

[I01] history of cyber attacks

[I01\_p01] project context

wim mees

introduction

# agencies

## international level

- ▶ GAST: Global Agency for Ship Tracking
- ▶ GASEO: Global Agency for Satellite Earth Observation

## national level

- ▶ CoGuaR: Coast Guard Radar station
- ▶ CoWSA: Coastal Waters Surveillance Agency

## general concept

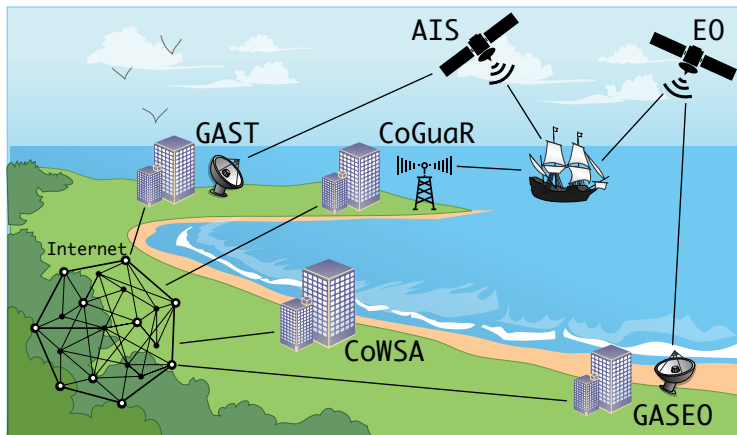


Figure 1: interactions between different organizations

# business processes

## GAST

- ▶ *AIS satellite receives AIS data that is broadcasted by a ship*
- ▶ *AIS satellite sends AIS data in a protected way to GAST*
- ▶ processed AIS data is made available in a protected form on a public website and via a web services interface (machine-to-machine)
- ▶ general public performs a basic search on this data
- ▶ client (paying customer) searches for specific data
- ▶ client system subscribes to a data feed
- ▶ GAST streams the data to registered subscriber systems

**note: CowSA will use subscription service from GAST**

*(italic: out of scope for this project)*

## business processes (cont'd)

### GASEO

- ▶ *EO satellite sends high-resolution images (= low grade classified data) to GASEO*
- ▶ authorized government organization registers as a customer
- ▶ registered customer performs data search on protected website
- ▶ registered customer subscribes to data feed of classified images for a specific region
- ▶ GASEO sends classified images to subscriber using a secure file transfer mechanism

**note: CowSA will subscribe to feed for coastal waters region**

*(italic: out of scope for this project)*

## business processes (cont'd)

### CoGuaR

- ▶ *CoGuaR radar station builds a radar image and sends it to the CoGuaR data server*
- ▶ organization registers and becomes a paying customer
- ▶ customer subscribes to a real-time radar image data feed
- ▶ CoGuaR streams radar image data to subscribed customers

**note: CowSA will subscribe to feed for radar images**

*(italic: out of scope for this project)*

## business processes (cont'd)

### CowSA

- ▶ CowSA subscribes to AIS data feed
- ▶ CowSA receives AIS data, verifies its integrity, and stores it on a data server
- ▶ CowSA subscribes to radar image data feed
- ▶ CowSA receives radar image data and stores it on a data server
- ▶ CowSA subscribes to EO image data feed
- ▶ CowSA receives EO image data and stores it on a data server

(cont'd on next slide)



## business processes (cont'd)

### CowSA (contd')

- ▶ processing algorithm reads radar image data and detects ships
- ▶ processing algorithm reads EO image data and detects ships
- ▶ processing algorithm fuses both ship data sets
- ▶ processing algorithm matches fused ship data set with AIS data
- ▶ processing algorithm matches detects suspicious activities in this final data set

## business processes (cont'd)

### important note

- ▶ these are just some examples of business processes
- ▶ **do feel free to modify or replace the suggested ideas, or to add some more ideas of your own**

conclusions

## conclusions



Figure 2: questions or comments ?