

31st National Space-Based PNT AB Meeting
Sonesta Redondo Beach & Marine Hotel,
Redondo Beach, CA

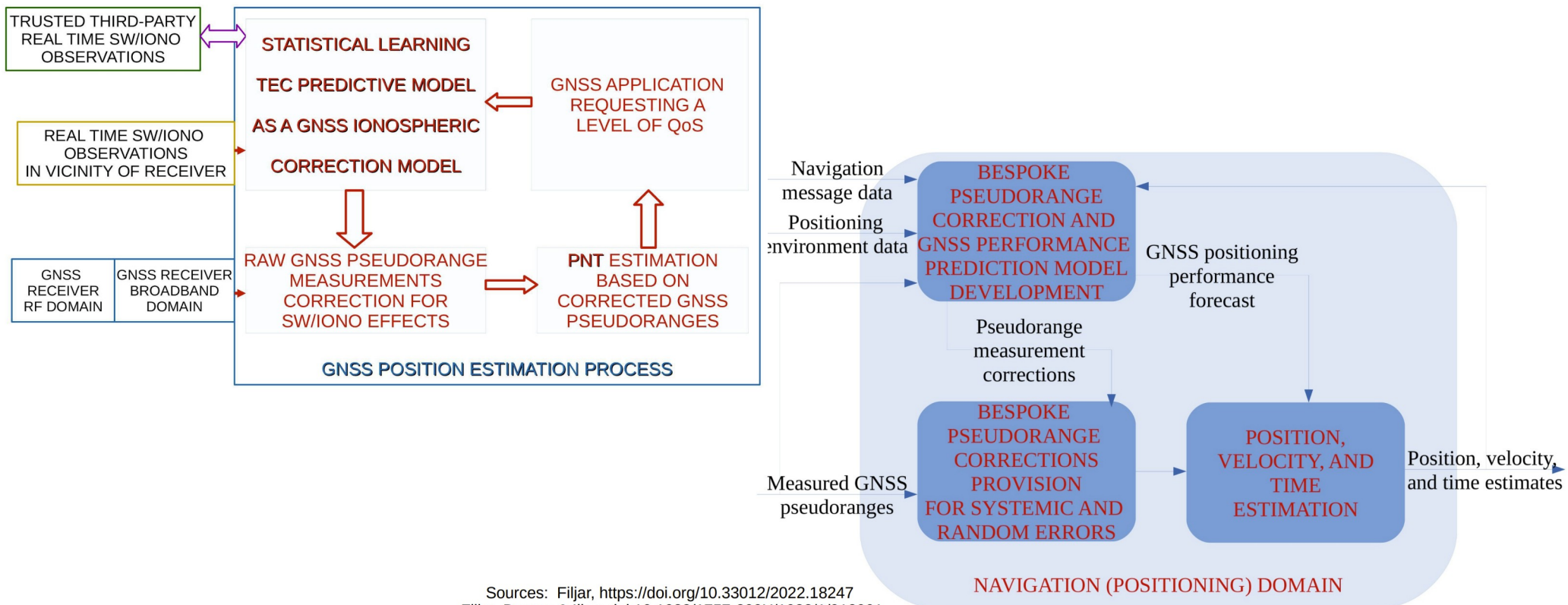
Technology advancement, novel features,
governance and advancing market awareness of
GPS/GNSS – a partial review

presented by Prof Dr Renato Filjar, Croatia

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- Ambient-Aware Application-Aligned (AA)² PNT
- Technology advancement through SL/ML/AI utilisation, new scenarios and case-studies, safety, regulatory and legal challenges



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- AI for PNT
- Statistical Learning vs Machine Learning vs Artificial Intelligence
- Technology, regulatory, ethical, operational, strategic aspects and implications under consideration
- Implementation in both the operator's (infrastructure, services) and user segments (GPS/GNSS-based applications, user-side GPS/GNSS PNT services improvements and advancements)
- Setting up technology, operational, and regulatory frameworks remains an essential task and a basic condition

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- Galileo update
- Two new satellites added to Galileo constellation in September 2024
- Galileo Galileo Open Service Navigation Message Authentication (OSNMA) Service operational declaration, after testing conducted by EUSPA
- 17 projects get funds from EU Horizon Europe 3rd Call, out of 63 submissions (<https://www.euspa.europa.eu/newsroom-events/news/big-results-even-bigger-expectations>)
- Annual EGNOS & Galileo User Satisfaction Surveys
- A new EGNOS Safety of Life (SoL) Service for Aviation Service Definition Document (SDD) v3.6 released.

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- Galileo update
- Galileo Sensor Station set up in Bonaire (Caribbean)
- EUSPA issued the EO & GNSS Market Report 2024 (https://www.euspa.europa.eu/sites/default/files/external/publications/euspa_market_report_2024.pdf)
- EUSPA's 20th Anniversary
- 15th Anniversary of EGNOS Open Service
- Galileo HAS gains market acceptance, with growing number of regulated and commercial applications, and a successful demonstrations in Dakar, Senegal, and elsewhere
- Galileo Emergency Warning Satellite Service (EWSS) test conducted in Romania

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- Galileo update
- Galileo HAS and OSNMA – Can your GNSS receiver benefit from the signals & services?
- Reference, regularly updated: <https://www.gsc-europa.eu/support-to-developers/galileo-compatible-devices/receivers-implementing-galileo-osnma>

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- Galileo update
- Governance
 - EC + ESA + EUSPA + contractors + user community
 - Funding: Horizon Europe Space, procurement etc.
 - **EUSPA User Consultation Platform 2024** held in October 2024 → input to set up the GNSS user needs and requirements
 - EUSPA Open Days
 - Procurement procedure:
<https://www.euspa.europa.eu/opportunities/procurement-grants/procurement>

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- Other
- ESA *NAVigation innovation support programme Advisory Committee* (NAVAC) issued the PNT Vision 2035 white paper (<https://navisp.esa.int/uploads/files/documents/NAVAC%20White%20Paper%20May%202024.pdf?v=413045>)
- The UK Hub for Quantum Enabled Position, Navigation and Timing (QePNT - led by the University of Glasgow, with Imperial College) received the £2.5 million grant to support development of positioning, navigation, and timing technologies

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- Other
- Financial Times on spectrum exploitation in space and radio interference
(<https://www.ft.com/content/ac7702c8-238f-4656-bd26-a2ba445af971>)

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- International collaboration and events
- United Nations/Spain Workshop on GNSS and Related Space Technologies in Support of Urban Sustainability Challenges, 18 - 22 November 2024, Malaga, Spain (remote meeting)
- Baška SIF (Spatial Information Fusion) Forum, Baška, Krk Island, 16 – 18 June 2024

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Source: ION,
<https://www.ion.org/>

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Thank you for your attention!

With an invitation to
Baška SIF (Spatial Intelligence Forum) 2025
to be held in Baška, Krk Island, Croatia
21st - 24th September, 2025

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