EGNSS4CAP

European Global Navigation Satellite Systems Agency

How to use GNSS raw measurements to improve the digitalisation of CAP controls

Fourth annual GNSS Raw Measurements Taskforce Workshop

Online, 27- 28 May 2020

Coordinated by space·tec PARTNERS

Developed by erasmicoin Tecnologie Blockchain

Simplifying CAP processes with satellite technologies

CAP

+

GALILEO EGNOS

=

EGNSS4CAP

- Current and post-2020 CAP reform
- **New rules adopted by the European Commission**

- Modern satellite-based technologies to be used when administering and controlling area-based payments
- **Simplify the Integrated Administration and Control System (IACS) processes**

- Uses EGNSS differentiators to enable farmers to provide geo-tagged photos
- **Supports and complements a Copernicus Sentinel-based monitoring approach**

Enabling the digitisation of agriculture government controls through EGNSS

Open Source Android application using GNSS raw measurements and **EGNSS differentiators (Galileo dual-frequency and Galileo authentication service OS-NMA)**

- Increasing accuracy
- Increasing robustness against data manipulation (position and time)
- Can be integrated and customised for end-user solutions
- Generating input for the Integrated Administrative Control System (IACS) of the Common Agricultural Policy (CAP)

Get the app: www.EGNSS4CAP.eu

Open Source application available today

The code is hosted in the GitHub **Repository EGNSS4CAP. The code is organised into two directories.**

EGNSS4CAP mobile code

EGNSS4CAP web console

Both directories contain a README file with the set-up guide

https://www.egnss4cap.eu/

GitHub

hello@egnss4cap.eu

Android smartphones tested

Xiaomi Mi8 Lite

Xiaomi Mi8

Samsung S10

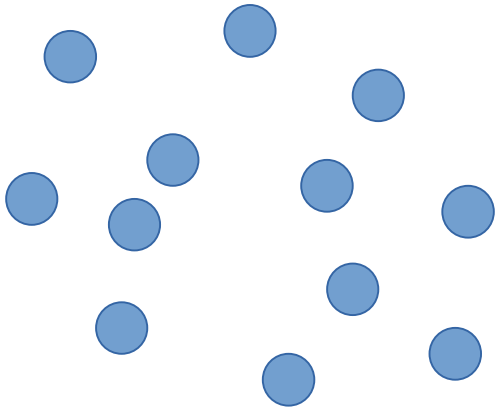
Samsung Galaxy Note10

ASUS ZenFone 6

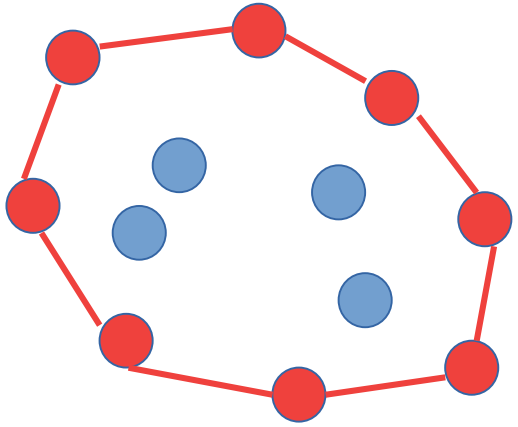
OnePlus 7 Pro

Chipset	Qualcomm Snapdragon 660	Qualcomm Snapdragon 845	Exynos 9820 (int)*	Exynos 9825	Qualcomm Snapdragon 855	Qualcomm Snapdragon 855
Galileo	✔	✔	✔	✔	✔	✔
Dual Freq.		✔		✔	✔	✔
EGNOS	✔				✔	✔
OS-NMA		✔	✔	✔		

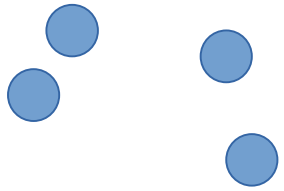
Convex Hull Algorithm: Simple example with one iteration



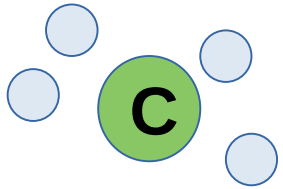
1. set of *n* geolocation points



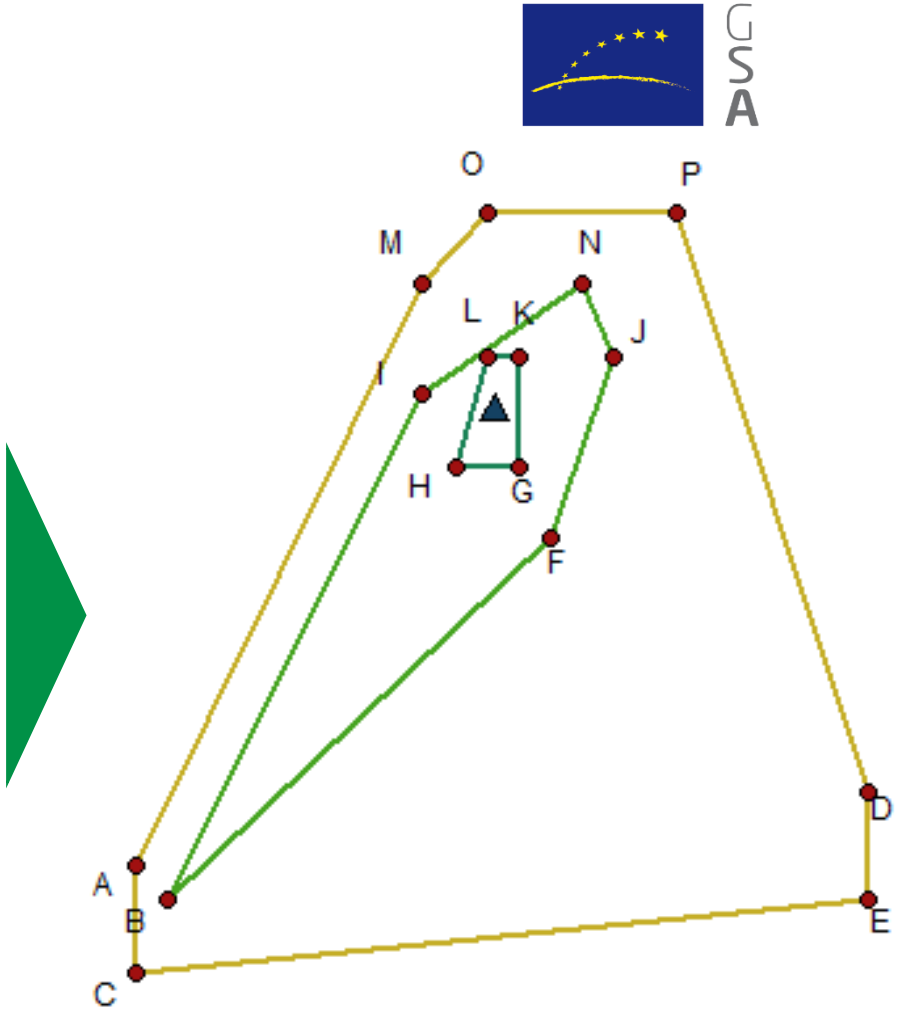
2. the convex hull polygon is computed



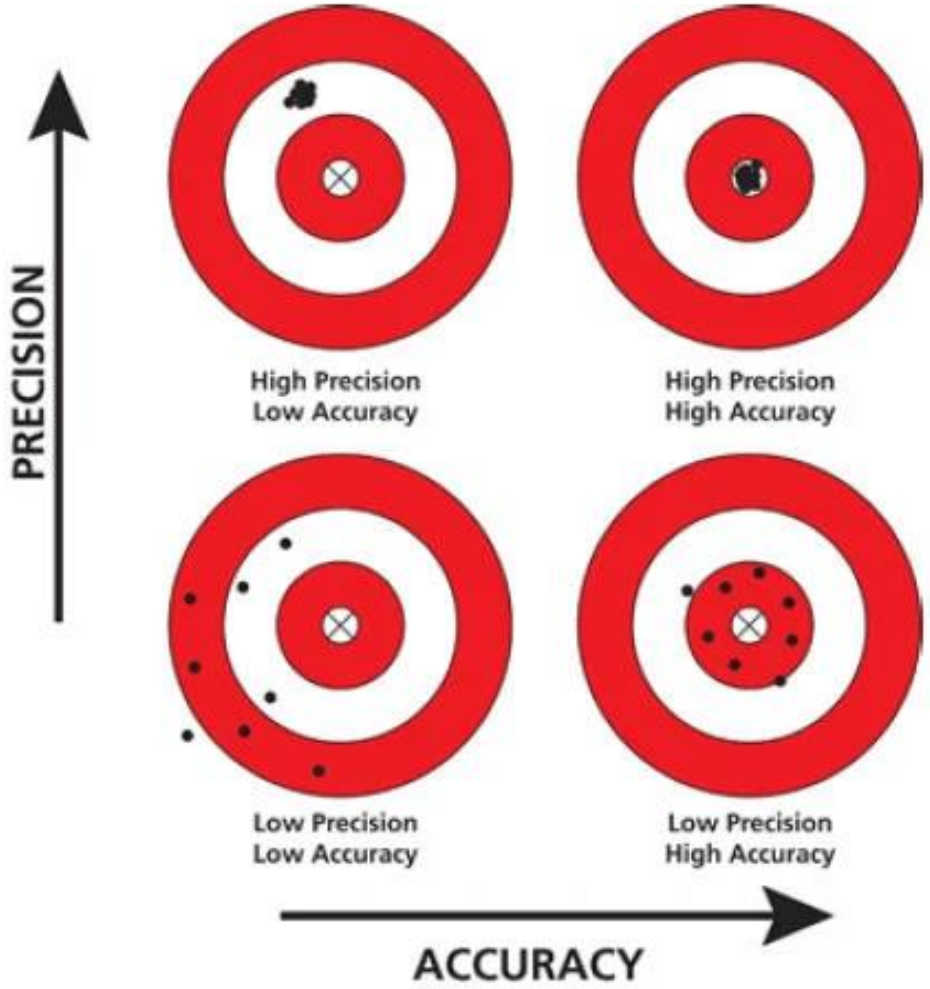
3. the outermost points are discarded

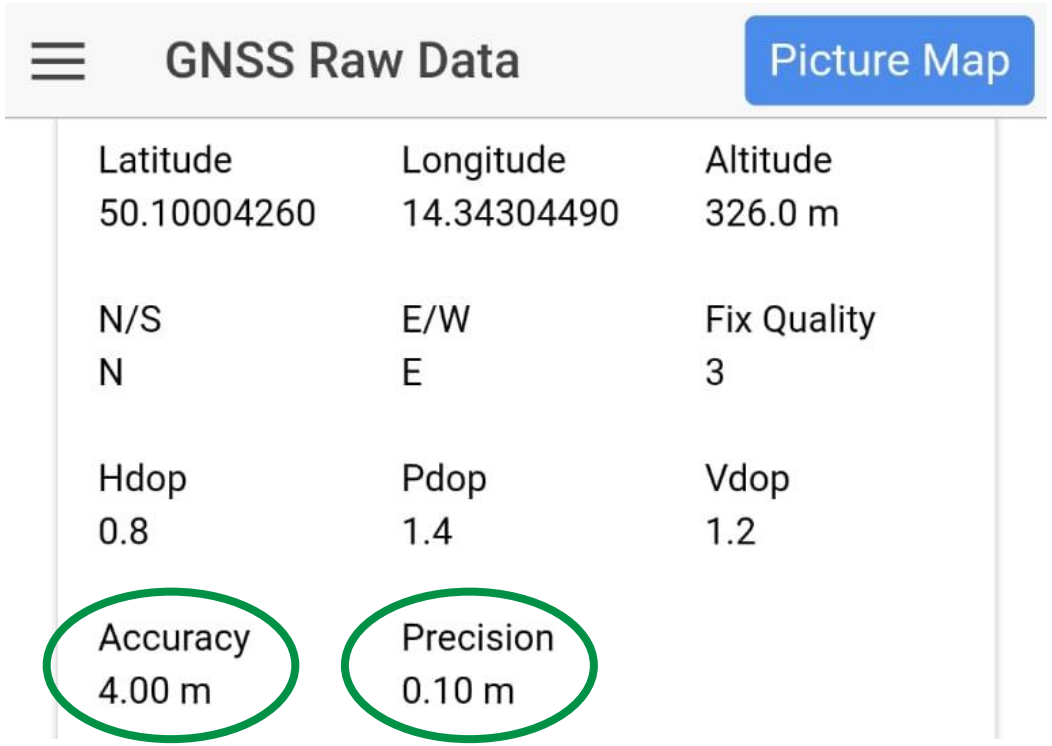


4. four points remain: the *centroid* is computed as their mean



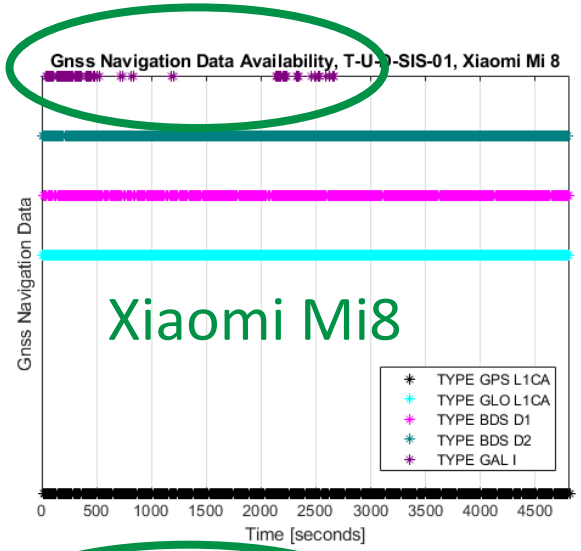
What's the difference between accuracy and precision?

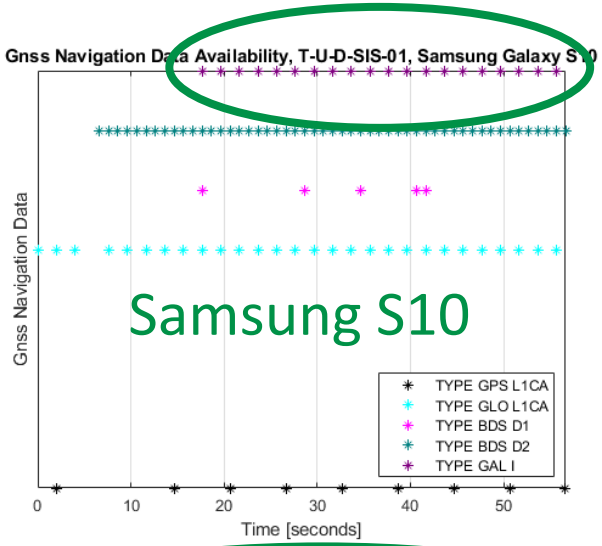


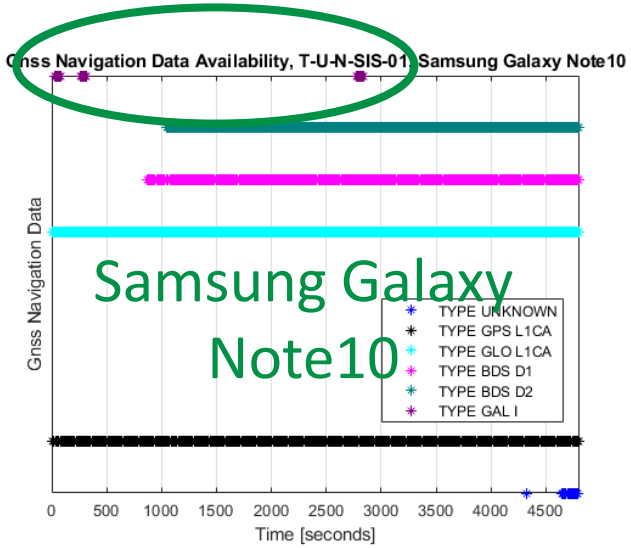


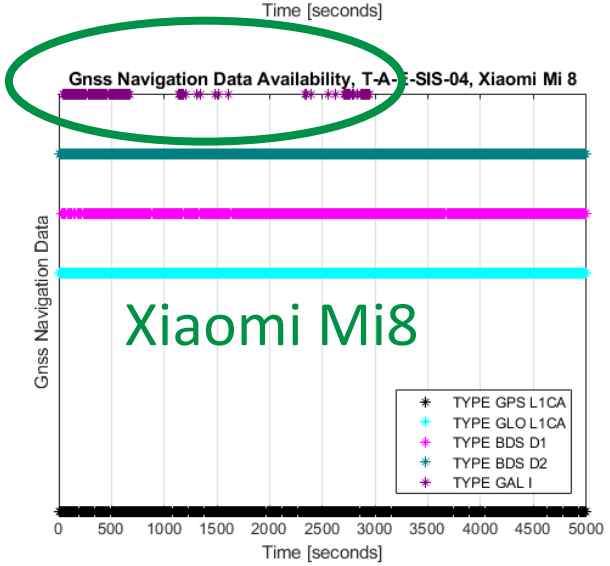
Dual frequency brings better positioning performance

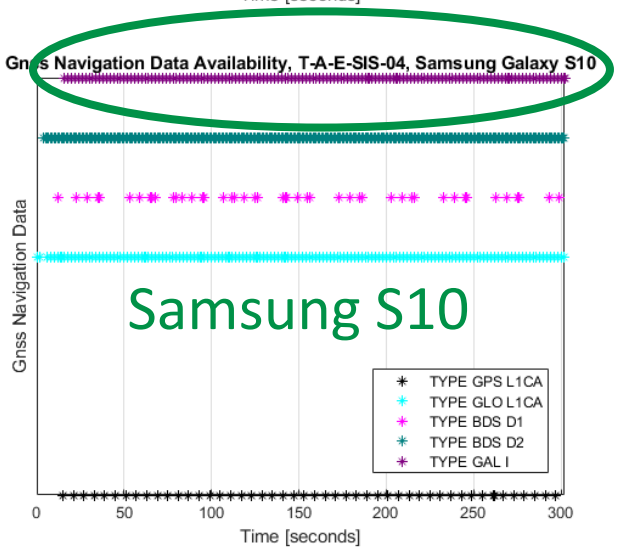
GNSS Navigation Data Availability

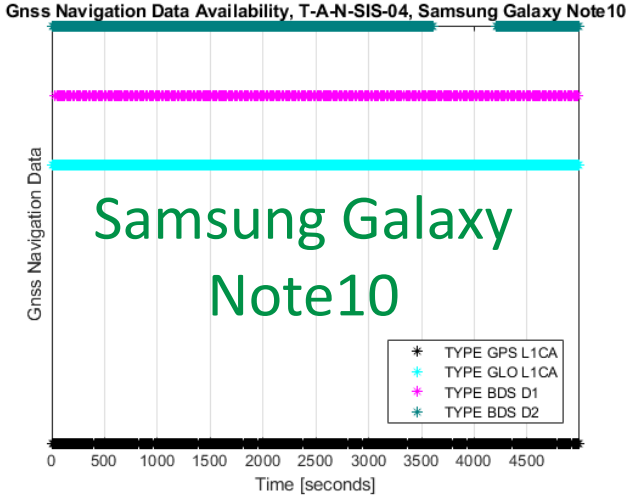












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Enabling the digitalisation of agri-government controls through Galileo & EGNOS

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Thank you!

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