YOU DON'T KNOW WHAT YOU'RE MISSING

Automated 24/7 visual monitoring registers all activity on and around waterways

Automatically recognize and register all traffic

Waterways are vulnerable to crime

Harbors, ports, and waterways are often **critical points of entry and exit** for goods and people, making them vulnerable to crime. Vessels can often enter and exit without being seen when **continuous monitoring** is unavailable. Mainly **pleasure crafts** are used for theft, smuggling, and illegal immigration. In addition, a **lack of registration** makes them an ideal target for unlawful activities.

Criminals avoid security by:

- **Turning off AIS**
  Creating a data collection gap to make registration inconsistent.

- **Changing appearance**
  Changing vessel name, ID, or color.

- **Entering or exiting at night**
  Abusing security downtime to enter and exit unnoticed by security.

- **Taking unusual routes**
  Leveraging unguarded areas.

SEAGULL shows the big picture

Independent automated registration of all movements on and around waterways

CRITICAL AREA MONITORING

Setup SEAGULL to monitor entries, exits, coastlines and locks.

CUSTOM ALARM SETTING

Define suspicious activities and trigger alarms when incidents happen.

ACTIONABLE INSIGHTS

Review all activities and leverage data to connect to security systems and authorities.

"Previously, our operators had to register all ships manually. We, therefore, needed a robust system to monitor our port, and with SEAGULL, we have achieved this. Thanks to SEAGULL, we are taking a future-proof and innovative step, allowing us to observe and register the entry and exit of all types of vessels more efficiently, save costs, and better identify risks."

CEES DUVEKOT
PORT AUTHORITY AND HEAD OF TRAFFIC, HARBOURMASTER OF THE HAGUE, THE NETHERLANDS
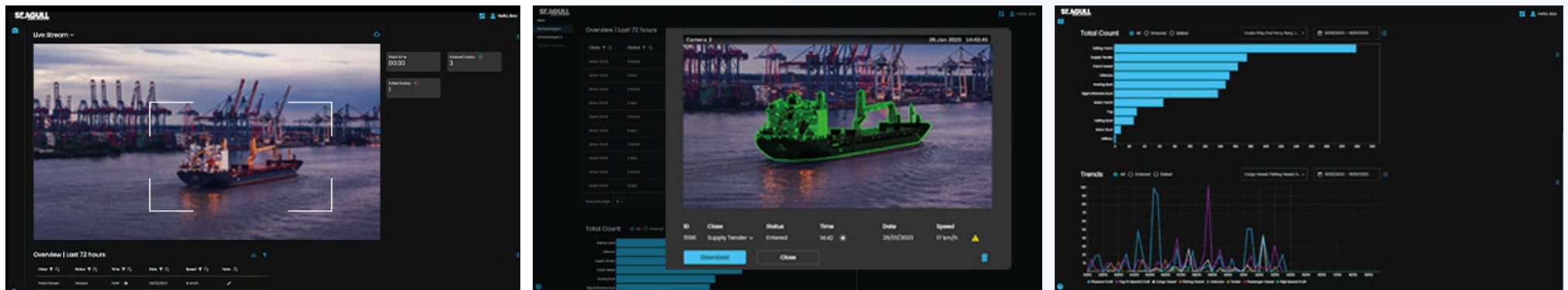
Nothing escapes SEAGULL

SEAGULL automatically recognizes and registers all traffic in its view. For each detection, information is stored for further investigation of suspicious activity. Data such as ship type, length, speed, and time of registration can be used to generate alerts.

"The Netherlands is a global forerunner in the port-maritime domain. However, considerable acceleration is still needed in digitalization to maintain this leading position in the future. The deployment of Artificial Intelligence (AI) plays a vital role in this"

ROOS JANSSEN
PRODUCT MANAGER SEAGULL AT BRAINCREATORS

WE KEEP IT SIMPLE

SEAGULL is a cloud-based software product. Installation and operation are highly intuitive.

1
CHOOSE EXISTING OR INSTALL NEW CAMERAS

SEAGULL works with any installed camera that overviews an area at a diagonal angle from an elevated position.

2
ENTER THE IP ADDRESS OF THE CAMERAS

Open up the configuration screen of Seagull and connect to your camera(s) by entering their IP address(es).

3
DEFINE YOUR AREAS OF INTEREST

Drag a box over the area you want to monitor, such as an area on the water or a shoreline of interest.

4
DEFINE ALERTS FOR SUSPICIOUS ACTS

Set speed limits or time windows per vessel type to receive alerts when incidents occur.

That's all you have to do to make SEAGULL monitor your selected areas.

START NOW

✓ 24/7 uninterrupted monitoring
✓ Using your existing cameras
✓ Automatic recognition of vessel types
✓ Insightful dashboard
✓ Velocity measurement
✓ Alerts
✓ Reporting
✓ Anonymised data storage

NO RISK: **You can pay per camera per month without setup fees.**

€**499**
PER CAMERA PM

SEAGULL features

CRITICAL AREA MONITORING

SEAGULL can visually identify 20 different vessel types, split into eight categories, ranging from sailing yachts and rowing boats to tankers and ferries. Once a vessel is recognized, it is registered in the logbook along with the following information:

- ✓ The ship type
- ✓ Time and date of registration
- ✓ The direction of the ship *(entered or exited)*
- ✓ Speed of passage
- ✓ An image of the ship

Next, there is room for the operator to leave a note regarding an event involving the ship or any other relevant information.

INSIGHTFUL DASHBOARD

The dashboard offers a complete overview of the activity in the camera view. It is made up of the following components:

- ✓ **Live stream** - A real-time view of what is happening in the camera's field of view.

- ✓ **Logbook** - An overview of all traffic in the last 72 hours. This overview can be downloaded as a report.

- ✓ **Count graph** - A graph that provides a total count of all traffic per vessel type over a selected period.

- ✓ **Trends graph** - A graph that provides insight into the traffic trends for each vessel category over a selected period.

ALERTS

SEAGULL offers the possibility of generating alerts to grab the operator's attention for situations requiring human interpretation. These alerts can be customized with settings that match the area to be monitored, such as the speed and time of passage.
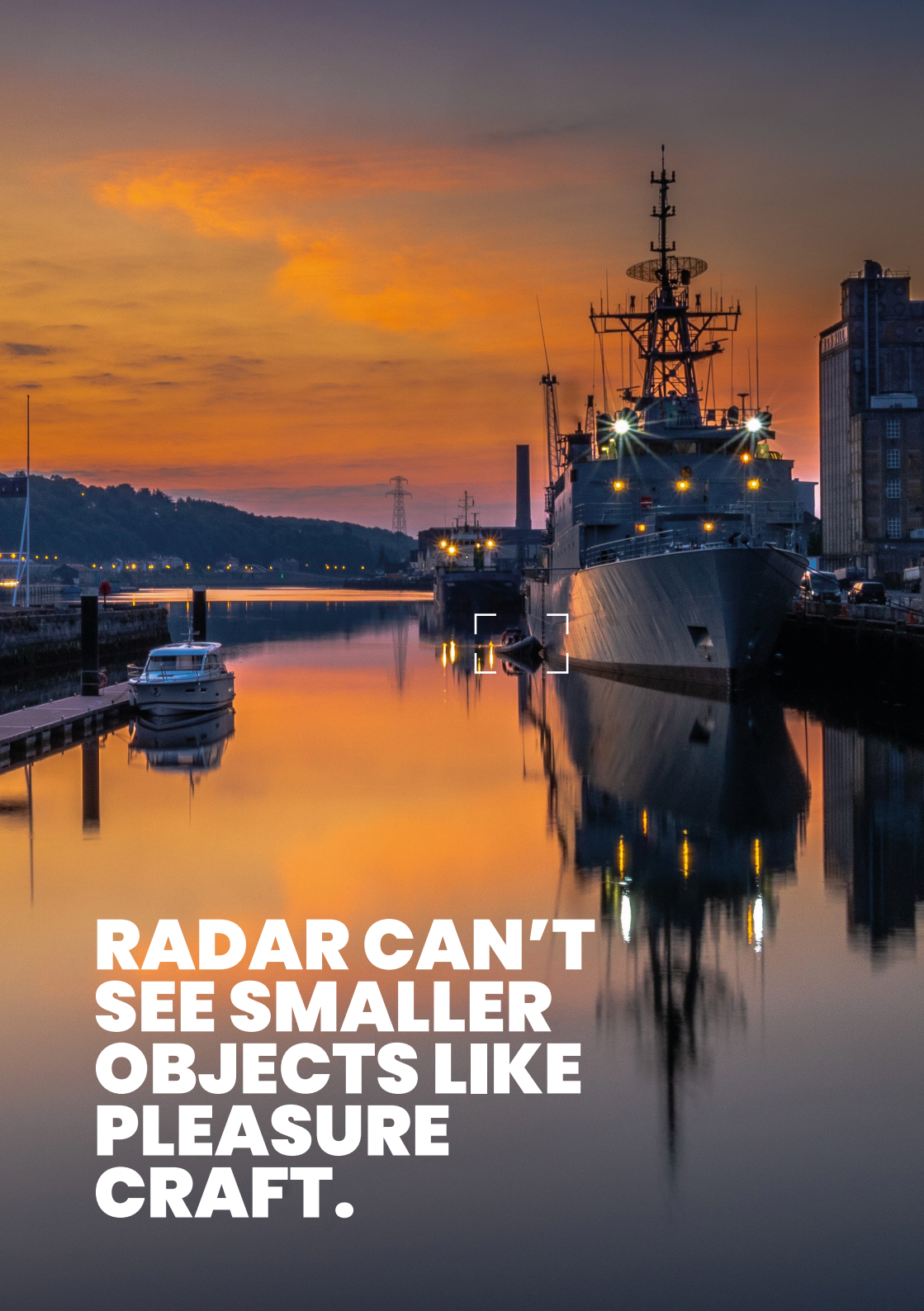
ANONYMIZED DATA STORAGE

SEAGULL aims to comply with GDPR by ensuring all data is stored anonymously. In each stored image, any visible people will be anonymized by blurring their heads.

REPORTING

SEAGULL allows users to download the content of the logbook. Next, monthly reports of vessel traffic trends throughout the monitored area will be emailed.

EASY ACCESS

SEAGULL is intuitive and runs in your browser. Enter your camera's IP address and the automated surveillance will start. Customize the target area for optimal result.

SEAGULL complements existing technologies

Monitoring vessel traffic is a critical feature of maritime surveillance, as it helps ensure the safety and efficiency of maritime operations. Vessel traffic is often observed with the help of radar systems and AIS transponders, but a group of vessels isn't picked up with these monitoring methods. This group consists of pleasure craft and boats that wish to remain unseen.

Radar systems
While radar systems are very reliable in detecting larger vessels, they often can't see smaller objects like pleasure craft. Next, differentiation between vessel types isn't possible with radar systems.

AIS
While AIS systems are excellent tools for exchanging navigational information, they are not a foolproof method for monitoring. First, pleasure crafts are often not required to carry an AIS transponder, making them invisible in the AIS surveillance system. Next to that, ships that do carry AIS transponders can decide to turn them off at any moment, for example, when they are about to engage in illegal activity.

Using **SEAGULL** to analyze camera footage can serve as an additional sensor input to complement radar and AIS sensors to improve maritime situational awareness.

RADAR CAN'T SEE SMALLER OBJECTS LIKE PLEASURE CRAFT.

SEAGULL adds value to your existing systems

Surveillance systems

Surveillance systems are designed to monitor and record activity within the port, including vessel movements, cargo handling, and people traffic. These systems include CCTV cameras, vessel traffic management systems, and other monitoring technologies.
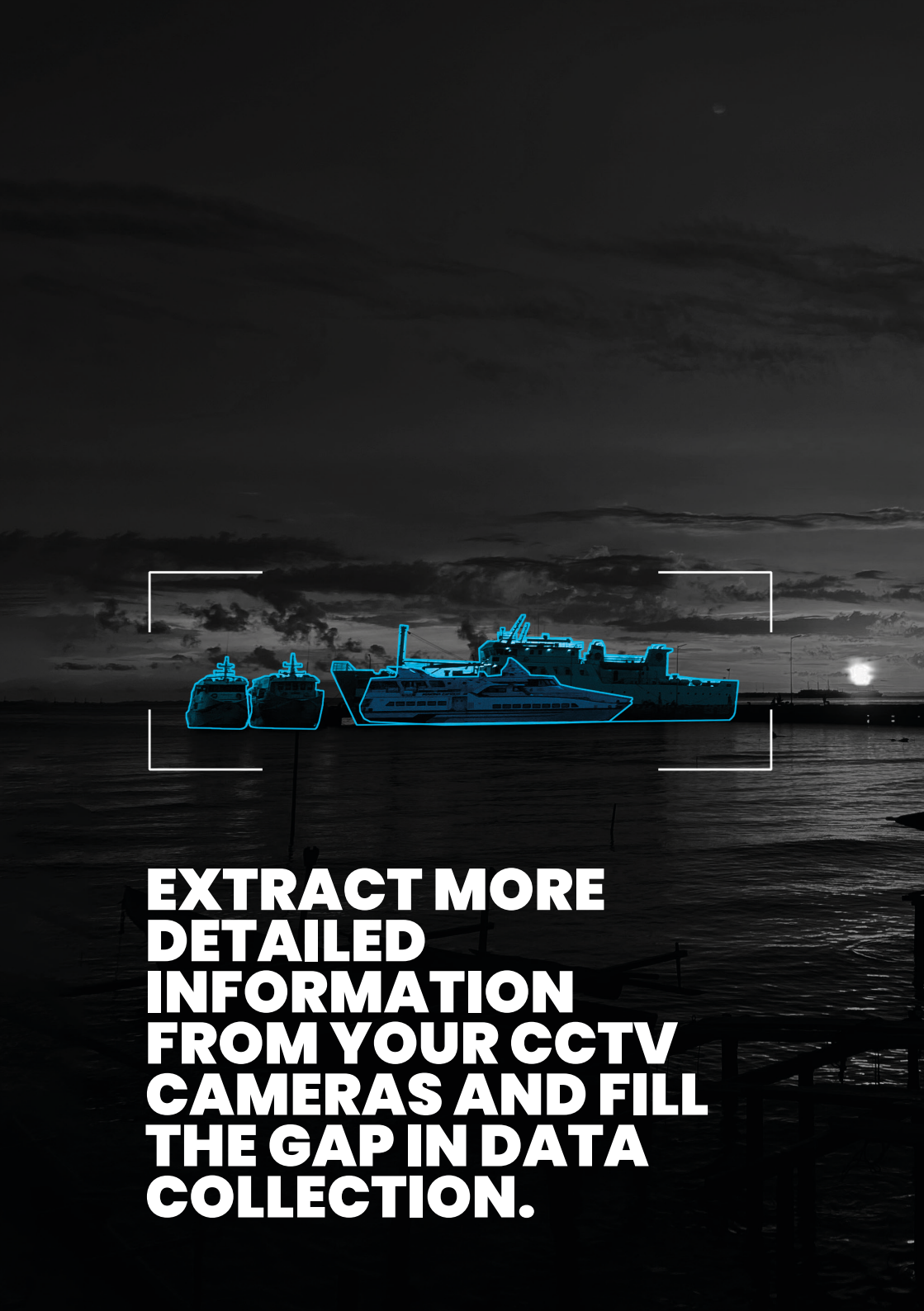
SEAGULL can complement these systems by extracting more detailed information from the CCTV cameras and filling the gap in data collection present with AIS and radar systems.

Harbour Management Systems

Harbour Management Systems are used to plan berth occupation, handle financial administration, and report. In addition, they use AIS and communication with vessels to get registered vessels.

SEAGULL can remove work from the operator by automatically registering all incoming and outgoing traffic.

EXTRACT MORE DETAILED INFORMATION FROM YOUR CCTV CAMERAS AND FILL THE GAP IN DATA COLLECTION.

| Frequently Asked Questions

Q – What differentiates Seagull from other surveillance solutions?
Since Seagull is specifically made to monitor vessels, it is capable of differentiating a lot of vessel types. Thus, providing more detailed information regarding the vessel traffic passing through the area.

Q – Which cameras does Seagull support?
Seagull supports any IP camera that sends out a stream, such as a Real Time Streaming Protocol (RTSP) stream. Preferably, the camera has night vision with infra-red technology to ensure Seagull's vision at night. If you'd like to check whether your camera system is suitable to connect Seagull to, please reach out to us at info@seagullsurveillance.com.

Q – What if I don't have a camera?
If you do not yet have a camera, but wish to start using Seagull, we can help advise you on which camera to purchase. Please reach out to info@seagullsurveillance.com for support.

Q – Is Seagull only meant for harbors?
No, Seagull can be used to monitor vessel traffic in any area on the water. Examples of such areas area coastlines, bridges, canals, rivers and locks.

Q – Does Seagull replace my existing security system?
No, Seagull is not meant to replace security systems. Seagull can be used as an addition to existing security systems, which can generate specific alerts.

Q – Can I use Seagull for further investigation of illegal activity?
The information Seagull registers in the logbook can indeed be used to further investigate suspicious situations. Seagull stores an image of each vessel that passed by, which can be used to further identify the vessel. Next to that, the timestamp of the registration can be used to find the video fragment of the vessel in your Video Management System.

Q – Which data does Seagull store?
Seagull stores three types of data:

1. Organisation data such as company details and preferences
2. User data
3. Logbook data such as anonymised images and vessel registration information

Images will be deleted after a 28 day period. Other logbook information will be stored until account deletion, to enable management reports and trend analysis over longer periods.

Q – Does Seagull comply with GDPR?
Yes, since Seagull classifies rather than identifies vessels, it does not store any personal data. In the stored images of vessels, any visible people will be anonymised by blurring their heads. The stored images are removed from the database after 28 days, to comply with GDPR.

Q – How do I sign up for Seagull?
Fill out the subscription form (link) to get your subscription directly. Our financial department will get in touch and send you an invoice. Get in touch with our sales department if you'd like to discuss the options before signing up. After your sign up is completed, you will receive an email with your login information.

Q – Which vessel types does Seagull recognise?
Seagull is currently able to detect 20 different vessel types, split into 7 vessel categories. We continuously update Seagull's vessel detection capabilities, and will therefore keep expanding this taxonomy. The following vessel types are supported: *cargo vessels, tankers, passenger vessels (ferries, cruise ships), fast ferries, tugs and special crafts (military, offshore, patrol vessel, tug, supply tender), fishing vessels, pleasure crafts, sailing vessels (tall ships, sailing boats, sailing yachts), motor vessels (super yachts, motor boats, motor yachts, RIBs, jet skis, rowing boats).*

Q – How accurate is the speed measurement Seagull offers?
The vessel speed that is measured by Seagull is meant to serve as an indication of relative speed throughout the area, which can be used for alerts. The speed measurement is highly dependent on the accuracy of the GPS calibration of the camera, which can cause inaccurate measurements. Therefore, the measurement is not meant to be used for law enforcement purposes.

Q – Can I export my data?
The data captured by Seagull can be exported in two ways:

1. The content of the logbook can be downloaded as .csv file.
2. The images belonging to a registration can be downloaded in .jpg format.

Q – How does Seagull handle vessel detection during the night?
Through training, Seagull is capable of detecting vessels during the night if some form of lighting is available. This can be light on the quay, but preferably the camera that is used has night vision with infra-red technology.

Q – How does Seagull handle weather conditions?
As a rule of thumb, it can be said that if a human is able to recognise a vessel in the camera footage, Seagull will be able to do so too. Seagull can't see what isn't visible. When the view of a camera is completely blocked by mist, heavy rain, or snow, Seagull will not be able to recognise vessels. With that being said, Seagull is able to handle most rainy or misty conditions.

Q – Is it possible to get a demo first?
Absolutely! Please visit seagullsurveillance.com and click on the button that says **REQUEST DEMO** to schedule an online meeting with our team!

SEAGULL USE CASE

Collaboration with the port of Scheveningen

Ports and harbors must have insight into the traffic that passes through for safety purposes. AIS receivers can track vessels with AIS transponders, and radar systems detect large vessels. However, there's a group of boats undetected by these systems. Also, harbor areas are rarely observed 24 hours a day. Research shows that security officers miss 95% of all visible activity after watching monitor screens for 20 minutes. This allows undesirable activities to occur in international ports of all sizes. SEAGULL fills this gap by providing automated 24/7 monitoring on and around the water. BrainCreators developed SEAGULL in cooperation with the municipality of The Haque and the harbor of Scheveningen in The Netherlands.

SEAGULL augments port and harbor security by filling in the gaps present with existing systems to improve maritime domain awareness. By visually identifying vessels in camera footage day and night, SEAGULL gives an overview of all traffic in the harbor. For every passing ship, SEAGULL logs the type, the time and date of registration, entry or exit, and the speed of passage. Also, an image of each vessel is stored to help you investigate the vessel further.

A collaboration with Scheveningen Port
To develop SEAGULL as a solution for 24/7 harbor surveillance, BrainCreators combined its software development and artificial intelligence expertise with the harbor domain expertise of the municipality of The Hague and the port of Scheveningen in the Netherlands. SEAGULL was first released to the production environment in the harbor of Scheveningen in December 2022.

How SEAGULL secures safety at the port of Scheveningen
The municipality of The Hague finds it essential to gain more insight into the shipping traffic in the port of Scheveningen. Until Seagull was used, only commercial shipping was registered. There is no standard system for registration, like car license plate registration. Hence we developed SEAGULL. It strengthens port management and improves the municipality's information position to combat illegal activities.

SEAGULL automatically recognizes and records shipping traffic in the port. At its core, SEAGULL is an intelligent video processing system that utilizes artificial intelligence. The AI identifies the vessel type and records the date/time and sailing direction. The Port Authority staff keeps a total record of activities in a comprehensive dashboard within SEAGULL. The registration system sees every vessel while safeguarding the privacy of port visitors. It does not record personal data, and the crew is not visibly displayed.

Using SEAGULL at the port of Scheveningen
"The port of Scheveningen is located directly on the North Sea and centrally along the Dutch coast, allowing for quick entry and exit. In less than an hour, Amsterdam, Rotterdam, Utrecht, and the ports of Hoek van Holland and IJmuiden can be reached by cargo ships. As a result, there is always movement in the port and a constant flow of incoming and outgoing ships," said Cees Duvekot, Port Authority and head of Traffic, (State) Harbourmaster of The Hague. *"Previously, our operators had to register all ships manually. We, therefore, needed a robust system to monitor our port, and with SEAGULL, we have achieved this. Thanks to SEAGULL, we are taking a future-proof and innovative step, allowing us to observe and register the entry and exit of all types of vessels more efficiently, save costs, and better identify risks."*

"Scheveningen Harbour is a unique and multifunctional place. The harbor is located directly on the North Sea and welcomes commercial and recreational shipping. Scheveningen Haven is also a neighborhood where people live, work, and recreate. Therefore, it is important now and in the future to ensure (maritime) safety and livability. The use of the registration system by Port Authority employees is going to help with this," said Anne Mulder, alderman for Scheveningen at the municipality of The Hague.

"The Netherlands is a global forerunner in the port-maritime domain. However, considerable acceleration is still needed in digitalization to maintain this leading position in the future. The deployment of Artificial Intelligence (AI) plays a vital role in this," said Roos Janssen, Product Manager at BrainCreators. *"We are therefore proud that together with Scheveningen Port and Bosch Energy & Building Solutions, we have realized a solution that takes us a step forward to better monitor maritime areas."*

SEAGULL

SURVEILLANCE

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