

PRESS RELEASE

2024, 4 DECEMBER

ICEBERG STRAIGHT AHEAD CLS Ensures Vendée Globe Safety from Space

The Vendée Globe is the ultimate adventure — a solo, non-stop, and unassisted sailing race around the world. Dubbed the "Everest of the Seas," this legendary race offers no respite for the skippers: out of 200 adventurers who have dared to take on the challenge, only 114 have managed to conquer the elements and reach the finish line.

In this battle against nature, the sailors face colossal waves, fierce winds, and the icy expanse of the Southern Ocean. They will spend weeks navigating around Antarctica, skimming the Antarctic Exclusion Zone (AEZ), a frozen boundary set for their safety.

But tackling this icy horizon requires more than courage — it also demands the precision and vigilance of those watching from space. This is where CLS, Collecte Localisation Satellites, a subsidiary of the French Space Agency (CNES) and CNP, comes in. As a long-standing partner of the Vendée Globe, CLS has been entrusted by the race organizers with monitoring the icebergs that threaten the skippers' paths.

CLS teams, acting as space sentinels, analyze satellite data in real-time to detect the giant icebergs drifting toward the sailors' trajectories.

Alongside CLS, the European Space Agency (ESA) has deployed the Sentinel-1A satellite, with a dedicated program to track these icy giants. CNES, a trusted innovation partner, launched the SWOT altimetric satellite in 2022—a technological marvel contributing to the mapping of hazardous zones and predicting iceberg movements.

Together, CLS and its partners are pushing the boundaries of technology to support the skippers in their extraordinary challenge.

PRESS CONTACTS :

Florence BASTIEN - f.bastien@verbatee.com +33 (0)6 61 61 78 55

Valérie SABINEU v.sabineu@verbatee.com +33 (0)6 61 61 76 73

Laurence LEBREDONCHEL - llebredonchel@groupcls.com - +33 (0)6 26 80 23 40

Amélie PROUST - aproust@groupcls.com +33 (0)6 62 80 45 92

Why Satellite Monitoring?

Alain Leboeuf, President of the Vendée Globe and the Vendée Department:

"The safety of the skippers is an absolute priority for the Vendée Globe. Thanks to our long-standing partnership with CLS, we benefit from reassuring expertise and proven know-how, essential to meet the unique challenges of the Southern Ocean. This collaboration reflects the strength of a lasting commitment to innovation and the safety of our heroes of the seas."



Positioned nearly 700 km above the skippers, the satellites used by CLS experts have been delivering data since mid-summer to help evaluate the situation and geolocate iceberg risks. CLS, a mission-driven company generally tasked with studying and protecting the planet and managing its resources sustainably, uses three types of satellites to detect icebergs that could endanger the skippers' lives:

- **Altimetric satellites**, typically used to measure the mean sea level, are repurposed here to detect icebergs (Sentinel-3A, 3B, SARAL/AltiKa, Jason-3, and SWOT, the latest CNES innovation for ocean observation).
- **Radar satellites**, capable of capturing images day and night, even penetrating cloud cover, enabling iceberg detection despite poor visibility (Sentinel-1A and RADARSAT-2).
- **Optical satellites**, essentially space-based cameras (MODIS, VIIRS).

Around 100 people at CLS are dedicated to this mission to ensure the safety of the Vendée Globe. A core project team of about ten specialists (scientists, analysts, and project managers) is supported by nearly 90 engineers, scientists, altimetry experts, and operators, all working with data and processing chains to deliver this unique service.

Monitoring Phases Adapted to the Evolution of the Race

CLS implements a three-phase monitoring strategy in close coordination with the Race Management:

1. **Preparation Phase:**
In September 2024, CLS began evaluating the general situation around Antarctica and established an initial Antarctic Exclusion Zone (AEZ).
2. **Real-Time Monitoring:**
During the race, CLS updates iceberg detection and drift patterns to anticipate risks ahead of the skippers' passage. The AEZ can be adjusted upward if new icebergs are detected or lowered if icebergs have drifted away. Since the start of the race, the AEZ has already been lowered several times.
3. **Securing the Fleet:**
Towards the end of the race, monitoring intensifies to ensure the safety of the remaining skippers.



Hubert Lemonnier, Race Director of the Vendée Globe:

"This AEZ is key to ensuring the safety of the race. Skippers are not allowed to cross it under penalty of sanctions, but the greatest penalty would be the risks they face. With advancing technologies, boats are getting faster, making a collision with an iceberg even more catastrophic. While zero risk doesn't exist, it's our duty to engage every competent expert to help us fulfill our mission: bringing all the skippers safely back to Les Sables."





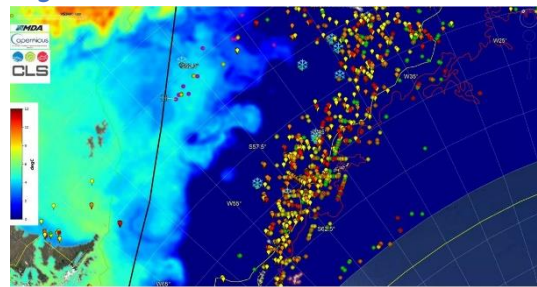
Franck Mercier, Ice Expert at CLS:

"Two hundred radar images will be analyzed to detect the largest icebergs. One particular iceberg is under close scrutiny—a tabular iceberg 20 km long, the size of the island of Noirmoutier, which CLS has been tracking since its discovery last July. This iceberg is a significant source of growlers, which are undetectable by satellite but whose probable presence can be estimated. Our teams are fully committed to minimizing the iceberg risk.

This is the fifth Vendée Globe edition for which we have carried out this mission, and we have significantly improved our services over the past 16 years. Our drift models are more precise, and our pre-detection systems more efficient. In fact, we have integrated artificial intelligence to automate certain detections and pre-qualify them, allowing our analysts more time for value-added tasks on this critical subject."

Prediction of Trajectories for Skippers' Safety

Each iceberg detected by satellite is entered into a drift and melt model that accounts for currents, wind, and temperatures. Using these simulations, CLS not only predicts the drift of the icebergs but also their fragmentation into smaller pieces, which could pose a danger to the boats. Forecast bulletins, sent to the race management, enable adjustments to the Antarctic Exclusion Zone (AEZ) and ensure optimal safety for the skippers.



Current Situation and Forecast for the Rest of the Race

Since the start of the race, CLS has detected several thousand icebergs, including dozens relatively close to the Antarctic Exclusion Zone (AEZ), but far enough away not to require adjustments to the AEZ so far.

Future modifications are likely to be made east of the Kerguelen Islands, as the AEZ may need to be raised in response to the detection of an iceberg whose position requires verification with new images.

This year, the density of icebergs in the Atlantic Ocean is particularly significant. CLS experts have detected icebergs east of the Falkland Islands, which are being closely monitored. Their teams remain on high alert. The most challenging period will come after rounding Cape Horn. The race leader is expected to pass this critical point just before Christmas, with the final competitor likely reaching it a month to a month and a half later, by the end of January.

CLS is fully committed to ensuring optimal monitoring for all skippers, from the first to the last.

CLS, ESA, CNES - A First-Class Iceberg Task Force

This monitoring would not be possible without the cooperation of ESA and CNES. The launch of SWOT enables CLS to better map the presence and drift of icebergs. Data from this satellite feeds into the current production chain, which is essential for forecasting the drift of ice that could pose dangers to navigation. "Launched in 2022, the SWOT satellite is a true technological revolution, providing high-resolution 2D mapping of oceans and continental surface waters worldwide, with unmatched accuracy compared to other altimetric satellites. We are proud to contribute, through this innovative satellite, to significantly improving iceberg detection services as part of the major sporting challenge that is the Vendée Globe," explains Yannice Faugère, Oceanography Program Manager at CNES.



The Sentinel-1 satellite, on the other hand, provides unprecedented coverage to anticipate and mitigate the risks associated with ice in the Southern Ocean.



"As with the two previous editions of the Vendée Globe in 2016-2017 and 2020-2021, ESA is specifically planning large-scale radar observations from the Copernicus Sentinel-1 mission for this 2024-2025 Vendée Globe. These data are essential for detecting icebergs and, consequently, for ensuring the safety of these exceptional sailors. In partnership with the European Commission, we are very pleased to see another example of the effectiveness and performance of the European Copernicus space program for this maritime safety application, among the many other operational and scientific uses of data from the Copernicus Sentinel-1 mission," says Simonetta Cheli, Director of Earth Observation Programs at ESA.

With this cutting-edge technology and the expertise of its teams, CLS enables the Vendée Globe race management to support the skippers in this unique adventure while enhancing their safety against the natural dangers of Antarctica.

CLS

CLS is a global company, mission-driven, and pioneer provider of monitoring and surveillance solutions for the Earth, created in 1986. We are subsidiary of the French Space Agency (CNES) and CNP, an investment firm. Our mission is to create innovative space-based solutions to understand and protect our planet and to manage its resources sustainably.

CLS employs 950 people at our headquarters in Toulouse (France) and in 33 other sites around the world.

The company works in five strategic markets:

- sustainable fisheries management,
- environmental monitoring,
- maritime surveillance,
- mobility,
- and energies & infrastructures.

CLS processes data from 100,000 transponders per month (such as drifting buoys, animal tags, VMS transponders, & LRIT tracking) and observes the oceans and inland waters (more than 20 instruments onboard satellites daily deliver information to CLS on the world's seas and oceans). In addition, we monitor land and sea activities by satellite (nearly 20,000 radar and optical images and several hundred drone flights are processed each year). The CLS Group had revenue of nearly 180 million Euros in 2023. Committed to a sustainable planet, the company daily works for the Earth, from Space. www.cls.fr

PRESS CONTACTS :

Florence BASTIEN - f.bastien@verbatee.com +33 (0)6 61 61 78 55

Valérie SABINEU v.sabineu@verbatee.com +33 (0)6 61 61 76 73

Laurence LEBREDONCHEL - llebredonchel@groupecls.com +33 (0)6 26 80 23 40

Amélie PROUST - aproust@groupecls.com +33 (0) 6 62 80 45 92

CNES

CNES (Centre National d'Études Spatiales) is the government agency responsible for shaping and implementing French space policy in Europe. It designs and puts satellites into orbit and invents the space systems of tomorrow; it promotes the emergence of new services useful in everyday life. Founded in 1961, CNES has developed major space projects, launchers, and satellites and is the industry's natural partner for promoting innovation. The agency has nearly 2,500 employees passionate about space and its infinite, innovative fields of application. They work in five areas: the Ariane project, science, observation, telecommunications, and defense. CNES is a major player in technological innovation, economic development, and France's industrial policy. It also forges scientific partnerships and is involved in many international cooperative endeavors. France, represented by CNES, is one of the main contributors to the European Space Agency (ESA). www.cnes.fr

PRESS CONTACTS :

Nathalie BLAIN - nathalie.blain@cnes.fr +33 6 73 99 02 49

ESA

The European Space Agency (ESA) serves as Europe's gateway to space. Its mission is to manage Europe's space capabilities and ensure that European citizens continue to benefit from investments in the space sector. ESA is an international organization with 22 member states.

By coordinating the financial and intellectual resources of its members, ESA can undertake programs and activities far beyond what any single country could achieve individually. The Agency develops launch vehicles, satellites, and ground systems that enable Europe to play a leading role on the global space stage.

Today, ESA develops and places into orbit satellites for Earth observation, navigation, telecommunications, and astronomy, sends probes to the farthest reaches of the Solar System, and participates in human space exploration.

www.esa.int

PRESS CONTACTS :

ESA - Lucia RIERA - lucia.riera@ext.esa.int +33 (0)6 65 81 18 37

Vendée Globe

The Vendée Globe is a solo, non-stop, and unassisted round-the-world sailing race featuring 60-foot IMOCA monohull yachts. Its start and finish take place in Les Sables-d'Olonne, in the Vendée region of France. Created by Philippe Jeantot, the race is held every four years, with the tenth edition taking place in 2024. Previous editions were held in 1989, 1992, 1996, 2000, 2004, 2008, 2012, 2016, and 2020.

Armel Le Cléac'h holds the record for this journey, achieved during the 2016-2017 edition, completing the race in 74 days, 3 hours, 35 minutes, and 46 seconds, though the slowest competitors can take over 150 days.

On April 6, 1969, after 313 days at sea, British sailor Robin Knox-Johnston finally reached his goal. Twenty years later, navigator Philippe Jeantot, following his double victory in the BOC Challenge (a solo round-the-world race with stopovers), proposed the idea of a new race—this time, a solo, non-stop voyage around the world. Thus, the Vendée Globe was born.

On November 26, 1989, thirteen sailors set off on the inaugural edition, which lasted over three months. Only seven of them made it back to Les Sables-d'Olonne.

www.vendeeglobe.org/

PRESS CONTACTS :

Audrey TORT – media@vendeeglobe.fr – +33 6 59 39 64 19

CNP

CNP is an investment firm founded by Mr. Albert Frère and exclusively managed by the Frère family. CNP invests its permanent capital for control or joint-control of European industry leaders and acts as an active partner to drive sustainable value creation alongside the founders, management and families it associates with. Together with GBL, CNP is one of the 2 pillars of Groupe Frère that manages net assets of approximately € 5.5Bn deployed through a diversified portfolio of globally significant companies that are leaders in their sectors.

www.cnp.be