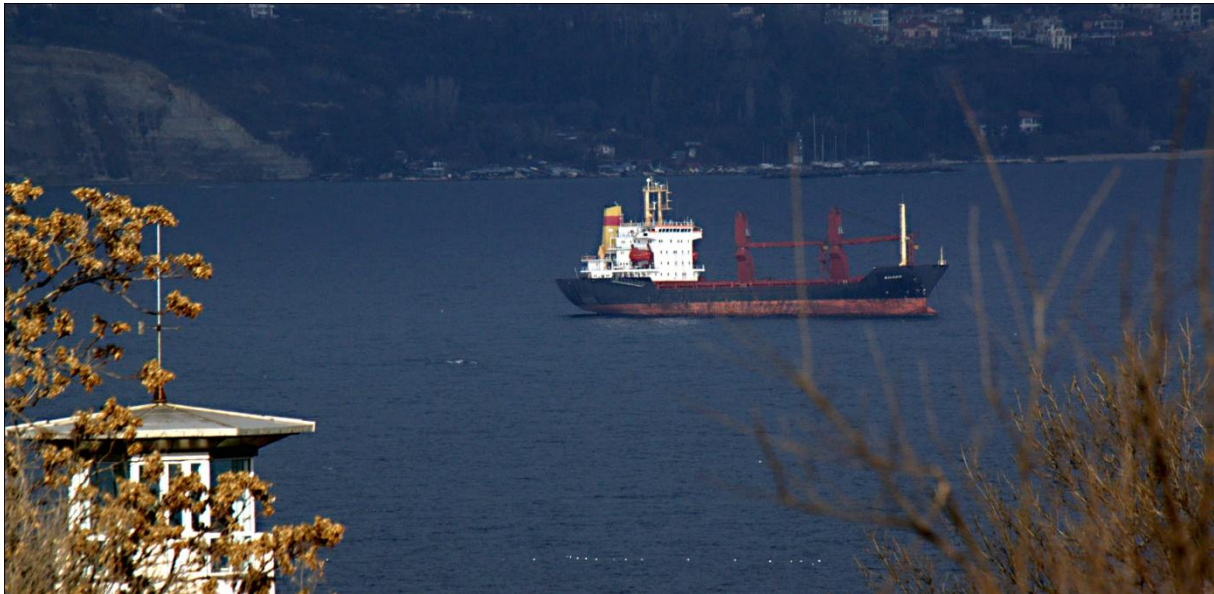


## Know-How located at Kornwestheim, Germany, provides coastal security in Bulgaria

In 2010, in-innovative navigation GmbH implemented successfully software and hardware modules for modernization of the Bulgarian coastal surveillance system at the Black Sea.



### Black Sea Coast, Varna

Currently, 25 European states belong to the Schengen Area with border control liberalized. The Schengen Area operates very much like a single state for international travel with border controls for those travelling in and out of the area, but with no internal border controls. Bulgaria wants to become a signatory to the Schengen Agreement, too, in 2011. Since this country is located at the most eastern „Blue“ border of Europe, special requirements have to be fulfilled with respect to its coastal protection at the Black Sea.

Basis for an effective coastal surveillance is the reliable detection and identification of all traffic along the coastline. Furthermore, since implementing the Schengen rules involves information exchange with other Schengen members, connection of data base management to the VTS (Vessel Traffic Surveillance) services is essential.

In January 2010, the company Atlas Maritime Security GmbH, Unterschleißheim, Germany, retained the company in-innovative navigation GmbH, Kornwestheim, with the modernization of the Bulgarian VTS system at the Black Sea. The complete development phase, as well as implementing the system and placing it into operation by in-innovative navigation GmbH took ten months, a remarkable short time range for such a highly complex project.



**Radar station Galata**



**Display in a mobile radar station**

The solution with modular designed products provided by in-innovative navigation GmbH is perfectly suited for radar data processing, display of traffic image and open interface to a data base management.

Dr. Reinhard Zimmermann, one of the CEOs of in-innovative navigation GmbH and project manager of CSS Bulgaria (Coastal Surveillance Services) commented: „This system is one of the highest capacity coastal surveillance systems currently installed in Europe. It sets a new standard for system architecture which guarantees outstanding availability, fall back function and redundancy for each component of the whole system.“

The system CSS Bulgaria comprises 12 sensor sites along 354 km Bulgarian Coast. Each site is equipped with a radar scanner (Cherno More), an AIS base station and a local operator work place.

Moreover, 12 police boats are supplied with sensors, and two mobile radar stations were installed on pickups. The information about the traffic situation along the coast is transmitted from all remote stations to one of the two regional traffic centers in Burgas or Varna. Traffic centers are designed to be redundant, i.e. in case of any breakdown in one center, the other center immediately serves as fall back without interruption.

The superior government department for border control is located in the capital city Sofia, where all information is transmitted in real time to.

The final test phase was finished in December 2010, when the government department for border control approved the system without any objection. Since then, this highly sophisticated coastal surveillance system is successfully in operation. Bulgaria fulfils now the requirements for protection of the Bulgarian Black Sea border by automatic surveillance, detection and identification of vessels at the outer border of EU.

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*about in-innovative navigation GmbH:*

*Following a modular conception, in-innovative navigation GmbH provides customized software solutions, which can be applied in all areas of navigation, telematics and traffic surveillance. in-innovative navigation GmbH is market-leading with software integrating all information from radar, GPS, AIS on an electronic ECDIS chart display. inDTS and RADARpilot720° are the powerful display applications from in-innovative navigation GmbH for traffic monitoring in use either in VTS centers and coastal surveillance systems or in integrated navigation systems.*

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*23.03.2011*