



ST Dual-Frequency GNSS Platforms for High-Accuracy, and Safety Compliance

GNSS Raw Measurements Workshop

GSA Prague, 30 May 2018

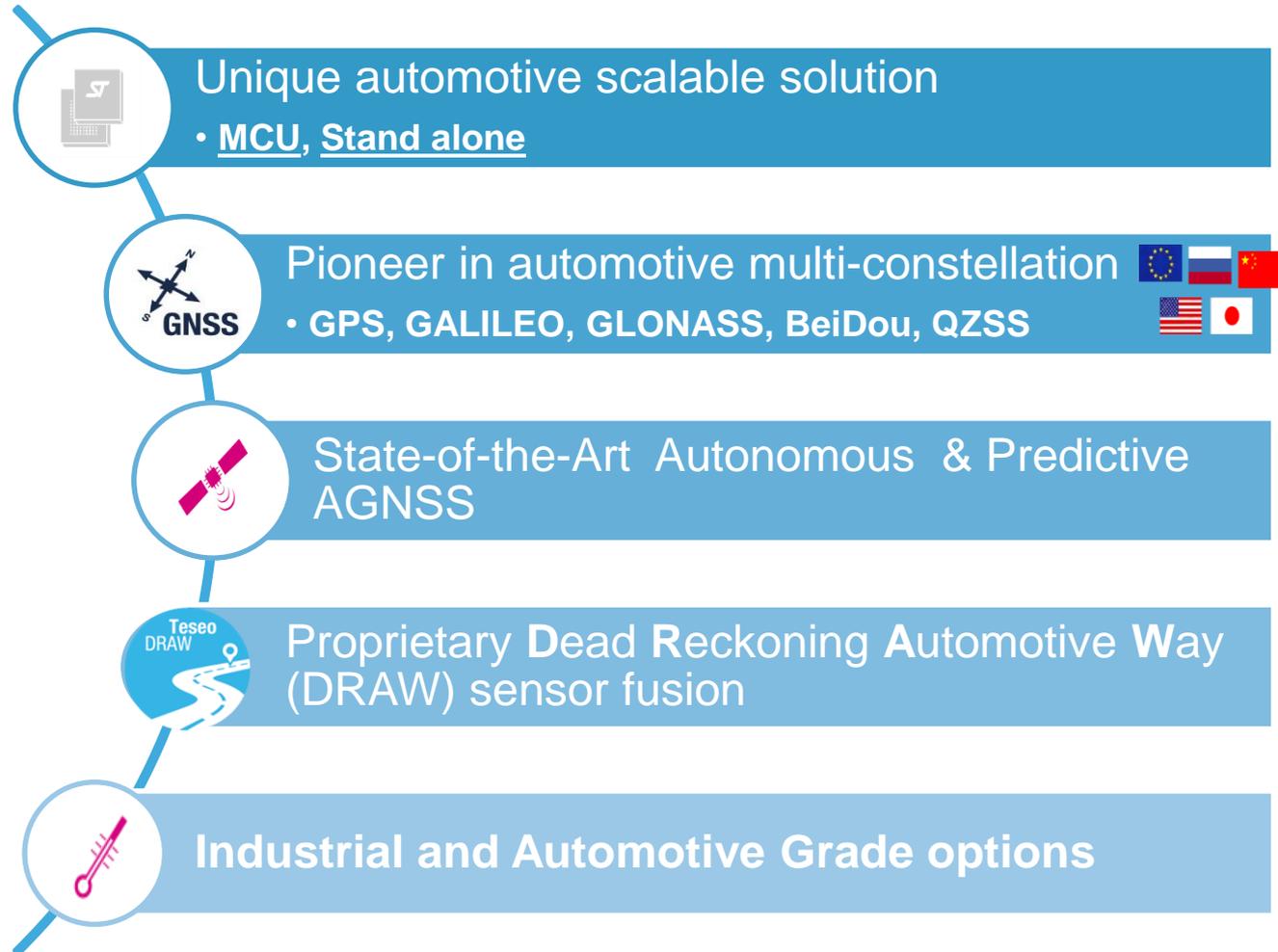
Dr. Luis Serrano



GNSS - Teseo family

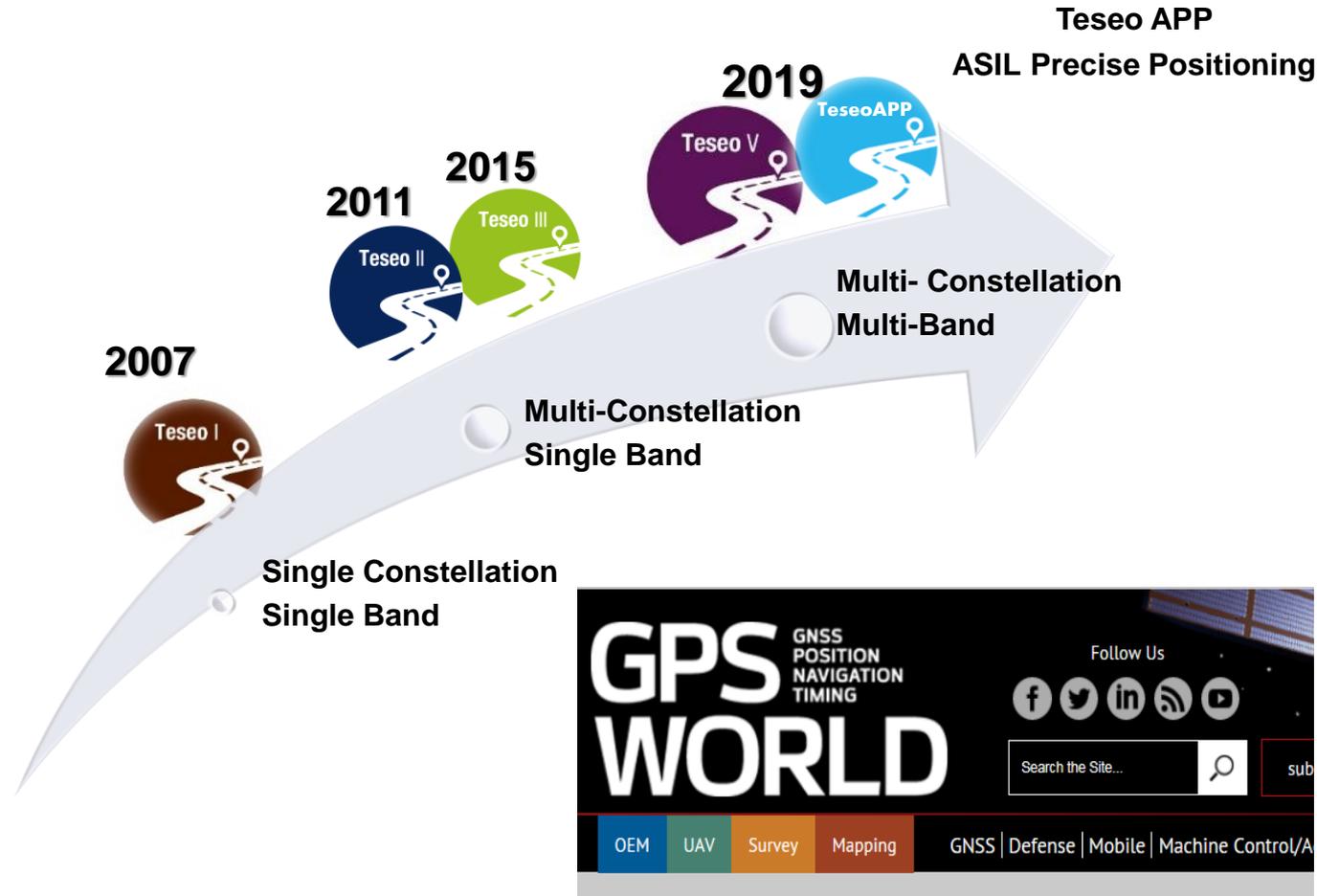
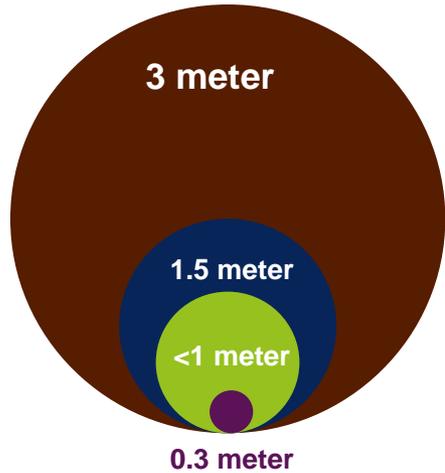
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...since 1993 leading the ranking of automotive position accuracy solutions



Teseo GNSS Evolution

Towards reliable precise positioning



ST Precise Positioning platforms

ASIL Multi Band
Measurement Engine



STA9100MGA
BGA 8x8



Multi Band
Measurement/ Positioning
Engine



STA8100GA
BGA 8x8



STA8135GA
BGA 7x11

Eng. Samples: Since Q3, 2017

Full L Band Receiver



STA8200L
BGA 8x8

SOP availability

February 2019

April 2019

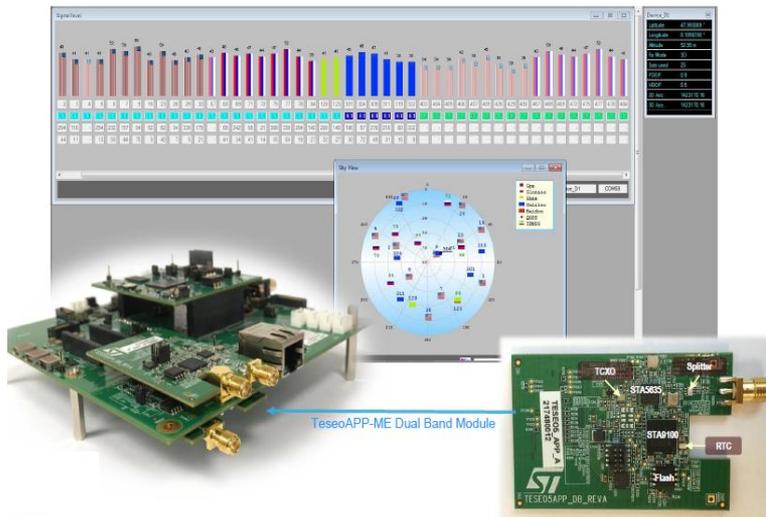
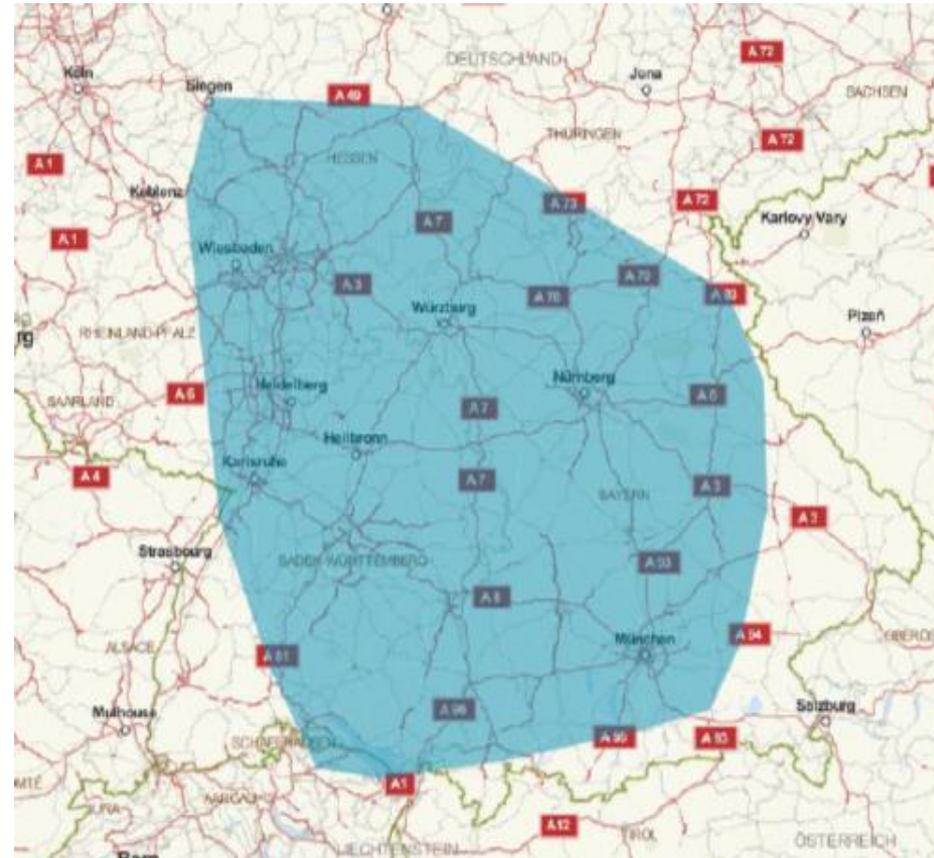
Autobahn GNSS-PPP test corridors for autonomous driving localization

PPP / RTK with automotive multi-band chips

Teseo V/Teseo APP Vs geodetic-grade receivers

Critical KPIs (convergence time, accuracy, etc.)

Testing of protection-levels (Integrity), and faulty-modes (Functional Safety)



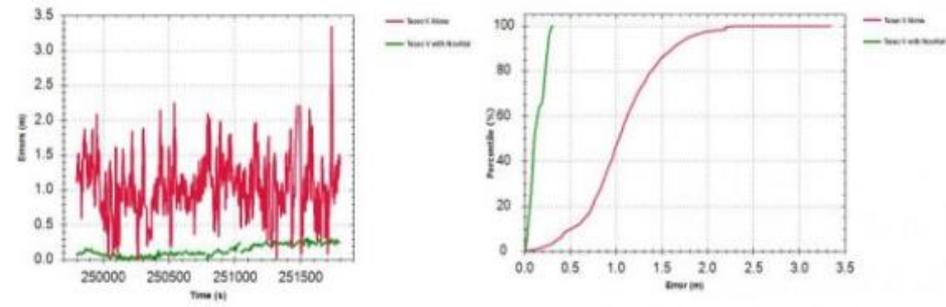
World's first results using a multi-band automotive chip with GNSS PPP Techniques

GPS WORLD GNSS POSITION NAVIGATION TIMING

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	CEP [M]	1 σ [M]	2 σ [M]
Teseo V Alone	1.03	1.21	1.81
Teseo V with NovAtel	0.11	0.21	0.26

NovAtel test drives STMicroelectronics' Teseo APP and Teseo V chipset

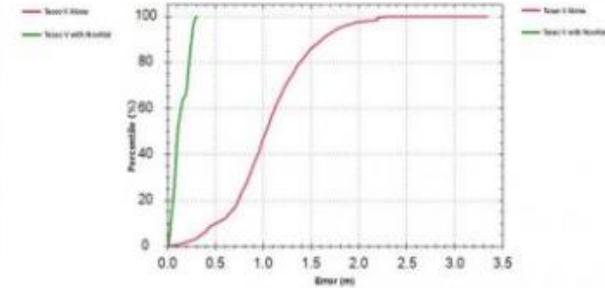
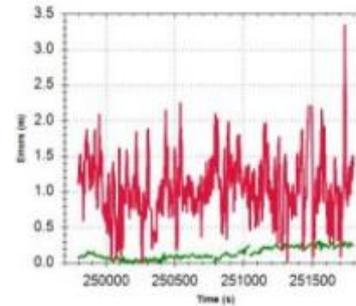
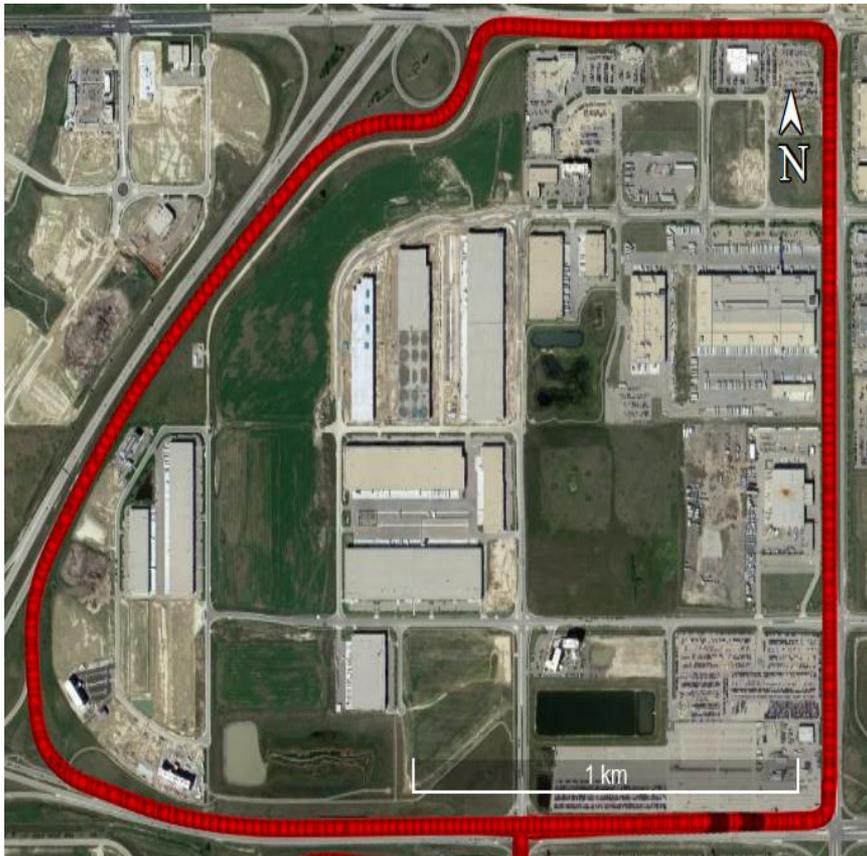
March 7, 2018 - By Tracy Cozzens Est. reading time: 1:30

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Open-sky (highway) TeseoV / APP Tests

GNSS only / automotive antenna

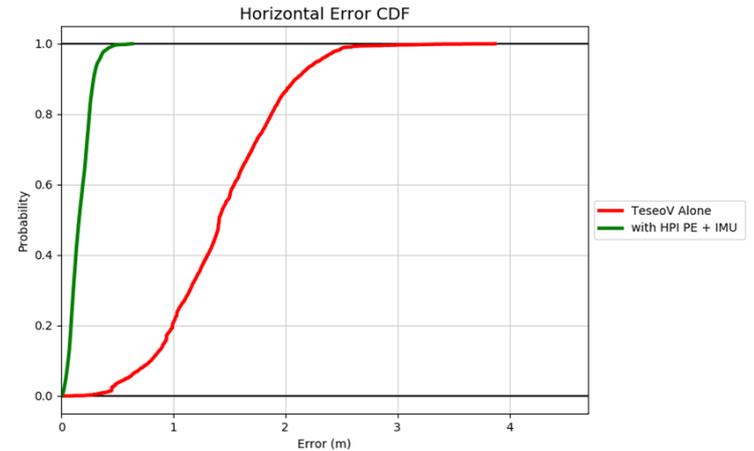
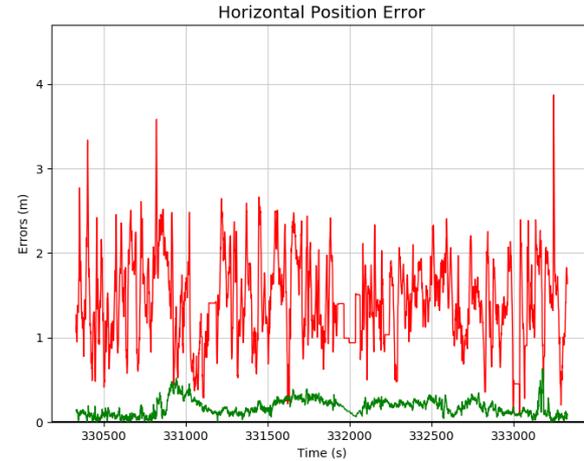
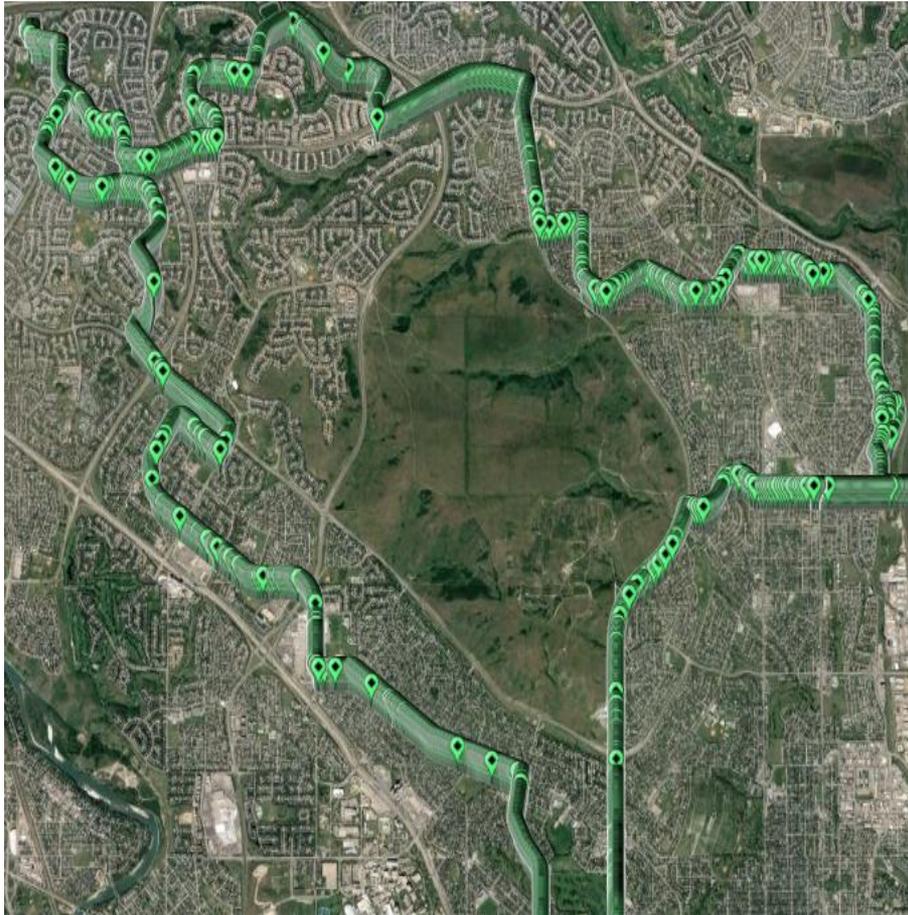


Teseo V/APP (dual-frequency) Measurement Engine with NovAtel PPP SW – **Accuracy: 26 cm (2-sigma)**

Note: with Teseo III (single-frequency, well tuned), **Accuracy is: 37 cm (2-sigma)**

Sub-urban (under foliage), TeseoV / APP Tests

GNSS + DR / automotive antenna



Teseo V/APP (dual-frequency), Accuracy: 33 cm (2-sigma)



life.augmented

Multi-frequency L1/E1-L2C/E5b, or L1/E1-L5/E5a

