# AIRLOCK®
## SECURE ACCESS HUB

**WSV.de**
Wasserstraßen- und
Schifffahrtsverwaltung
des Bundes

# Increased tailwinds for international shipping:

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## Airlock now protecting maritime traffic

« *We are increasingly relying on holistic solutions instead of singular applications.* »

Head of Application Security, Maritime Traffic Technology Department, Central Services Department, Security Zone, Wasserstraßen- und Schifffahrtsamt (Waterways and Shipping Office – WSA)

The figures are impressive – almost 95 percent of intercontinental trade is conducted via the oceans, with over 110,000 ship journeys made in Germany alone each year. Marine traffic is therefore an extremely important economic sector and one which is increasingly being digitalised, in part thanks to the German Federal Government's Wasserstraßen- und Schifffahrtsverwaltung (Federal Waterways and Shipping Administration – WSV) – and thanks to Airlock.

Shipping and software have one thing in common – peace of mind has top priority, as no matter whether it is containers or data that are being transported, free movement has to be guaranteed, pirate/hacker attacks have to be averted and unauthorised entry into territories and environments has to be prevented. What's interesting is that, as shipping becomes more digitalised, security requirements are increasing significantly – not just linearly, but exponentially. The same can be said for many projects in the field of critical infrastructures.

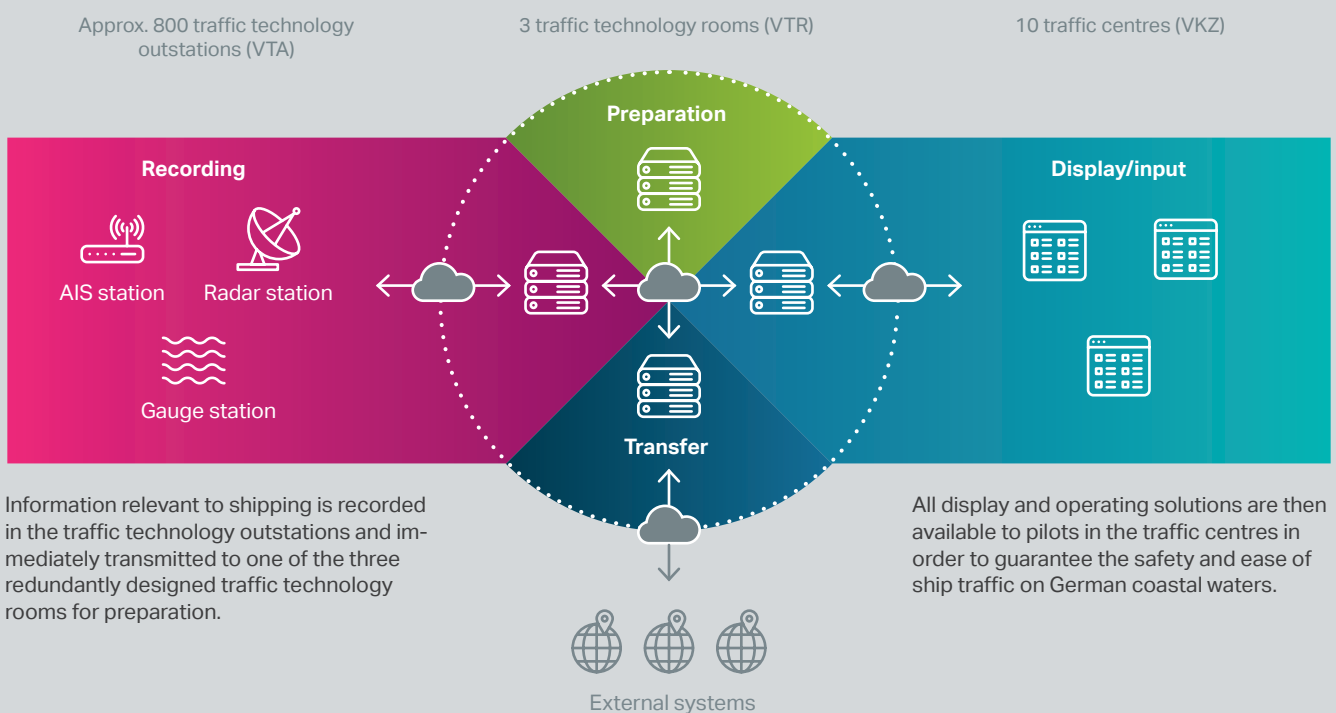**Increasing complexity and a sea of data**
Previously, all that was needed to steer a ship was a compass and a sextant, but maritime traffic today is a very complex matter. One reason for the increasing complexity is the various players who have to be co-

ordinated in maritime traffic – from ships' crews and pilots to those in charge at the port and national shipping offices. The other reason is that some of the biggest cargo is all of the data that now needs to be communicated on a largely digital basis, such as location, weather and vessel information. One key milestone in this process was the "automatic identification system" (AIS) – an integrated system which has significantly improved the exchange of navigation and vessel data since 2004.

**Digitalisation of maritime traffic safety as a strategic task**
This background makes it clear what fundamental challenges the German Federal Government's Wasserstraßen- und Schifffahrtsverwaltung (Federal Waterways and Shipping Administration – WSV) is faced

**Data management for seafaring on the German coast**

Approx. 800 traffic technology outstations (VTA)

3 traffic technology rooms (VTR)

10 traffic centres (VKZ)

Recording

AIS station   Radar station

Gauge station

Preparation

Display/input

Transfer

External systems

Information relevant to shipping is recorded in the traffic technology outstations and immediately transmitted to one of the three redundantly designed traffic technology rooms for preparation.

All display and operating solutions are then available to pilots in the traffic centres in order to guarantee the safety and ease of ship traffic on German coastal waters.

The incoming information is prepared and transferred for display in the various user interfaces for the traffic centres and for various online interfaces for external users in the traffic technology rooms.

« *From the initial contact to the launch – what Airlock impressed us with long term was its understanding of our specific requirements and outstanding support. Furthermore, Airlock delivered on-time and in-budget, something which isn't always a matter of course.* »

Head of Application Security, Maritime Traffic Technology Department, Central Services Department, Security Zone, Wasserstraßen- und Schifffahrtsamt (Waterways and Shipping Office – WSA)

with. "Digitalisation of maritime traffic safety is a strategic task for us in order to ensure the future fitness of national and international seafaring," says the federal authority's project manager. "Two aspects are key in this process – we want to pool resources and therefore achieve a greater level of efficiency. We are also increasingly relying on holistic solutions instead of singular applications." WSV acts as a data provider in this process – firstly in research for the Fraunhofer Institute or the German Aerospace Center (DLR), and also for customers who use this data operationally, such as the German Maritime Search and Rescue Service (DGzRS), pilots, the military or the police. The tasks are varied. Web applications and web services are the method of choice to avoid having to set up an individual proprietary data interface for each task.

### Holistic solutions instead of singular applications
In this case, holistic solutions mean the increased use of web services which offer significant benefits. Internet-based services therefore enable applications to communicate with one another independent of the platform and various interfaces to be connected easily. There are plenty of interfaces which interact with one another in seafaring – from sensors on buoys and navigation data from ships to data from radar position finding and lock occupancy, to name just a few examples. Additionally, not only is the abundance of different data a challenge, but also the number of various external users who can access the data. As a consequence of this, the utmost standards have to be maintained with regard to IT security – and what applies in general to critical infrastructures also applies to maritime traffic since a system failure would have severe consequences, as was made extremely clear by the accident with the "Ever Given" container ship in the Suez Canal. The System Maritime Verkehrstechnik (Maritime Traffic Manage-

ment System – SMV) was therefore key to ensuring a high level of reliability in order to guarantee a maximum degree of redundancy across all three traffic technology room (VTR) sites.

### Protecting web services with the WAAP solution from Airlock
It soon became apparent to the experts in Brunsbüttel which technical security solution was to be used – the web services and APIs were to be protected with "web app and API protection" (WAAP). In contrast, making the evaluation as to the correct solution partner, who would be subject to strict requirements, was significantly more challenging. The choice was made to go for Airlock

due to the high availability of our solution and the modular structure of the Airlock Gateway, which can easily be expanded. Whether dealing with IAM, 2FA, additional APIs or IT containers, Airlock ensures a high level of investment security for the world of tomorrow today. An additional benefit is that Airlock has a framework contract with the Federal Ministry of the Interior and Community's (BMI) procurement agency, which is why it is easy to purchase products and services from the "German Federal Government's department store".

### Top marks for Airlock's customer service
However, it wasn't just the hard facts that swung it for Airlock. The soft factors impressively demonstrated by our team were just as important. The responsible decision-maker at WSA says: "From the initial contact to the launch – what Airlock impressed us with long term was its understanding of our specific requirements and outstanding support. Furthermore, Airlock delivered on-time and in-budget, something which isn't always a matter of course." With so much praise, we of course asked what mark we could put on our mark sheet. The answer: "Top marks across the board!" This is feedback that our team was delighted to receive.

**Wasserstraßen und Schifffahrtsämter (Waterways and Shipping Offices)**
Wasserstraßen und Schifffahrtsämter (Waterways and Shipping Offices – WSÄ) are sub-agencies of the German Federal Government's Wasserstraßen- und Schifffahrtsverwaltung (Federal Waterways and Shipping Administration – WSV) which has around 12,500 employees.
The WSÄ focus on traffic monitoring of the heavily frequented German coastal waters and busiest artificial waterway in the world, the Kiel Canal. A data network is operated across the entire coast for this purpose, which enables all traffic centres, pilot watch stations and lock control stations to be networked, and therefore ensures the safety and ease of shipping.

**About Airlock – security innovation by Ergon Informatik AG**
The Airlock Secure Access Hub combines the key IT security issues of filtering and authentication into a well coordinated overall package that sets standards in terms of usability and services. The Secure Access Hub provides all key functions required for modern IT security in this field – from a web application firewall (WAF) recognised by specialist journalists and a customer identity and access management system (CIAM) which Swiss banks trust to API security which meets the latest requirements. The Airlock IT security solution protects more than 20 million active digital identities and 30,000 backends from over 550 customers all over the world.
You can find further information at www.airlock.com. Airlock is a security innovation from Swiss software company Ergon Informatik AG.

Ergon Informatik AG was founded in 1984 and is a leader in the production of customised software solutions and software products. 300 highly qualified IT specialists who quickly anticipate new technology trends and ensure key competitive advantages with innovative solutions thanks to their outstanding specialist knowledge form the basis for this success. Ergon Informatik mainly implements large-scale projects in the B2B sector.

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