

ADAPTIVE RECOGNITION PORT SYSTEMS

SUBSYSTEM 06 · YARD INVENTORY

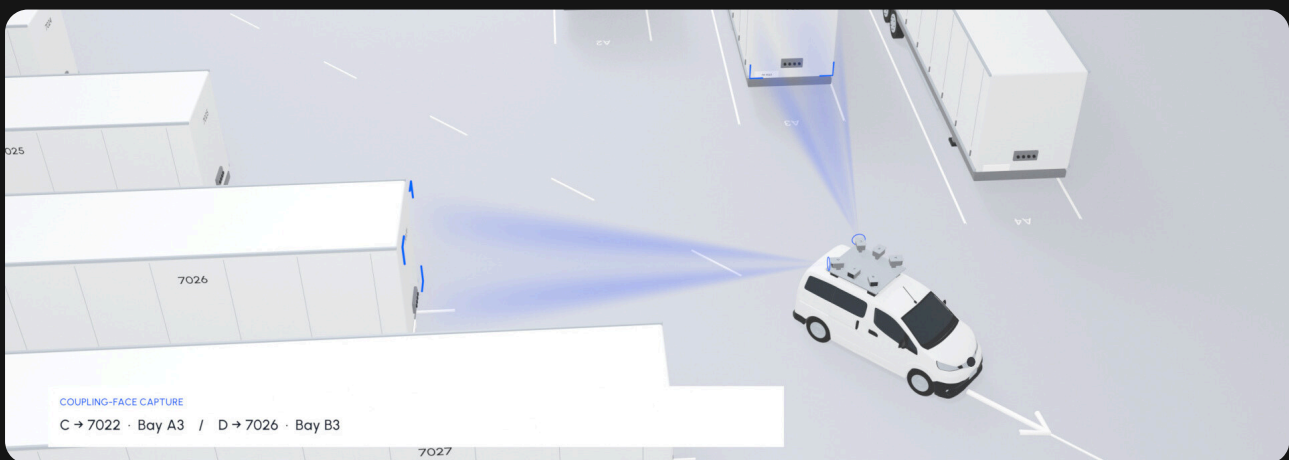
Adaptive Mobile Yard Scanner Know which trailer is where.

Capture trailers as your tugs work, or verify parked trailers with a dedicated van or car. Built around the way your yard operates.

YOUR YARD SETS THE ROUTE. WE ADAPT THE SCANNER.



SCAN TO SEE
IT ONLINE



POC VISUALISATION Survey van reading trailer coupling faces. Illustrative yard, camera fields and example data.

TUG-MOUNTED

In service at Rosslare Europort

VAN OR CAR SURVEY

Proof of concept in progress

ID WITH EVIDENCE

Unit number, plate or code,
with an image

YOUR DESTINATION

GDS, external SFTP or an
agreed interface

01 · OVERVIEW

One system, different workflows.

No two ports have the same layout, traffic or operating model. Capture trailer data during the work already happening, or send a light vehicle to check what is parked. The right approach starts with your operation.

The problem in the yard

- **Trailers move all day.** Load, drop and transfer movements change the yard faster than manual checks can follow.
- **Parked is not the same as known.** Planners need the trailer identity, its position and its bay, not a guess from the last booking.
- **Surveys tie up equipment.** Sending a tug on a dedicated survey costs a working vehicle and its fuel.

What the scanner does

- **Reads the trailer.** Visible unit number, licence plate or configured code, with an image as evidence.
- **Adds location context.** Time, vehicle position and heading on every observation.
- **Delivers a usable record.** Images and metadata go to GDS, an external SFTP server or another agreed interface.

3

LYNET CAMERAS ON EACH
TUG

6

INDEPENDENT CAMERAS
ON THE SURVEY ROOF
MOUNT

2

OPERATING MODES, ONE
CAPABILITY

3

DELIVERY OPTIONS: GDS,
SFTP, INTERFACE

The tug-mounted configuration is in service at Rosslare Europort. The six-camera survey configuration is a proof of concept in progress for a large European port.

TWO APPROACHES

In service · Rosslare Europort**Scan while your tugs work**

Cameras travel with the terminal tractor during its normal load, drop and transfer movements, turning routine trips into trailer observations.

Best fit: inventory capture alongside everyday trailer handling.

European yard · PoC in progress**Check the yard with a lighter vehicle**

A service van or car drives a survey route to identify parked trailers and verify their placement. Tugs stay available for handling work.

Best fit: scheduled checks of parked trailers, their positions and assigned bays.

Who uses the record

- **Yard planners:** which trailer is where, with an image to check.
- **Terminal operations:** movement inputs for LOAD/DROP interpretation from tug operations.
- **Integration partners:** a defined record format and delivery route into your yard or terminal operating system.

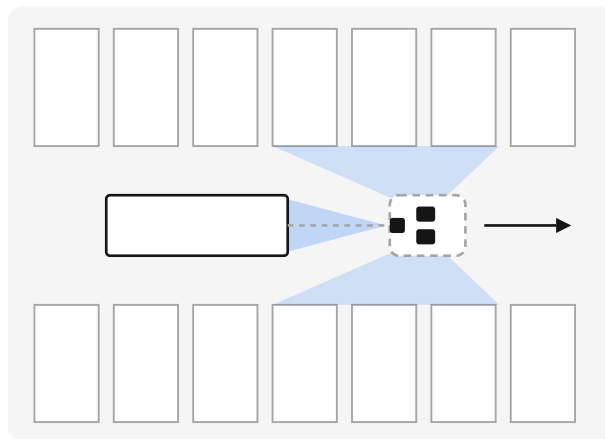
Built on 35+ years of recognition

Adaptive Recognition has built number plate and vehicle recognition since 1991. The Adaptive Mobile Yard Scanner is one of six Adaptive Port Systems subsystems.

02 · CONFIGURATIONS

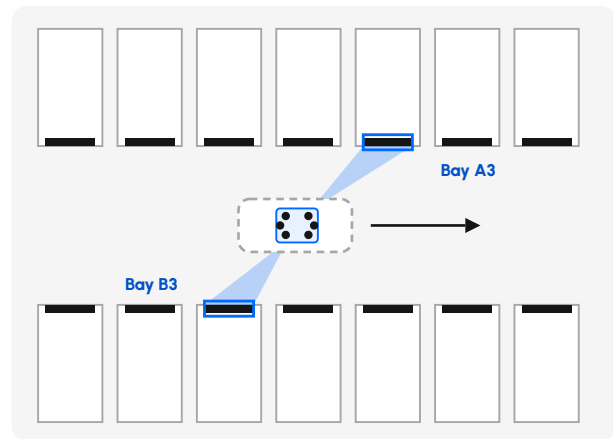
The vehicle changes. The purpose stays the same.

Both configurations give your operation trailer identity, location context and image evidence it can use.

A · TUG-MOUNTED · IN SERVICE

2 roof cameras read the yard to either side.

1 rear camera observes the trailer being handled.

B · VAN OR CAR SURVEY · POC

6 independent cameras on one central roof mount.

The relevant cameras read each coupling face as the vehicle passes.

FIGURE 1 Top view. Blue: Adaptive Recognition cameras and sensing. Dashed grey: the tug, van or car, provided by the port. Configuration B illustrates the PoC workflow, not a production deployment.

A. Tug-mounted

The existing configuration uses three Lynet cameras. Two roof-mounted cameras read the yard to either side. A rear camera observes the trailer being handled.

Images, IDs, timestamps, GPS and relative direction give your yard system the inputs for movement tracking and LOAD/DROP interpretation.

B. Survey vehicle

Six independently operating cameras share a central roof mount. They capture each trailer's coupling face as the vehicle approaches or passes, according to the direction of travel and the parking layout.

Six separate camera views, selected for the direction of travel. Not a stitched 360° view.

03 · HOW IT WORKS

From observation to inventory.

Different routes, a useful record at the end. Camera positions and viewing angles follow your vehicles and parking layout.

01

Capture

Read the visible trailer unit number, licence plate or configured code, with an image as evidence.

02

Locate

Link each observation to time, vehicle position and heading. In the survey PoC, camera geometry and the yard map establish position and bay.

03

Reconcile

Use movement observations from tug operations, or compare parked-trailer observations across survey passes.

04

Deliver

Send images and metadata to GDS, an external SFTP server or another agreed interface.

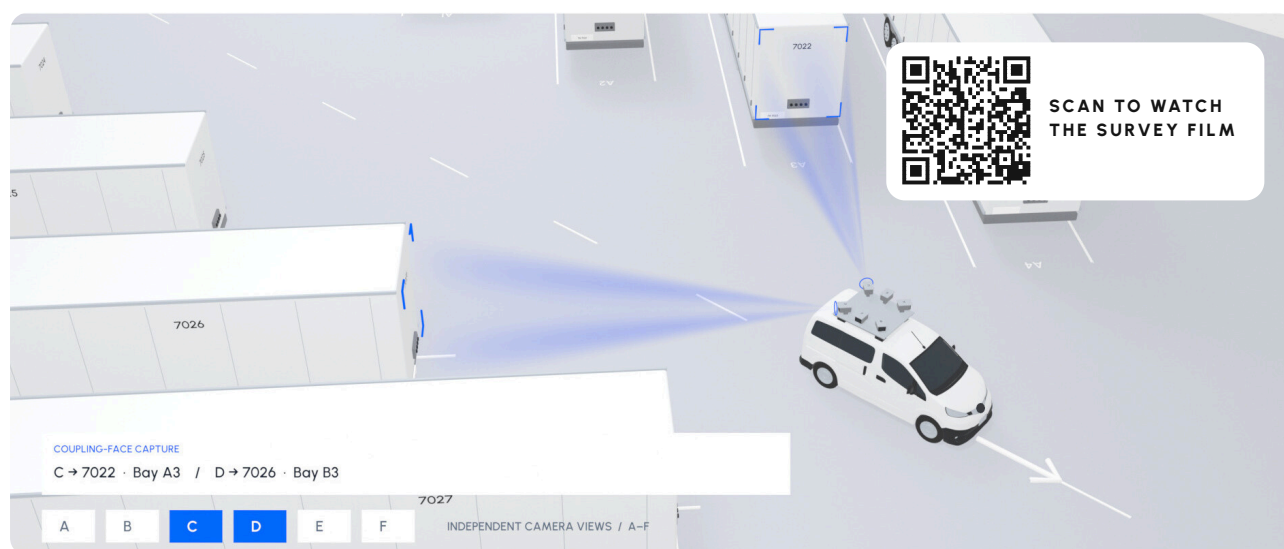


FIGURE 2 From the yard survey film. Scan the code to watch it. Cameras C and D read coupling faces and link each identifier to its trailer and bay. PoC in progress: illustrative workflow, under development.

What the survey film shows

- Six cameras operate separately as the van changes direction.
- They capture the coupling face, where a unit number, plate or configured code can be visible.
- Observations are associated with positions and parking bays.
- Repeated reads are reconciled. Obscured or unreadable IDs are flagged for review.

What it does not do

- The survey vehicle checks trailers already placed in the yard. It does not load or drop them.
- The film illustrates the intended PoC workflow, not a completed production deployment.
- How duplicate reads, obscured IDs and uncertain positions are handled is agreed with you.

04 · THE RECORD

A trailer ID. A location. Evidence to check.

Both approaches deliver images and event metadata. The movement fields or parking-location fields depend on the configuration you choose. The record is agreed with your operation.

Example survey record

TRAILER UNIT ID	0951059
LICENCE PLATE	GB Q74 LTC
OBSERVATION	GPS and heading, where the scan was captured
SURVEY POSITION	Row C · Bay 12 (PoC)
TIME AND SOURCE	10:42:18 · Survey vehicle 01 · Camera E
IMAGE EVIDENCE	Attached to the record

Illustrative values. The vehicle's GPS fix is the observation position. Trailer position and bay also use the camera geometry and yard map, and are being developed in the current PoC.

What each mode delivers

FIELD	TUG-MOUNTED	SURVEY (POC)
Image evidence	Yes	Yes
Unit number, plate or code	Yes	Yes
Timestamp and source	Yes	Yes
GPS and heading	Yes	Yes
Relative direction for LOAD/DROP	Yes	No
Trailer position and bay	No	In development
Reconciliation across passes	No	In development

YOUR DATA, YOUR DESTINATION

GDS, SFTP or your agreed interface

Globessey Data Server

Store and access the recognition records in GDS when you want our data platform as part of the solution. On-premise, on your own hardware.

External SFTP

Deliver images and event metadata to your own server, ready for your yard system or integration partner to collect.

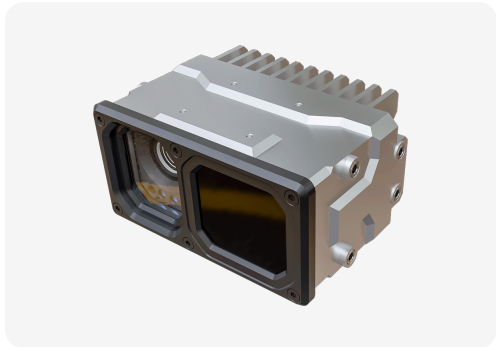
Your existing systems

Agree an API or another interface around your receiving system. Format, delivery frequency and responsibilities are scoped with your team.

GDS is an option, not a requirement. Both operating modes can deliver to the destination your team already uses.

05 · HARDWARE AND APPROACH

Configured around your vehicle, your yard and your workflow.



**3 PER TUG · TUG-MOUNTED
CONFIGURATION**

Lynet smart camera

Adaptive Recognition's smart yard camera, mounted on the tug. Two roof units read the yard to either side, and a rear unit observes the trailer being handled.

Reads	Unit number, plate, configured code
Output	Images and event metadata
Inputs added	Time, GPS, relative direction

Survey vehicle · PoC

Six-camera central roof mount

Six independently operating cameras on one mount. The cameras relevant to the direction of travel and parking layout capture each coupling face.

Software

Recognition and event output

Recognition software turns each capture into an image plus metadata, delivered to GDS, SFTP or your agreed interface.

Optional

Globessey Data Server

On your own hardware, if you want our data platform. Security posture aligned with NIS2, GDPR and ISO.

BUILT AROUND YOUR PORT

One team under one roof

Our factory, hardware and software development, sales and support are under one roof. The people who understand your requirements work directly with the people who build and support the solution.

01

Your yard

The vehicle you want to use, how trailers are parked, which IDs are visible.

02

Your planners

What your planners and yard system need to know from each observation.

03

Tailored setup

Camera layout, mounts, recognition workflow and data delivery.

04

Verified

The configuration is checked against agreed requirements.

One in service, one in development. The tug-mounted approach is in service at Rosslare Europort. The van survey is a proof of concept in progress for a large European port.

06 · SCOPE OF SUPPLY

What we deliver, and what stays yours.

We provide the camera and recognition solution, configured around your vehicle and workflow. Vehicle fitting, site infrastructure and integration are agreed with you and your integrator.

Delivered by Adaptive Recognition

- Camera selection and configuration for the agreed vehicle and yard layout
- Recognition software and image/event output
- Positioning and mounting configuration, scoped for the project
- Globessey Data Server on your own hardware, if required
- Lifecycle support through ARGS

Provided by the port or its integrator

- The tug, service van or car, vehicle fitting and power provision
- Yard connectivity and site infrastructure
- The external SFTP server or other receiving endpoint, where selected
- Yard-map inputs and integration into your yard or terminal operating system

COMMON QUESTIONS

Tug or survey vehicle: which one fits?

Tug-mounted capture fits inventory alongside everyday trailer handling. A survey van or car fits scheduled checks of parked trailers, their positions and bays, without taking a tug off handling work.

Which identifiers does it read?

The visible trailer unit number, licence plate or a configured code. Every read comes with an image as evidence.

Do we need GDS?

No. GDS is an option. Images and metadata can go to an external SFTP server or another interface agreed around your receiving system.

Is the survey approach in production?

Not yet. It is a proof of concept in progress for a large European port. Bay assignment and reconciliation are being developed. The tug-mounted approach is in service at Rosslare Europort.

Start with your yard. Show us your layout, vehicles and workflow. Together we define the right configuration, the data handover and the path from pilot to deployment.

GET IN TOUCH

Let us build around your yard. Different port, different needs.

Show us your layout, vehicles and workflow. Together we define the right configuration, the data handover and the path from pilot to deployment.

WHAT TO HAVE READY

Yard layout

Rows, bays, parking patterns and how trailers face the aisles.

Vehicles

Tugs in use, or the van or car you would run a survey with.

Existing systems

Yard or terminal operating system, and where the data should land.

Your goals

Movement tracking, parked-trailer checks, or both.

WHO YOU WILL TALK TO



Péter Tomolák

Port Systems · Business Development · Budapest

Your first point of contact. Péter works with ferry terminals, Ro-Ro ports and integrators across Europe to find where automation pays back fastest.

EMAIL peter.tomolak@arh.hu

PHONE +36 70 393 0599



Vedran Leso

Managing Director, Global Services · Copenhagen

Owns the Port Systems line end to end, from the first scoping call through deployment and 24/7 lifecycle support under one SLA.

EMAIL vedran.leso@adaptiverecognition.com

PHONE +45 29 888 777 · WhatsApp



This subsystem online

Both approaches, the yard survey film and the record.

adaptiveportsystems.com/systems/yard-scanner



Book a consultation

We respond within one business day.

adaptiveportsystems.com/book-consultation

COPENHAGEN

Adaptive Recognition Global Services ApS, Nyhavn 16, 1051
Copenhagen K, Denmark · CVR DK45885690

BUDAPEST HQ

Adaptive Recognition Hungary Zrt., Alkotás utca 39/C, 1125
Budapest, Hungary