

EXOCET FLYINGSHAPE

3D SCANNING OF SAILS

A COMPLETE SYSTEM TO MEASURE THE REAL SHAPE OF YOUR SAILS

Exocet FlyingShape combines multiple high-precision LiDAR sensors with an onboard processing unit to reconstruct the 3D geometry of your sails in real time while sailing.

It continuously provides the key aerodynamic parameters used for trimming and performance analysis such as camber, draft position and twist.

For post-analysis, the system enables extraction of comprehensive datasets from any selected sailing moments, including point-cloud files, IGES sail surfaces, and corresponding navigation data, all compiled in a dedicated archive.

MAIN FEATURES



MEASURE
the 3D shape of the sails in real time



CALCULATE
the key indicators of my profile (Twist, Camber, Draft, Sag)



VISUALISE
instantly the effect of my actions on my sails



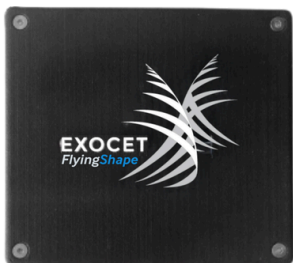
SAVE
for post-navigation analysis



ANALYSE
data correlated with other on-board measurements: stress, wind, sea conditions, etc



CONNECT
with Exocet BLUE and any other third-system



EXOCET FLYINGSHAPE OFFER

- An Exocet FlyingShape box
- LiDAR sensors (1 to 6 depending on your configuration)
- Annual license
- A user guide
- Configuration service

MDS
MERL - COULET - SAGGE



PIXEL sur MER

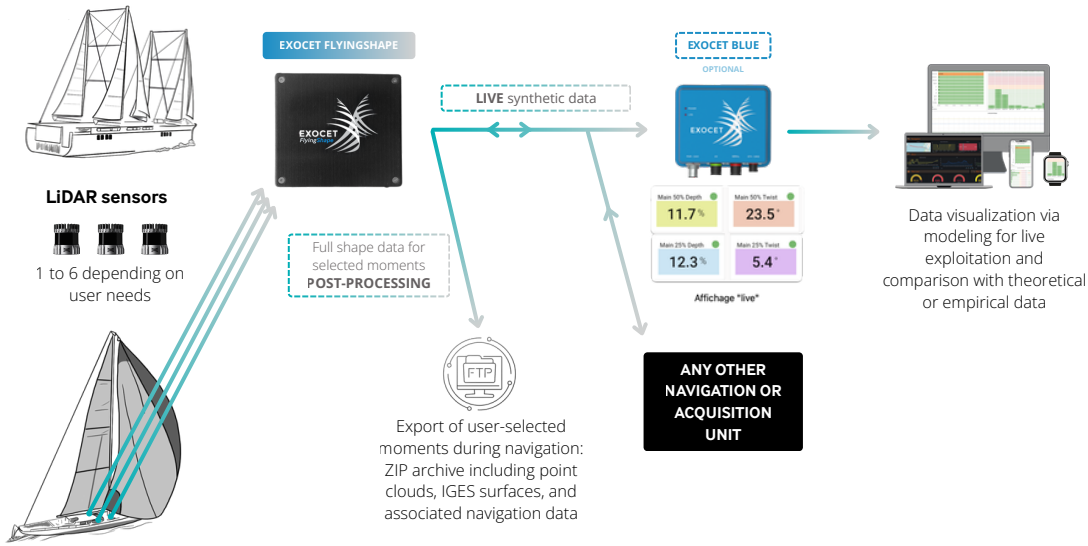
OPTIONAL COMPLEMENTARY PRODUCTS

- Exocet Blue
- Cloud subscription
- Acquisition and visualization plugin for Exocet Blue

OPTIONAL ADDITIONAL SERVICES

- Onboard installation
- Onboard data acquisition management
- 3D mast shape measurement via fiber optics
- **MDS services:** CFD fluid calculations on measured flying shapes. Modelling, performance studies, VPP and simulation optimisation using the **Meta Design Suite solution.**

HOW DOES IT WORK ?



WHY CHOOSE EXOCET FLYINGSHAPE ?

- ✔ **First continuous** 3D onboard measurement of sail shape
- ✔ **Autonomous and easy to use:** no intervention required once the system is calibrated and configured
- ✔ **Reliable and robust:** marine-grade components and proven protocols
- ✔ **Open:** compatible with any third-party system
- ✔ **Scalable:** basis for active control and sail automation
- ✔ **Agility:** scalable solution adaptable to other sensors
- ✔ **Product support:** a team of sailing engineers and naval architects from the America's Cup, ocean racing, competitive yachting and Olympic sailing: Pixel sur Mer and MDS

SPECIFICATIONS

EXOCET FLYINGSHAPE BOX

- Weight: 650g
- Dimensions: 120 x 120 x 50 mm
- Power: 12-24 V DC - ~15 W
- Operating temperature: -10°C à +50°C
- Effective profile reconstruction accuracy: < 4mm on measured sections (25%, 50%, 75%)
- Interfaces: Ethernet
- Calculated data: camber, draft position, twist, luff sag, leech curves,...
- Software compatibility: Exocet Blue, Cloud, open protocols for third-party integration
- FTP export: ZIP, IGES, CSV

LIDAR LONG RANGE // SHORT RANGE

- Weight: 500g // 240g (excluding support)
- Dimensions: Ø 87 mm x H 74 mm // Ø 60 mm x H 63 mm
- Power: 12-24 V DC - 16.8 W // 12-24V DC - 8 W
- Range: up to 75m depending on conditions // up to 30m

APPLICATIONS

- **MEASURE** the actual shape of the sails while sailing
- **VISUALISE** the effect of each adjustment in the real time
- **CREATE AND COMPARE** your sail shape polars
- **OPTIMISE** profiles for maximum performance
- **ANALYSE** behaviour and shape deviations
- **CAPITALISE** on data for R&D and design
- **TRACK THE EVOLUTION AND WEAR** of sails over time
- **PREPARE** for automation and active sail control