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TOURISMO Final Conference

Data-driven solutions for smart crowd flow management.

Visitor counting with sensors and AI at tourism hotspots.

9th of June 2026

Valletta, Malta

**Real-time data and smart monitoring in a UNESCO World Heritage site:
the case of Rhodes**

Eleftheria Nikitara, Development Agency of South Aegean Region –READ S.A.



The island of Rhodes is the largest island of the Dodecanese complex and the fourth in the whole country



A Mediterranean island in a very strategic position and a highly popular destination worldwide, especially from April until November.



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The Medieval City of Rhodes:

- UNESCO World Heritage Site since 1988 and one of the island's main cultural attractions
- A living historic town where many residents still live and work
- Concentrates commercial, catering, and entertainment activities
- Attracts very large visitor flows, creating significant pressure on infrastructure, residents, and heritage assets

 342,607 visitors to the Palace of the Grand Master (2023)

 125,112 permanent residents on Rhodes Island

 Need for better visitor flow and tourism management



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Pilot area objectives

- Improved Visitor Management
 - Reduced Congestion

- Protection of Cultural Heritage

- Seasonality Analysis (Summer vs. Winter)
 - Decision-Making Support



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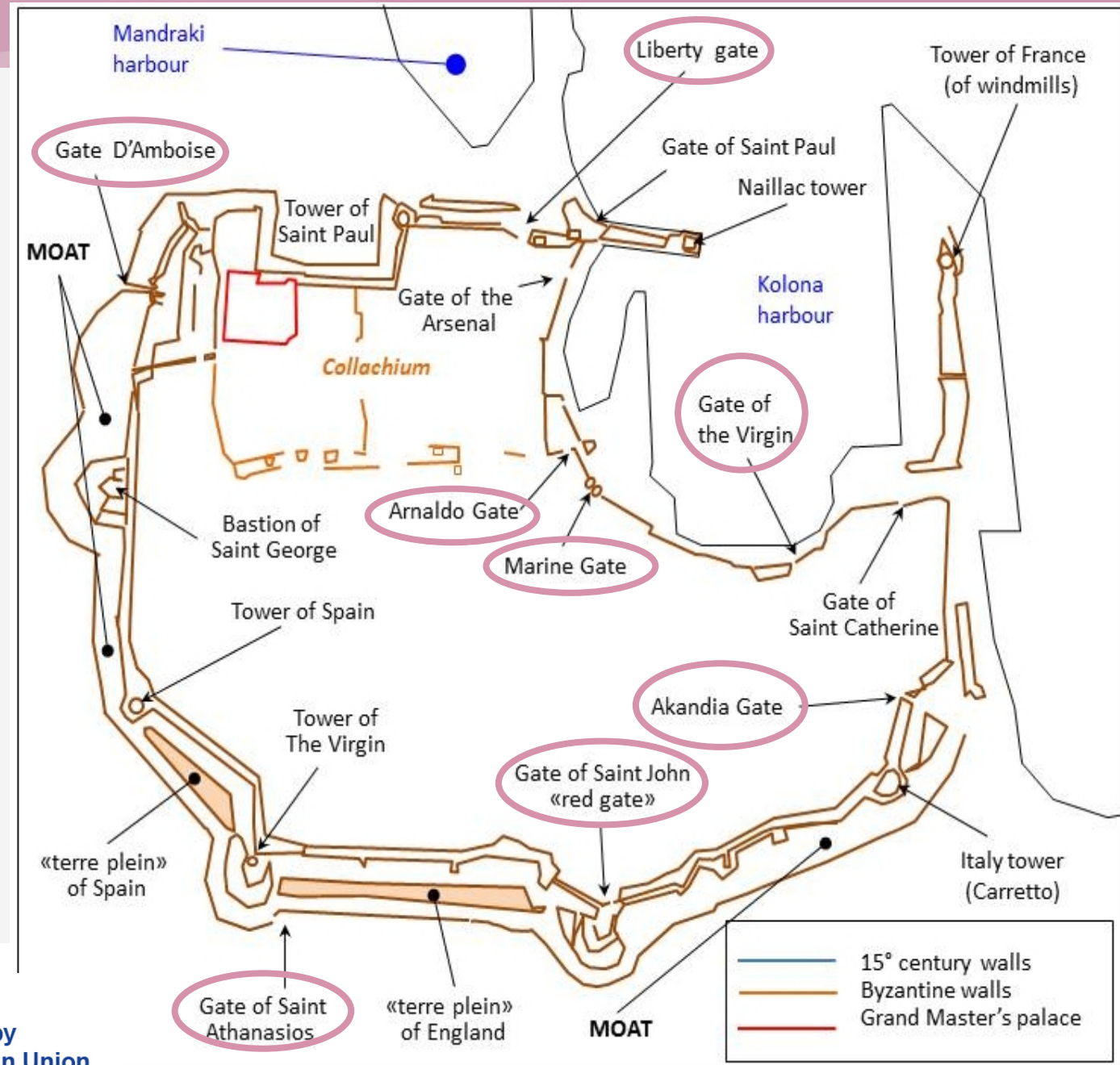
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Area Monitored

Outdoor people counting radars have been placed at the 8 main gates of the Medieval Town:

- Gate D' Amboise
- Eleftheria's (Liberty) Gate
- Arnaldo Gate
- Marine Gate (Kolona)
- Gate of the Virgin
- Akandia Gate
- Gate of St. John (Red Gate)
- Gate of St. Athanasios



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Technology and Tools

- ❑ Outdoor radar sensors.
- ❑ Data analytics platform and dashboards.
- ❑ Data transmission via 4G network.
- ❑ GDPR compliance without collecting personal data.

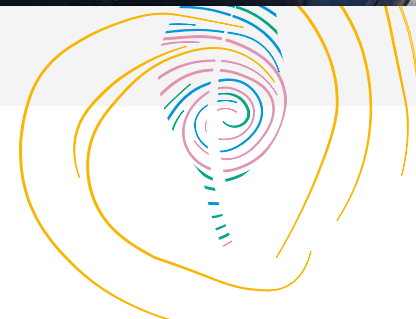


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Technology and Tools



- ❑ All-weather, day-and-night people & vehicle detection
- ❑ Real-time movement and speed tracking
- ❑ Line-crossing and zone occupancy counting
- ❑ GDPR-compliant anonymous monitoring
- ❑ Cloud reporting via built-in 4G
- ❑ Advanced accuracy optimization

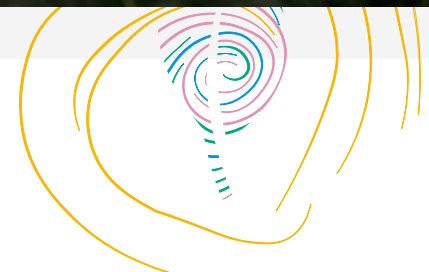


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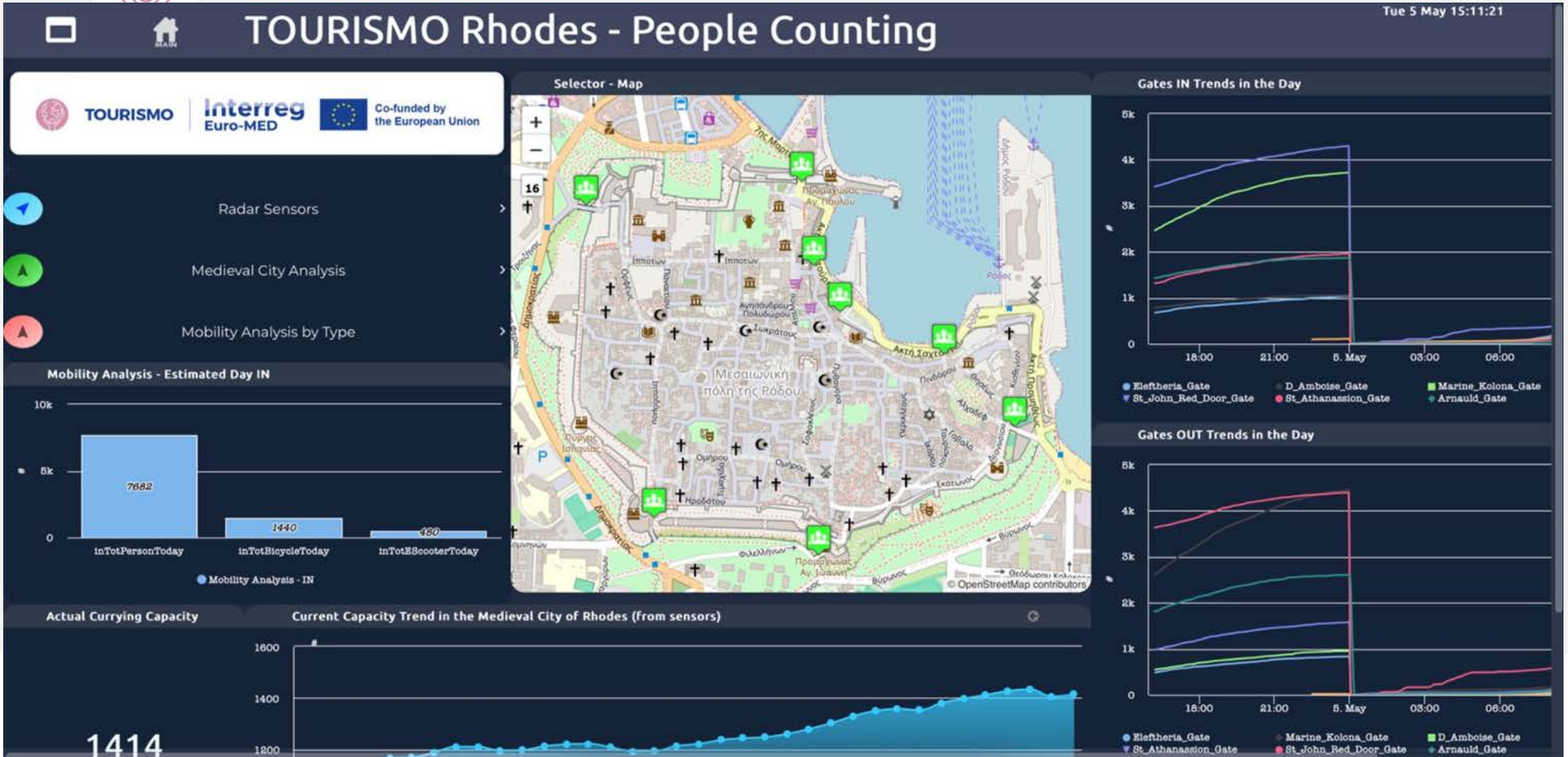


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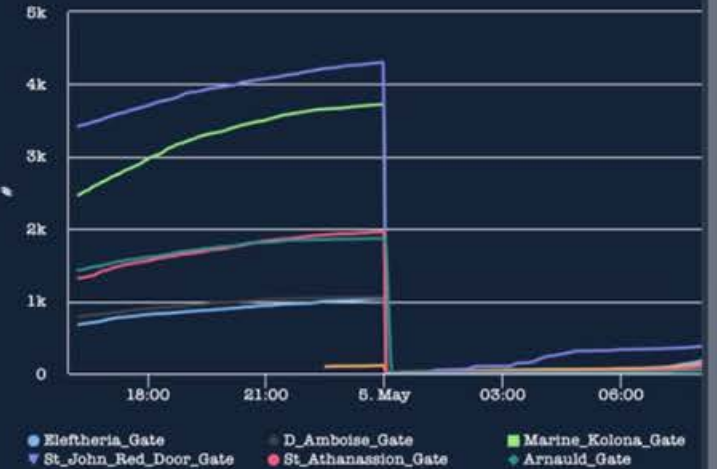




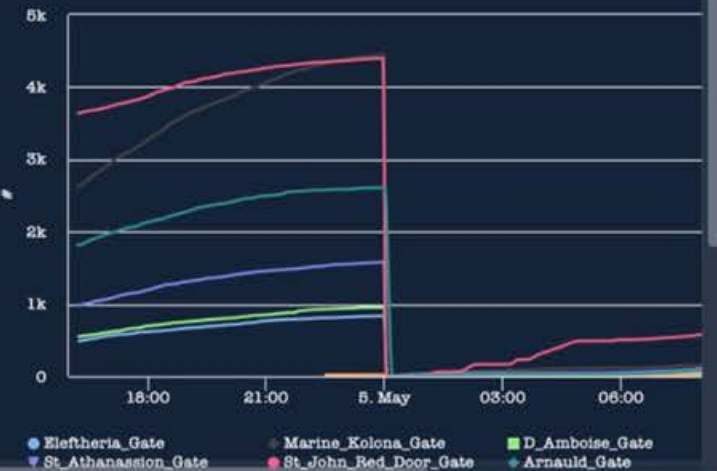
Real-time Monitoring Platform

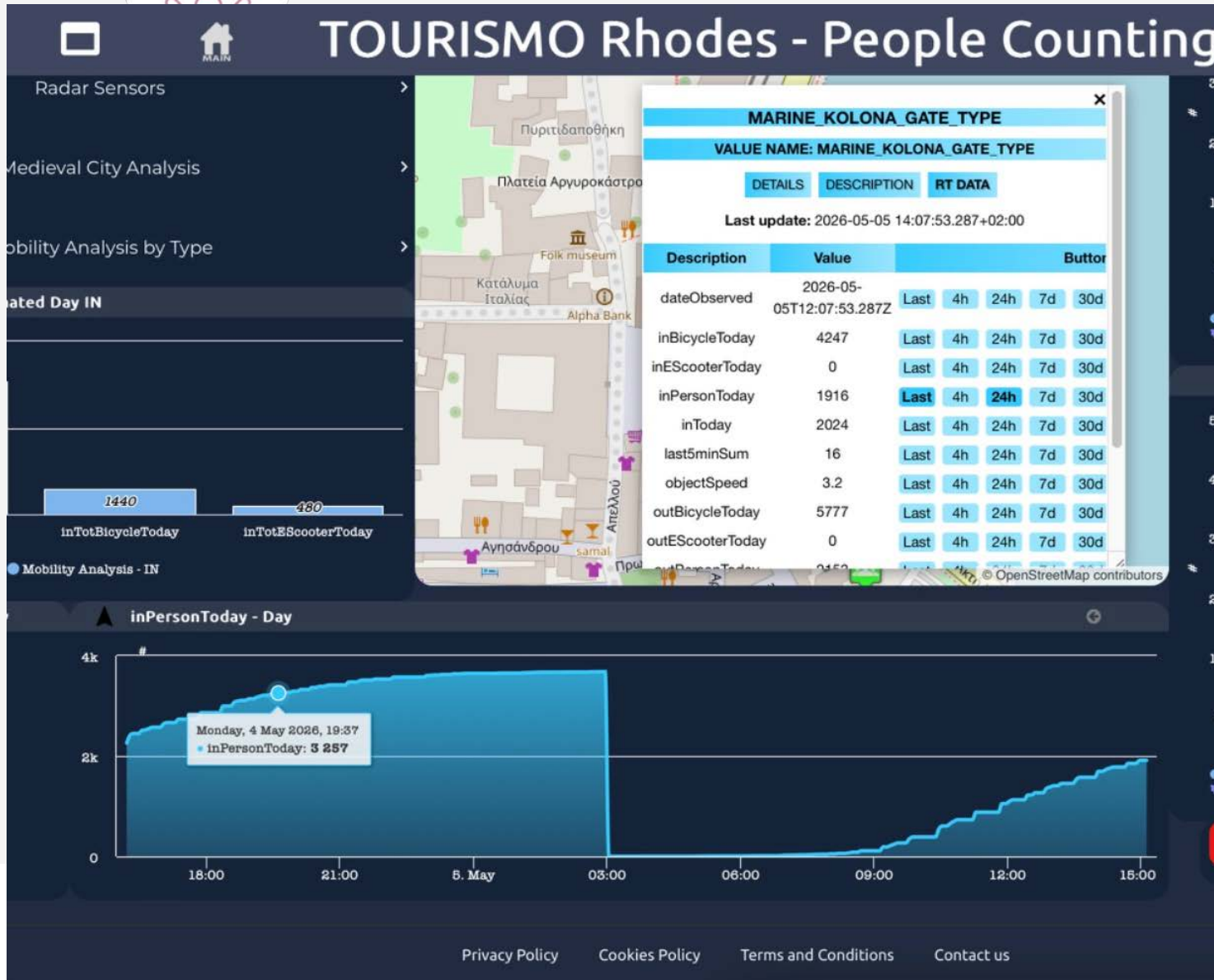


Gates IN Trends in the Day



Gates OUT Trends in the Day





Data Collected

- ❑ Real-time visitor counts from the 8 gates.
- ❑ Movement direction and flow intensity.
- ❑ Hourly, daily, and seasonal visitation trends.
- ❑ Congestion and peak-period data.
- ❑ Qualitative data from questionnaires and participatory workshops.



Data Collected

	December 2025-January 2026		1-30 April 2026		1-31 May 2026	
Gates	People	Vehicles	People	Vehicles	People	Vehicles
Marine Gate	16.204	183	159.779	504	245.530	421
Arnaldo Gate	9.921	890	75.477	1.586	114.691	1.664
Gate of the Virgin	10.200	1.992	52.300	3.608	76.937	2.969
Gate of St. John	19.963	3.791	77.166	11.026	105.991	16.080
Akandia Gate	10.200	4.348	46.183	7.893	36.724 (20-31/5)	4.473 (20-31/5)
D' Amboise Gate	5.622	1.789	37.182	4.554	47.582	3.918
Gate of St. Athanasios	18.664	1.763	70.577	5.889	77.914 (1-27/5)	6.557 (1-27/5)
Liberty Gate	No available data		No available data		61.128 (4-31/5)	1.271 (4-31/5)



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Expected Use of Data by Stakeholders

1. Public Authorities

- ❑ Calculation of the Medieval City's carrying capacity
- ❑ Optimization of cleanliness, safety, and crisis management.
- ❑ Support for spatial planning and visitor management policies.

2. Tourism SMEs

- ❑ Optimization of staffing and operating schedules.
- ❑ Improved inventory and service management.
- ❑ Enhanced customer experience through data-driven decisions.

3. Technology Providers

- ❑ Development of predictive models and artificial intelligence applications.
- ❑ Creation of a Digital Twin of the Medieval City.
- ❑ Development of smart tourism management tools.



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Conclusions



TOURISMO supports destination management through data.



It enhances sustainability and visitor experience.

It creates new opportunities for public and private stakeholders.



The methodology can also be applied to other historic destinations



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Making
the **Mediterranean**
Green Transition
happen

Thank you for your attention!