OGN

glidernet.org

Real Aero Club de España

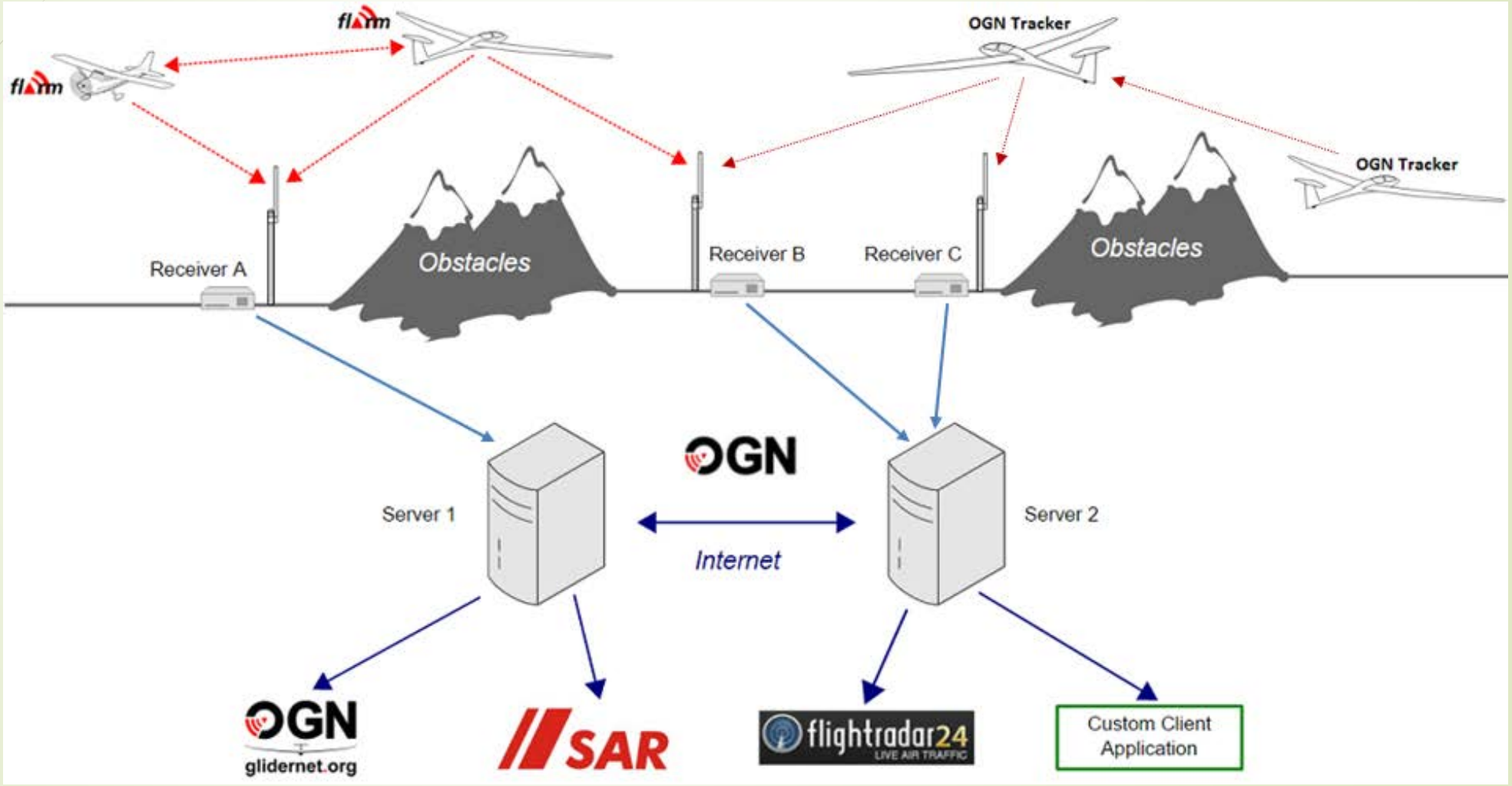
iConspicuity in Spain

Angel Casado

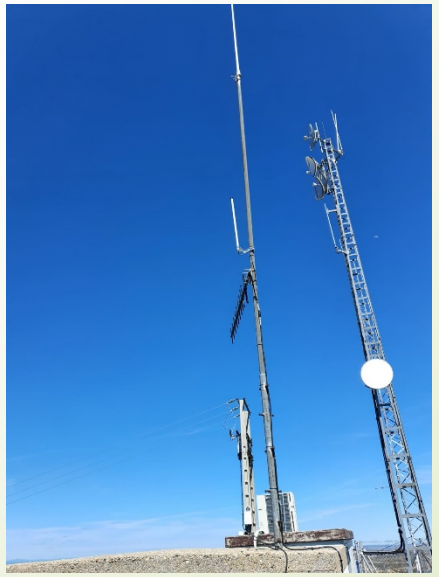
SAR y LCI

Madrid – Noviembre 2025

How Open Glider Network works:



OGN stations:



Devices

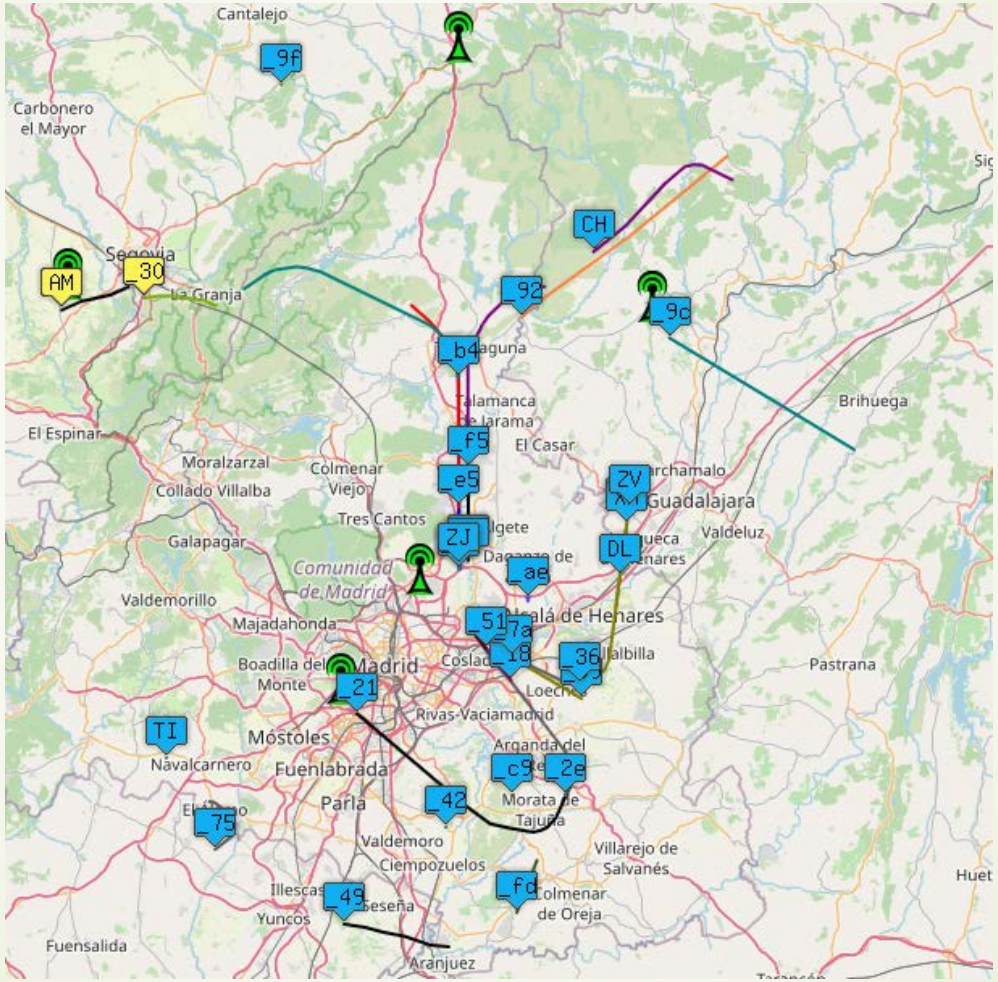
AVIONIX
ADS-L Tracker
EASA
AVIONIX
AERO TRACKER
97th FAI General Confe
Madrid, Spain 2004

AVIONIX
OGN

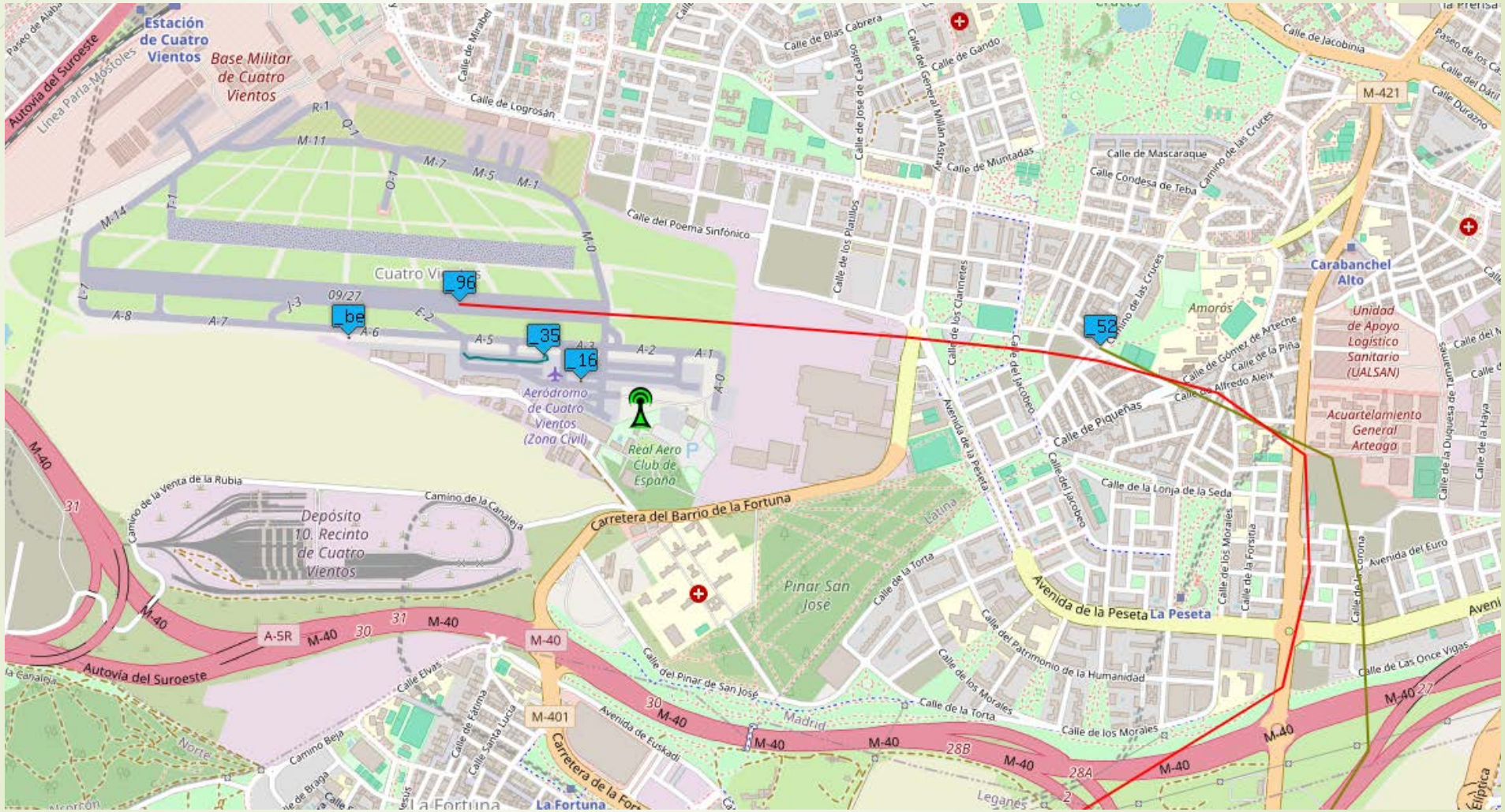
FLARM
Aurora

FUSION
PowerFLARM
FLARM A
FLARM B
1090
GPS

What it does

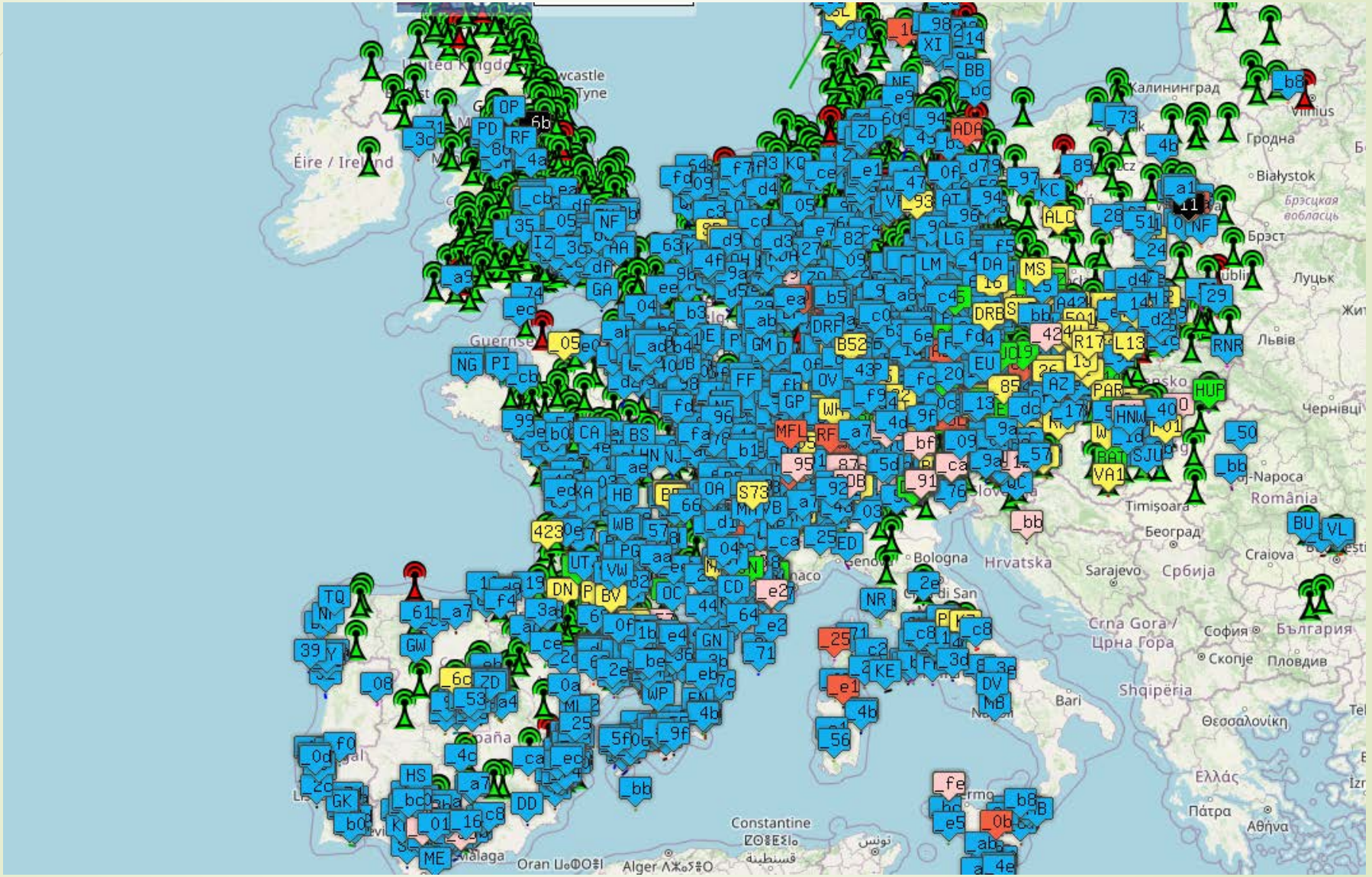

Cantalejo
Carbonero el Mayor
Segovia
La Granja
El Espinar
Moralzarzal
Collado Villalba
Colmenar Viejo
Tres Cantos
Galapagar
Comunidad de Madrid
Valdemorillo
Majadahonda
Boadilla del Monte
Madrid
Móstoles
Navalcarnero
Fuenlabrada
Parla
Valdemoro
Ciempozuelos
Illescas
Yuncos
Fuensalida
Aranjuez
Colmenar de Oreja
Villarejo de Salvanés
Morata de Tajuña
Rivas-Vaciamadrid
Arganda del
Pastrana
Brihuega
El Casar
Guadalajara
Valdeluz
_9f
AM
_30
_92
CH
_9c
_b4
_f5
_e5
ZV
ZJ
DL
_ae
_51
_21
TI
_42
_75
_49
_fd
_2e
36

The viewer client

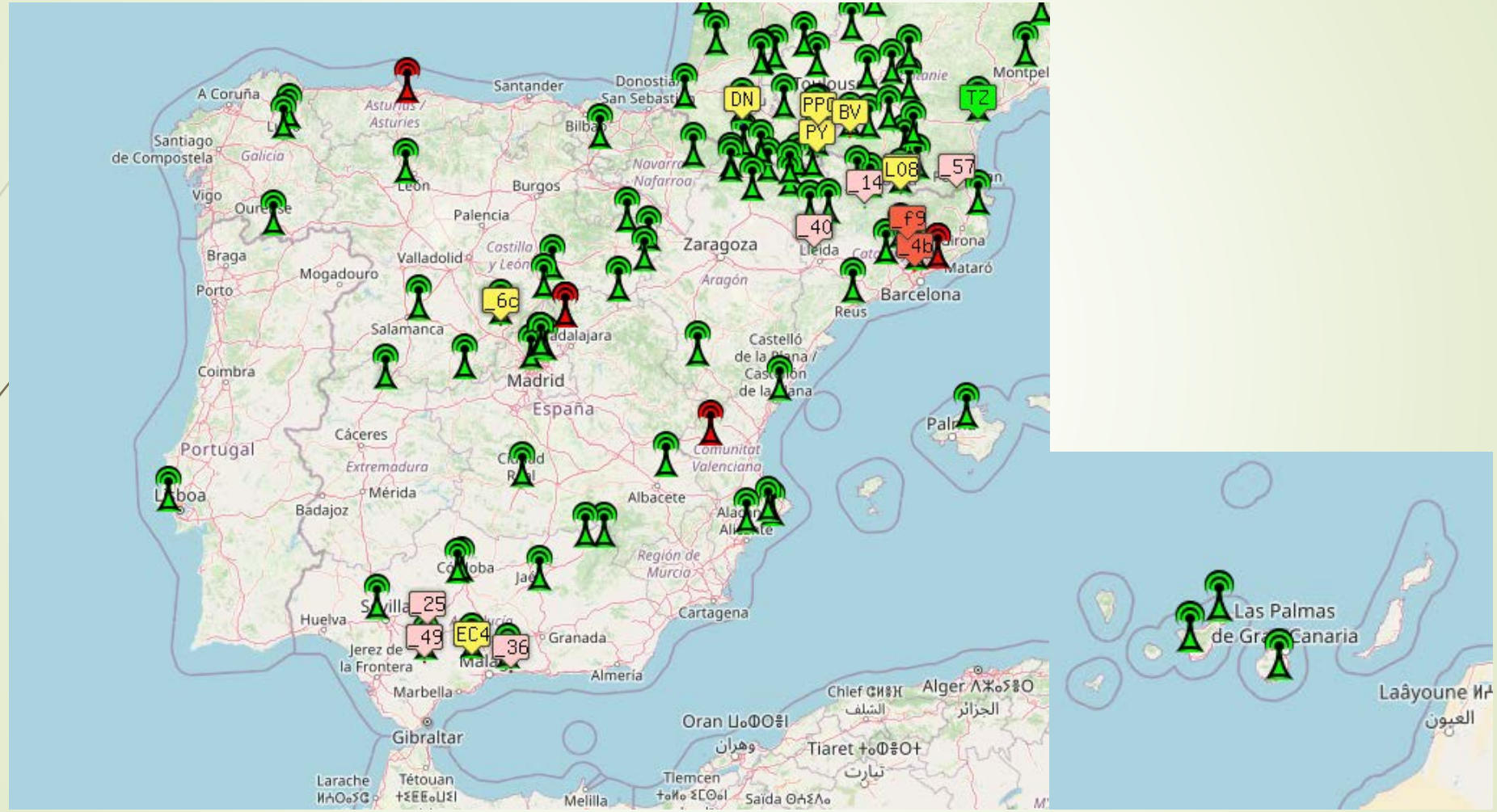


http://wiki.glidernet.org
OGN
glidernet.org
Started in 2012 with SAR in mind
3300+ active stations
Kalaallit Nunaat
Canada
México
Colombia
Perú
Brasil
Bolivia
Paraguay / Paraguái
Беларусь
Україна
Italia
Ελλάς
Türkiye
Қазақстан
Монгол улс
O'zbekiston
Türkmenistan
ایران
افغانستان
پاکستان
India
中国
日本
Việt Nam
Malaysia
Indonesia
Papua Niugini
Australia
Россия
Algérie
الجزائر
ليبيا
مصر
السعودية
عمان
اليمن
السودان
Mali
Niger
Nigeria
Tchad تشاد
Ködörösêse tî Bêafrîka / République centrafricaine
Soomaaliya الصومال
Kenya
République démocratique du Congo
Tanzania
Angola
Moçambique
South Africa

The network is growing – all this in 5 years



In Spain ... 70+ stations



The **OGN** network gathers data from:

- Flarm
- OGN trackers (IGC/OGN)
- FANET devices
- ADS-B/ADS-L
- SPOT
- Spider
- inReach
- PAW
- SafeSky
- Flymaster
- Oudie
- LoraWan (TTN & Helium)

But we need a common protocol !!!

- The pressure of the **U-Space** force to all the actors to make every one to be electronically visible
- So the key providers: Flarm, OGN, Skytraxx, SafeSky, PAW with the leadership of **EASA** joined to develop:

ADS-L

- Starting in March 2024 the **OGN stations** receives: **ADS-L**, Flarm, OGNTP, FANET, PAW and ADS-B … and **integrate sources** from: ADS-B, SPOT, Spider, InReach, Skymaster, Naviter, LT24, xcsoar, MAVlink, LoraWan (TTN & Helium), Airmate, FlyXC and **SafeSky**

ADS-L Coalition

Means of Transmission - iConspicuity

ADS-B Out (1090 MHz)

For certified aircraft, using the **existing certified technology** already installed on board + MLAT

ADS-L (SRD-860)

Non-certified devices transmitting at low power on the licence-free ISM band SRD-860, in compliance with ADS-L specifications

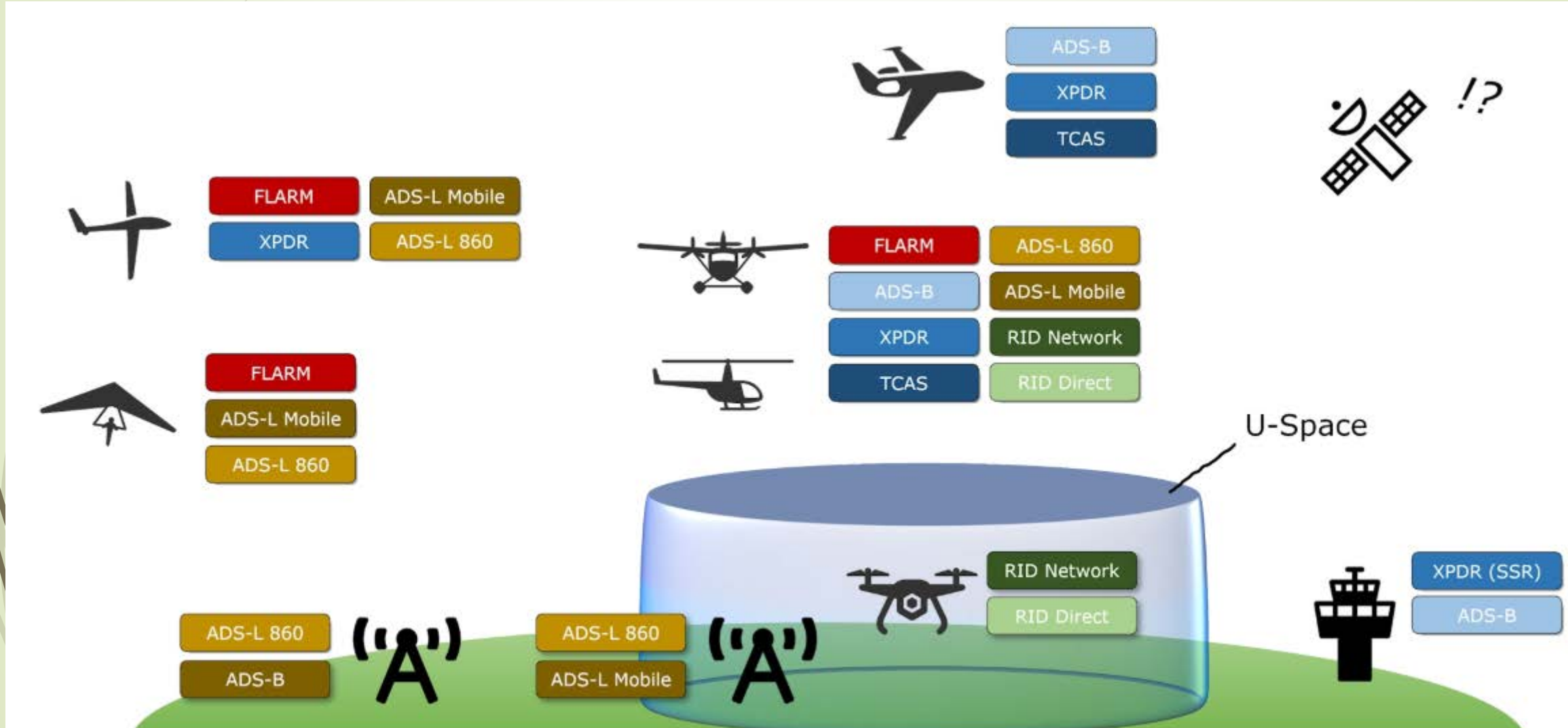
ADS-L (Mobile telephony)

Mobile telephony application transmitting in compliance with ADS-L specifications

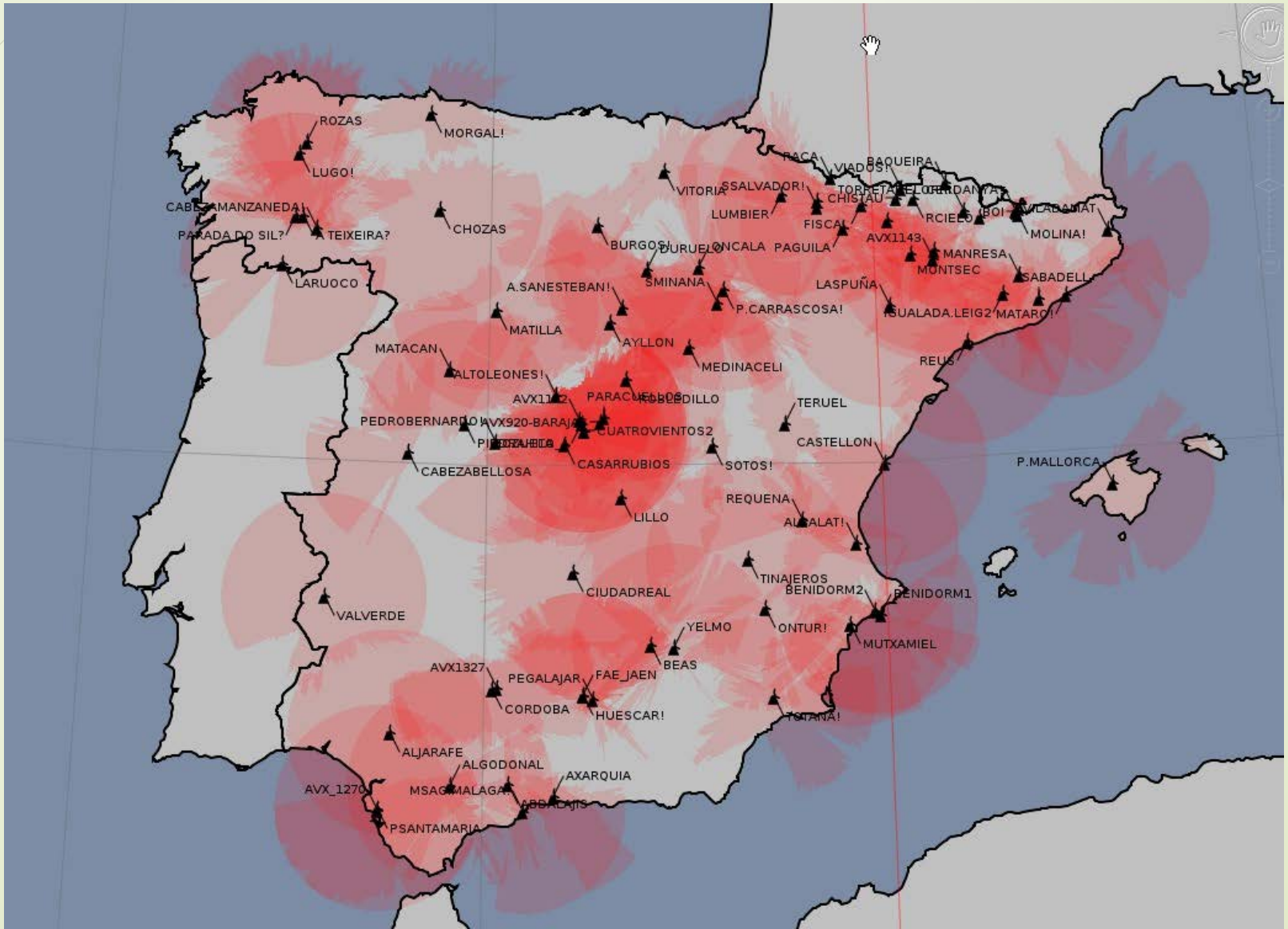
2022

2025

Electronic Conspicuity

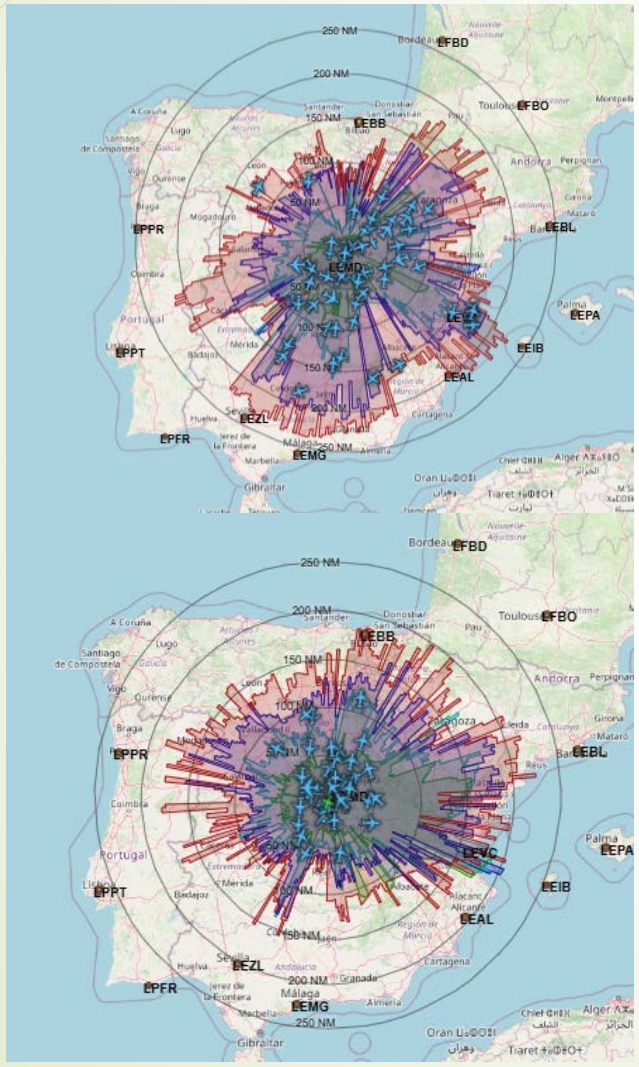


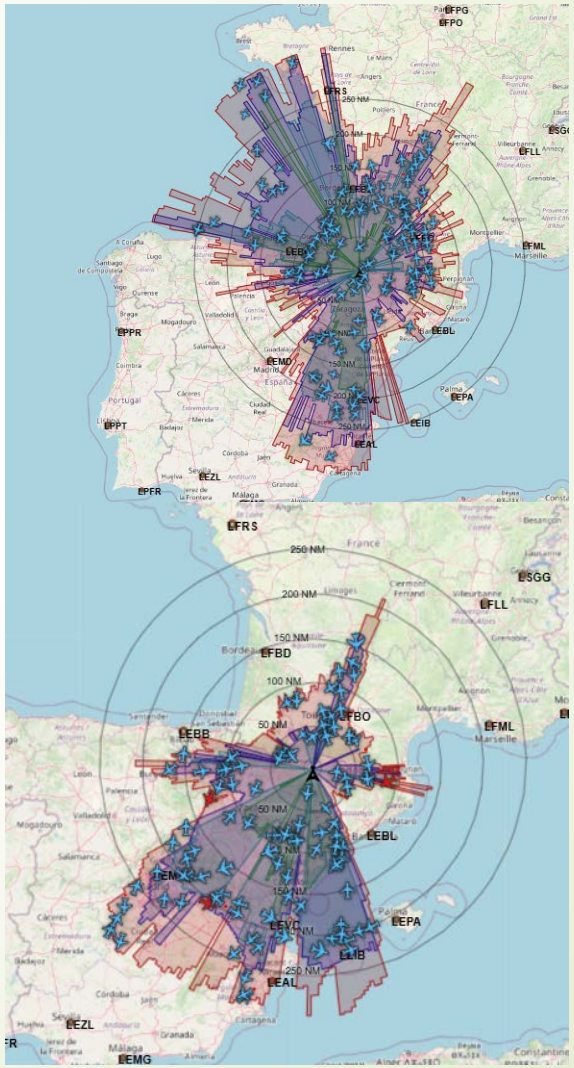
Coberturas teóricas



Cobertura real

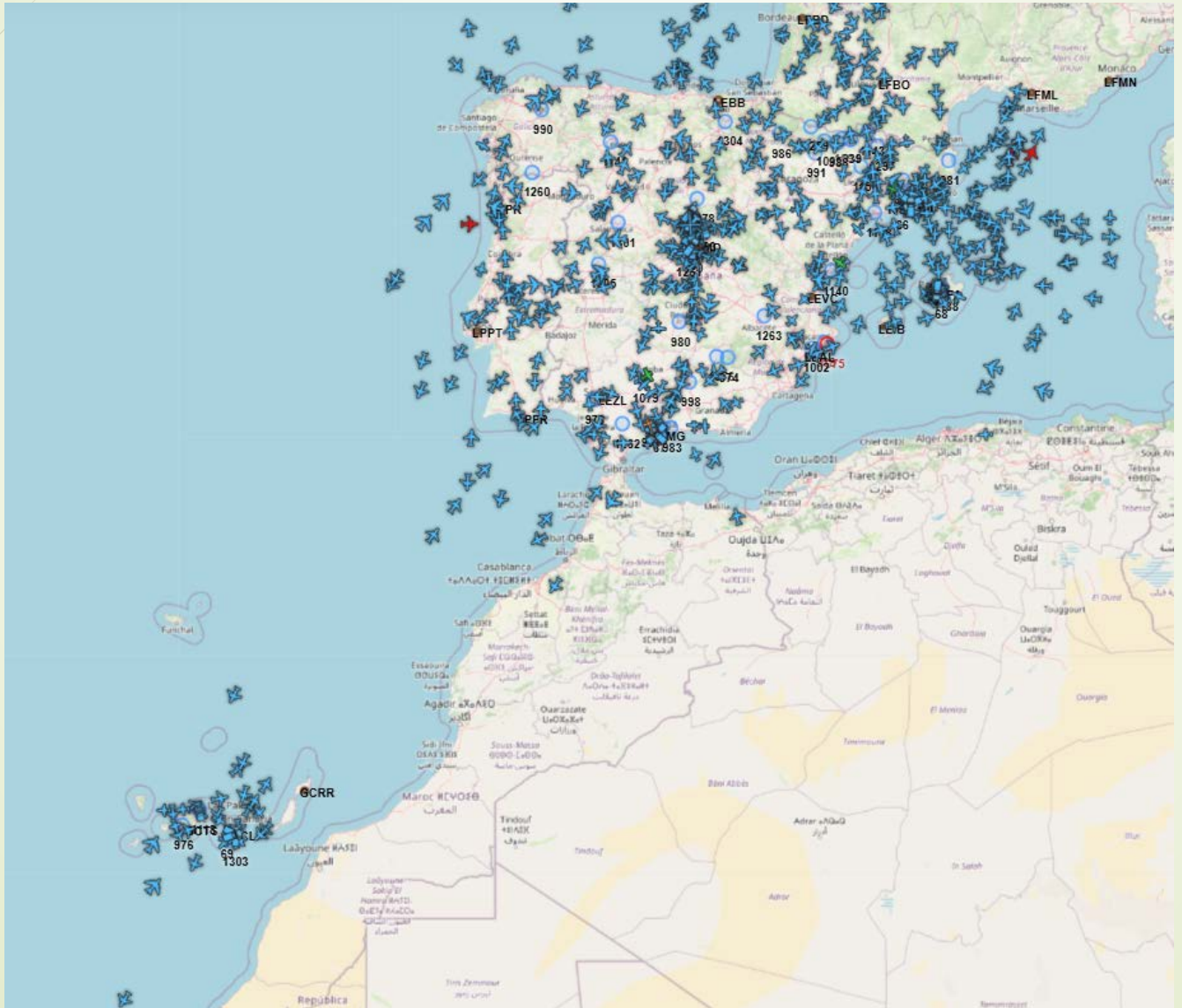
Sin limitación de altura





Situación puntual

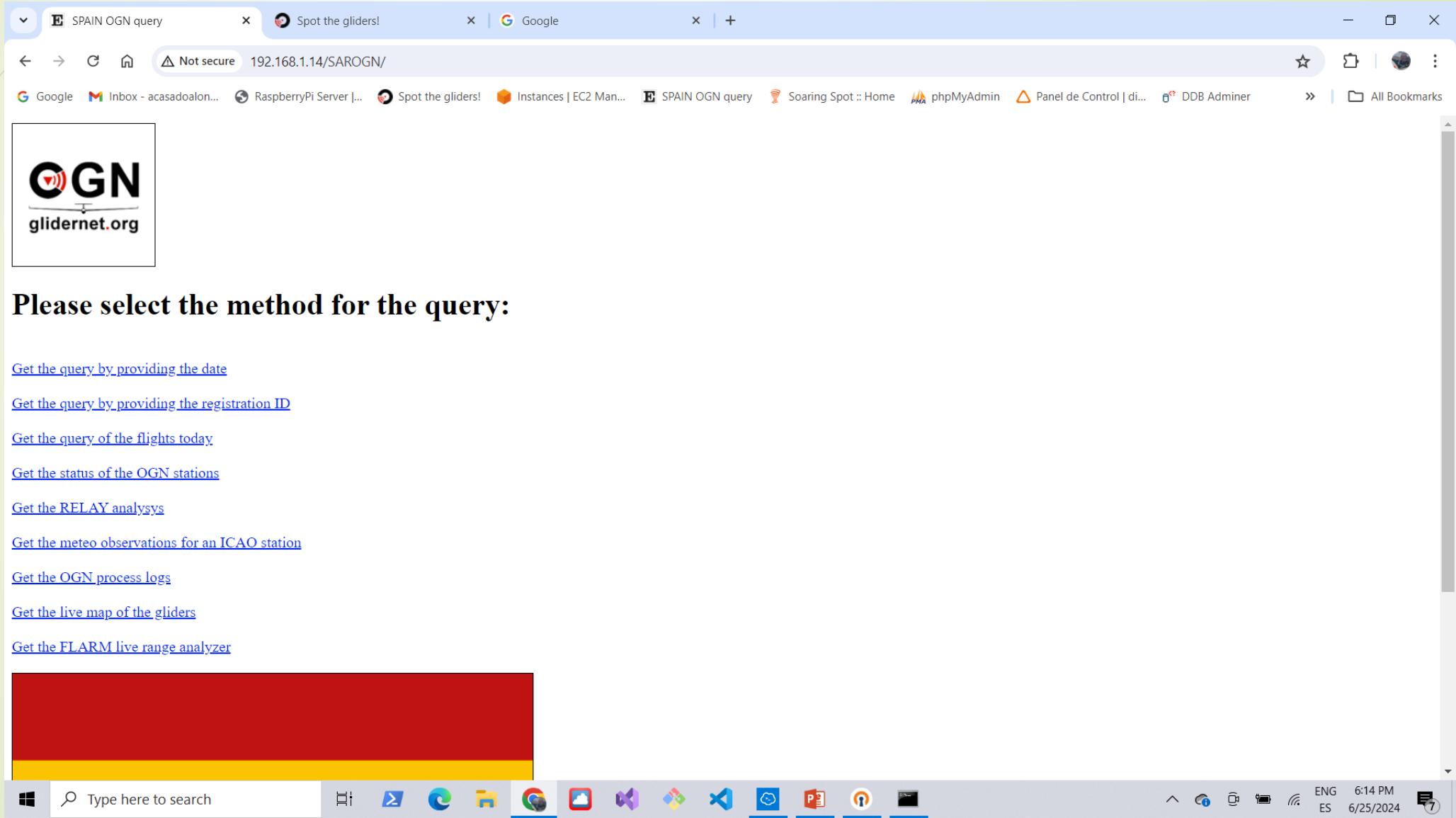
800+ tráficos detectados



Search And Rescue (SAR)

A nice side effect of the iConspicuity

The SAR


SPAIN OGN query
Spot the gliders!
Google
Not secure
192.168.1.14/SAROGN/
Google
Inbox - acasadoalon...
RaspberryPi Server |...
Spot the gliders!
Instances | EC2 Man...
SPAIN OGN query
Soaring Spot :: Home
phpMyAdmin
Panel de Control | di...
DDB Adminer
All Bookmarks
OGN
glidernet.org
Please select the method for the query:
Get the query by providing the date
Get the query by providing the registration ID
Get the query of the flights today
Get the status of the OGN stations
Get the RELAY analysys
Get the meteo observations for an ICAO station
Get the OGN process logs
Get the live map of the gliders
Get the FLARM live range analyzer
Type here to search
ENG
ES
6:14 PM
6/25/2024

regis=EC-ITT 192.168.1.1

The flights for the selected registration are:

Valid registration: EC-ITT TT:

MAP FN:FD150630.LEOC.EC-ITT.DDA681.IGC

MAP FN:FD150701.LEOC.EC-ITT.DDA681.IGC

MAP FN:FD150702.LEOC.EC-ITT.DDA681.IGC

MAP FN:FD150703.LEOC.EC-ITT.DDA681.IGC

MAP FN:FD150704.LEOC.EC-ITT.DDA681.IGC

MAP FN:FD160430.LELT.EC-ITT.DDA681.IGC

MAP FN:FD160515.LELT.EC-ITT.DDA681.IGC

MAP FN:FD160605.LEOC.EC-ITT.DDA681.IGC

MAP FN:FD160611.LEOC.EC-ITT.DDA681.IGC

MAP FN:FD160612.LEOC.EC-ITT.DDA681.IGC

MAP FN:FD160618.LELT.EC-ITT.DDA681.IGC

MAP FN:FD160701.LECI1.EC-ITT.DDA681.IGC

MAP FN:FD160702.LECI2.EC-ITT.DDA681.IGC

MAP FN:FD160703.LECI1.EC-ITT.DDA681.IGC

MAP FN:FD160704.LECI1.EC-ITT.DDA681.IGC

MAP FN:FD160705.LECI1.EC-ITT.DDA681.IGC

MAP FN:FD160706.LECI1.EC-ITT.DDA681.IGC

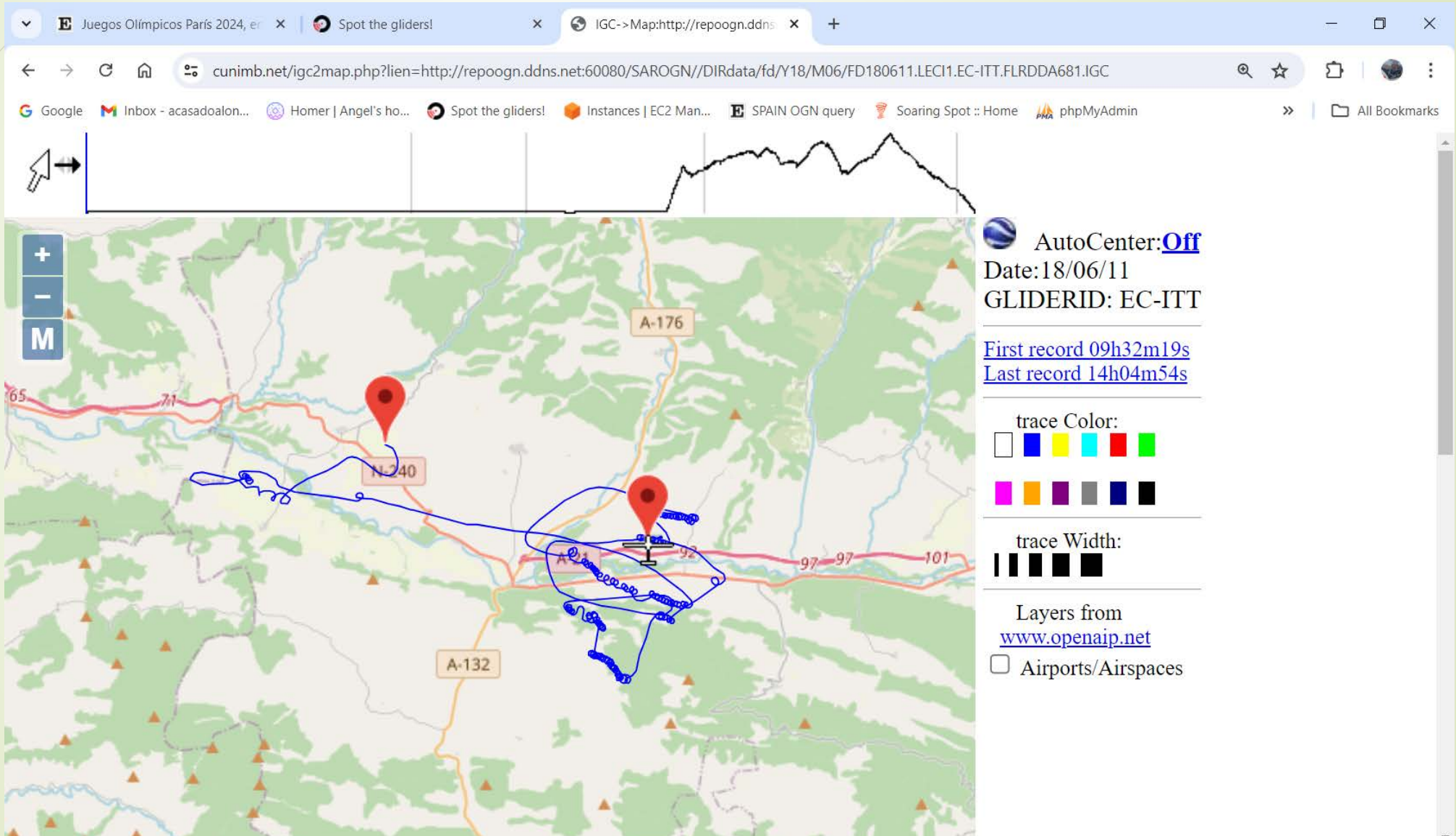
MAP FN:FD160707.LECI1.EC-ITT.DDA681.IGC

MAP FN:FD160708.LECI2.EC-ITT.DDA681.IGC

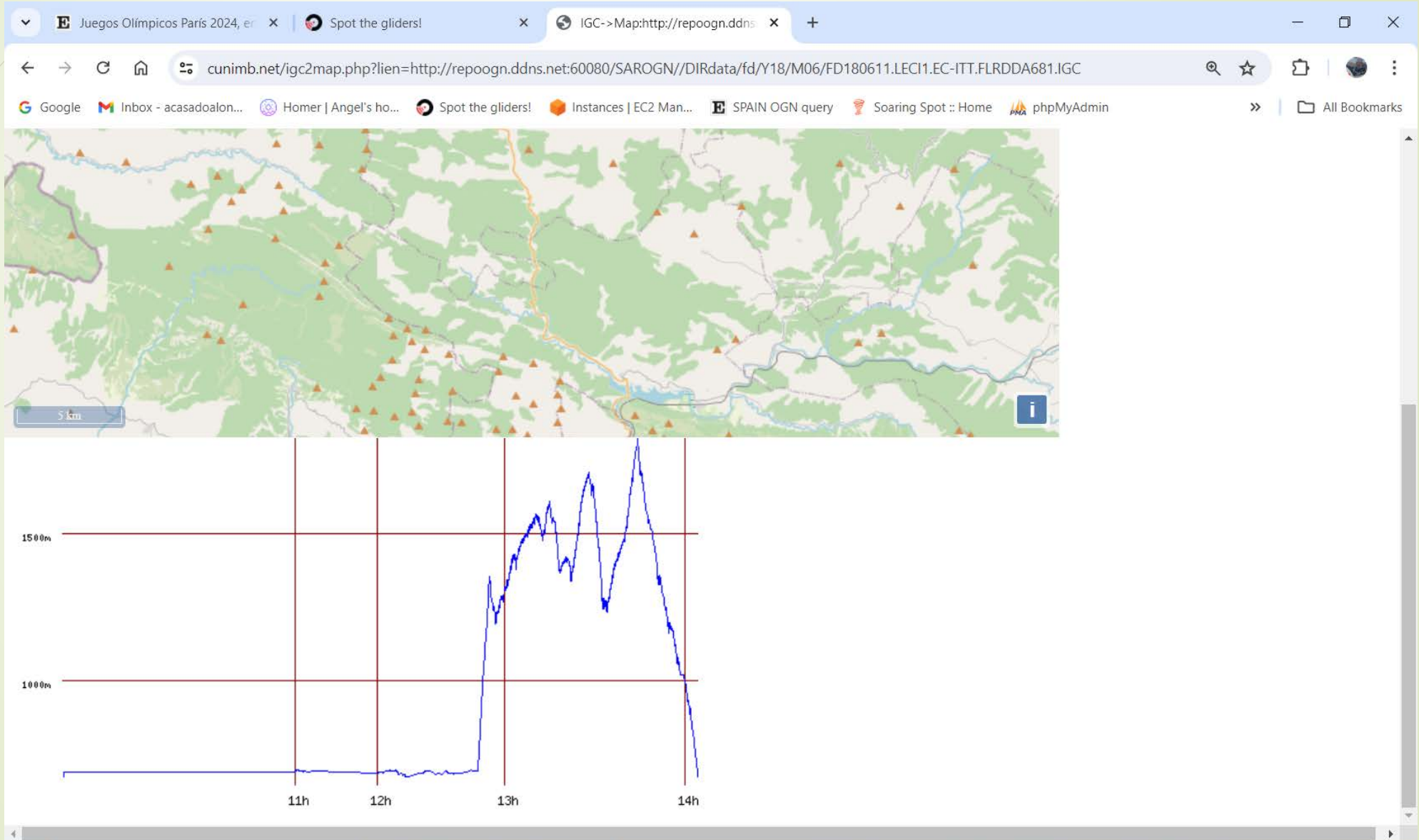
MAP FN:FD160709.LECI1.EC-ITT.DDA681.IGC

MAP FN:FD160903.LELT.EC-ITT.DDA681.IGC

The SAR


Juegos Olímpicos París 2024, er
Spot the gliders!
IGC->Map:http://repoogn.ddns
cunimb.net/igc2map.php?lien=http://repoogn.ddns.net:60080/SAROGN//DIRdata/fd/Y18/M06/FD180611.LECI1.EC-ITT.FLRDDA681.IGC
Google
Inbox - acasadoalon...
Homer | Angel's ho...
Spot the gliders!
Instances | EC2 Man...
SPAIN OGN query
Soaring Spot :: Home
phpMyAdmin
All Bookmarks
A-176
A-240
A-132
AutoCenter:Off
Date:18/06/11
GLIDERID: EC-ITT
First record 09h32m19s
Last record 14h04m54s
trace Color:
trace Width:
Layers from
www.openaip.net
Airports/Airspaces

The SAR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Spot the gliders!
IGC->Map:http://repoogn.ddns
cunimb.net/igc2map.php?lien=http://repoogn.ddns.net:60080/SAROGN//DIRdata/fd/Y18/M06/FD180611.LECI1.EC-ITT.FLRDDA681.IGC
Google
Inbox - acasadoalon...
Homer | Angel's ho...
Spot the gliders!
Instances | EC2 Man...
SPAIN OGN query
Soaring Spot :: Home
phpMyAdmin
All Bookmarks
5 km
1500m
1000m
11h
12h
13h
14h

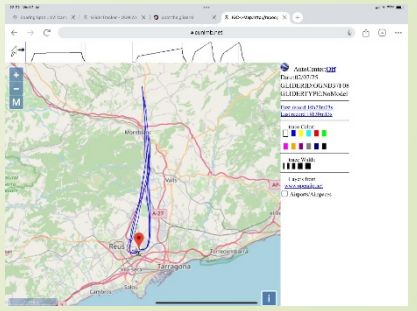
iConspicuity and fire fighting

A nice side effect of the iConspicuity

En la lucha contra incendios

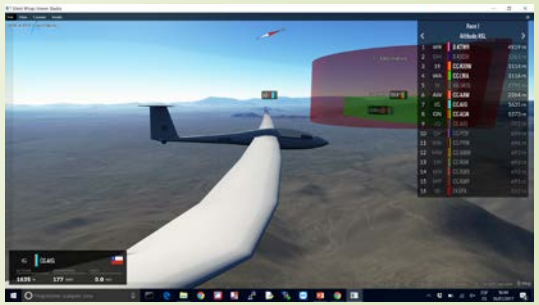
- La visibilidad electrónica es critica
- Situaciones de gran estrés y alta concentración de aeronaves
- La recomendación a este colectivo:
  - Tener equipos Flarm en **TODOS** los intervinientes (Aviones, helicópteros, aviones de observación, etc.,...) para que los aviones se vean entre si.

  - Una(s) estación de iConspicuity en el centro de control, es como tener un radar de servicio, para ver todas las operaciones en vuelo



And some other VERY **nice** side effects like:

- Flight book.
- Aero club flight control and fleet control.
- Flight instruction debriefing.
- Competition broadcasting in 2D and 3D in Virtual Reality.
- Accident investigation.
- ETC., …



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Questions?