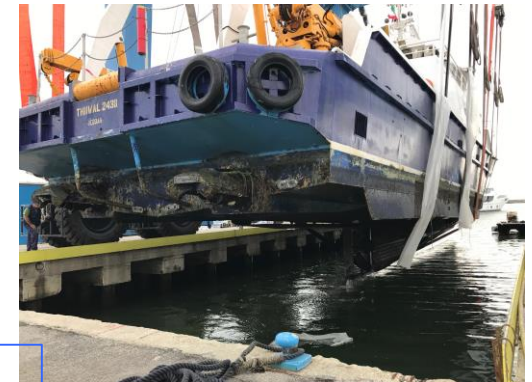




# *RV Thuwal* - Selecting a shipyard & refit

Maritime Survey Australia

By Mick Uberti



[www.maritimesurveyaustralia.com.au](http://www.maritimesurveyaustralia.com.au)



## About

Maritime Survey Australia (MSA)

Marine Surveying

Project Management

Maritime Consulting

Naval Architecture services

Pre Port State Control Inspections

Safety Management System (ISM Code)



# What we do?

Fleet condition assessment & review, Tender specification & evaluation



Harbour City Ferries: Periodic Survey, SMS review, DCV Support



Periodic Survey, Audits, SMS review, DCV Support



Port Phillip Sea Pilots: Periodic Survey and Owners representation during new vessel build



King Abdul University of Science and Technology: Scientific research vessel refit project management , survey, safety management and tender evaluation



Hart Marine: Initial Survey, Plan approval



Alma Doepel & Sydney Heritage Fleet Historic Vessel Survey



Sunseeker Dorset Poole UK Initial Survey

# RV Thuwal

Owned and operated by King Abdulah University of Science & Technology (KAUST)  
Used for Scientific Research around the Red Sea  
34m Aluminum former fishing vessel converted to a research vessel around 10 years ago.



# Pathway to the dry docking for the RV Thuwal

1. Condition survey
2. Scope of works / Tender spec
3. Timeline
4. Send scope of works to at least 3 yards.
5. Complete a revision or / Tender evaluation.



# What should you cover in a condition survey?

1. SCOPE
2. OBJECTIVE
3. REFERENCES
4. VESSEL INSPECTION DETAILS & FINDINGS
5. PROPOSED SCOPE OF WORKS
  - 5.1 HIGH PRIORITY WORK ITEMS
  - 5.2 PERIODIC MAINTENANCE WORK ITEMS
6. SUITABLE SHIPYARDS FOR DRY DOCKING WORKS
7. TOTAL COST ESTIMATE FOR SCOPE OF WORKS





# MSA / Ocean Time Marine rating system results for RV Thuwal

## 6. SUITABLE SHIPYARDS FOR DRY DOCKING WORKS

*Summary:* Ocean Time Marine have assessed several shipyards that have the capacity to meet the requirements of the RV Thuwal Phase 2 Upgrade. The suitable shipyards has been narrowed to the four listed in the following table and have been given a star rating.

Shipyard	Location	Availability	Quality	Price
<b>Genova (Amico)</b> <a href="http://www.amicoshipyard.com">www.amicoshipyard.com</a>	★ ★	★ ★ ★	★ ★ ★	★ ★ ★
<b>Viareggio (Lusben)</b> <a href="http://lusben.com">http://lusben.com</a>	★ ★	★ ★ ★	★ ★ ★	★ ★ ★
<b>Palma De Mallorca (STP)</b> <a href="http://www.stp-palma.com">www.stp-palma.com</a>	★	★ ★ ★	★ ★ ★	★
<b>Antalya (Sunrise Yachts)</b> <a href="http://www.sunriseyachts.com">http://www.sunriseyachts.com</a>	★ ★ ★	★ ★ ★	★	★ ★ ★



# How much will it cost?

## How long will it take?



### Develop a process chart :

1. **Initiating** – Meeting with client and determine yard & contractors
2. **Planning** – Develop schedule, determine roles and responsibilities
3. **Executing** – Kick off meeting, identify resources, perform bottom inspection, hull shaft , appendages etc. **Adjust planning & budget accordingly.**
4. **Monitoring & Controlling** – analyze and evaluate performance of each job –man hrs vs progress
5. **Closing** – Inspect finished jobs, make sure they are “finished”. Negotiate final invoice before departure. Request feedback, gather final lessons learned





# Project Management

OCEAN TIME MARINE managed the project using a cloud drive system enabling all parties to monitor the project in real time. The project time line was updated daily and images were uploading with specific dates and locations.

Furthermore a weekly report was sent to management and as the project headed towards completion a daily report was also sent.



# Project Management

1. Transparency between yard, owner and crew
2. Planning
3. Understanding the risks
4. Get the right person – Isabelle was a great help
5. Provide support not micro management
6. Define your goals and project milestone
7. Resolve issues fast
8. Measure the project – provide a time line and sufficient reports
9. Provide a final report with achievements and challenges



# Project Management

Ocean Time Marine Project plan for RV Thuwal <a href="#">Click here to learn how to use this Google Sheet</a>			Before you print: Note: This is a live document dates char			waiting qu					
WBS	Hierarchical	Risk (y/r)	Level	Task	Owner	Start	End	Duration	Dependency	% Complete	
1	RV Project refit project (Includes voyages)	▼	1	<b>RV Project refit project (Includes voyages)</b>		14-Sep-2017	11-Jan-2018	4 mths			
2	Voyage to Shipyard	▼	1	Voyage to Shipyard	RV Crew	14-Sep-2017	28-Sep-2017	11 dys		100%	
3	Vessel wash down prepare for haulage	▼	1	Vessel wash down prepare for haulage	RV Crew	28-Sep-2017	29-Sep-2017	2 days		100%	
3.1	Ship yard works	▼	2	<b>Ship yard works</b>							
3.2	Vessel Haul out	▼	2	Vessel Haul out	Lusben	5-Oct-2017	6-Oct-2017	1 day		100%	
3.3	Hull wash	▼	2	Hull wash	Lusben	5-Oct-2017	6-Oct-2017	2 dys		100%	
3.4	Anode replacement	▼	2	<b>Anode replacement</b>	Lusben	8-Jan-2018	10-Jan-2018	3 days			
3.5	Propellor Shaft, Rudder and Propellor remove and replace	▼	2	Propellor Shaft, Rudder and Propellor remove and replace	Lusben	9-Oct-2017	12-Jan-2018	70 days		100%	
3.6	Hydraulic system assessment	▼	2	<b>Hydraulic system assessment</b>	Coastal Hyd	26-Oct-2017	30-Oct-2017	3 days		50%	
3.7	Hydraulic upgrade	▼	2	<b>Hydraulic upgrade</b>	Lusben	AG					
3.8	Fresh water tank painting	▼	2	Fresh water tank painting	Lusben	16-Oct-2017	8-Dec-2017	40 days		100%	
3.9	NDT Testing on vessel hull	▼	2	<b>NDT Testing on vessel hull</b>	Lusben	8-Jan-2018	9-Jan-2018	2 days			
3.10	Steering system, inspection and repair	▼	2	Steering system, inspection and repair	Lusben	13-Nov-2017	12-Jan-2018	45 days		100%	
3.11	Hamilton Jets Service and report	▼	2	Hamilton Jets Service and report	Lusben	9-Oct-2017	12-Jan-2018	70 days		100%	
3.12	Main Engine Service	▼	2	<b>Main Engine Service</b>	RV Crew	6-Nov-2017	7-Nov-2017	2 days			
3.13	Generators Service	▼	2	<b>Generators Service</b>	RV Crew	6-Nov-2017	7-Nov-2017	2 days			
3.14	Hull primer and antifoul	▼	2	<b>Hull primer and antifoul</b>	Lusben	18-Dec-2017	25-Dec-2017	6 days		100%	
3.14.1.1.1	Search Light base fabrication and installation	▼	6	Search Light base fabrication and installation	Lusben	02-Jan-2018	5-Jan-2018	4 days		100%	
3.14.1.1.1	Shore power converter repair	▼	6	Shore power converter repair	Lusben	26-Oct-2017	31-Oct-2017	4 Days		100%	
3.14.1.1.1	New fridge installation x 5 upgrade	▼	6	New fridge installation x 5 upgrade	Lusben	04-Dec-2017	13-Dec-2017	8 days		100%	
3.14.1.1.1	<b>Galley upgrade</b>	▼	6	<b>Galley upgrade</b>	RV Crew	27-Nov-2017	22-Dec-2017	20 days		60%	
3.14.1.1.1	Bilge / Fire system upgrade	▼	6	<b>Bilge / Fire system upgrade</b>	Lusben	13-Nov-2017	15-Dec-2017	25 days		100%	
3.14.1.1.1	<b>Battery Locker installation</b>	▼	6	<b>Battery Locker installation</b>	Lusben	AG					
3.14.1.1.1	<b>Toilet and sewage system aft installation</b>	▼	6	<b>Toilet and sewage system aft installation</b>	Lusben	AG					
3.14.1.1.1	Bow thruster overhaul	▼	6	Bow thruster overhaul	Lusben	16-Oct-2017	24-Nov-2017	30 days		100%	
3.14.1.1.1	Valves overall	▼	6	Valves overall	Lusben	16-Oct-2017	10-Nov-2017	20 days		100%	
3.14.1.1.1	Underwater hull sandblasting	▼	6	Underwater hull sandblasting	Lusben	23-Oct-2017	3-Nov-2017	10 days		100%	
3.14.1.1.1	Anchor winch overhaul	▼	6	Anchor winch overhaul	Lusben	24-Oct-2017	20-Nov-2017	20 Days		100%	
3.14.1.1.1	Anchor winch base plate over haul	▼	6	Anchor winch base plate over haul	Lusben	6-Nov-2017	14-Nov-2017	7 days		100%	
3.14.1.1.1	Hull plate replacement	▼	6	Hull plate replacement	Lusben	6-Nov-2017	8-Dec-2017	25 days		100%	
3.14.1.1.1	Main engine room ventilation	▼	6	Main engine room ventilation	Lusben	4-Dec-2017	12-Dec-2017	7 days		100%	



# Project Management

Ocean Time Marine Project plan for RV Thuwal		W42							W43							W44							W45									
Click here to learn how to use this Google Sheet		W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa	Su	M	T	W		
WBS	Hierarchical	11/1	11/2	11/3	11/4	11/5	11/6	11/7	11/8	11/9	11/10	11/11	11/12	11/13	11/14	11/15	11/16	11/17	11/18	11/19	11/20	11/21	11/22	11/23	11/24	11/25	11/26	11/27	11/28	11/29		
1	RV Project refit project (Includes voyages)	[Green bar]																														
2	Voyage to Shipyard	[Grey bar]																														
3	Vessel wash down prepare for haulage	[Grey bar]																														
3.1	Ship yard works	[Grey bar]																														
3.2	Vessel Haul out	[Grey bar]																														
3.3	Hull wash	[Grey bar]																														
3.4	Anode replacement	[Grey bar]																														
3.5	Propellor Shaft, Rudder and Propellor remove and replace	[Blue bar]																														
3.6	Hydraulic system assessment	[Blue bar]																														
3.7	Hydraulic upgrade	[Blue bar]																														
3.8	Fresh water tank painting	[Blue bar]																														
3.9	NDT Testing on vessel hull	[Blue bar]																														
3.10	Steering system, inspection and repair	[Blue bar]																														
3.11	Hamilton Jets Service and report	[Blue bar]																														
3.12	Main Engine Service	[Blue bar]																														
3.13	Generators Service	[Green bar]																														
3.14	Hull primer and antifoul	[Blue bar]																														
3.14.1.1.1	Search Light base fabrication and installation	[Blue bar]																														
3.14.1.1.1	Shore power converter repair	[Blue bar]																														
3.14.1.1.1	New fridge installation x 5 upgrade	[Blue bar]																														
3.14.1.1.1	Galley upgrade	[Blue bar]																														
3.14.1.1.1	Bilge / Fire system upgrade	[Blue bar]																														
3.14.1.1.1	Battery Locker installation	[Blue bar]																														
3.14.1.1.1	Toilet and sewage system aft installation	[Blue bar]																														
3.14.1.1.1	Bow thruster overhaul	[Blue bar]																														
3.14.1.1.1	Valves overall	[Blue bar]																														
3.14.1.1.1	Underwater hull sandblasting	[Blue bar]																														
3.14.1.1.1	Anchor winch overhaul	[Blue bar]																														
3.14.1.1.1	Anchor winch base plate over haul	[Blue bar]																														
3.14.1.1.1	Hull plate replacement	[Blue bar]																														
3.14.1.1.1	Main engine room ventilation	[Blue bar]																														



# Results

- Safer vessel – Electrical stray currents and hazards identified and removed, Fire system upgraded
- Cathodic protection upgraded
- Fuel Savings
- Energy Savings – LED and HVAC system
- Scientific equipment upgrade
- Completed works including extra items in 4 months
- Crew comfort – HVAC upgrade, LED lighting, Galley condition
- Navigation Equipment upgrade
- Communication Equipment upgrade
- Anchor winch upgrade
- Bow Thruster upgraded providing better maneuverability
- Throttle control now provides Master with better stabilization for scientists.



# Thank you & Questions?



Mick Uberti  
+61 408 138 653

[mick@maritimesurveyaustralia.com.au](mailto:mick@maritimesurveyaustralia.com.au)

[www.maritimesurveyaustralia.com.au](http://www.maritimesurveyaustralia.com.au)

