegian Joy | 325m, 2017



Helios-Class 1 | 325m, LNG Cruise Ship 2018



Disney Fantasy | 340 m, 2011



Quantum of the Seas | 348m, 2014

... and many other projects

➔ References

REFERENCES | NOBISKRUG Shipyard – Germany

**AITAC has close cooperation with PRIVINVEST Group (CMN, Nobiskrug, GNY).
In the past we had 5 projects, yachts (60m-120m), for Nobiskrug.**

Our scope of activities include:

- Naval Architecture Assistance
- Fully 3D Design and Modeling
- Structural Design, Analysis and Verification
- Mechanical Systems Design & Coordination
- Production Drawings
- Installation Drawings
- FEA Analysis



Black Shark | 77m, 2021



Artefact | 80m, 2020

→ References

REFERENCES | CMN Shipyard - France

AITAC scope of activities for CMN:

- Structural 3D design
- Workshop drawings
- Assistance to Basic structural design
- Software project definition (setup)
- Hull + Superstructure Detail Design & drawing set
- Assistance for Piping, HVAC, arrangements, foundations



Slipstream | 60m yacht project © Guillaume Plisson



Cloud 9 | 60m yacht project



Netanya 8 | 60 m yacht project

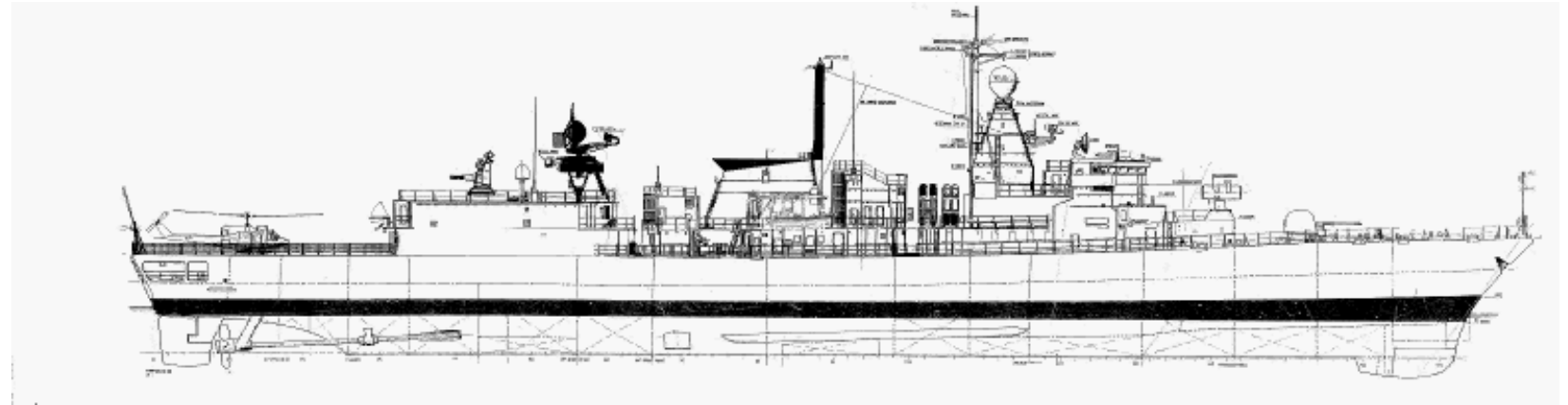


Baynunah | Class corvette, 71m, 32 kts

→ References

AITAC scope of activities for ADM:

- Naval Architecture Assistance
- Consultancy
- Build Technology & Standardization
- Fully 3D Design and Modeling
- Structural Design, Analysis and Verification
- Mechanical Systems Design & Coordination
- Production Drawings
- Installation Drawings
- CFD and FEA Analysis



MY YAS | 141m

→ References

REFERENCES | Piriou Shipyard - FRANCE

AITAC scope of activities for Piriou:

- Basic design
- Deck equipment integration
- Design of piping systems according to BV rules
- Preparing arrangement drawings of technical spaces such as engine room, pump-jet room, propulsion room
- Exhaust system design
- Class drawings for hull and superstructure
- Modifications of superstructure form
- Window arrangement and calculations
- Anchoring and mooring arrangement



Navire de Voyage | 80 m explorer vessel



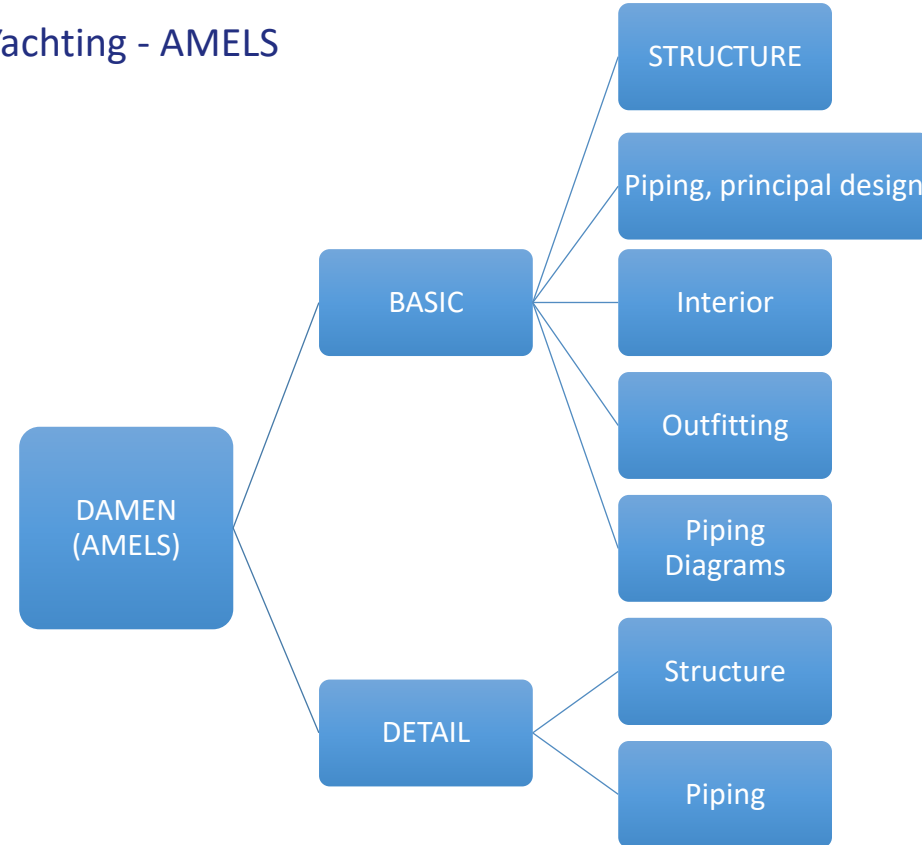
SEAS72 | 55m supply vessel



FRANCHE TERRE | Fishing vessel

→ References

- AITAC is providing Engineering support (Basic design) for Damen Yachting - AMELS
- Project Goal: 80m Yacht in 3DEXPERIENCE – Basic & Detail Design
- Softwares used: 3DEXPERIENCE, Autocad, Rhinoceros
- Work on client site – Vlissingen, Netherland



DAMEN, NL | April 2018 - ... (ongoing)

- AITAC team is CAD Implementation Partner for DAMEN ETO Project
- Project Goal: Deployment of 3DEXPERIENCE Platform in two shipyards (DSNS, AMELS) through POC1 and POC2 phase
- Average number of AITAC consultants engaged on the project through long-term support: 4 (2018), 12 (2019), 14 (2020), 16 (2021)
- First Go-Live started in Q4 2020, 75m yacht
- In Go-Live phase AITAC continued with hypercare support and engineering support
- In 2021 we started to support second Go- Live project - MKS180 in DSNS shipyard (consultancy and engineering)

Consultant's	User support	Infrastructure Architecture	IT solutions	ENOVIA Configuration	ENOVIA Customization	3DX Configuration	3DX Customization	3DX Product Development	DATA Management	Process Definition Support	Data Setup & Administration	Catalogues development	Training materials & Trainings
IT Support	✓	✓	✓										
Configuration team	✓			✓	✓	✓	✓	✓					
PLM	✓								✓	✓			
Fluids (Log and Phy)	✓										✓	✓	✓
Mecc/Acc	✓										✓	✓	✓
Structure	✓										✓	✓	✓
Naval	✓										✓	✓	✓
ASD	✓										✓	✓	✓
Space allocation	✓										✓	✓	✓
Outfitting	✓										✓	✓	✓
Hull Import	✓										✓	✓	✓
Manufacturing	✓										✓		

REFERENCES

And many others like...



Marin Teknikk | Subsea Support Vessel



CM42 | AITAC's first Yacht concept



Kleven Verft | Launch of Expedition Yacht

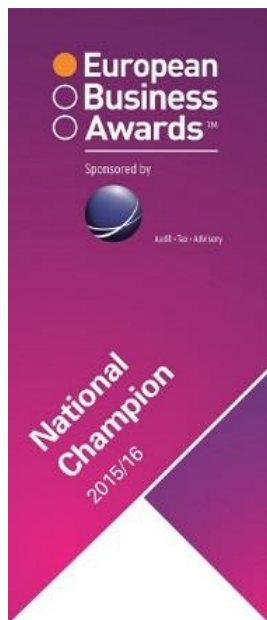


AITAC's second Yacht concept

→ References

REPUTATION & AWARDS

- 2008 Fastest growing company in Croatia – Gazelle
- 2005 -2020 Highest creditworthiness rating AAA
- 2013 Best Exporter (SME's) in Croatia
- 2014 Nomination for International Yacht & Aviation Award
- 2015 National Champion for European Business Awards
- 2015 Ernst & Young Entrepreneur of the Year Award – finalist
- 2016 Manager of the Year Award - Mr. Lorencin



THE AWARDS ARE ONLY BEARING WITNESS TO

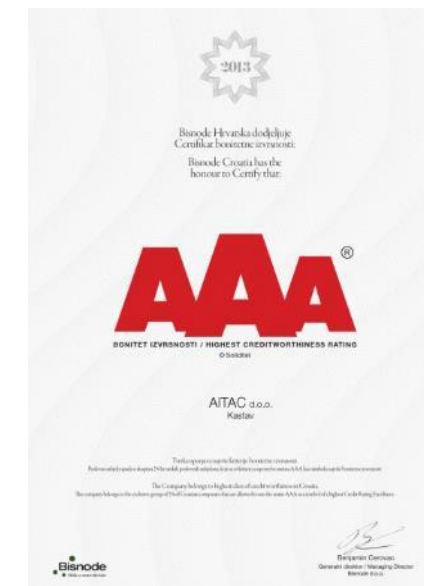
**AITAC Ltd.
Kastav**

The Company has been awarded the credit rating AAA in accordance with Ebnode's credit rating system.

2014

[Signature]

LORENCIN, MR. IZVRSNI IZ OBLASTI



➔ Info

3DEXPERIENCE STEM LAB | Technical Faculty, Rijeka

- AITAC continues to support students at the Faculty of Engineering in Rijeka: For the next 10 years, 3DEXPERIENCE STEM Lab will be the place where the future is created!
- AITAC has provided full financial support to the University in order to set-up 3DEXPERIENCE STEM Lab at the Faculty of Engineering, Rijeka.



➔ Info

SPONSORSHIP | Technical Faculty, Rijeka - Student Teams

AITAC is sponsoring and working with all student teams at Technical University of Rijeka for last 15 years:

- Potential resources for employment
- Building best image of AITAC among students & professors
- ALL projects (Waterbike, Hydrofoil Boat & Formula car) are done in CATIA



Riteh ADRIA Hydrofoil Team



Riteh Racing Team



Riteh Waterbike Team

[→ Info](#)

AITAC FREE TIME & TEAMBUILDING



AITAC karting – Famous AITAC Cup



Bowling



AITAC Futsal team



Sailing Together



Paintball - against each other

➔ Info

AITAC PARTY TIME



B'day Parties



Traditional Christmas Party



'AITAC Loves Children' - Gathering



[➔ Info](#)



Engineering seagoing challenges...

Rijeka Office | Croatia

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Yacht, Marine & Offshore
Engineering
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Vlissingen Office | Germany

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Marine Engineering & Consultancy
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NETHERLANDS
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Besneville Office | France

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Thierry Verhaaren Architecte
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