



COREALIS Final Event

# Truck Appointment System (TAS)

Susanna Caminals- SGS

April 23rd, 2021



# Truck Appointment System (TAS)

## Truck Appointment System (TAS): the concept

- Booking systems long used in many activities and business sectors
- Several names for the same concept: Truck/gate appointment systems, e-gate pass, vehicle booking system...
- Typically used for regulating the incoming vehicle flow in vehicle inspection centers, border-crossing facilities, customs X-ray scanning, entry-gates at port premises, port terminal operations...





# Truck Appointment System (TAS)

## COREALIS TAS Objectives

- Create **an innovative type of TAS** focused on:
  - Increase visibility of incoming traffic to port terminals
  - Optimize terminal resources and operations management to the expected volume and type of activity by knowing in advance the volume of incoming trucks and type of operations to be done
  - Reduce idle-time and queues (terminals, port surrounding areas)
  - Reduce pollution and improve sanitary conditions
  - Create a channel of communication between the terminals and the drivers / transport companies to optimize cargo delivery, inform on delays, etc.
  - Evolve and adapt to changing needs of the users & trade





# Truck Appointment System (TAS)



## COREALIS Truck Appointment System (TAS) & Living Labs

- **VALENCIA LIVING LAB (LL)**

- “Advanced TAS” (e-platform + mobile app)
- Access:  
<https://valencia.corealis.tas.goswift.eu/valencia/>
- Pilot data:
  - Testing Period: Since September 2019
  - 2-phase testing: TAS (alpha v.) & TAS Mob App for Truck tracking (Beta & final v.)
  - Terminals: 3
  - Terminal Queues: 1
  - Slots: 60 min, no limit of trucks
  - Companies: 2

- **HAMINAKOTKA LIVING LAB (LL)**

- “Light TAS” (Simplified version of Vlc LL TAS)
- Access:  
<https://kotka.corealis.tas.goswift.eu/kotka/>
- Pilot data:
  - Testing Period: Since September 2019
  - No use of TAS Mob App (no real time tracking of trucks)
  - Terminal: 1
  - Terminal Queues: 3
  - Slots: 60 min, 10 trucks
  - Companies: 1





# Truck Appointment System (TAS)

## BEFORE THE PILOT

- Queues at the port entrance
- Terminals without visibility of incoming traffic: precise time when trucks would arrive for a certain operation, traffic volume, type of material, type of operation (loading/unloading), processing warehouse...
- Truck drivers/transport companies not knowing if they would pick up/deliver the container immediately, waiting-time in the terminals, which warehouse to head for
- Warehouse assigned “on-the-spot” (HK)

## TAS POSITIVE IMPACT

- Terminals know in advance which trucks, containers type of material and operation will be performed at each warehouse/terminal at a given moment
- Terminals plan their resources and operations in advance
- The driver knows in advance which warehouse to go to (HK)
- Reduction of queues at the port-gates
- Reduction of idle-time at terminals & faster operations
- Full visibility of port delivery/pick-up operations in real time for container terminals and transport operators (Vlc)



# Truck Appointment System (TAS)

## FIGURES

- **VALENCIA LIVING LAB (LL)**
- Decrease in 10 min idle-time within terminals
- Considering 5 K trucks x day circulating in Valencia Port:
  - ✓ The maximum possible emission savings due to TAS reducing trucks' waiting time in Valencia: 304 045 litres of diesel is saved per year.
  - ✓ Total CO2 emissions savings possible = 862 tons CO2 per year (151 ton from production, 711 ton from use)
- 90% Increase of predictability of arrival from Test period 1 to Test period 2 due to the rescheduling function by drivers
- **HAMINAKOTKA LIVING LAB (LL)**
- Reduction in 9 minutes of idle-time within the port area & faster operations
- Estimated 12% time-saving of a truck's port visit
- Positive environmental impact due to:
  - ✓ Reduction in exhaust fumes within the port area
  - ✓ Optimization of the fleet → fewer trucks & investment in a newer, more eco-friendly fleet



# Truck Appointment System (TAS)



## COREALIS TAS Users – Roles - Functions

- **ADMINISTRATOR** (Port Authority) – Full visibility, maximum permission
- **TERMINALS**
  - Superusers (Operations Team Leader/s) – Full visibility of own terminal, Advanced permission
  - Standard Users (Operational Team)
- **TRANSPORT COMPANIES, HAULIERS, FORWARDERS...**
  - Superusers (Operations Team Leader/s) – Full visibility of own company, Advanced permission
  - Standard Users (Operational Department)
  - Drivers (interface through Mob App, limited functionalities: “start my trip”, “reschedule my trip”, receive notifications by mobile)







# Truck Appointment System (TAS)

## COREALIS TAS Modules

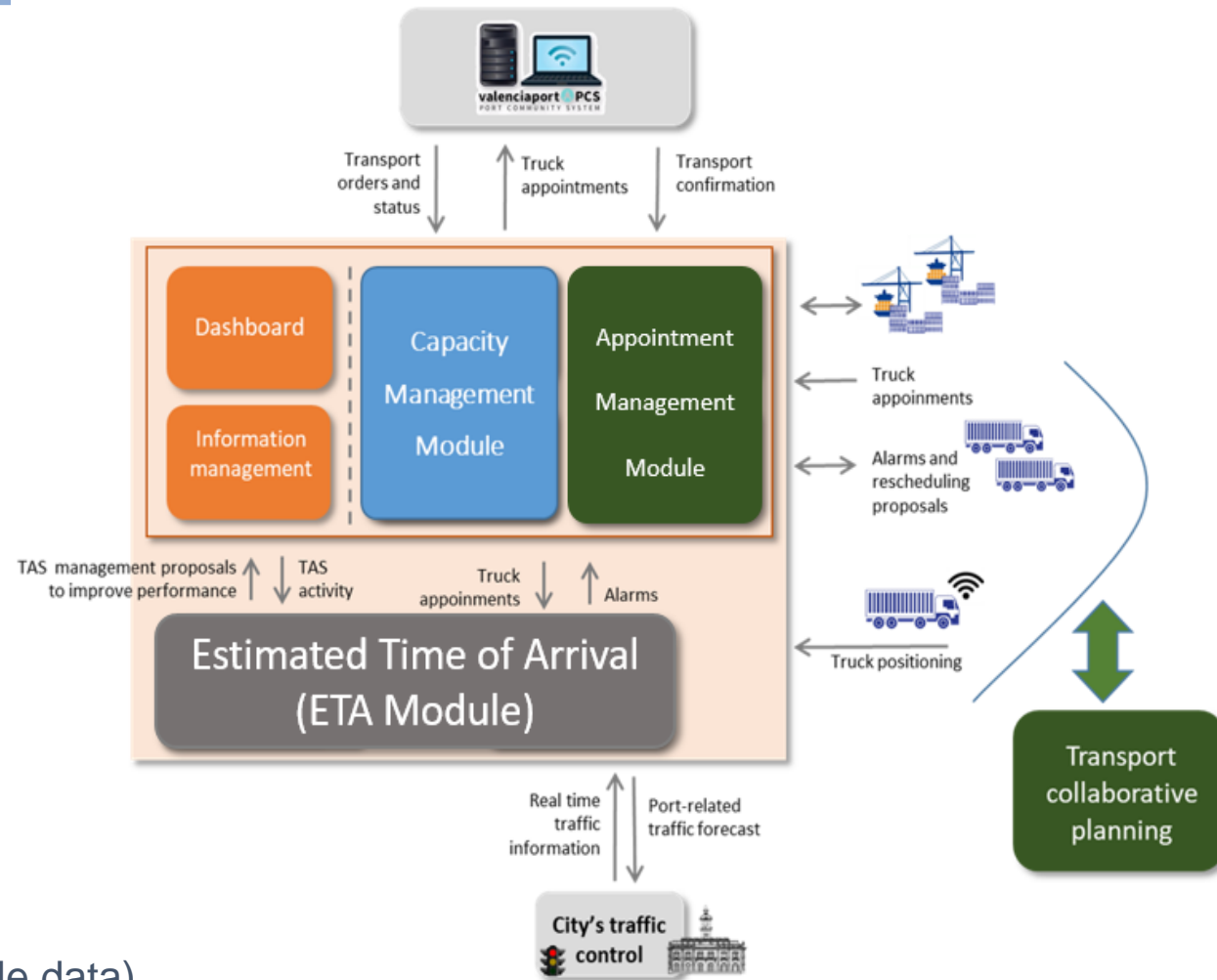
**Terminal Capacity Management Module**  
(workload configuration)

**Booking Creation, Reservation & Management Module**

**Geolocation & Prediction of ETA Module**  
(Drivers' TAS Mob App)

**Communication Module**  
(e-platform & Mob App)

**Statistics & Reporting Module**  
(customized, pre-defined reports, exportable data)







# Truck Appointment System (TAS)



## Slot Reservation / Booking Creation

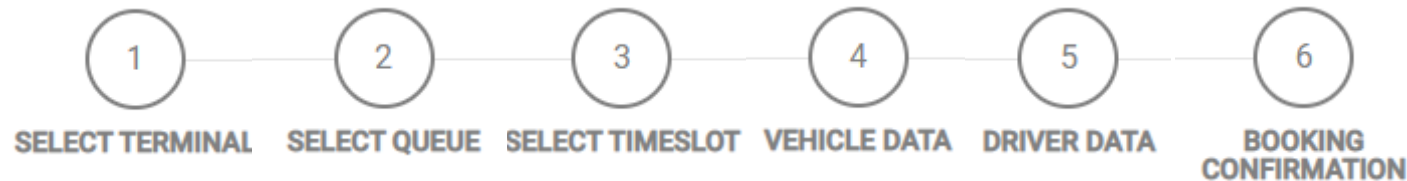
The screenshot shows a web browser window displaying the COREALIS TAS homepage. The browser's address bar shows the URL `kotka.corealis.tas.goswift.eu/kotka/`. A notification bar at the top indicates that the Flash Player will no longer be compatible as of December 2020, with a 'Desactivar' button. The website header includes the COREALIS logo and a 'Login' link. The main content area features a large image of a truck in a port setting, with the text 'COREALIS Truck Appointment System' and a prominent 'RESERVE' button. The footer contains a European Union funding notice, links to 'Privacy Policy' and 'Contact us', and a note that the system is 'Powered by SGS'. The Windows taskbar at the bottom shows the time as 18:19 on 08/10/2020.





# Truck Appointment System (TAS)

## Booking creation



1. Select terminal  
(scroll-down menu)
2. Select queue  
(scroll-down menu)
3. Select timeslot (date, time from calendar)
4. Vehicle data (manual feed/pre-select saved vehicles as scroll-down list)
  - Transport order number
  - Vehicle plate number
  - Vehicle country
5. Driver's data (manual feed/pre-select saved vehicles as scroll-down list)
  - First Name
  - Last Name
  - Phone number
  - E-mail



# Truck Appointment System (TAS)



## Bookings dashboard, driving status (ETA prediction sourced from drivers' Mob App)

Super User

Bookings

Terminal

Companies

Users

Employees

Notifications

Feedback

Content

Statistics

Search by transport order number/vehicle

All

Booked

Cancelled

Start date

Company

Choose your option

End date

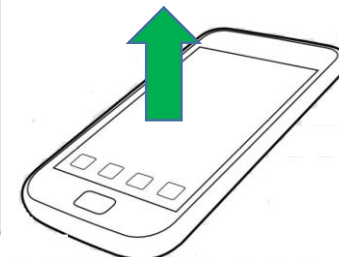
Terminal

Choose your option

Total bookings amount: 822

Manage notifications

Slot date	Time at border	Terminal name	Terminal queue	Transport order number	Company	Vehicle plate number	Booking status	Driving status		
10.09.2020	13:00	CSP Iberian Valencia Terminal	Admisión de lleno (Export)	RCRVBA	Trajoman	0350KXS	BOOKED	Arrived Trip end : 09.09.2020 18:13	Details	Edit
		CSP Iberian Valencia Terminal	Admisión de lleno (Export)	RCDW5E	Trajoman	5248KPM	BOOKED	In time ETA : 10.09.2020 12:24	Details	Edit





# Truck Appointment System (TAS)

## Driver's Functionalities TAS App

1. Booking details
  2. Real trip duration
  3. Route (map)
  4. Automated alerts (e.g. "1 hour before slot")
1. ETA & Driving status: early, late, in time
  2. Get notifications from Terminals / Users (own company)



## Driver actions

1. Start my trip
2. Reschedule my trip (optional)

**Booking details**

Terminal name  
**Port of Valencia**

Queue  
**AO-E (Admission Order Empty)**

Transport order  
**00998**

---

First name  
**Peter**

Last name  
**Pan**

Driver's phone  
**34620192000**

Platenumber  
**ES1234**

Timeslot  
**17 Apr 2020 10:00**

Status  
**BOOKED**

---

Share my location data ☒

**> Start trip**

**Show route**



**BOOKED**

**Early**

**ETA :**  
07.09.2020  
17:08

**Trip start :**  
07.09.2020



# Truck Appointment System (TAS)

## Communication: Notifications Management & Feedback Module

- **Terminals ↔ Transport Companies**

- ✓ TAS E-platform (Feedback Form → answers/questions)
- ✓ Sms & E-mail (notifications)

→ **Drivers (from same transport company)**

- ✓ TAS Mobile App

Feedback

Feedback terminal

Feedback subject

Feedback message

Send

 **Manage notifications**



# Truck Appointment System (TAS)

## Statistics Module: Pre-defined & Customizable Reports

- Purpose: check the TAS overall performance, reporting, KPI's definition, monitoring, planning, operations improvement
- Access: Administrators and Superusers
- Own company records
- Format: pdf / CSV (exportable)



# Truck Appointment System (TAS)

## Continuous Improvement & Innovation

TAS is an evolving innovation

Some of the topics which have raised most interest amongst stakeholders and may be further developed in a future:

1. **APIs and integration with third-party systems**
2. **Pre-booking function & new TAS user/profile**
  - Pre-reserving a slot (for hauliers not knowing their final schedule of delivery on their way to the port)
  - Reassigning the booking to a transport company
3. **Automatic rescheduling or suggestion of next available slot** based on machine-learning techniques and analytics
4. **Suggestion of alternative route** depending on driver's preferences, delivery schedule, traffic congestion, weather conditions...





[www.corealis.eu](http://www.corealis.eu)



[corealis\\_eu](#)



[COREALIS EU Project](#)



[Corealis\\_eu](#)



[info@lists.corealis.eu](mailto:info@lists.corealis.eu)

# THANK YOU FOR YOUR ATTENTION



**Susanna Caminals**

SGS Group - Governments & Institutions (GIS)

Business Development Manager

M.: +34 620 192 000; E-mail: [susana.caminals@sgs.com](mailto:susana.caminals@sgs.com)



This project has received funding from the European Union's horizon 2020 research and innovation programme under grant agreement No. 768994