

HEGIFTOM Kick Off Workshop, 22-25-29 March 2021 telecon



Pandonia Global Network (PGN): Relation to TOAR

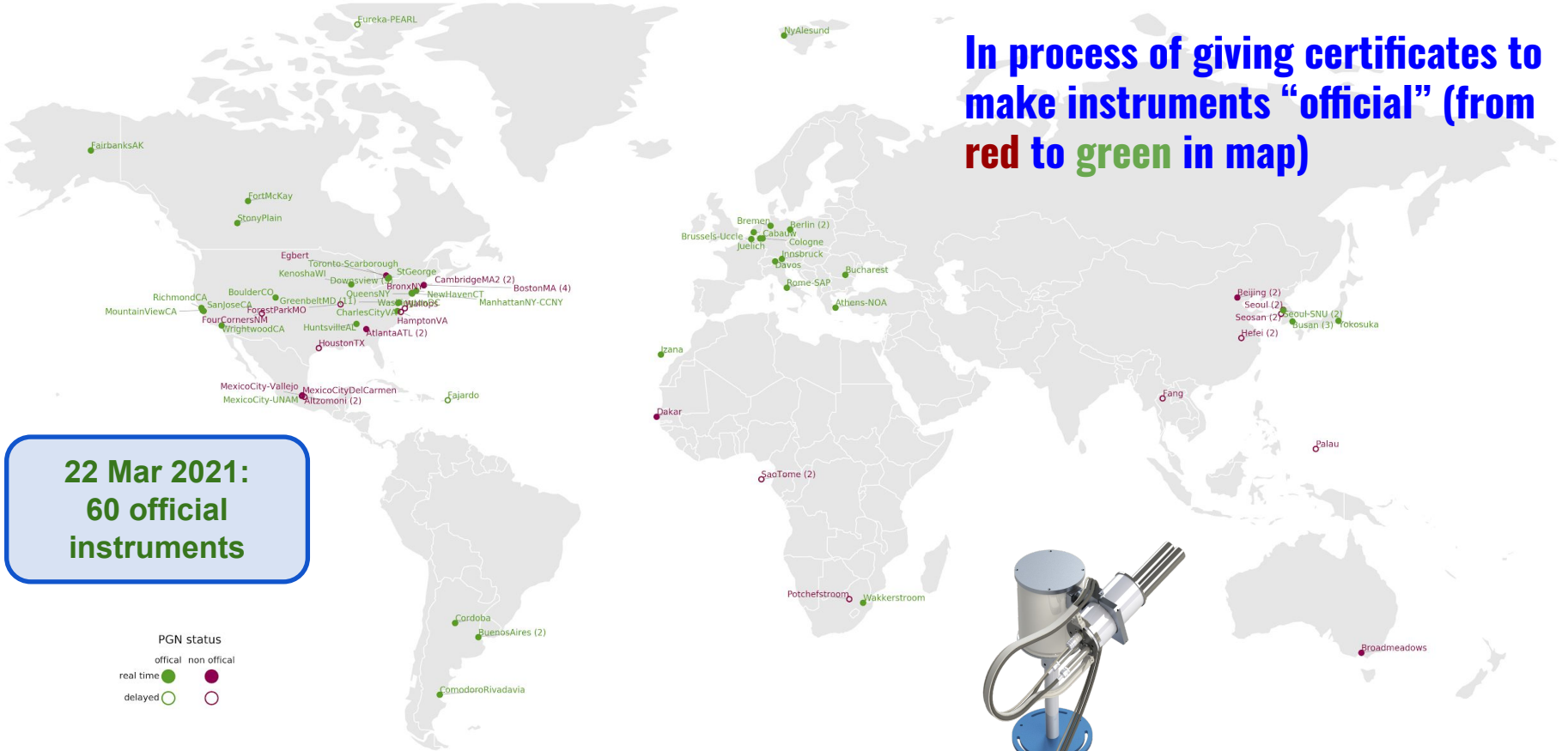
Alexander Cede for the PGN team

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PGN Distribution

In process of giving certificates to make instruments "official" (from red to green in map)

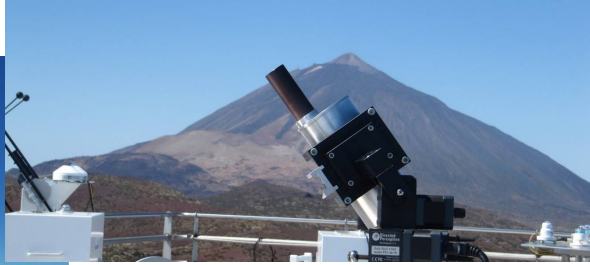


**22 Mar 2021:
60 official
instruments**

PGN status
 official non official
 real time ● ●
 delayed ○ ○



Network instrument: Pandora Spectrometer System, or short "Pandora"



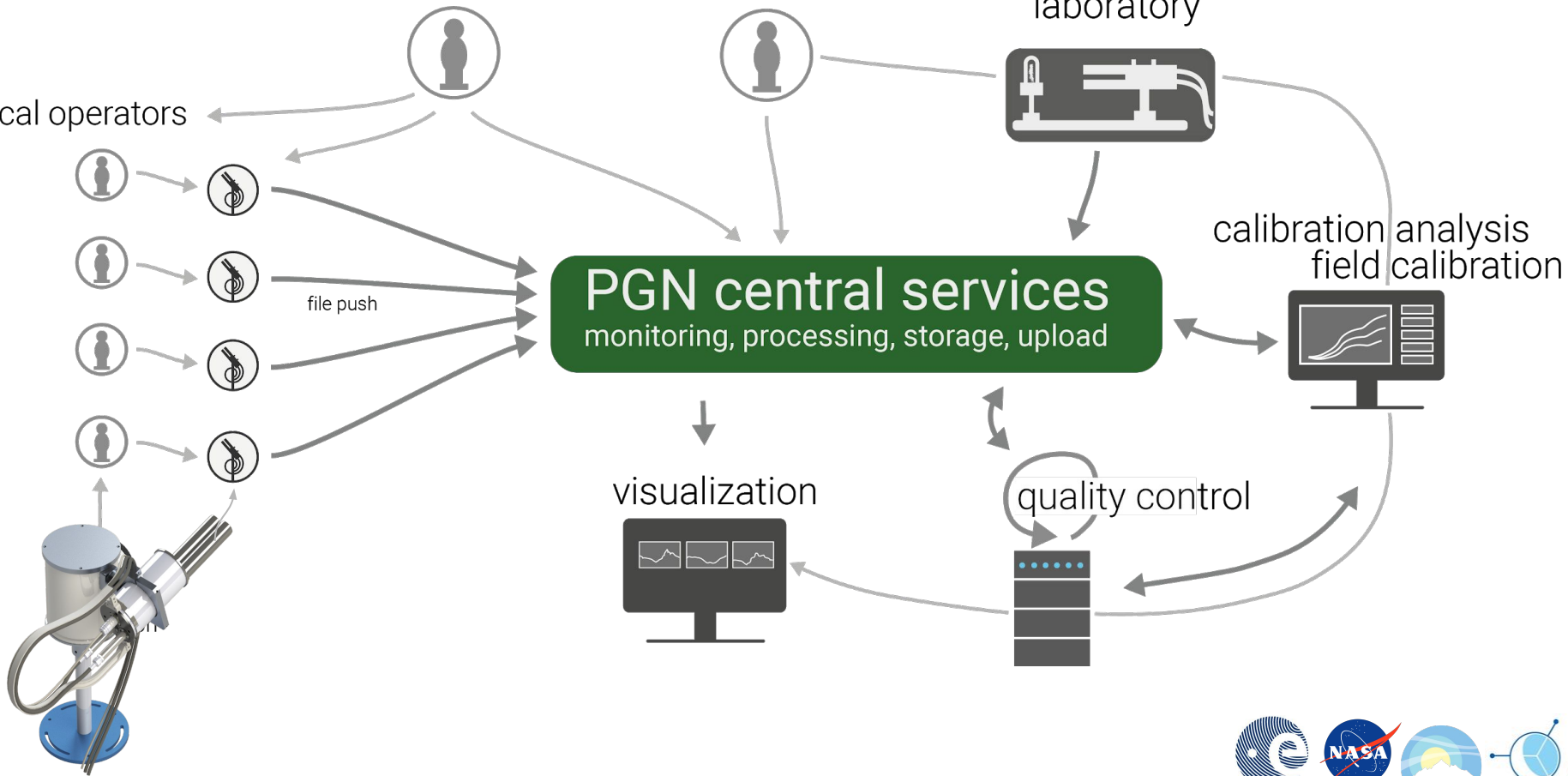


network operators

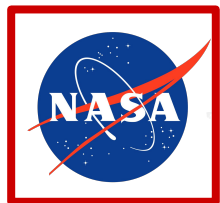
scientists

laboratory

local operators



Sponsoring agencies:



INSTRUMENTATION & OPERATION

T. Hanisco*
N. Abuhassan*
L. Valin*
D. Santana
M. Gray
S. Smith
J. Robinson
E. Baumann
A. Scott

CALIBRATION & PRODUCTION

A. Cede*
M. Tiefengraber*
M. Müller
L. Shalaby
M. Gebetsberger
A. Kreuter
C. Posch
B. Wimmer

MANAGEMENT (PGN-AG*)

B. Lefer*
A. Dehn*
J. von Bismarck*
S. Casadio*

SCIENTIFIC ADVISORS

M. v. Roozendael
A. Redondas
E. Spinei Lind

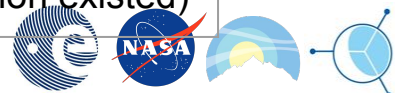




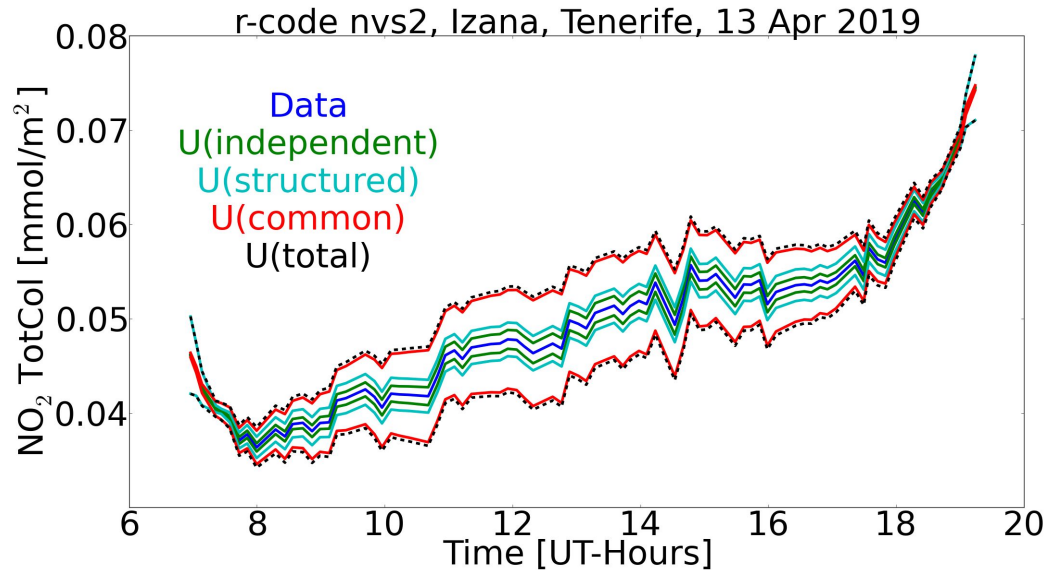
Tot = Total column amount based on direct sun observations

Prof = Tropospheric column amount, surface concentration and profile information based on sky observations (MAXDOAS type)

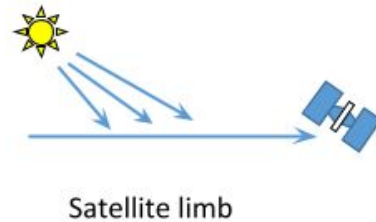
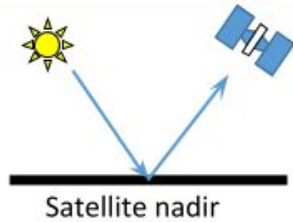
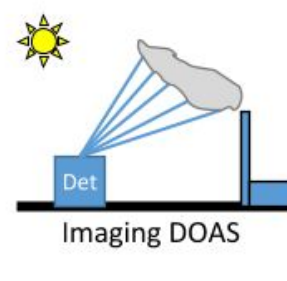
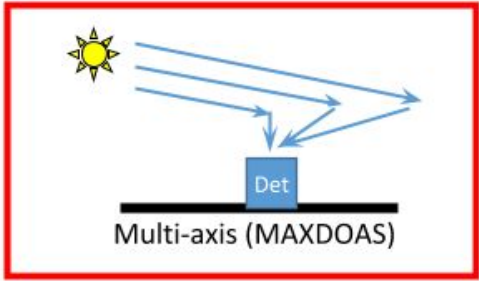
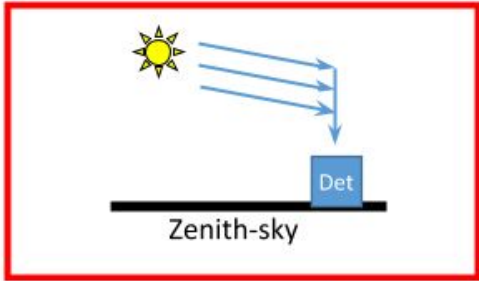
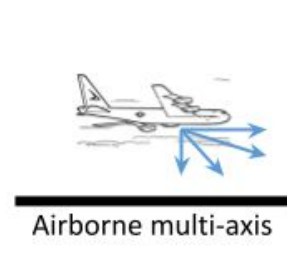
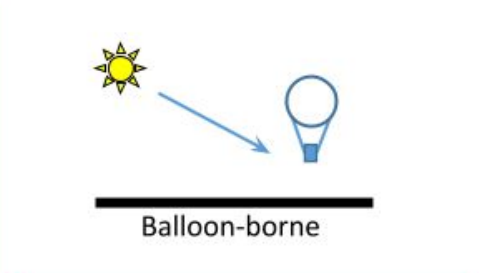
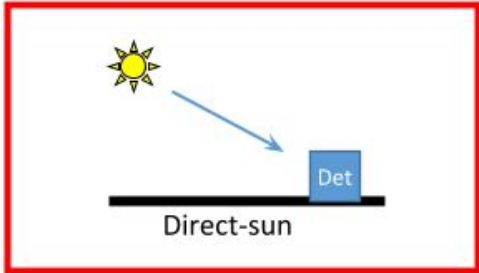
Product	Changes compared to v1.7
NO ₂ Tot	Improved fitting settings, inclusion of stratospheric climatology, more comprehensive uncertainty, improved field calibration
NO ₂ Prof	Added profile information (tropospheric column and surface concentration existed)
O ₃ Tot	Improved fitting settings, fitting effective temperature (=useful output!), more comprehensive uncertainty, new field calibration technique
SO ₂ Tot	New product
HCHO Tot	New product
HCHO Prof	Added profile information (tropospheric column and surface concentration existed)



- PGN v1.8 data uncertainty extensively restructured and updated
- Use newest nomenclature and usage based on core principles of metrological traceability (done under guidance of UK National Physics Laboratory, NPL).
- Error sources not “captured” by the uncertainty are included in the data quality flags:
DQ0=high quality, DQ1=medium quality, DQ2=low quality
DQ10, DQ11, DQ12: as above but data still not quality assured



Pandora observation geometries



Tropospheric ozone from MAXDOAS and Pandora? (--> link to TOAR)

- From both the MAXDOAS and Pandora community we believe that there is potential in retrieving a low resolution ozone profile from MAXDOAS sky observations, but no operationally applicable algorithm exists yet.
- With the start of TOAR 2, we (teams from PGN and MAXDOAS communities) have re-initiated a strategy to tackle this problem.
- We agree that this is a difficult task, which can only be performed by specialists, who have already extensive knowledge on instrumentation and retrieval techniques.
- Our next step is to find a way to allocate time and manpower ...