



# DYNAMIC WEIGHING SYSTEM IN ITALIAN HIGHWAY

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Hosted by  
Italy

**ICA**

YAVUZ SULTAN SELİM BRIDGE  
AND  
NORTHERN RING MOTORWAY



# MOVYON

## Autostrade per l'Italia Group

### Digital engineering for smart mobility

#### OUR NUMBERS



**300+**

highly skilled  
professionals



**Active projects**

in Europe, South America  
and Africa



**450+**

Free Flow gantries and Stop&Go  
plazas in the world



**460.000+**

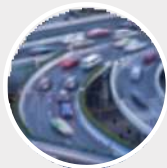
events managed in 2021 by  
Traffic Management Platform



**2.000+**

Bridges, viaducts, overpasses  
monitored with ARGO

#### OUR SOLUTIONS



**Traffic & Safety  
Management**



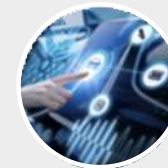
**Infrastructure  
Management**



**Tolling**



**Smart  
Cities**



**Smart  
Roads**

# New challenges

**The growing European heavy traffic in recent years has entailed new challenges in terms of:**



## **SAFETY**

- Low efficiency of overweight vehicles
- Infrastructure conditions/local regulation
- Need of heavy vehicle monitoring improvements



## **ENVIRONMENT**

- High emissions of overweight vehicles
- Need to preserve urban areas from heavy vehicle-induced pollution



# Dynamic Weighing System

## A real traffic ruling compliant solution

### Italy, A3 motorway (Salerno-Napoli-Pompei)

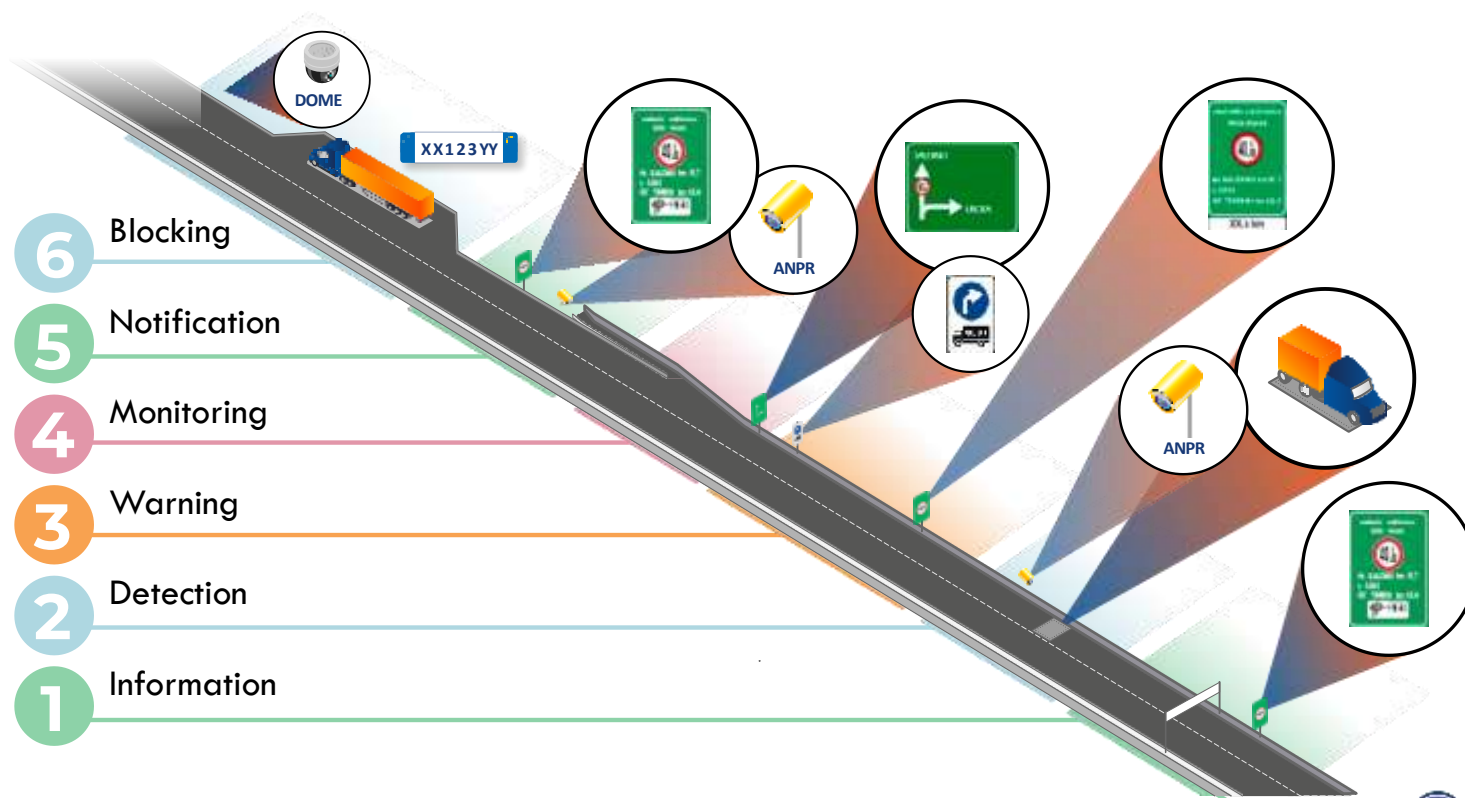
#### A COMPLEX SCENARIO

- High traffic of heavy vehicles
- Direct connection from the motorway to the port

#### INNOVATIVE TECHNOLOGIES AND APPROACH

- 20 km section covered
- 16 weigh-in-motion systems installed
- 11 ANPR cameras
- 15 Variable Message Signs along the section
- Strong cooperation with local authorities and Police

#### OVERWEIGHT VEHICLES HANDLING STEPS



# Identification and weighing components

## Mass & Plate number detection

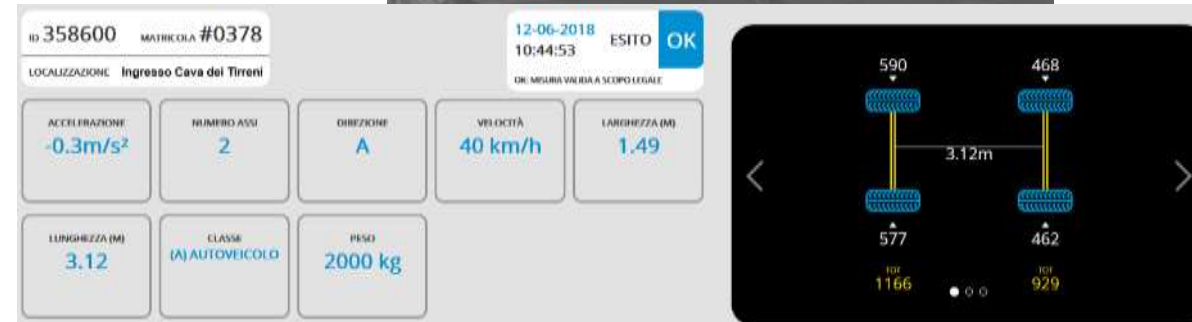


### WEIGH-IN-MOTION DEVICE

- Speed
- Axles number & weight
- Gross weight
- Vehicle Class
- Direction



### ANPR CAMERA



THE WEIGHT AND PLATE MATCHING ENABLES THE TRACKING OF EACH VEHICLE TRAVELLING ALONG THE SECTION

# Information components

## Static and dynamic signal systems informs drivers about regulation, bans, prescriptions

- Static traffic regulations signals
- Variable Message Signs (VMS) connected with monitoring systems and triggered by them

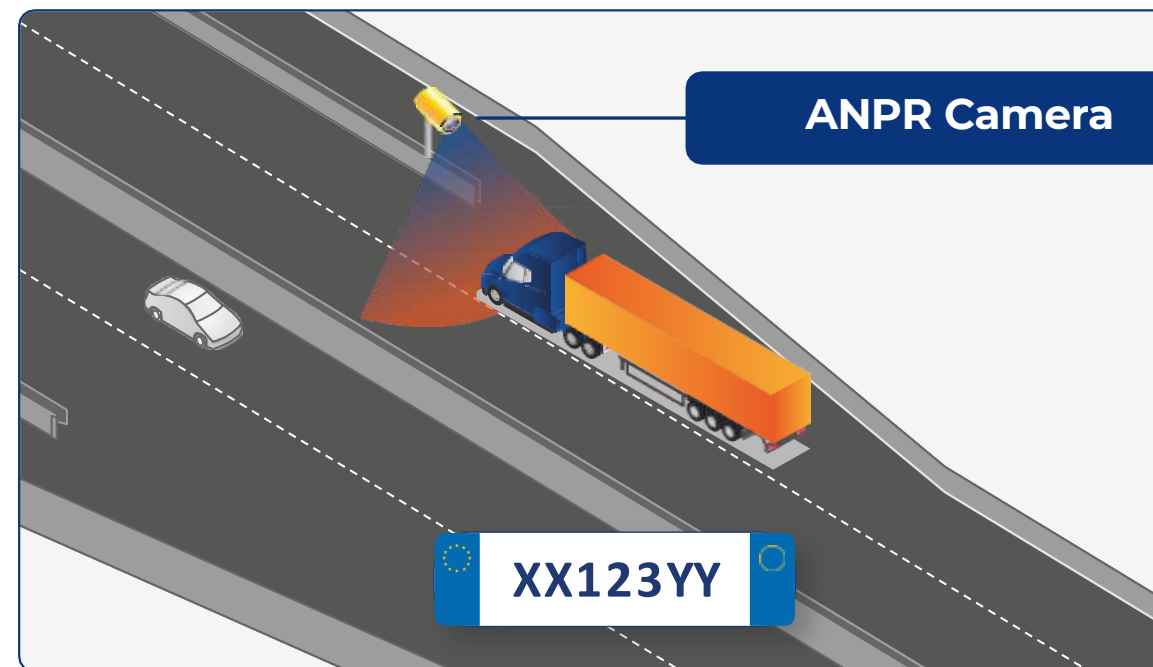
**These systems operate both at entrances and along the section**



# Control and monitoring components

## Tracking vehicles journey

- Several ANPR cameras monitoring the heavy vehicles in the key points of the road
- Each detection is automatically sent to the Central System, in order to check the compliance of vehicles' journey with compliance and regulations imposed along the road section



**IN CASE OF VIOLATION, TRAFFIC CONTROL CENTER AND POLICE RECEIVE  
A REAL-TIME NOTIFICATION BY THE SYSTEM**

# Blocking components

## Preventing access at entrances

- Weight and identification systems has been installed even on the external road to access the route
- ANPR identification systems has been installed at the toll lanes
- Other system cameras monitor approaching vehicles
- VMS at toll lanes alerting the driver of overweight vehicles



**TRIGGERED SYSTEM CLOSE THE TOLL LANE IN CASE OF AN OVERWEIGHT VEHICLE TRY TO ENTRY**



# User interface

## An optimized interface for each role



An easy-to-use interface for Traffic Control Centre operator



Mobile App optimized for Police and other operators on the road



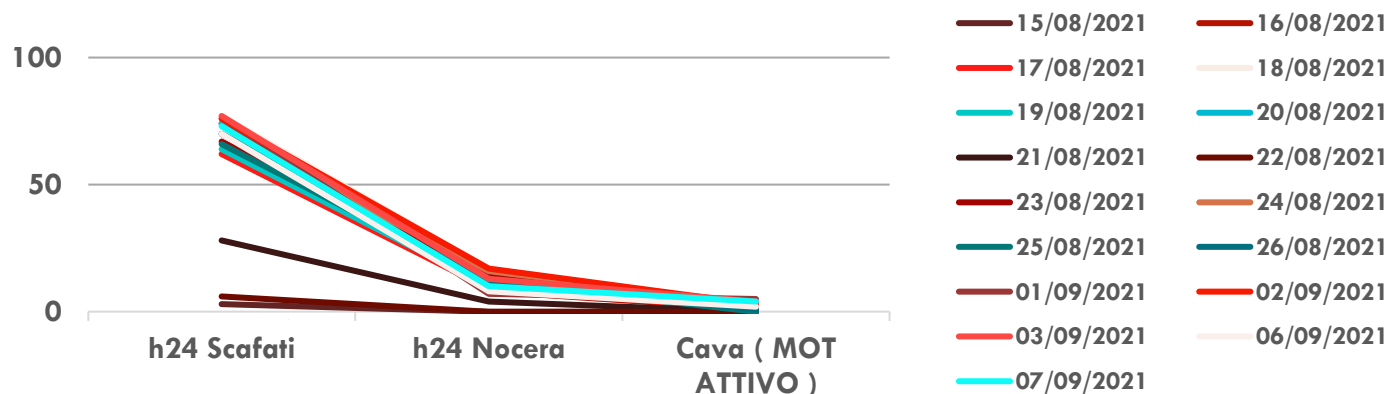
THE COLORS OF EACH LANE OF THE INTERFACE HELP THE OPERATOR TO MANAGE THE SEVERITY OF VIOLATIONS

# Facts and figures

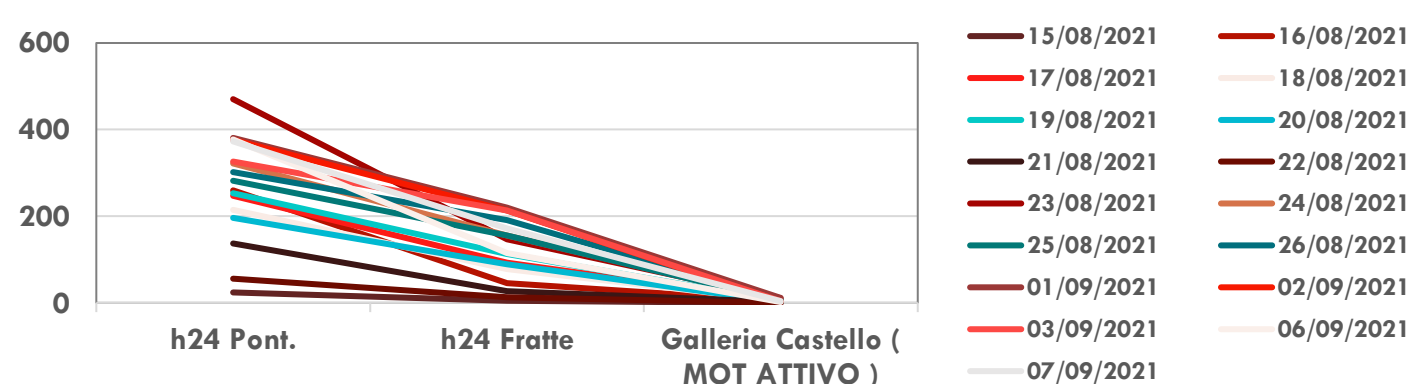
## Effectiveness

- From hundreds to zero overloaded transits over forbidden sections in two weeks
- Strong synergy between Traffic Control Center and Police operation, to pull overweight vehicles over and control them at static load systems installed at the end of the monitored section

HEAVY TRUCKS VOLUME - SCAFATI - NOCERA - CAVA PORTALE



HEAVY TRUCKS VOLUME - PONTECAGNANO - FRATTE - SALERNO



# THANK YOU

**Luigi Cuseo**

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MOVYON Spa

Autostrade per l'Italia Group



Find out more!



[www.movyon.com](http://www.movyon.com)