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## edito

The quite recent and Nth hostage-taking on board the « Sirius Star » super tanker, this time, far off the Somalian port of Haradhere forces us to admit that coastal areas or the high seas are no longer immune to almost institutionalised piracy at certain points around the globe, with pirates not hesitating to attack international companies and even States. In effect, the « Sirius Star » is a supertanker chartered by Vela International, subsidiary of the Saudi giant Aramco. A worrying situation: David against Goliath!

Sure, our European seas are more peaceful and maritime traffic has been on the downturn for the last few weeks, due to the financial crisis affecting world economic trade, 80% of which is by sea.

But make no mistake, our maritime territories are by no means protected from threats relating to shipping insecurity, marine pollution or the non-application of legislations. Sporadic and to a limited extent for the moment, these threats should incite the European Union and its allies to step up maritime surveillance in order to ensure safety on the high seas and the security of European maritime borders.

At a time at which events remind us of the absolute need to maintain a high level of detection on board ships, including close to coastlines, Sea On Line is presenting its range of optronic systems under the Automatic Sea Vision banner, designed to provide a 360° panoramic coverage.

The system is designed to predict threats or risks relating to maritime operations or maritime-based operations, whether civilian or military. Working with Thales, we are developing a targeted common system which we were pleased to present at the Euronaval show: AGILE M/ ASV.

With a two-fold prize-win in the form of the Henri Kummerman Foundation Prize from the Academie de Marine and the Euronaval Innovation Trophy, our ASV technology provides a simple and effective response to maritime safety and security aspects across Europe.

So that our European maritime environment is also that of the free circulation of persons and goods with total peace of mind.



> The Saudi-owned crude oil carrier Sirius Star

Philippe Waquet,  
Chairman & CEO



## The third eye in action in Monaco

For its 18<sup>th</sup> edition, the Monaco Yacht Show brought together last September over 500 exhibitors from the world leaders in the international leisure vessel and luxury industries, with 95 super-cruisers of 25 to 90 metres in length. The only boat show dedicated exclusively to luxury cruising, the Monaco Yacht Show is the world reference in top luxury cruising, over and above the Fort Lauderdale show in Florida (United States). Hosted by its Italian partner, Team Italia, the vessel bridge designer and integrator, Sea On Line demonstrated its optical surveillance system integrated into the bridge console of its partner to over 300 visitors: shipyards, brokers, ship-managers, ship designers.

Today, super-cruiser orders are rife... The proof? In 2007, there were 777, in 2008, they have so far reached 916... Since five of the worlds ten leading constructors in the industry are Italian, we can easily understand why half of these super-cruisers are built on the Italian peninsula. The nautical industry in Italy: 45% of the world's super-cruiser production



► The ASV integrated into Team-Italia's bridge console at the Monaco Yacht Show



► Sea On Line and Thales present for the first time the ASV/AGILE-M System at the Euronaval tradeshow

## Sea On Line and Thales on deck for Euronaval 2008

At the Euronaval show held between 28th and 31st October 2008, Sea On Line and Thales officialised their partnership with the presentation of AGILE M/ ASV, a totally new automatic detection system designed to optimise maritime environment observation and surveillance capabilities both day and night.

Euronaval is first and foremost the major crossroads for businesses, working in naval defence and maritime safety, and at which businesses from the world-over converge to exhibit their latest innovations in terms of naval armament and equipment.

For the first time this year, the show awarded prizes to small and medium-sized businesses showing proof of innovation, international expansion or high growth in their market business. Sea On Line was awarded the Innovation Trophy.

Mr Flottes, we would like you present Thales Optronics SA and its naval market sales offer

**DF :** « Thales Optronics SA (TOSA) is an entity within the Land and joint systems division of the Thales Group. The unit is comprised of 1000 people employed in a leading-edge technology sector and is divided up as follows: 2/3 in airborne systems and 1/3 in land and sea-based systems in France and throughout the world

Among the optronic solutions developed for naval operations, ARTEMIS and AGILE M are TOSA's flagship products: ARTEMIS is part of the complex shipboard surveillance and infrared tracking system. This system is an integral part of vessel combat systems.

The AGILE system is composed of both an optical part, a set of high-performance cameras mounted on a sophisticated pod used to see and zoom, and an infrared part enabling the same thing, but at night. The advantage with AGILE is its continuous zoom capacity. Carried on board ship, the pod is hardened against the harsh marine environment by a sealing system designed to resist marine corrosion. It is called the AGILE M, M meaning Marine ».

What is the reason behind the technological marry-up between AGILE and ASV?

**DF :** « Thales has a range of recent optronics, based on two flagship products, ARTEMIS and AGILE. I am endeavouring to complete and back up the range of products not manufactured by Thales, at the lowest possible cost in order to attack new sectors of the market.

The ASV, the automatic optical detection software developed by Sea On Line, has proven to be particularly well-suited to our cameras and the gyro-stabilised AGILE M pod.

Moreover, post-integrating into our products of an information system developed by Sea On Line is a source of savings by comparison with internal development costs. The ASV analysis and data processing system integrates easily behind all sensors, both bottom of the range, such as standard, non-stabilised cameras or the very top of the range such as the stabilised AGILE pod systems.

Coupling the existing Sea On Line software with the AGILE pod seems to make good sense as a solution. This partnership was officialised at the Euronaval show ».

In your opinion, how is this partnership justified?

**DF :** « For Sea On Line, Thales provides the guarantee and reputation of the Group, and also its worldwide distribution network and the opportunity to obtain a foothold on the military systems market. As for Thales, we considered it simpler to use an market-existing information system rather than develop one to complete the AGILE system. The added value provided by the Sea On Line system will multiply the interest in the product for a relatively low additional cost ».

**Didier Flottes**  
Head of Naval Optronics Systems and  
Equipment Department Thales Optronics SA  
Paris, 13<sup>th</sup> November 2008

**THALES**

How does AGILE M / ASV improve optical surveillance onboard vessels?

**DF :** « With the AGILE M solution: the pod carries out its search and it is the watch officer in front of his screen who actually carries out surveillance. If a target appears, he takes control over the pod in order to check the object identified. Let us take the example of the watch officer on the bridge of a warship in the middle of the night, watch vigilance over many hours can be altered by fatigue and the monotonous nature of the mission.

By completing the AGILE M with the ASV system, surveillance is automated and above all, we can keep a trace of repeated echoes, and track optronic information. With this additionally user-friendly interface, the ASV completes and sometimes supplants the data supplied by radar systems in order to identify a small craft in heavy seas, even if not detected. AGILE M /ASV is a gyro-stabilised system, easy to install on ship, with automatic search capabilities ».

Who is the AGILE M/ASV system aimed at? Is it also suitable for civil applications?

**DF :** « For the moment, the applications are essentially military. The acquisition cost is



**AGILE-M ASV**

high for merchant ships. For civil applications, which are above all those of anti-collision and piracy, the AGILE M / ASV pod is undoubtedly over-dimensioned. On the other hand, in the case of the surveillance requirements of offshore platforms, the system is more suitable, particularly off the coast of Nigeria or Brazil.

AGILE M/ ASV is aimed at rapidly growing naval markets and more particularly the French Navy which is moving towards the acquisition of a certain number of high seas patrol vessels, with the need to be able to see both day and night and record the images in order to provide proof for legal aspects. AGILE M / ASV is the perfect answer to the needs of vessels operating on the open sea, in the fight against all form of illicit trafficking, sea rescue, etc... »

## A third eye on every ship

### ASV, the watchman's third eye

The Automatic Sea Vision system is an optical surveillance system, designed to complement the human eye in difficult environments, at night or in fog, or under conditions in which human vigilance may be lacking.

This is an innovative principle based both on the permanent surveillance by cameras of the whole horizon, day and night, but also and simultaneously on the automatic recording and processing of images in changing environments.

The ASV is composed of sensors located at strategic positions on the vessel thus offering a panoramic, unobstructed view of the horizon. All of these digital cameras operate from the visible through to the infrared spectrum and record the image which is hard-wire transmitted either to a radar or navigation (ECDIS) screen or to a special screen on the bridge.

The ASV therefore provides information additional to that of existing detection systems such as radar and the AIS transponder. In order to be able to provide an unmanned warning of the objects detected the system has a stepped and progressive alarm system. In addition, the images captured may be stored over a certain time in order to enable a better analysis of events.

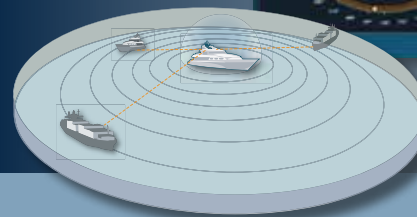
By merging the data from the different systems, and hence redundant anti-collision resources, the system guarantees an improved overall degree of security. The system lightens the workload on the crew thus enabling them to concentrate on the essential: their job at sea.

### A device suited to each type of vessel

There are three versions of the ASV which are at the same time multi-functional and complementary with one another and perfectly suited to all types of vessels:

- Surveillance and automatic detection of all threatening and non-threatening approaches at anchor or at sea.
- Automatic detection of all objects even those not detected by radar
- Automatic alarm system in case of collision risk and attacks
- Automatic detection and identification of all threats
- Automatic lookout for man overboard
- Panoramic surveillance view without any blind angles

ASV 360 MR et LR



ASV's user interface

360° Coverage



#### ASV 360 MR :

- 360° surveillance around the ship
- Automatic detection up to 6000 metres\*
- Detection up to 2000 metres\* for small boats of 3 metres
- Easy configurable alert zones
- Automatic Tracking

#### ASV 360 LR :

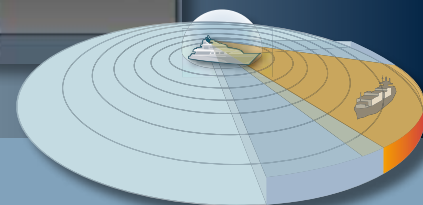
- 360° surveillance around the ship
- Automatic detection up to 12000 metres\*
- Automatic detection up to 4000 metres\* for small boats of 3 metres
- Easy configurable alert zones
- Automatic Tracking



ASV PTZ

Sector Coverage

ASV's user interface



#### ASV 360 PTZ :

- Sector surveillance around the ship
- Automatic detection up to 9 metres to the horizon
- Automatic detection up to 2000 metres to 10500 metres\* for small boats of 3 metres
- Identification up to 2000 to 6000 metres \*
- Configurable scan of the Pan&Tilt camera
- Automatic Tracking

\*Depending on the installation and weather conditions

## AGILE M/ASV, product of the technological cooperation between SEA ON LINE –THALES

Last October, at the EURONAVAL show, Sea On Line and Thales officialised their partnership agreement for the development of a new optronic system christened AGILE M / ASV. This is the result of the combination of the AGILE M, a new generation electro-optical pod and a specific Automatic Sea Vision version software developed by Sea On Line.

The AGILE M pod incorporates high performance TV and infrared cameras combining a gyrostabilised aiming system which guarantees perfect image stability in a constantly moving environment. As a complete technology, AGILE M/ASV provides up until now unheard of automatic detection capabilities, both day and night, on all types of craft. It relieves crew of the stresses imposed, freeing up crew to devote it to the essential: their mission at sea.



➤ ASV/AGILE-M's user interface

As part of the Thales Naval optronic products range, AGILE M/ ASV incorporates:

- A gyrostabilised platform enabling a panoramic surveillance of the whole horizon
- Cameras with continuous zooms and a capacity to switch between the visible and the infrared spectrums
- A telemeter and laser pointer
- A data processing or computer system enabling merging of data obtained from the radar or the AIS transponder, with automatic recording

Implementing high-performance technologies, AGILE M/ASV improves maritime safety and security, by optimising the specific missions of maritime surveillance throughout the world (increasing acts of piracy and terrorism, clandestine immigration, narcotics trafficking, etc...).



➤ Optical zoom view mode with the AGILE-M continuous zoom camera



▶ Defense Minister Hervé Morin awards Sea On Line with the Trophy of Innovation.

## 1 Small and medium-sized businesses rewarded at Euronaval 2008

For the first time, a Euronaval Trophy was awarded to three exhibiting small and medium-sized businesses. This Trophy was created to highlight and encourage the dynamics of French small and medium-sized businesses in the naval and maritime world. It is awarded to businesses outstanding for their innovation, international expansion or their growth.

The jury, chaired by Jean-Claude Pujol, Chairman of the sciences and technology department at the Academie de Marine, is comprised of representatives from major companies, small and medium-sized companies and the Ministry of Defence.

The Innovation Trophy was awarded to Sea On Line for its development of the automatic optical and infrared system (anti-piracy, anti-collision, sea rescue...)

The international expansion Trophy was awarded to IX-SEA, a company developing navigation systems based on optical fibre gyroscope technology. This company, with a payroll of 200 persons, realises 80% of its turnover from exports.

The growth Trophy was awarded to EFINOR specialising in engineering, the manufacture of heavy platework and precision engineering.

The prizes were handed over to the three winners by Hervé Morin, Minister of Defence, at a ceremony held on Tuesday, 28<sup>th</sup> October 2008 (Paris Le Bourget).

## 2 The Kummerman Prize awarded to Sea On Line

On 15<sup>th</sup> October, 2008, the Academie de Marine, as a result of the nomination by its Merchant, Fishing and Leisure section, awarded the Henri Kummerman Foundation Prize at the Ecole Militaire, to Sea On Line, based in the Paris area.

For Sea On Line, this award is further recognition of its ASV technology, a complete new approach in the field of improving methods for the construction and operation of merchant vessels, contributing to vessel higher productivity and enhanced security.

Key figures

- **3.5 billion tons of cargo** and 350 million passengers pass each year by the 1200 European ports.
- **50% increase** in freight traffic by sea is planned between 2007 and 2013.
- **10%** annual increase of maritime traffic.
- **80% of collisions at sea** are due to a lack of visual lookout.
- **100%** of attacks are detected too late.



**AUTOMATIC  
SEA VISION**

*Add visual dimension to your safety*

**The third eye**  
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