TERMODINAMICA
THERMAL MANAGEMENT SOLUTIONS

Data-Driven HVAC Efficiency for Yachts.

Analyzing energy consumption to quantify performance, identify efficiency opportunities, and reduce the environmental footprint of onboard HVAC systems.



The Case at a Glance.

An overview of the vessel, operating environment and monitoring period behind the analysis.

Vessel:

Baglietto DOM133 - 40.9 m



Journey:

Athens to Corfù, Greece

Period:

02/08 to 09/08 2026

Analysed Data:

- **Day and Time**
- **Outside Temperature**
- **Water Temperature**
- **Consumed kW**

Navigating the Journey.

A closer look at the route traveled by the vessel.



Day 1: 02/08/2026.

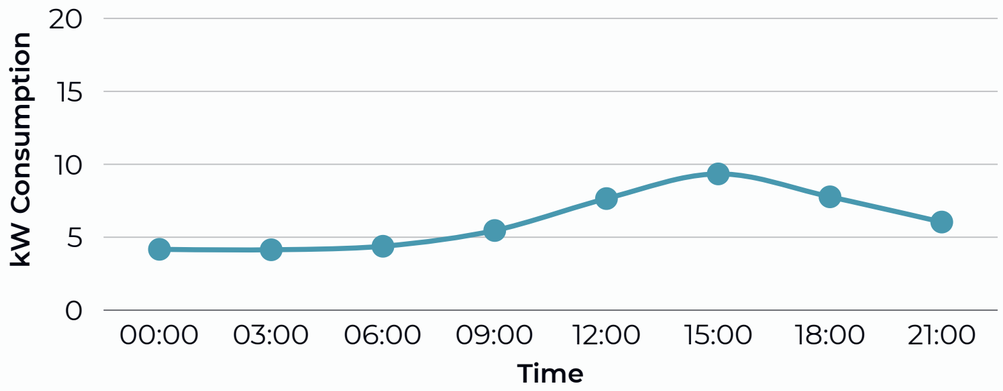
Time	Out. Temp. (°C)	Water Temp. (°C)	Consumption (kW)
00:00	27,10	26,20	4,17
03:00	27,20	25,90	4,14
06:00	27,90	26,10	4,38
09:00	29,60	26,40	5,46
12:00	33,30	26,80	7,65
15:00	35,70	27,10	9,34
18:00	33,60	27,10	7,77
21:00	30,90	26,80	6,04

Highest Outside Temperature

Avg. Outside Temperature: 30,66°C

Avg. Water Temperature: 26,55°C

Avg. Energy Consumption: 6,12 kW



Day 2: 03/08/2026.

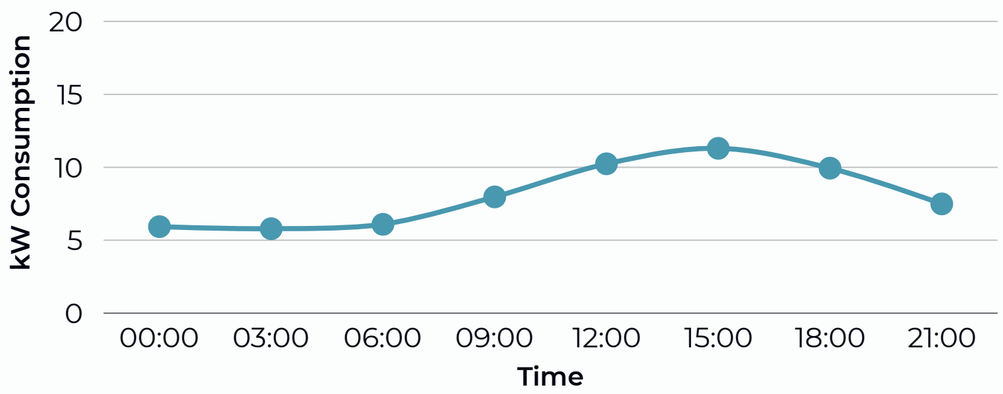
Time	Out. Temp. (°C)	Water Temp. (°C)	Consumption (kW)
00:00	30,60	26,40	5,93
03:00	30,40	26,10	5,79
06:00	31,00	26,10	6,09
09:00	33,90	26,50	7,97
12:00	37,00	26,90	10,24
15:00	38,40	27,20	11,30
18:00	36,80	27,30	9,94
21:00	33,20	26,80	7,49

Highest Outside Temperature

Avg. Outside Temperature: 33,91°C

Avg. Water Temperature: 26,66°C

Avg. Energy Consumption: 8,09 kW



Day 3: 04/08/2026.

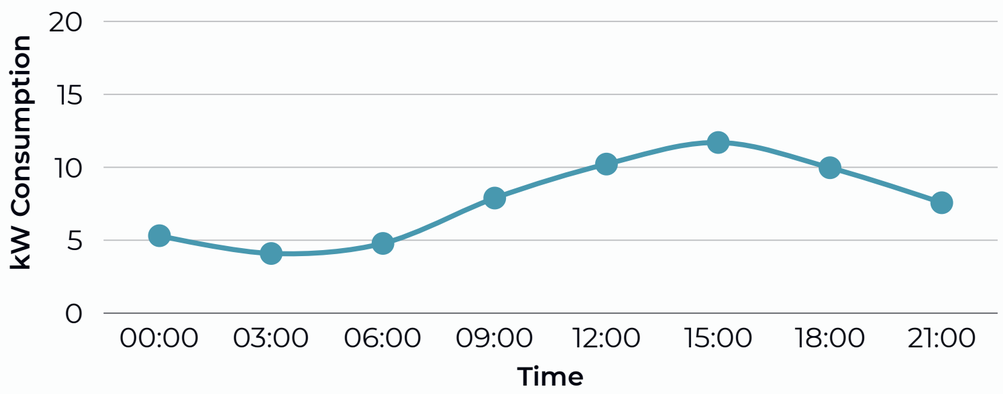
Time	Out. Temp. (°C)	Water Temp. (°C)	Consumption (kW)
00:00	29,30	26,50	5,31
03:00	27,00	26,20	4,09
06:00	28,70	26,30	4,78
09:00	33,70	26,60	7,89
12:00	37,00	27,10	10,22
15:00	38,80	27,50	11,70
18:00	36,60	27,40	9,97
21:00	33,20	27,10	7,57

Highest Outside Temperature

Avg. Outside Temperature: **33,04°C**

Avg. Water Temperature: **26,84°C**

Avg. Energy Consumption: **7,69 kW**



Day 4: 05/08/2026.

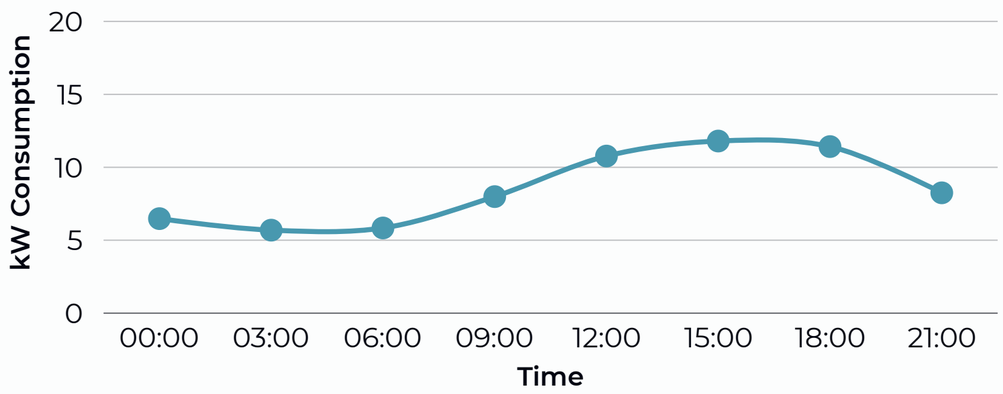
Time	Out. Temp. (°C)	Water Temp. (°C)	Consumption (kW)
00:00	31,60	26,60	6,48
03:00	30,10	26,30	5,69
06:00	30,30	26,30	5,84
09:00	33,70	26,70	7,99
12:00	37,80	27,30	10,77
15:00	39,10	27,50	11,80
18:00	38,60	27,40	11,42
21:00	34,30	27,20	8,25

Highest Outside Temperature

Avg. Outside Temperature: **34,44°C**

Avg. Water Temperature: **26,91°C**

Avg. Energy Consumption: **8,53 kW**



Day 5: 06/08/2026.

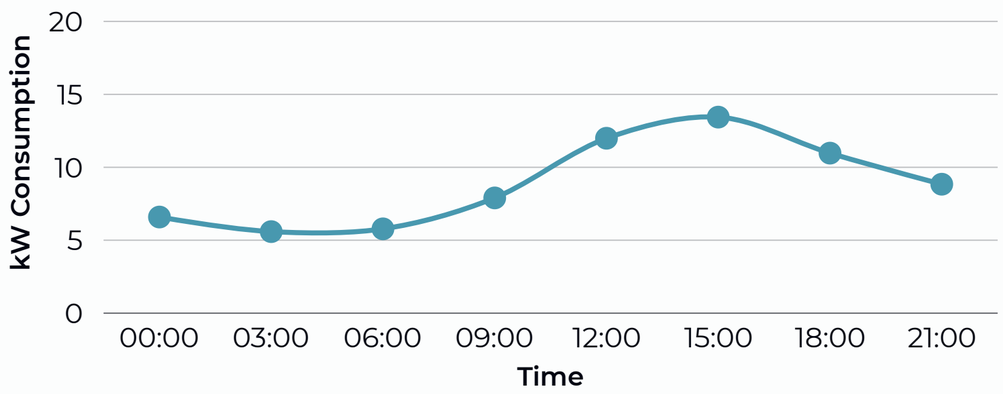
Time	Out. Temp. (°C)	Water Temp. (°C)	Consumption (kW)
00:00	31,70	26,70	6,59
03:00	29,90	26,50	5,59
06:00	30,20	26,60	5,78
09:00	33,80	26,80	7,90
12:00	39,20	27,30	11,99
15:00	41,10	27,70	13,44
18:00	38,10	27,70	10,97
21:00	35,20	27,30	8,84

Highest Outside Temperature

Avg. Outside Temperature: 34,90°C

Avg. Water Temperature: 27,08°C

Avg. Energy Consumption: 8,89 kW



Day 6: 07/08/2026.

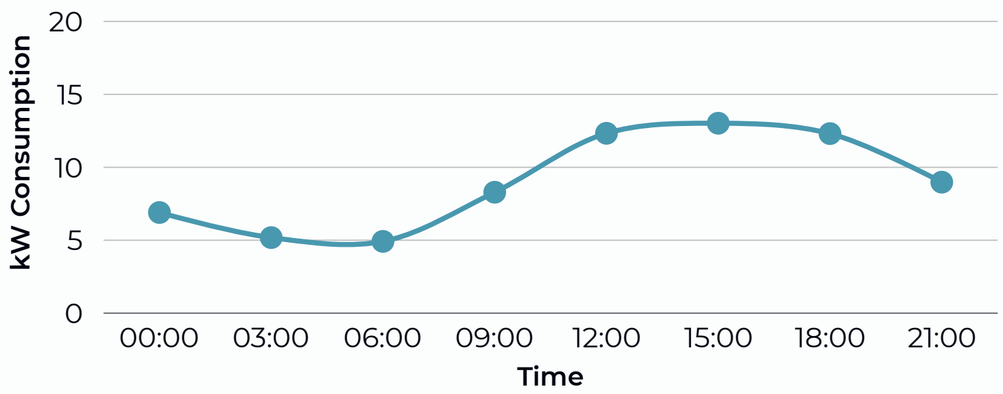
Time	Out. Temp. (°C)	Water Temp. (°C)	Consumption (kW)
00:00	32,10	26,90	6,90
03:00	29,40	26,50	5,18
06:00	28,80	26,70	4,92
09:00	34,30	27,00	8,29
12:00	39,80	27,60	12,33
15:00	40,50	27,80	13,02
18:00	39,70	27,80	12,31
21:00	35,30	27,30	8,98

Highest Outside Temperature

Avg. Outside Temperature: **34,99°C**

Avg. Water Temperature: **27,20°C**

Avg. Energy Consumption: **8,99 kW**



Day 7: 08/08/2026.

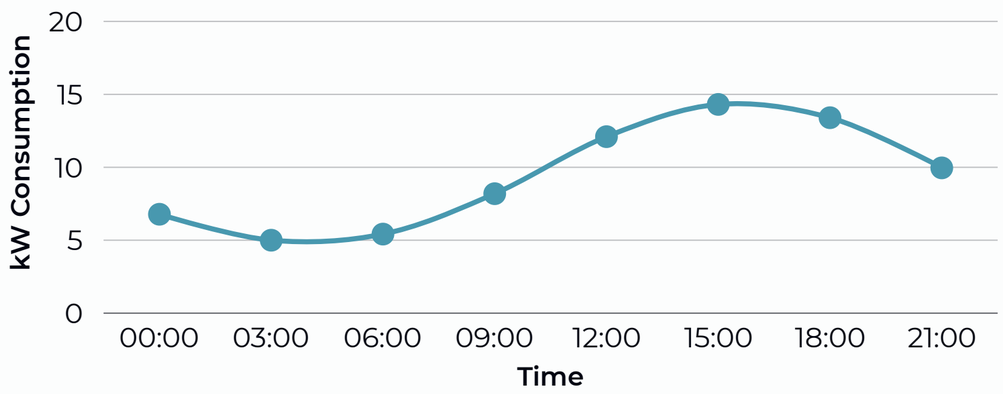
Time	Out. Temp. (°C)	Water Temp. (°C)	Consumption (kW)
00:00	32,00	26,90	6,78
03:00	29,10	26,80	5,00
06:00	29,60	26,80	5,42
09:00	34,20	27,20	8,19
12:00	39,50	27,70	12,10
15:00	42,10	28,00	14,31
18:00	41,20	27,90	13,40
21:00	36,80	27,40	9,96

Highest Outside Temperature

Avg. Outside Temperature: **35,56°C**

Avg. Water Temperature: **27,34°C**

Avg. Energy Consumption: **9,40 kW**



Day 8: 09/08/2026.

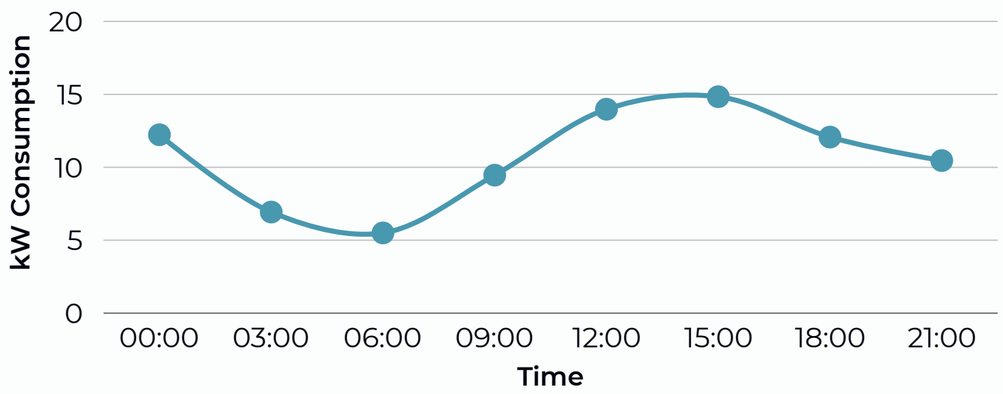
Time	Out. Temp. (°C)	Water Temp. (°C)	Consumption (kW)
00:00	39,60	27,00	12,23
03:00	32,10	26,80	6,93
06:00	29,90	27,00	5,50
09:00	36,00	27,30	9,46
12:00	41,70	27,80	13,98
15:00	42,90	28,10	14,84
18:00	39,40	28,10	12,07
21:00	37,20	27,70	10,46

Highest Outside Temperature

Avg. Outside Temperature: **37,35°C**

Avg. Water Temperature: **27,48°C**

Avg. Energy Consumption: **10,68 kW**



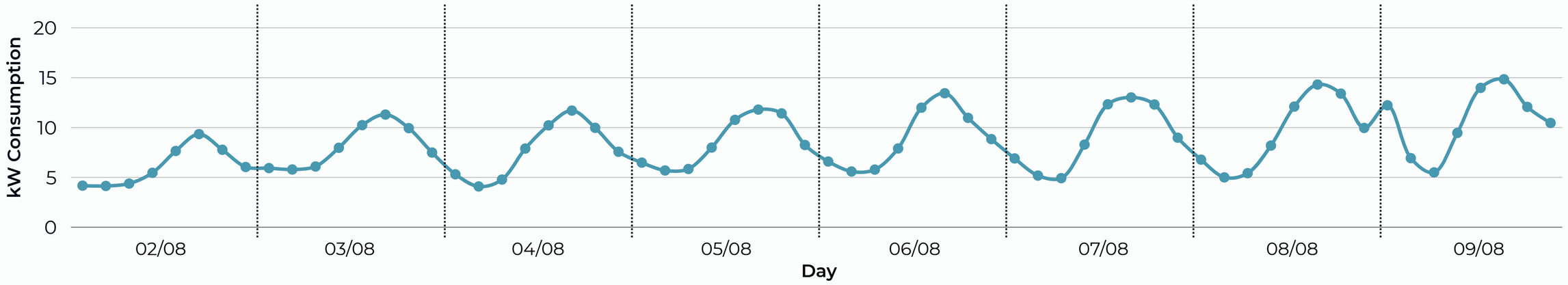
Data Overview.

A comprehensive vision of all key data collected throughout the analysis.

Avg. Outside Temperature: 34,36°C

Avg. Water Temperature: 27,01°C

Avg. Energy Consumption: 8,55 kW



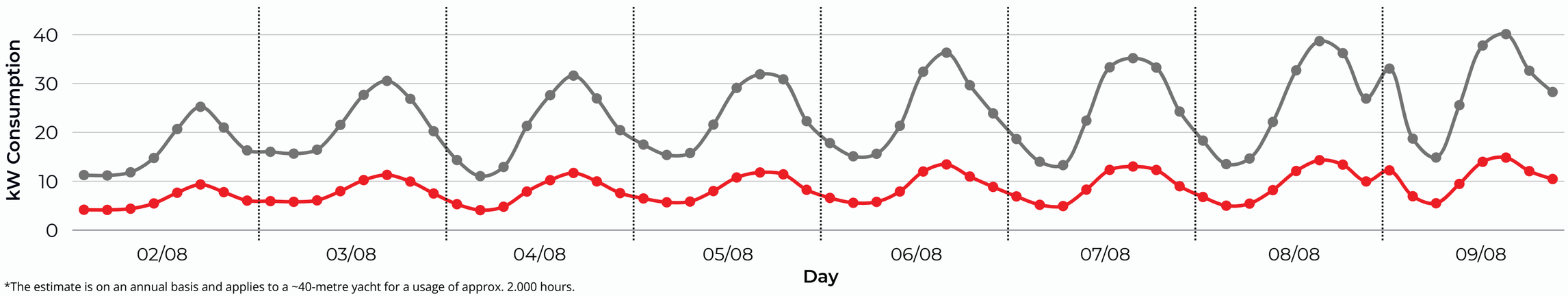
Higher Efficiency, Lower Consumption.

Comparing our Direct Expansion system with traditional chilled water HVAC to quantify the reduction in energy demand.

CHW System — 100% / 46.200 kWh/year*

DX System — 37% / 17.100 kWh/year*

63% Energy Saved*



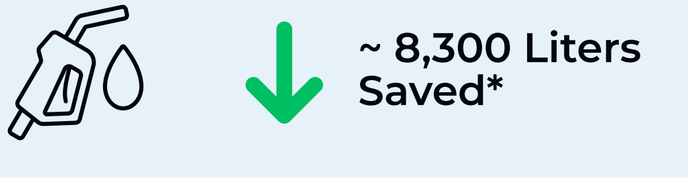
*The estimate is on an annual basis and applies to a ~40-metre yacht for a usage of approx. 2.000 hours.

Efficiency That Pays Back - to You and the Planet.

Lower consumption. Lower costs. Lower emissions.

By reducing the energy required for onboard HVAC, Direct Expansion technology cuts fuel use, operating expenses and CO_2 emissions at the same time.

A **smarter investment** for the yacht.
A **lighter footprint** for the sea.



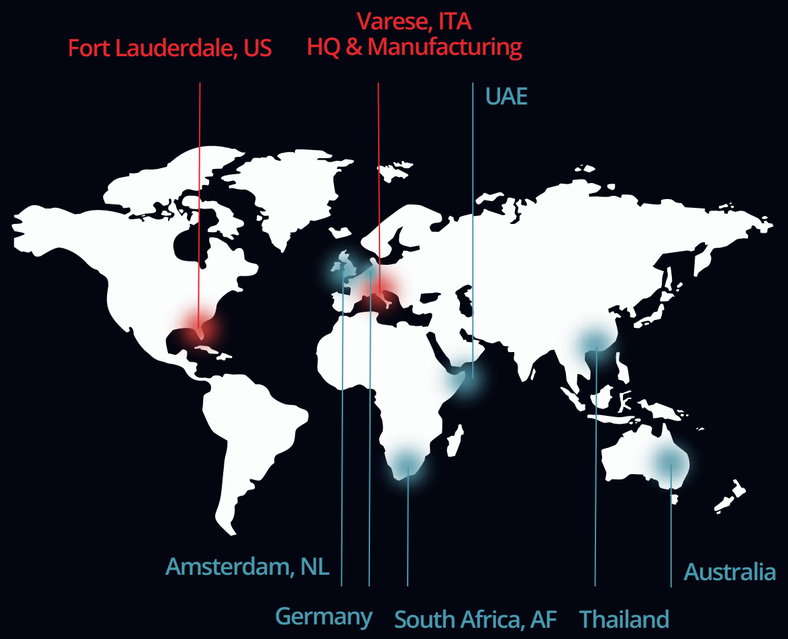
*The estimate is on an annual basis and applies to a ~40-metre yacht for a usage of approx. 2.000 hours.

A Smarter Way Forward.

At Termodinamica, we believe that onboard comfort and environmental responsibility can evolve together.

Through more efficient HVAC technology, lower energy demand can translate into tangible benefits: reduced fuel consumption, lower operating costs and fewer CO_2 emissions.

Better performance for the yacht. A lighter impact on the environment.
Towards a more efficient and sustainable future at sea.



Let's shape the next generation of sustainable onboard comfort.

Ask more about Termodinamica.

This presentation includes AI-generated concept images – illustrative purposes only.

TERMODINAMICA
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