

Operational integration and initial assessments of the IWETT and EGNOS-derived service on the Guadalquivir River.



Puerto
de Sevilla



Co-funded by
the European Union

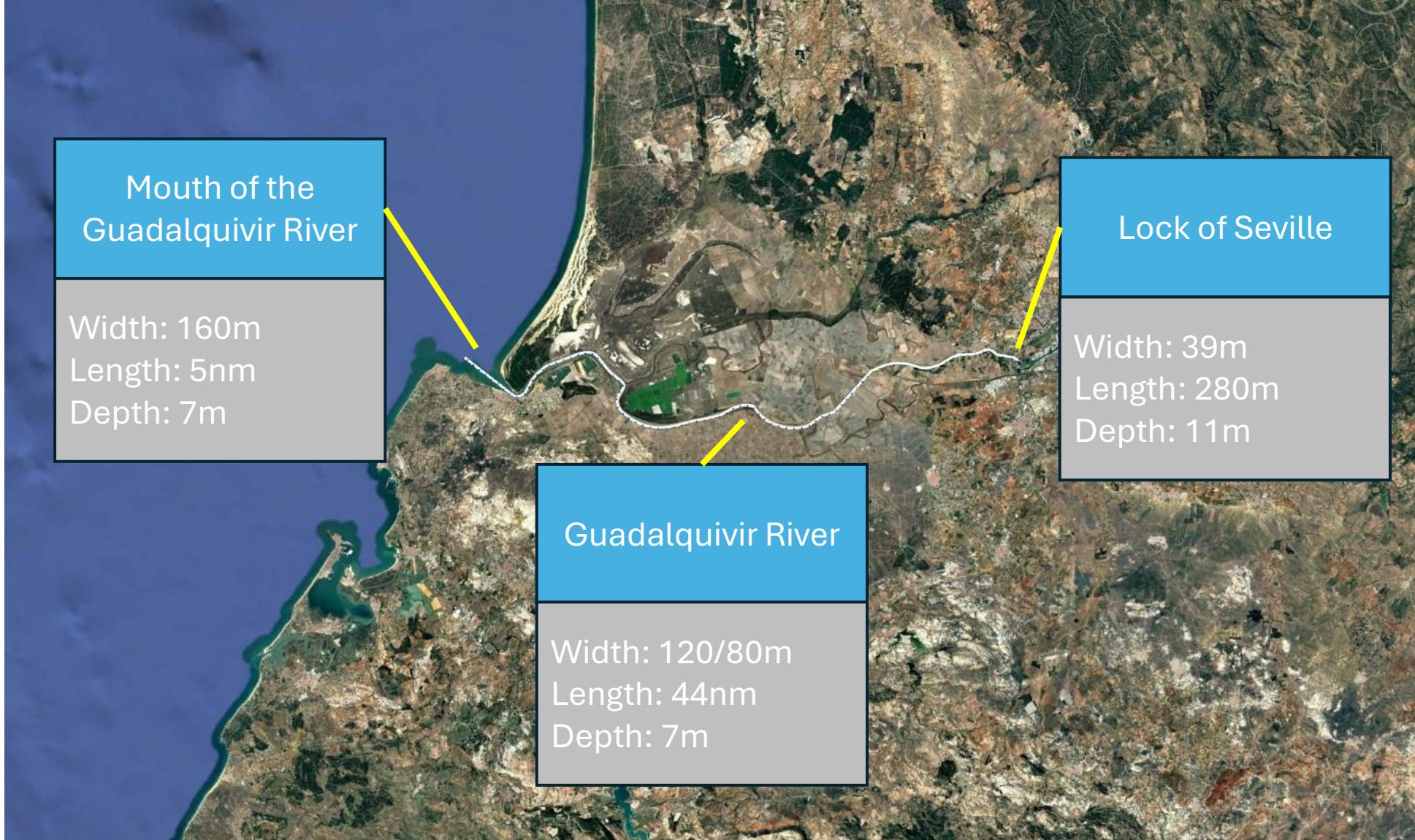
Spain's only inland seaport.

- The only inland port of Spain
- 850 hectares
- Important economic, logistics, and industrial platform in the southern peninsula (population 1.5M within 200 km).
- Technological and innovative hub
- Multimodal port: maritime, rail and road connections
- First port in railway traffic in Andalusia.
- More trains than ships: approximately 1000
- Node of the TEN-T Core Network.



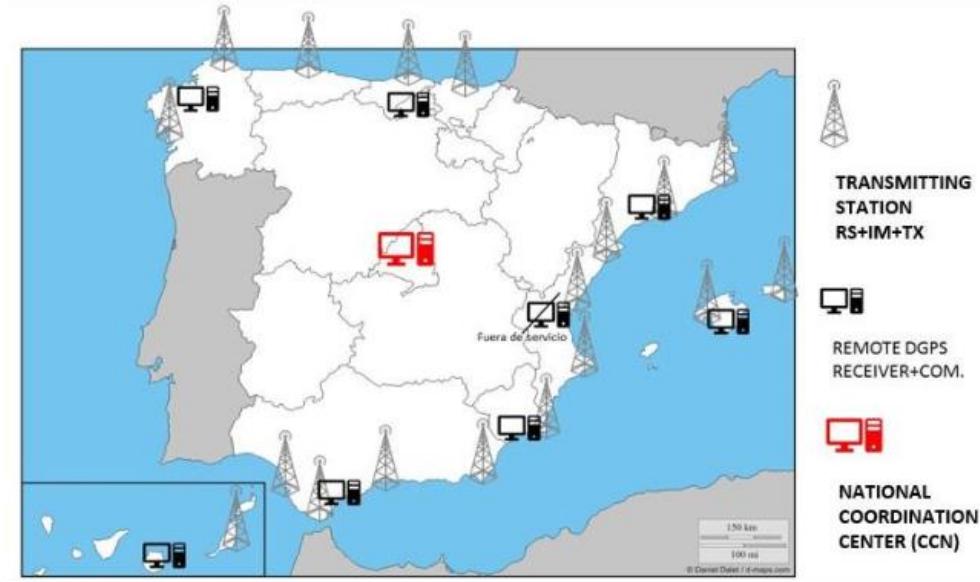
E. 60-02. Access to the Port of Seville.

Waterway



Spanish DGPS

Port of Seville needs differential corrections.



IMO A.915(22)

User requirements

Appendix 2

Table of the minimum maritime user requirements for general navigation

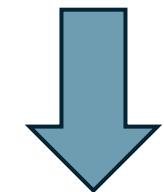
Absolute Accuracy	System level parameters				Service level parameters			Fix interval ² (seconds)	
	Integrity				Availability % per 30 days	Continuity % over 3 hours	Coverage		
	Horizontal (metres)	Alert limit (metres)	Time to alarm ² (seconds)	Integrity risk (per 3 hours)					
Ocean	10	25	10	10^{-5}	99.8	N/A ¹	Global	1	
Coastal	10	25	10	10^{-5}	99.8	N/A ¹	Global	1	
Port approach and restricted waters	10	25	10	10^{-5}	99.8	99.97	Regional	1	
Port	1	2.5	10	10^{-5}	99.8	99.97	Local	1	
Inland waterways	10	25	10	10^{-5}	99.8	99.97	Regional	1	

Notes: 1: Continuity is not relevant to ocean and coastal navigation.

2: More stringent requirements may be necessary for ships operating above 30 knots.

RTCA, RTCM.

EGNOS standard



EGNOS was originally developed for aviation users



But can also be used by IWW



EGNOS data can be used on IWW.

EGNOS data could be used on IWW by:

- 1) EGNOS SiS
- 2) EDAS
- 3) Retransmission of the EGNOS augmentation corrections via AtoN services (DGPS or AIS Base Stations)





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The iWETT project

Germany, Hungary and Spain.



Project sites in Hungary, Germany and Spain



Puerto
de Sevilla



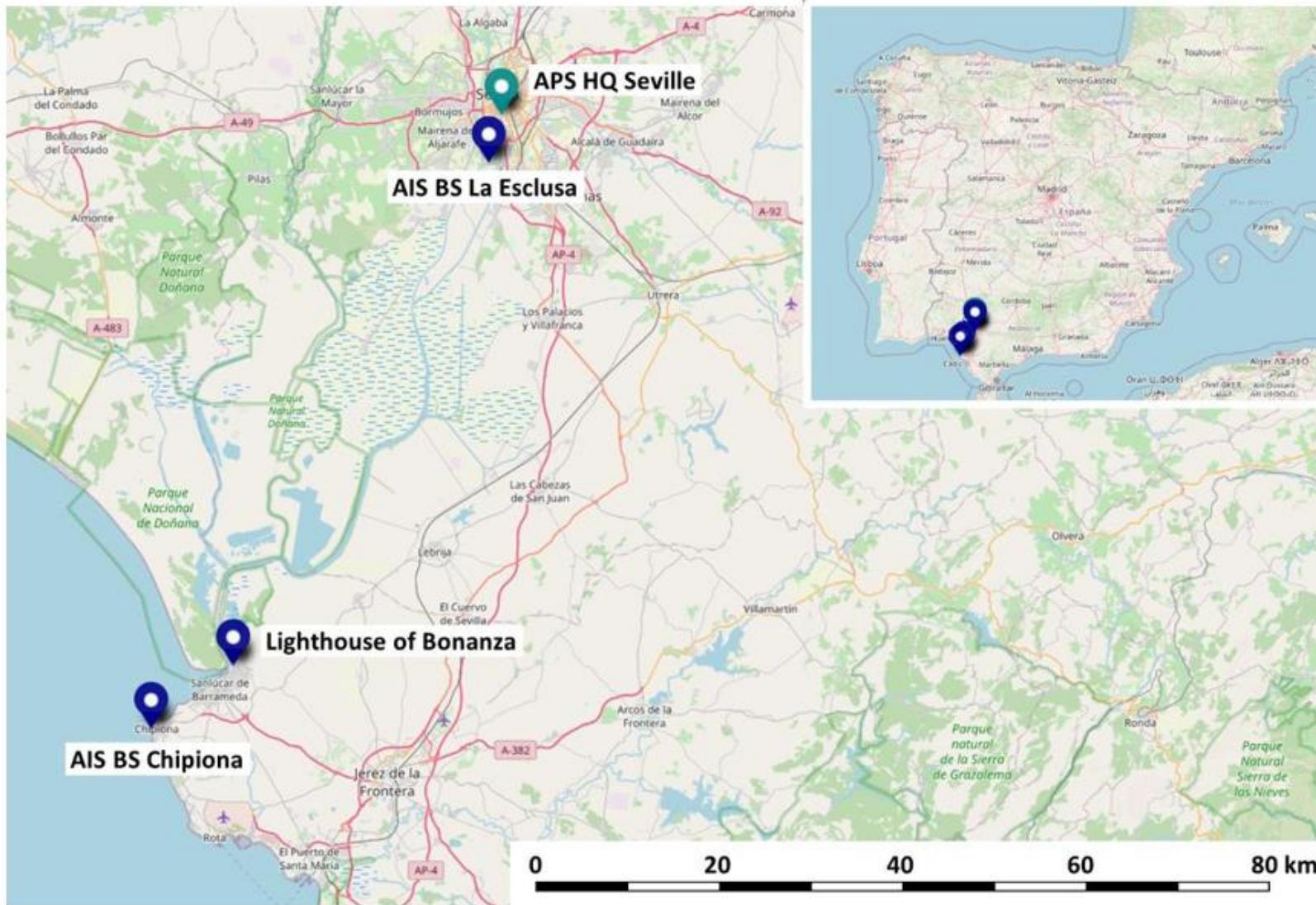


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Port of Seville. The Guadalquivir River.

IWETT in Spain





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Geo satellites and EDAS.



EGNOS Sources



Primary source



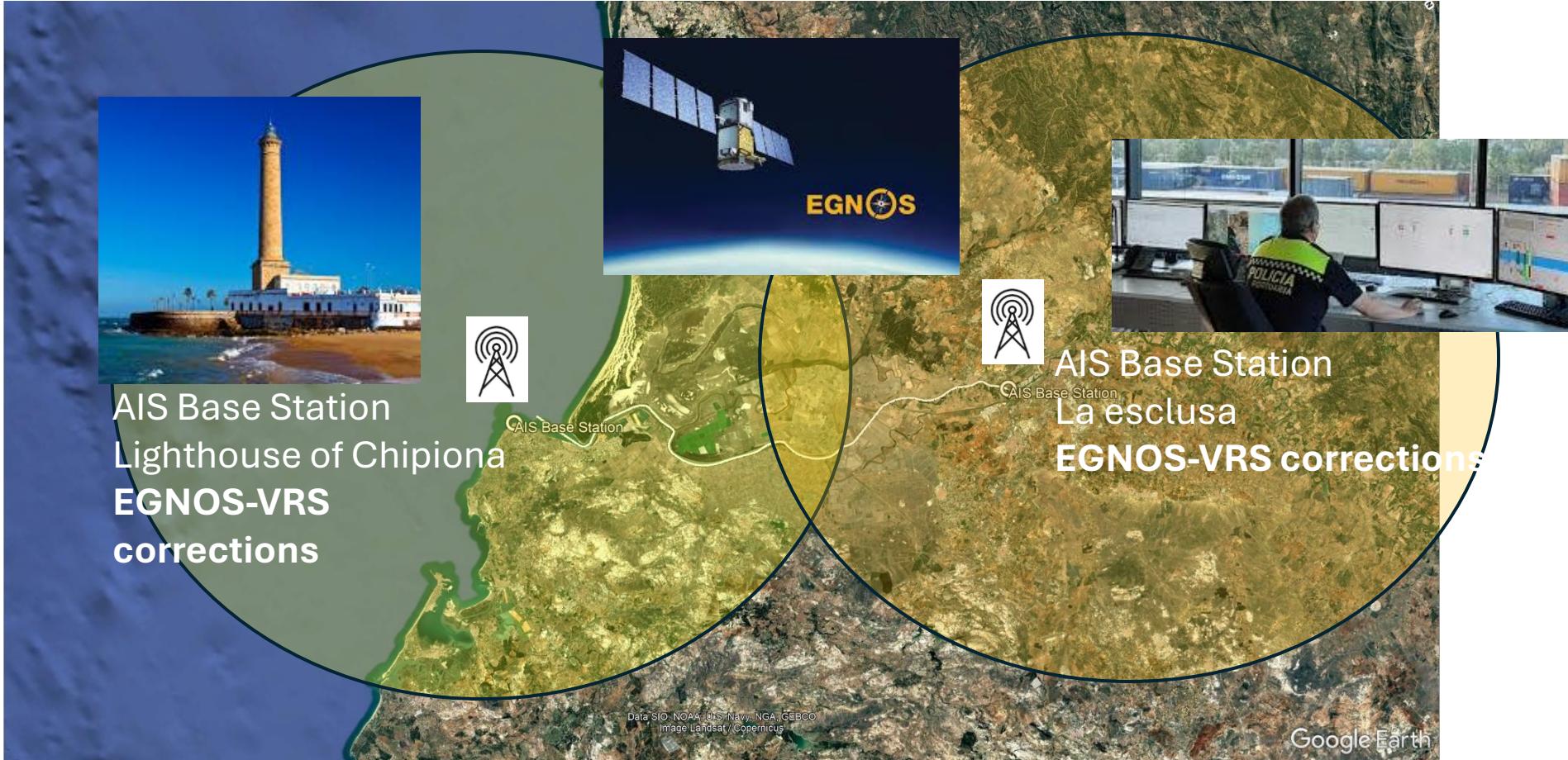


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AIS Base Stations.



EGNOS-VRS corrections



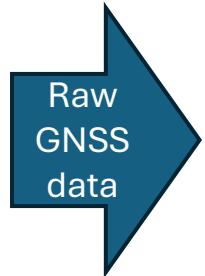


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Andalucian Positioning Network.



Local sources



Central processing
software.
Server computer in
APS-HQ



Integrity, PBM

RAP Andalusian Positioning Network
Lebrija
(Raw data)





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AIVDM, # 17.

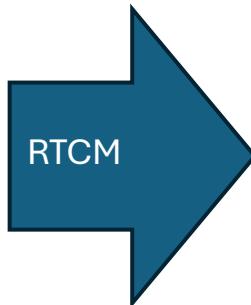


Output corrections

Central processing
software.
Server computer in
APS-HQ



Integrity, PBM



EGNOS-VRS corrections



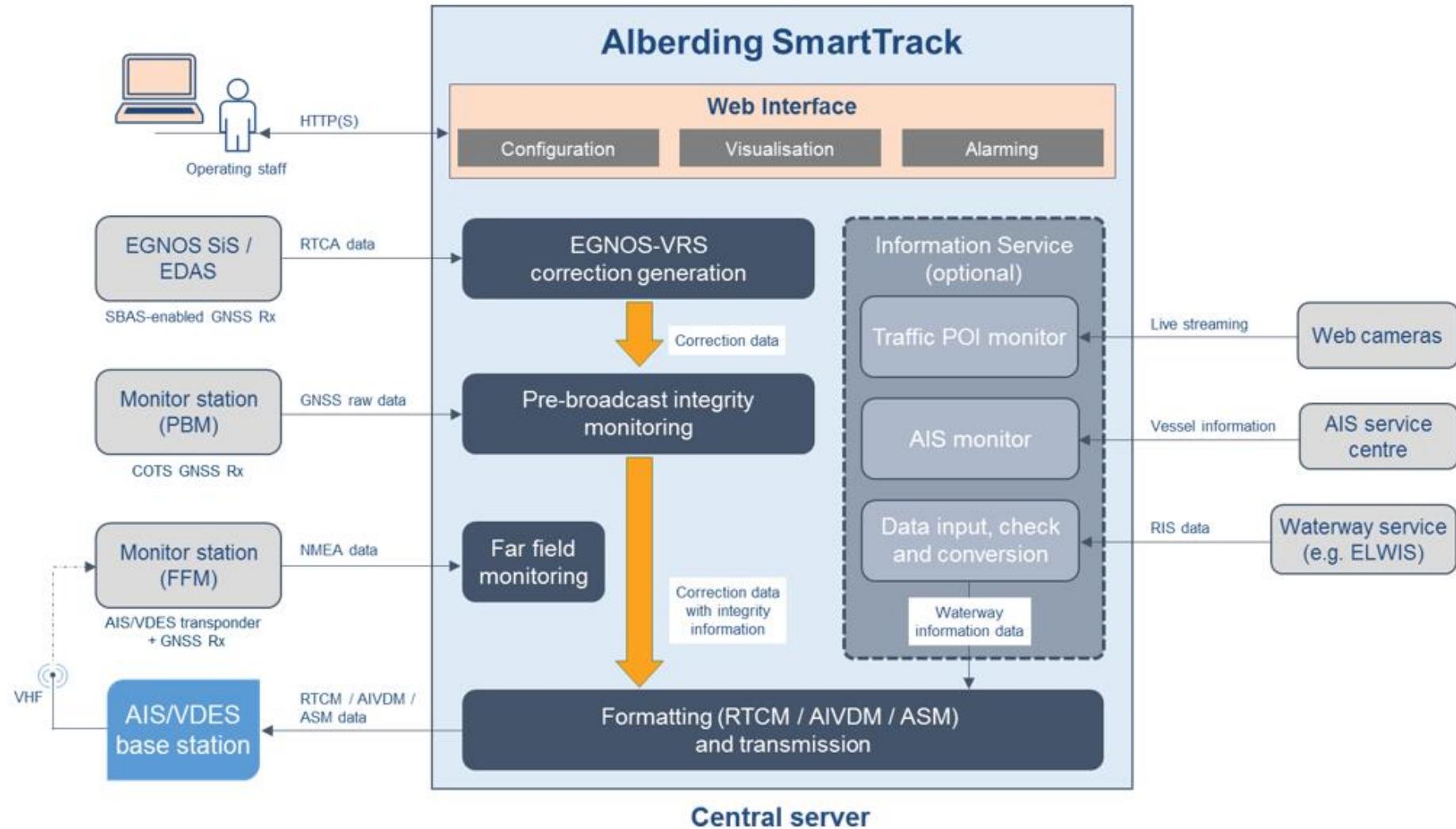


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Integrity monitoring.

Central server





Co-funded by
the European Union

APS-HQ, Bonanza.



Far Field Monitoring Stations



FFM_2
Lighthouse
of Bonanza

AIS Transponder
Kongsberg AIS300
Debug tool (GGA,GSA,GSV, RSSI)



Trimble
GA830



FFM_1
APS-HQ

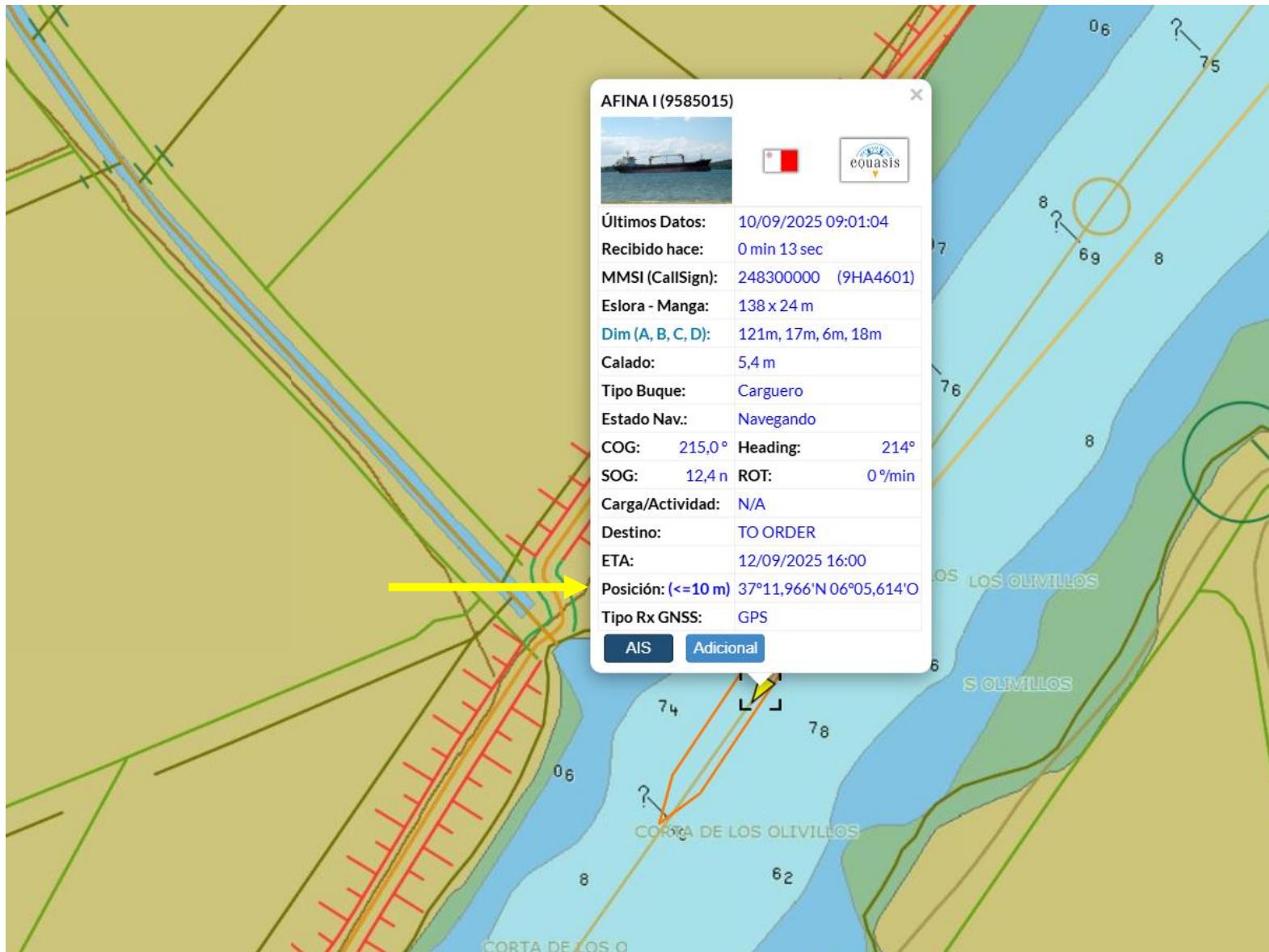


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EGNOS transponders.

IWETT



Shiplocus
Puertos del Estado.
GMV.

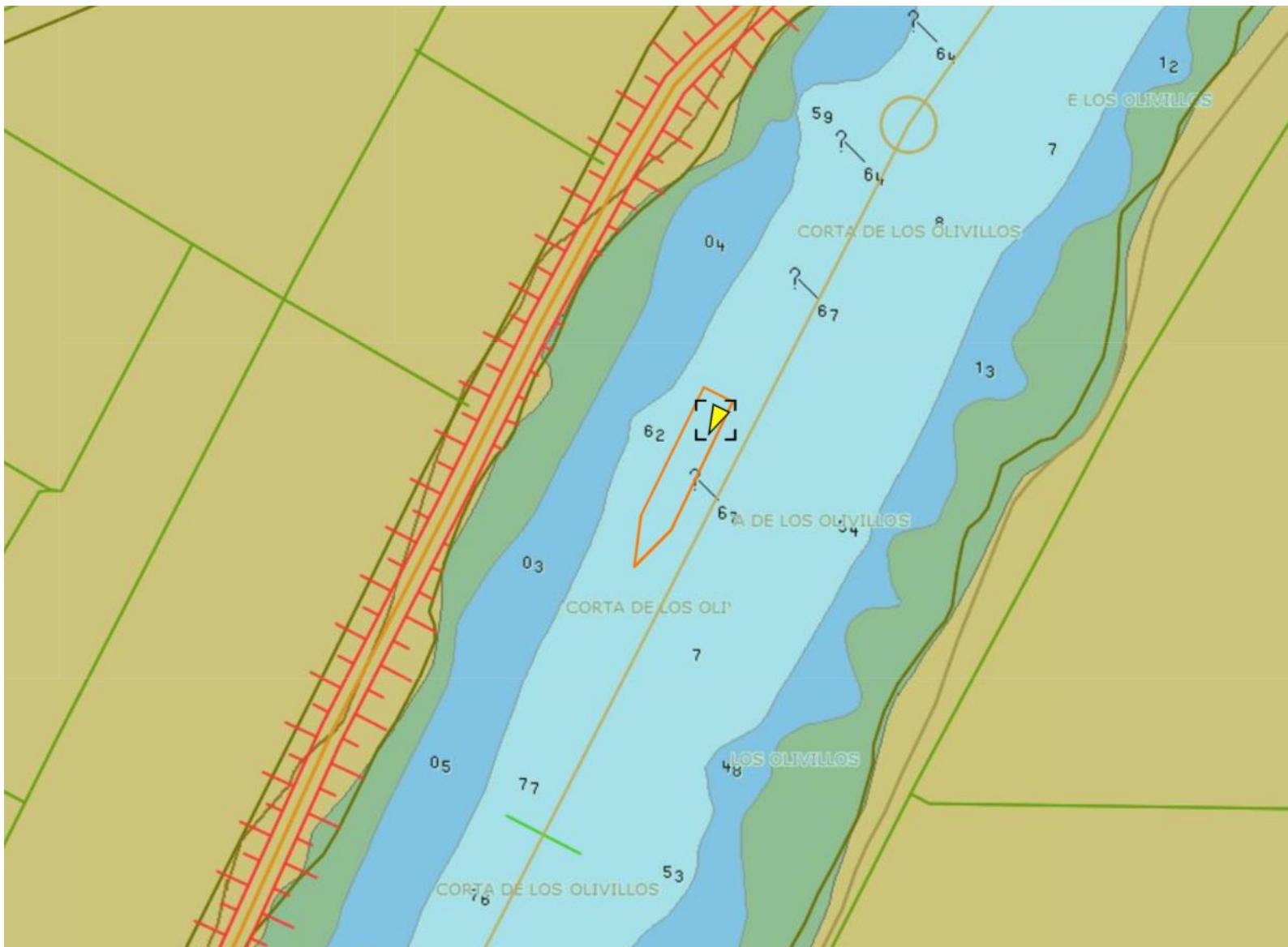


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Tracking.



WET



Shiplocus
Puertos del Estado.
GMV.

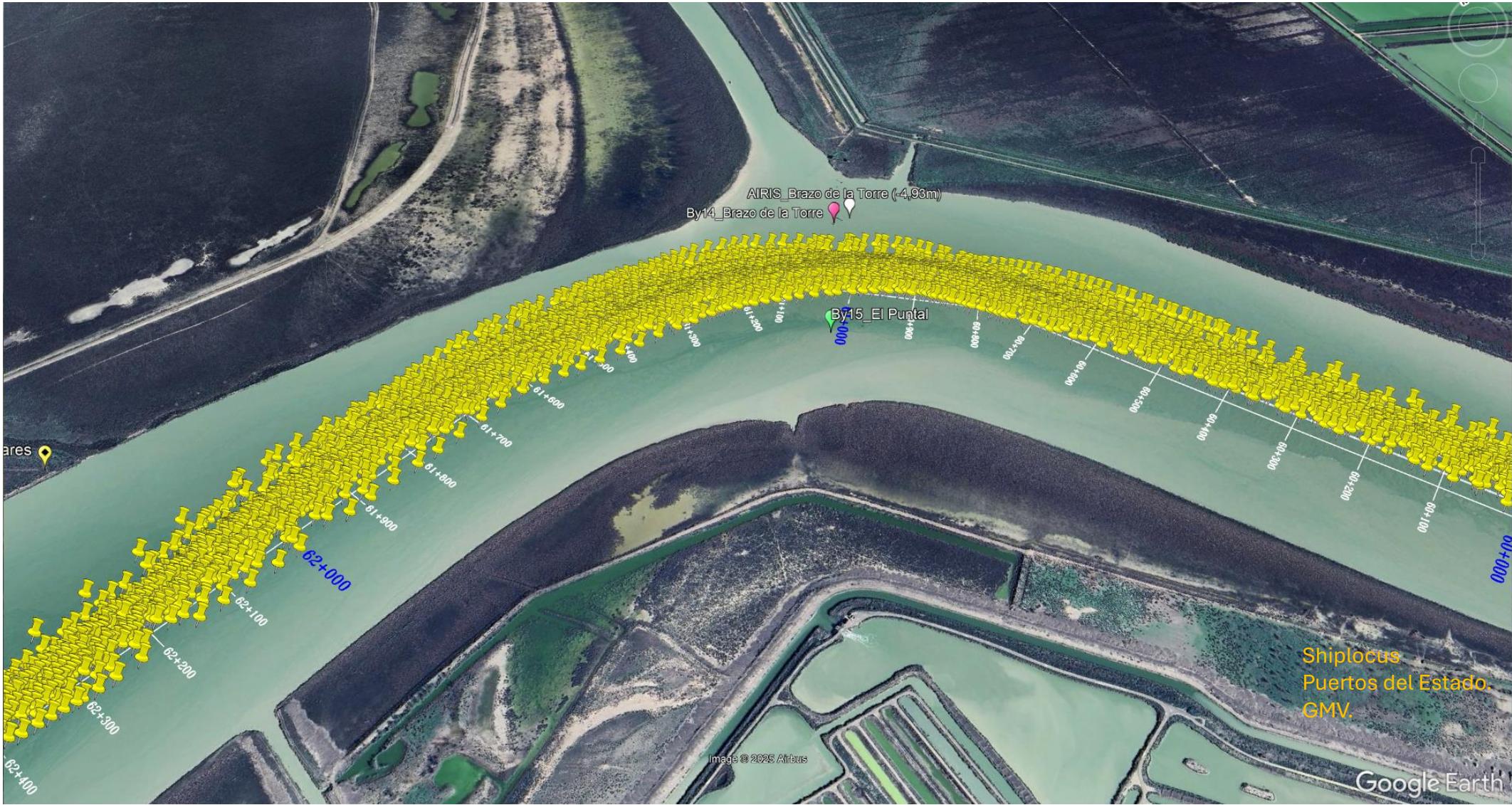


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Tracing.



IWETT





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Monitoring.

IWETT

iWETT

RESUMEN MONITOREO CONFIGURACIÓN DE SATÉLITES CONFIGURACIÓN - SISTEMA OBTENER EURONET.CFG CONFIGURACIÓN - INTERFAZ ARCHIVOS DE REGISTRO Y DE SALIDA

EuroNet - Procesos
Beacon.net Cron
Disco duro disponible 1254.3 GB (72 %)

Resumen
Fecha y hora : 2025-07-09T08:02:37 (UTC)

00:00:55 | Parar

Mapa

Enable measurements
Length (LineString) ▾ Measurement type
Clean Measurements

Bollullos Par del Condado
Almonte
Pilas
Mairena del Aljarafe
Coria del Río
Los Palacios y Villafranca
Utrera
Mairena la Mayor
Bormujos
Alcalá de Guadaíra
Dos Hermanas
A-49
A-4
A-483
Nationalpark Doñana
Marismas de Lebrija
Las Cabezas de San Juan
Lebrija
El Cuervo de Sevilla
Jerez de la Frontera
Arcos de la Frontera
Sanlúcar de Barrameda
Bonanza
Chipiona_out
Chipiona

Correcciones monitoreadas (PBM) - Salidas

Chipiona_out	Esclusa_out	
Correcciones de salida SBAS VRS		
Chipiona	Esclusa	
FFM-Entradas (AIS)		
Bonanza	Seville	Seville-MOSAIC
Datos crudos-Entradas		
LEBR3	Seville-A10	
SISNeT - Entradas		
SISNET123	SISNET136	
Otros		
RTCM3EPH	Seville-EGNOS	

Diagrama de dispersión

Error - Nodo

Error - Esde

Error de la altura

Intensidad del campo

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Thank you for your attention.

