

EPN DENSIFICATION: CONTINUATION and EXPLOITATION

A KENYERES – B MAGYAR – S TÓTH

J ZURUTUZA

J LEGRAND – C BRUYNINX

and the representatives of 26 ACs



OUTLINE

- MILESTONES
- METADATA HARMONIZATION
- IGB08 → IGS14 CRD CONVERSION
- AC STATUS, CONTINUATION
- VELOCITY UNCERTAINTIES
- EXPLOITATION

MILESTONES

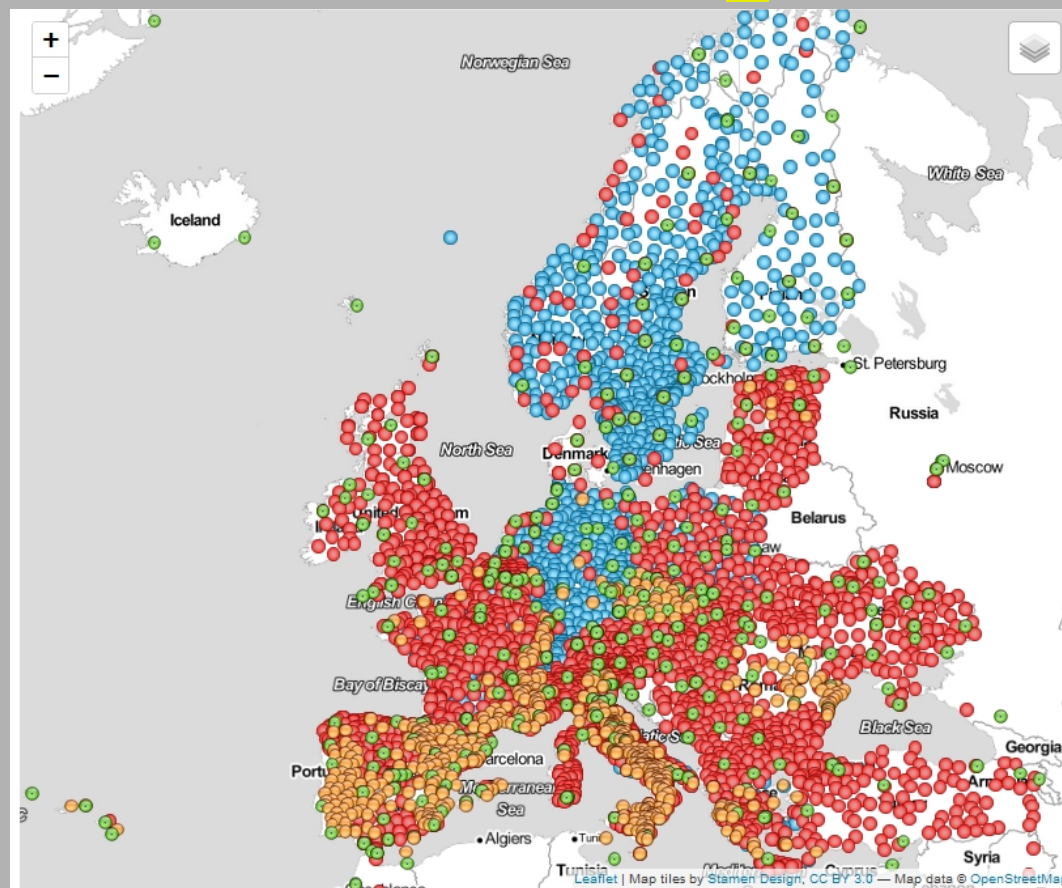
- D1933 PUBLISHED LAST YEAR
- **PAPER IN GPS SOLUTIONS**
- ENHANCED VELOCITY FILTERING (POSTER)
- METADATA CROSSCHECK by J ZURUTUZA
- PREPARATIONS FOR D2050

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METADATA HARMONIZATION

IERS – EPN D - E_GVAP



METADATA HARMONIZATION

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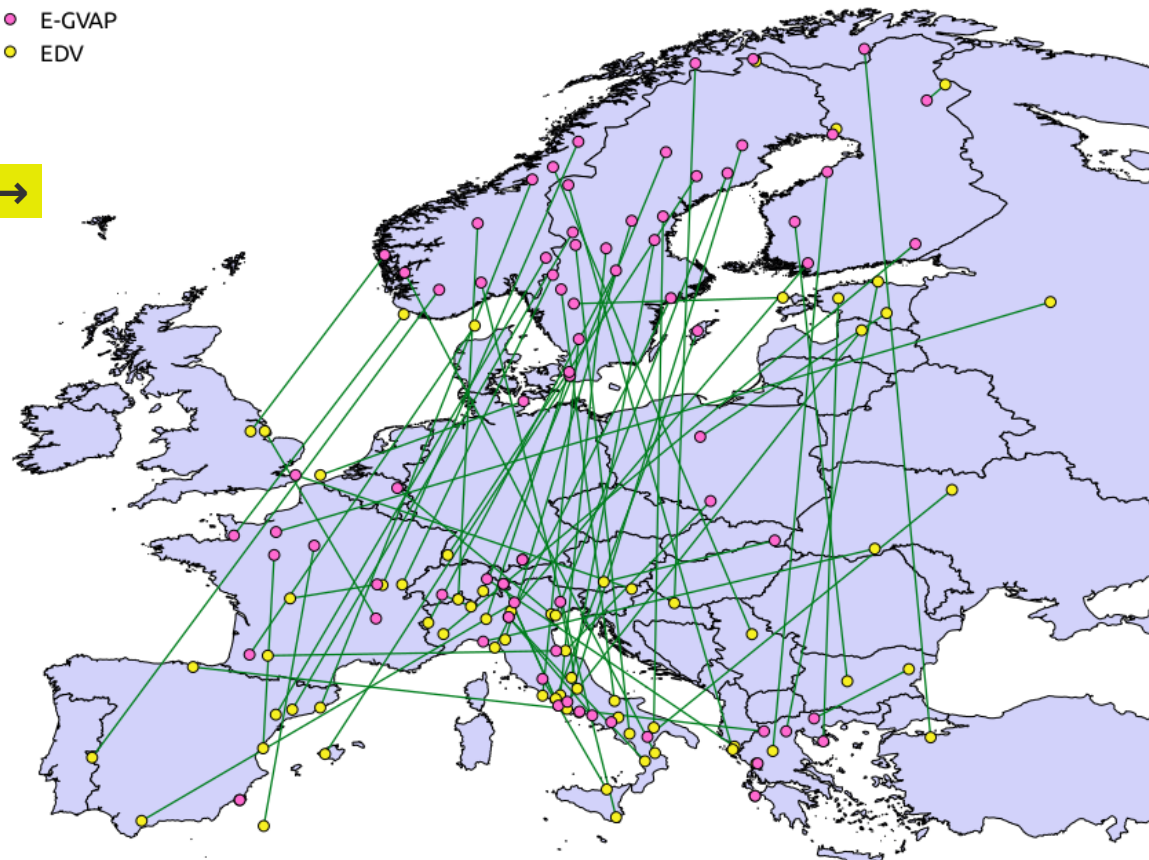
1836 agree

324 name conflict

193 crd conflict →

1424 – no match

● E-GVAP
● EDV



OUTLINE

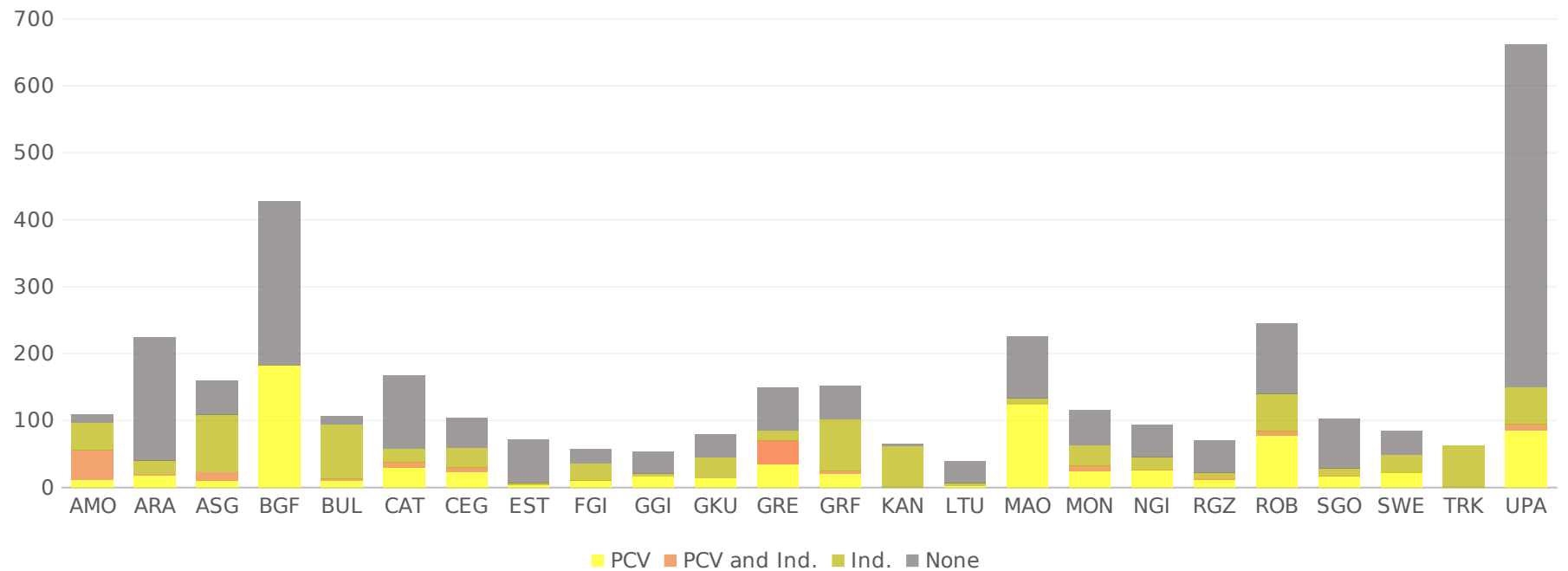
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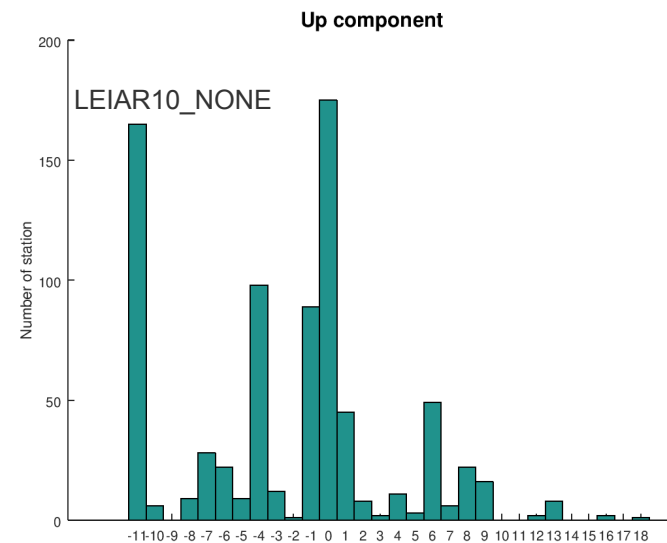
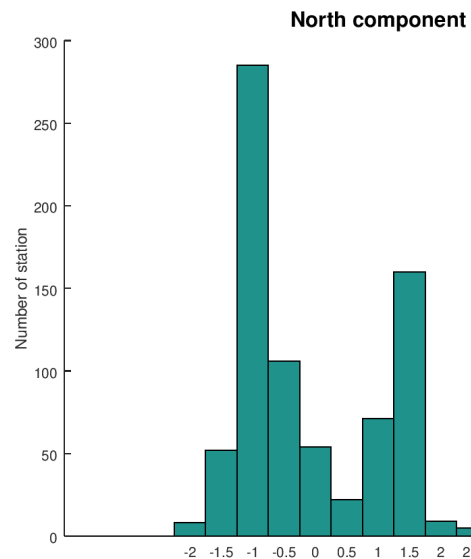
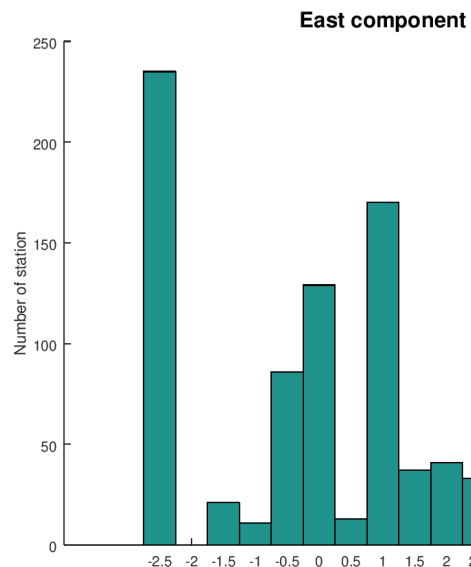
REFERENCE TO JOAQUÍN'S TALK

- IGS TOOL AND LATITUDE DEPENDENT MODEL TO CONVERT CERTAIN TYPE MEAN PCVs TO IGS14
- INDIVIDUAL CALIBRATIONS ARE **NOT** AFFECTED
- LIMITED NUMBER OF STATIONS INVOLVED
- UNAVOIDABLE FOR VELOCITY ESTIMATION

IGb08 → IGS14 CONVERSION



IGb08 → IGS14 CONVERSION



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CONTINUATION: AC STATUS

- 70% OF THE ACs ARE REGULARLY SUBMITTING SOLUTIONS
- SOME SOLUTIONS ARE COMING IN BATCHES
- 3 ACs NEED REPROCESSING DUE TO PCV INCONSISTENCIES !!!

JZ: TOOL TO CROSS-CHECK

- SOME CASES CAPACITY ISSUES, SOLUTIONS MAY COME LATER
- **D2050 MAY EXPECTED AUTUMN AS EARLIEST**

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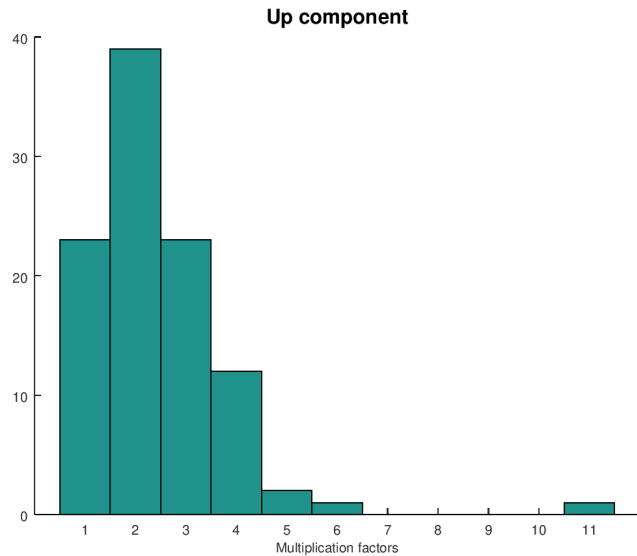
VELOCITY UNCERTAINTIES

REALISTIC UNCERTAINTIES ARE REQUIRED FOR GEOPHYSICAL APPLICATIONS (E.G. STRAIN RATE)

- LEAST SQUARES (WHITE NOISE) → MLE (COLORED NOISE)
multiplication factor of 2-3 ?
- CATS (SD WILLIAMS) OR HECTOR (M BOS) SOFTWARE
coordinate time series are needed
- HUNGARIAN – PORTUGUESE BILATERAL PROJECT
realistic uncertainties will be computed to all EPND stations

VELOCITY UNCERTAINTIES

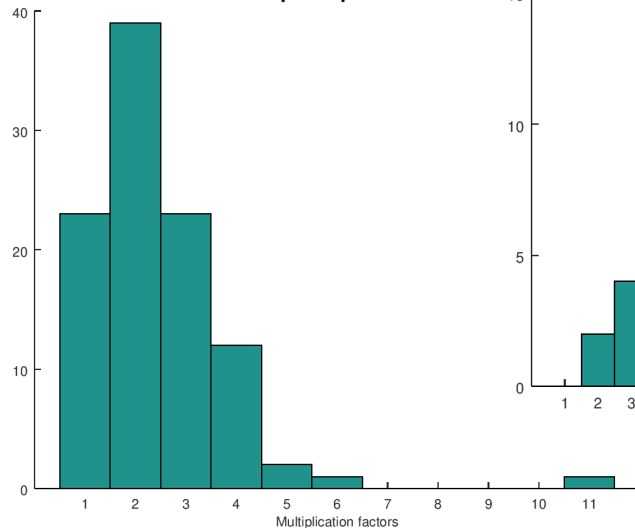
test in one network with CATS



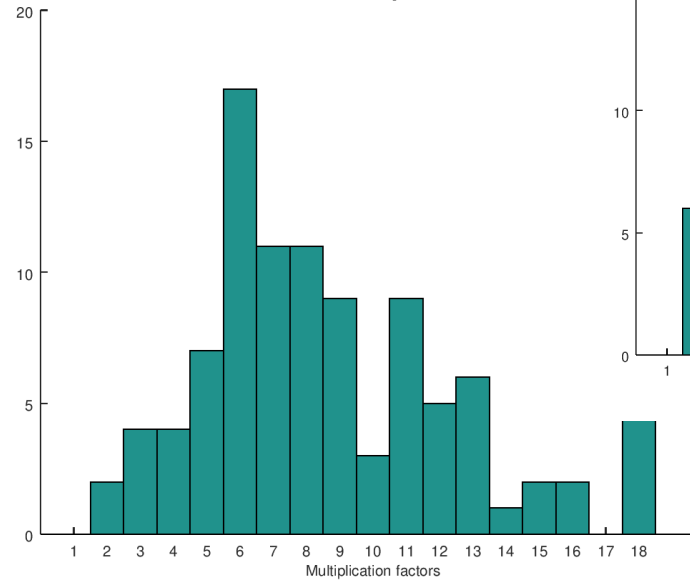
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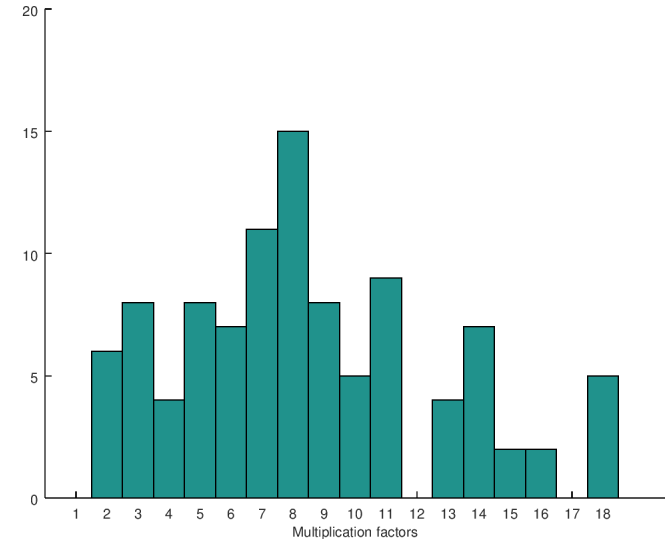
Up component



North component



East component



EXPLOITATION

- POSITION AND VELOCITY VALIDATION OF NATIONAL DENSIFICATIONS – **ESTONIAN EXAMPLE !!**
- **WG OF GEOKINEMATICAL MODELLING**
R&H STEFFEN's presentation ← **realistic uncertainties!**
- **EPOS ERIC**
EPN Densification + EPOS pan-European processing
- **EUROPEAN GROUND MOTION SERVICE**
project starts in 2020 and EPN Densification may be used to connect InSAR patches and validation of the results.
Velocities + timeseries are required.

ACKNOWLEDGMENT

A Baron¹³ – C Bruyninx²⁴ – A Caporali²⁵ – F de Doncker²⁰ – B Droscak¹⁰ – A Duret¹⁵ – P Franke⁵ – I Georgiev²¹ – R Bingley⁴ – L Huisman¹⁷ – L Jivall¹⁸ – O Khoda¹⁹ – K Kollo⁷ – Al Kurt⁹ – S Lahtinen²² – J Legrand²⁴ – B Magyar³ – D Mesmaker²⁴ – K Morozova¹⁶ – J Nagl¹¹ – S Ozdemir⁹ – X Papanikolaou⁶ – E Parseulinas²⁶ – G Stangl⁸ – M Ryczywolski¹² – OB Tangen²³ – M Valdes¹⁴ – J Zurutuza² – M Weber¹

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