

ADAPTIVE **RECOGNITION** PORT SYSTEMS

THE BUSINESS CASE

Why ports switch. Four costs, five mechanisms, one calculator.

The business case for automating your ferry or Ro-Ro gate: faster vessel turnaround, more throughput per lane, lower gate-labour cost, fewer errors and built-in compliance. In your numbers, not ours.

LESS TIME AT THE BOOTH. MORE TIME AT SEA.



SCAN TO SEE
IT ONLINE



UP TO 68%

Shorter average boarding
time per sailing

UP TO 600 / HR

Vehicles per lane, ferry

UP TO 82%

Fewer manifest reconciliation
exceptions

35 S

Self-service check-in, pull-up
to release

01 · THE COST OF THE MANUAL GATE

What the manual gate quietly costs you.

None of these costs shows up as a single line in a budget. Together they cap your capacity, inflate your opex and leak revenue on every sailing.

01

Time at the berth

Slow boarding holds the vessel at the quay. Minutes per sailing, multiplied across every departure, decide whether you fit another rotation into the day.

02

Staff at the booth

Manual check-in takes 45–90 seconds per vehicle and needs a person in every lane, every shift. It is hardest and most expensive exactly when peak demand hits.

03

Queues and missed sailings

Peaks of 3–5× normal volume back lanes onto the public road. Ships sail with empty deck space, passengers miss departures, refunds follow.

04

Errors and exceptions

Mismatched plates, wrong sailings, manifest disputes, misloads, unbilled axles. Each exception is a manual override, a delay and often lost revenue.

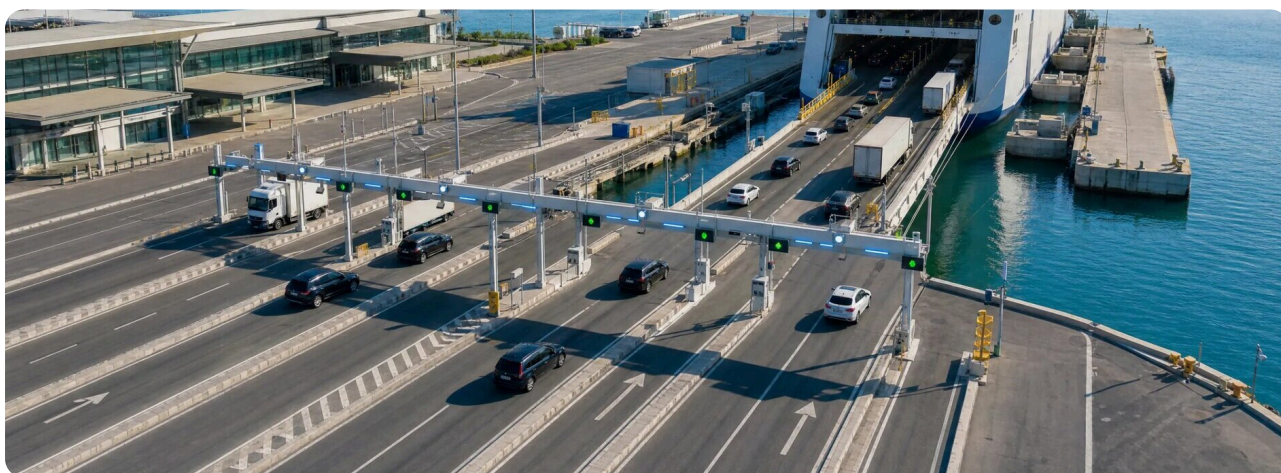


FIGURE 1 Every vehicle that stops at a booth adds seconds. Across a peak departure, those seconds become berth time.

The question to ask. How many minutes per sailing does your gate add, and what would one extra rotation per day be worth? The rest of this brochure shows where the time goes and how to get it back.

02 · WHAT CHANGES

Before Adaptive, and after.

Each cost maps to a specific mechanism and a measurable result.

BEFORE	AFTER
Drivers stop at the barrier so a plate can be read and a booking found.	ADAPTIVE APPROACH GATE Free-flow ANPR pre-reads and pre-clears vehicles on approach. Up to 600 vehicles per hour per lane at a constant 30–70 km/h.
An operator staffs every check-in booth, 45–90 s per vehicle.	ADAPTIVE CHECK-IN GATE Plate and travel document read at the lane, so your kiosks clear a vehicle in as little as 35 seconds. Staff come off the line.
Manifest and booking mismatches are caught by hand, holding the queue.	ADAPTIVE CHECK-IN GATE + GLOBESSEY DATA SERVER Plate and document arrive as one record, so your check-in system matches the booking without re-keying. Up to 82% fewer reconciliation exceptions.
Deck loading is checked by eye. Misloads surface late and cost turnaround.	ADAPTIVE DECK LOADING MONITOR Every vehicle is verified to its deck position in real time. Fewer reworks, faster sailings.
Each gate runs on its own clock with no shared picture.	GLOBESSEY DATA SERVER One real-time data layer ties approach, check-in, deck and yard into a single source of truth.

OUTCOMES OPERATORS MEASURE

Up to **68%**

SHORTER AVERAGE
BOARDING TIME PER
SAILING

Up to **600**

VEHICLES PER HOUR, PER
LANE (FERRY)

Up to **450**

TRAILERS PER HOUR, PER
PORTAL (RO-RO)

Up to **82%**

FEWER MANIFEST
RECONCILIATION
EXCEPTIONS

As little as **35 s**

SELF-SERVICE CHECK-IN,
PULL-UP TO RELEASE

100%

ADR PLACARD DETECTION
WITHIN THE DESIGN
ENVELOPE

99.7%

ANPR READ ACCURACY,
DAY AND NIGHT

Best results measured at reference deployments. Actual performance depends on port layout, traffic mix, lane design and the integration on the port's side.

03 · BORDER-READY · EES AND ETIAS

Recover the throughput EES takes away.

As the EU Entry/Exit System (EES) and ETIAS roll out, every non-EU traveller adds checks at the gate. At juxtaposed-control ports that time lands on your apron. Adaptive keeps the document and data side moving, so the queue recovers.

01

Read and validate

The Osmond Advanced Passport Reader reads the passport NFC chip and machine-readable zone and authenticates the document at the lane. The data side of the EES record, captured in seconds.

02

Link and route

ANPR links the document to the vehicle and its booking, so lanes pre-clear and route without manual lookup. Flow keeps moving around the mandated checks.

03

Store and serve

Reads flow into the Globessey Data Server under a GDPR-by-design regime: data minimisation, retention controls, role-based access and a full audit trail.

Where the border line sits. Adaptive handles the travel document and the data. The mandated live biometric capture (face and fingerprints) and the immigration decision itself remain with the border authority and the EES kiosks. We make everything around them faster.

WHAT THIS MEANS AT THE LANE

Document read once

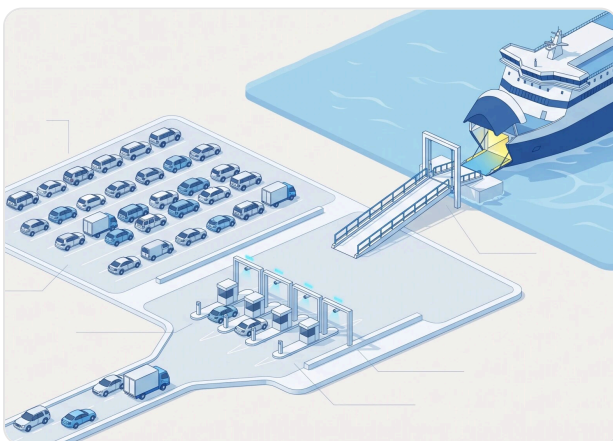
Chip, MRZ and document authentication are captured at the lane, not re-keyed at a booth.

Linked to the vehicle

Plate, document and booking sit in one record, so your check-in system can assign the lane and the check without re-keying.

Ready for audit

Every read is time-stamped with evidence and kept under your own retention rules.



Part of the Check-In Gate

Document reading is delivered through the Adaptive Check-In Gate: Einar cameras read the plate and the Osmond reader captures the travel document. Your own check-in system matches the record to the booking and drives the lane.

We plan the document side with you against the schedule your border authority sets.

04 · WHAT YOU SAVE

Where the return comes from.

Four levers, each one a line your finance team already tracks. We model them against your real traffic and sailings in a scoping session.

Lever 01**Gate-labour cost**

Self-service check-in removes the person from each lane. Staffed lanes × shifts × peak weeks is the recurring opex automation gives back, starting with the hardest-to-fill peak shifts.

Lever 02**Vessel turnaround**

Minutes saved per sailing × sailings per day frees berth time. Better on-time performance and, on tight rotations, the headroom to add a departure without a new ship.

Lever 03**Capacity without capex**

Up to 600 vehicles per hour per lane lets existing lanes absorb peak growth. That defers or avoids the cost of new lanes, land and civil works.

Lever 04**Revenue and risk leakage**

Accurate axle counts and manifests recover unbilled revenue and cut disputes. ADR detection and a NIS2, GDPR and ISO-aligned posture help avoid fines and safety incidents.

HOW THE ONLINE CALCULATOR WORKS

You enter

- Terminal type: ferry terminal or Ro-Ro port
- Number of gate or check-in lanes
- Daily vehicle volume and the truck/car mix
- Current processing time per vehicle
- Loaded gate-staff cost per hour
- Operating days per year
- Scenario: Conservative, Base or Optimistic

It calculates

Annual saving = daily volume × time saved per vehicle ÷ 3600 × operating days × hourly cost

- **Time saved** = current processing time minus the automated time: 45 s Conservative, 35 s Base, 20 s Optimistic.
- **Throughput** per lane = 3600 ÷ processing seconds.
- The result is shown as a ±15% range.

05 · ESTIMATE YOUR SAVINGS

A worked example, then your own numbers.

These are the calculator's default inputs, which reflect typical Northern-European deployments. Replace them with your own figures online.

Inputs, Base scenario

TERMINAL TYPE	Ferry terminal
LANES	4
DAILY VOLUME	1,500 vehicles
TRAFFIC MIX	25% trucks, 75% cars
CURRENT TIME / VEHICLE	210 s (suggested for this mix)
GATE-STAFF COST	€48 per hour, loaded
OPERATING DAYS	350 per year
AUTOMATED TIME	35 s per vehicle (Base)

Result

ESTIMATED ANNUAL SAVING

€1,040,000–
€1,410,000

Gate-labour value freed per year, Base scenario (±15%)

TIME SAVED / VEHICLE	175 s (2.9 min)
THROUGHPUT PER LANE	17 → 103 vehicles / hr
STAFF-HOURS FREED	≈ 25,500 per year
COMBINED CAPACITY	412 vehicles / hr, 4 lanes

Defaults reflect typical Northern-European deployments: loaded gate-staff cost of about €40–55 per hour, manual processing of about 180 s for cars and 300 s for trucks. Figures are estimates for planning only. Actual results vary by site conditions, labour agreements, traffic profile and integration. We validate them against your real data in a scoping session.



RUN IT WITH YOUR NUMBERS

Scan to open the savings calculator.

Adjust every assumption, switch scenarios and download a PDF summary for your finance team.

adaptiveportsystems.com/why-ports-switch#calculator

Indicative upside, site-dependent

Shorter peak queues, faster vessel turnaround, and headroom to absorb peak growth without building new lanes. The calculator counts only gate labour.

Get a tailored model

Tell us your routes, sailings and peak volumes. We model the turnaround, labour and capacity gains for your terminal.

06 · ONE PLATFORM, NOT FIVE VENDORS

Integrated by design, not stitched together.

Most ports end up buying each capability from a different specialist, then paying to wire them together. Adaptive fuses them on one data layer from day one.

THE POINT-SOLUTION ROUTE

Five vendors, one headache

- ANPR from one vendor, occupancy from another, weighing from a third, yard and deck elsewhere, then a separate dashboard on top.
- Point-to-point integrations to build, test and maintain, and data drift between systems that never quite agree.
- Multiple support contracts and SLAs. When something breaks, no single number to call.
- No single operational picture. Gate, yard and vessel each on their own clock.

THE ADAPTIVE ROUTE

One fused platform

- Gate recognition, occupancy counting, yard tracking, deck verification and document reading from one supplier, feeding one record.
- All on the Globessey Data Server: one language across every subsystem. Third-party kit on the lane, such as weigh-in-motion, kiosks, barriers and signage, writes into the same record.
- Open, documented APIs and on-premise GDS. Your standards, your data, your exit, with no vendor lock-in.
- One dashboard and one SLA through Adaptive Recognition Global Services (ARGS). One number to call.

SIX SUBSYSTEMS, ONE DATA LAYER

01

Adaptive Approach Gate

Multi-lane ANPR at the port boundary

02

Adaptive Freight Gate

Plates, hazmat, occupancy and condition in one pass

03

Adaptive Passenger Gate

IR occupancy counting through tinted glass

04

Adaptive Check-In Gate

Plate and travel document, one identity record

05

Adaptive Deck Loading Monitor

From the ramp to the final deck position

06

Adaptive Mobile Yard Scanner

Trailer capture from tugs or a survey vehicle

PROVEN IN PRODUCTION

Port of Dover

Europe's busiest ferry port. Vidar cameras read plate, make and model and ADR placards, with coverage still expanding as the port digitises.

Rosslare Europort

Ireland's gateway to mainland Europe. Adaptive Freight Gates, Adaptive Check-In Gates and an Adaptive Mobile Yard Scanner for Iarnród Éireann, supported under an ARGS SLA.

07 · COMPLIANCE AND SAFETY

The risk side of the case.

Throughput is only half the argument. Automation is also how you keep dangerous goods, data and audit obligations under control, built in from day one.

ADR and IMO placards

100% placard detection within the design envelope. Every hazmat unit identified, logged and routed, 24/7, across all portals.

SOLAS passenger registration

In-vehicle occupancy counting supports SOLAS and EU Directive 98/41/EC, as amended by 2017/2109: auditable persons-on-board records before departure.

NIS2, GDPR, ISO 27001

A platform posture aligned with NIS2, GDPR and ISO 27001: encryption at rest and in transit, role-based access, data minimisation and retention controls.

Image-backed audit trail

Every read time-stamped with evidence, exportable for billing, claims and incident review.

Hardened devices

IK10-rated enclosures, protected firmware and closed ports. Tamper- and weather-resistant.

Your obligation, supported

The platform supports the operator's compliance duties. Responsibility for them stays with the operator.

SUSTAINABILITY

Fewer idling engines, cleaner air.

Every minute a vehicle is not queuing with its engine running is fuel saved and emissions avoided. Free-flow gates and shorter dwell cut idling at the gate and in the yard, and the data layer gives you the dwell-time evidence to show it. Cutting idling at TEN-T gateways is the outcome the EU's port digitalisation and decarbonisation agenda rewards.

Less idling at the gate

Free-flow ANPR and self-service check-in keep vehicles moving instead of queuing with engines running.

Better air for neighbours

Lower local emissions and noise support port air-quality targets and decarbonisation goals such as FuelEU Maritime.

Evidence, not claims

Time-stamped dwell-time and queue data in GDS lets you measure and report the improvement rather than estimate it.

GET IN TOUCH

Let's put your numbers on it. Your routes, your sailings, your peaks.

Tell us your routes, sailings and peak volumes. We will model the turnaround, labour and capacity gains for your terminal, and show you what deployment looks like.

WHAT TO HAVE READY

Traffic volumes

Peak and off-peak vehicle counts, freight and passenger mix, peak hours.

Site layout

Number of lanes, gate locations, distances between checkpoints, network access.

Existing systems

Booking, ticketing, customs and traffic-management platforms in use.

Your goals

Speed, accuracy, compliance, cost, or all of them.

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.

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

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The business case online

The full page and the savings calculator.

adaptiveportsystems.com/why-ports-switch



Book a consultation

We respond within one business day.

adaptiveportsystems.com/book-consultation

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