

## Radar products



### **RADARunit**

comprises radar antenna and remote control unit, integrating trouble free with all other software modules.



### **RADARserver**

bridges the distance. It acquires analog or digital radar signals and transmits radar data to any number of radar video clients in real-time.



### **RADARserver LE**

conveys the image. It is a professional grade radar conjunction box providing radar signals on a standard network interface.



### **RADARproxy**

distributes radar data. It multiplexes incoming radar information for all local client applications.



### **RADARlib**

is a professional grade software library for rendering radar video.



### **RADARextractor/tracker**

extracts the essential. It detects contiguous radar echoes, produces tracks and plots and correlates them with the existing track history.



### **TRACKgateway**

detects current track information via ASTERIX and delivers them to other clients by SOAP interface.



### **RADARgrabber**

takes the picture. It stores radar images in PNG format ready for use in web applications.



### **RADARrecorder**

preserves the information. It stores the radar data for replay in simulation mode.



### **INviewer**

tests the radar functionality and is the tool for site specific configuration of the radar and the surveillance system.

## AIS products



### **AISproxy**

serves as single access point to an AIS network for all possible clients, providing filter function.



### **AISgateway**

provides AIS data to client applications by a SOAP interface.



### **AISrecorder**

preserves the information. It stores the AIS data for replay in simulation mode.



### **AISrouter**

evaluates traffic volume and distributes economically data flow. It selects appropriate base stations for transmission of safety related messages.



### **NMEAproxy**

serves as single access point and combines data from several NMEA sources.



### **AISinspector**

analyses performance of AIS networks and evaluates functionality of base station and transponder in operation.

## High level products



### **TrafficAnalysisSystem (TAS)**

monitors and analyses the traffic based on configurable rules. It works on data provided by MST and/or AISproxy. It provides so called traffic events (alarm, CPA and TCPA) to display application.



### **inDTS**

visualizes radar and AIS data on an electronic chart. inDTS can be easily integrated with remote server based applications.



### **ASTERIXrecorder**

stores and replays data in ASTERIX format.



### **MultiSensorTracker (MST)**

fuses the information. MST processes and correlates data provided by multiple sensors and different sensor types (e.g. Radar, AIS). The MST filters them in order to produce system tracks that are updated by one or more sensors.

## Complete solutions



Self-contained  
Vessel Traffic Surveillance System  
for small systems

## References

### **Regional VTS:**

- AIS Mittelweser
- DoRIS – Donau River Information System (Frequentis)
- VTS Oberwesel – Mountain Rhine area, Loreley
- Port of Antwerp (Barco)
- MRCC Oostende (Barco)
- Wintam lock (Barco)



Radar antenna of VTS Portugal

### **Coastal surveillance:**

- CSR Estland (EADS)
- VTCS Portugal (EADS)
- CSS Bulgaria (Atlas MS)

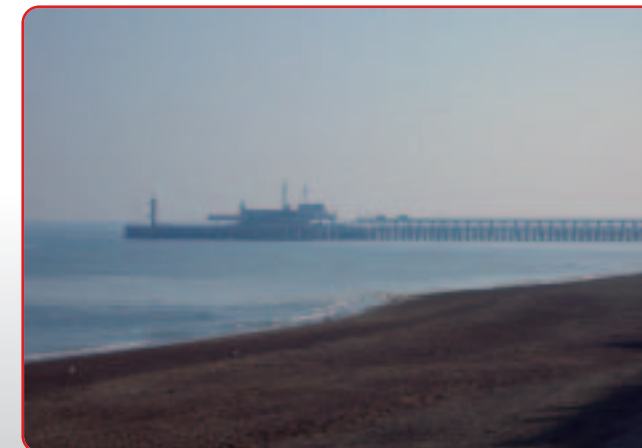
Main contractors bracketed



Traffic center of VTS Oberwesel



Radar antenna of VTS Antwerpen



MRCC Oostende



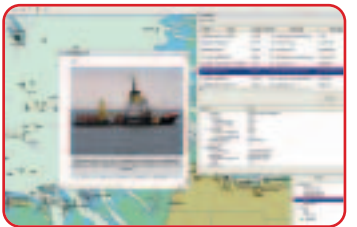
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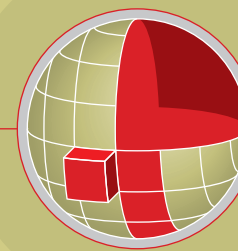
[www.innovative-navigation.de](http://www.innovative-navigation.de)

# inVTS components

integrating all information for customized solutions







## Modular architecture of inVTScomponents

With rising waterborne transport, at sea or on inland waterways, an excellent surveillance, guidance and management of this traffic is indispensable. Increased requirements for security at blue borders or at critical infrastructure installations such as chemical plants or wind parks also raise the need for high performance surveillance of water areas. All software modules of in-innovative navigation GmbH, summarized by the name inVTScomponents, provide extremely powerful and flexible functionality to build up customized VTS and surveillance systems.

Such systems only work as a whole. Everything is interconnected and the system interfaces are quite complex to manage. VTS solutions offered by in-innovative navigation GmbH stand out due to their strict

modular structure and the use of open interfaces. Therefore, they are perfectly suited to fulfill requirements of complex and cross linked information systems. It is easily possible to seamlessly connect external subsystems to components of in-innovative navigation GmbH. On the other hand, the clear interfaces of our software modules ideally support the integration at components level into comprehensive solutions of system integrators.

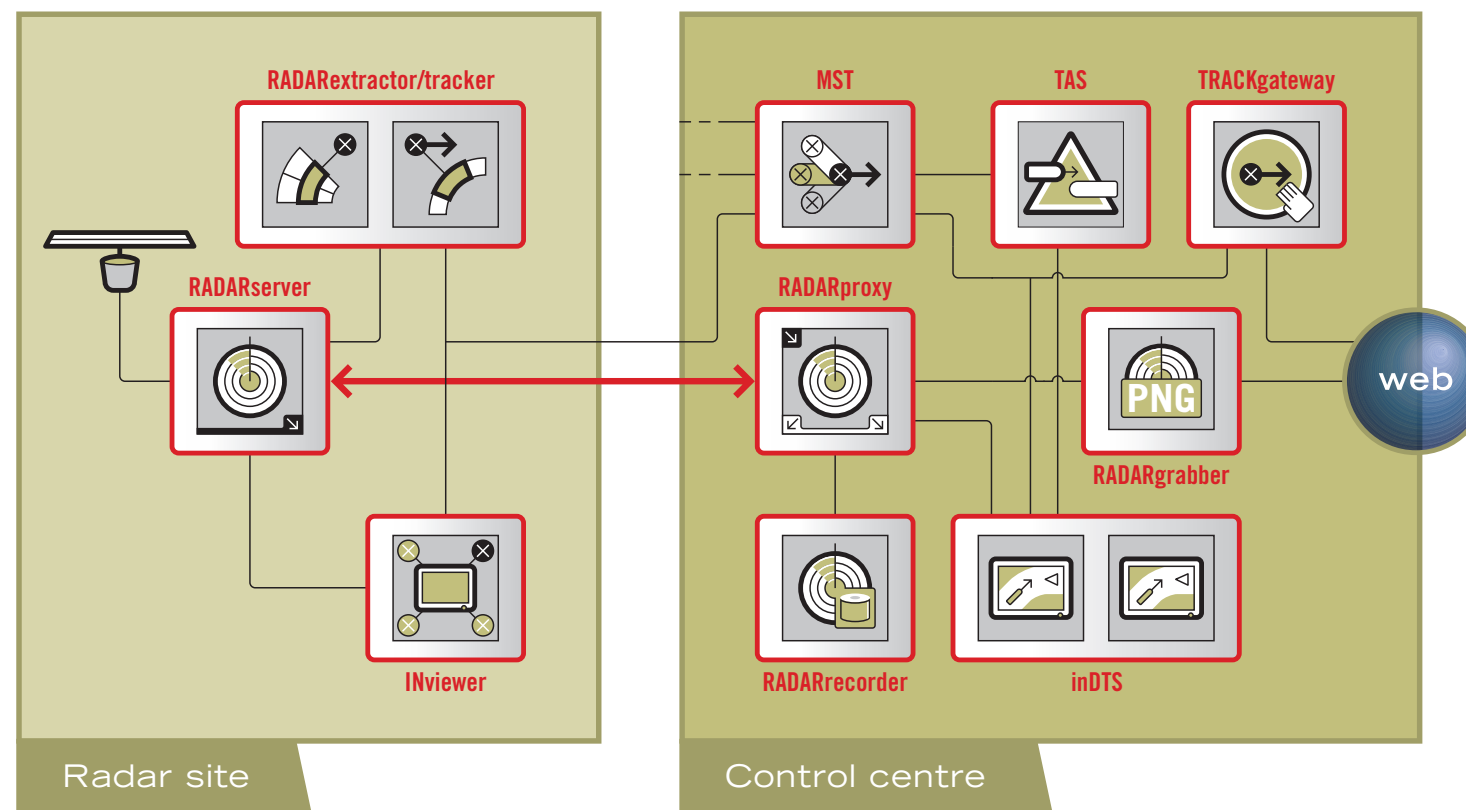
High performance processing of radar and AIS data accomplish the challenging technical demands of today's control systems. Integration of tracks from different sources into one consistent traffic image is a key competence of in-innovative navigation GmbH. In addition to processing and control modules, we offer complementary service components, such as recording and replay. High quality display software of in-innovative navigation GmbH provides comprehensive display technology to efficiently monitor and control traffic. All information from the various sensors is integrated in a perfect way and presented to the operator to be conceived at one glance.

Web services can be easily added, data base applications or object management & distribution services can be smoothly integrated and allow instant data access.

The combination of inVTScomponents for AIS and/or radar based surveillance systems fit to customized solutions for every need.

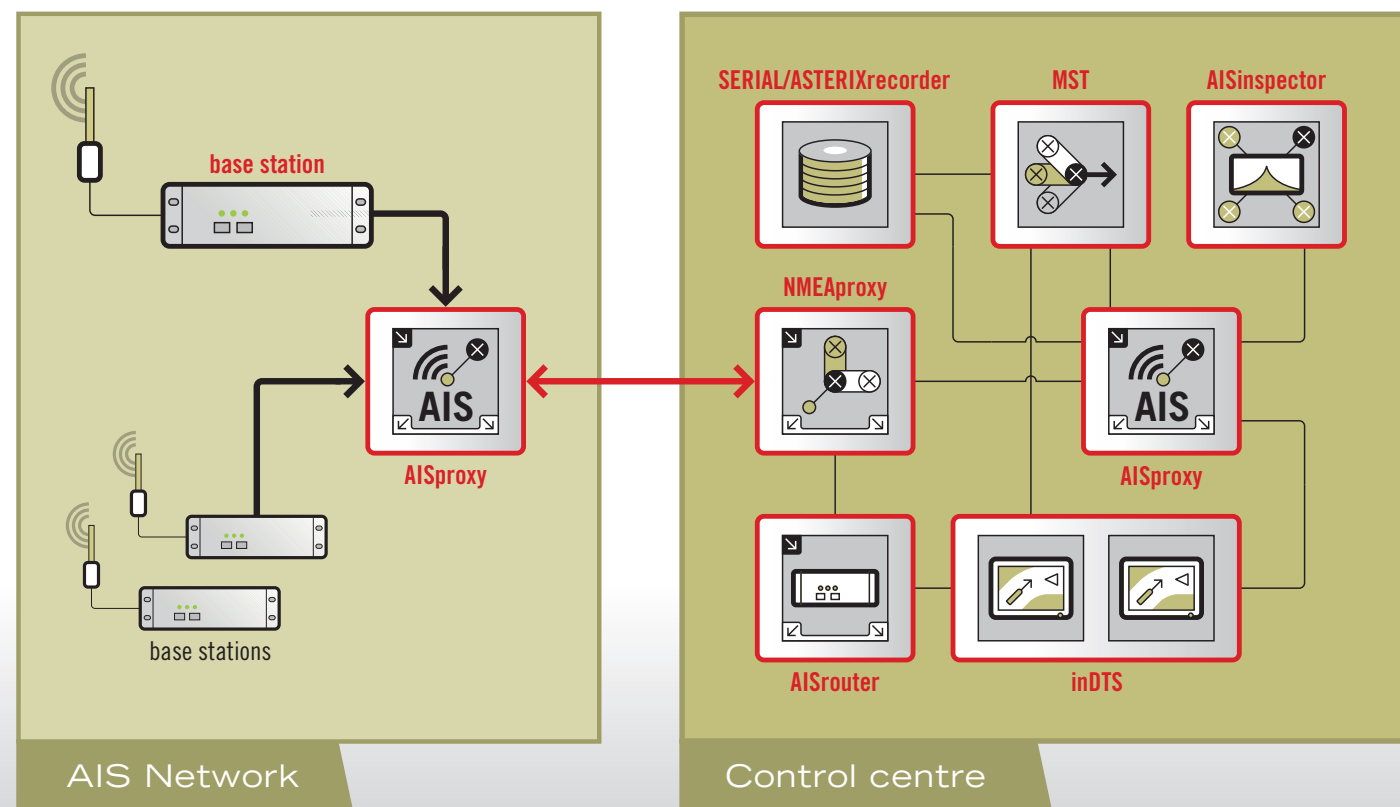
### 1. VTS with radar

Sample system setup with remote radar sites.



### 2. VTS with AIS

Sample system setup for AIS network with central display.

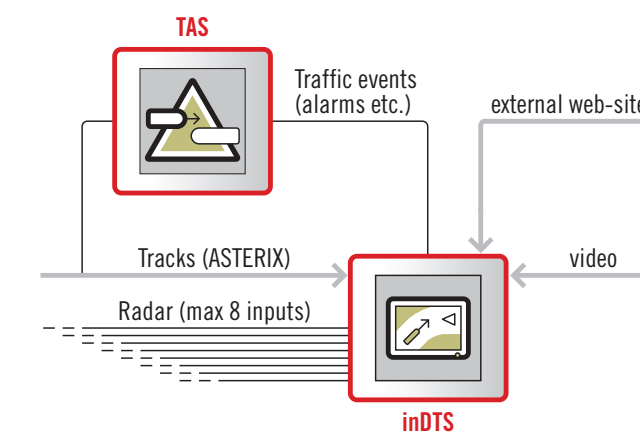


### We provide

- Data acquisition
- Interfaces for different radar sensors
- Data processing
- Traffic display
- Simulation
- System analysis
- Customer specific developments
- Complete solutions for specific customer needs

### 3. Display technology

Combination of different information in display application.



### 4. Service oriented structure

AISgateway and TRACKgateway make available data collected in radar or AIS networks for further processing by SOAP clients.

