



Integrated non-CO₂ Greenhouse gas Observing System

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InGOS



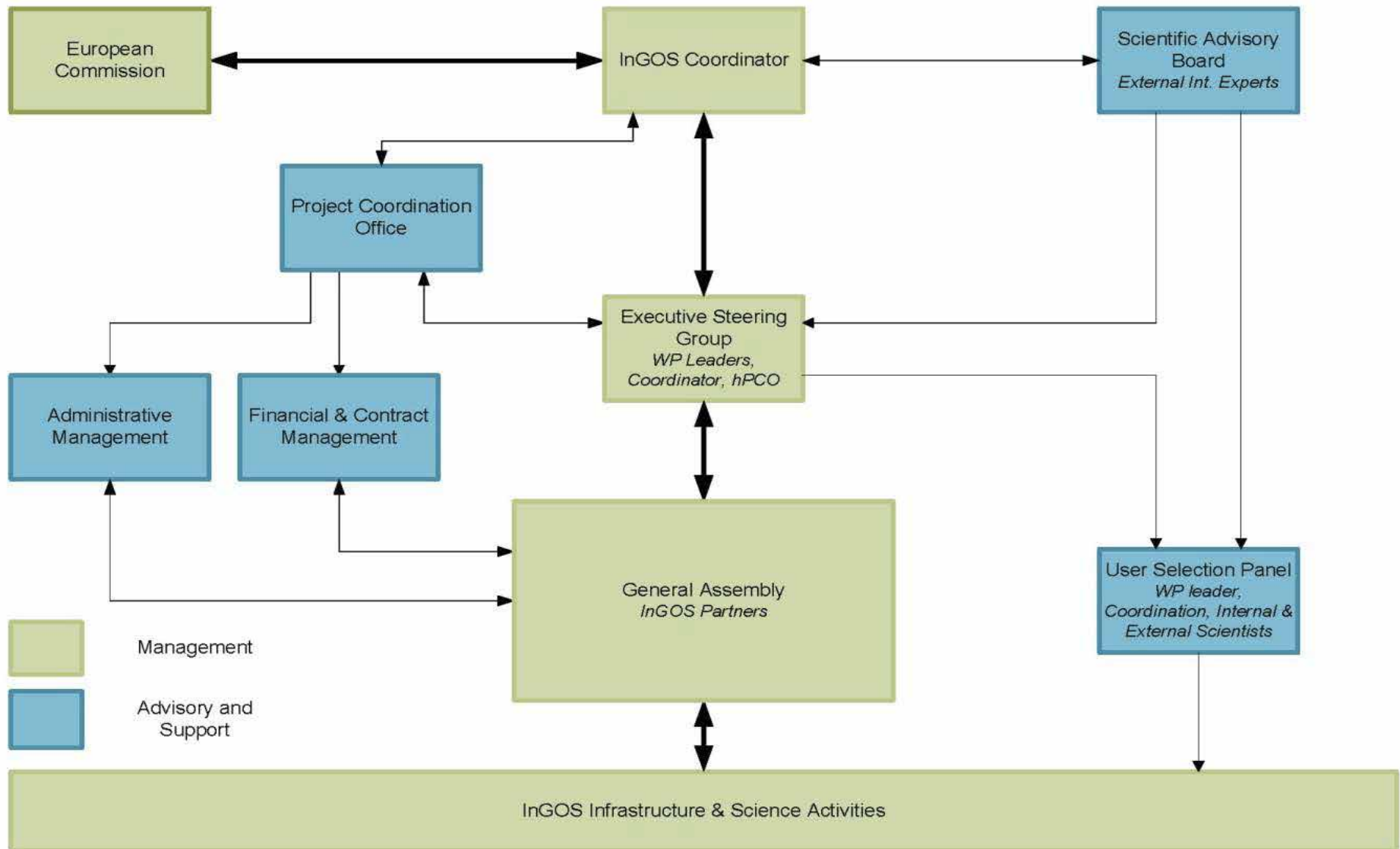
ECN

Energieonderzoek
Centrum
Nederland

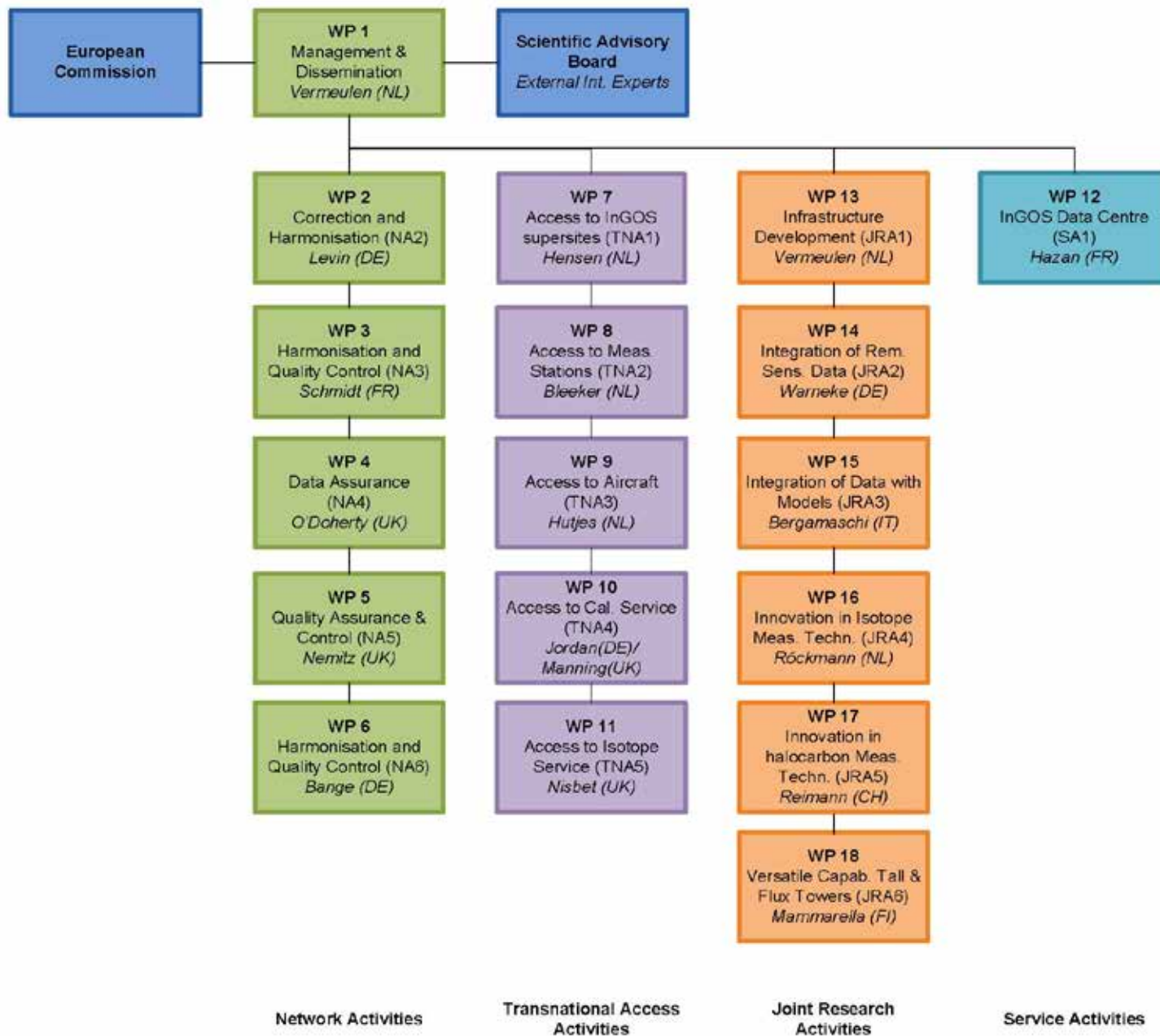
InGOS brief

- § Infrastructure project I3
- § Combination of Coordination, Support & RTD activities
- § EU FP7
- § Budget 10 M€
- § EU contrib 8 M€
- § Builds on projects like: CarboEurope, CHIOTTO, Geomon, IMECC, EUROHYDROS, SOGE, ICOS-PP etc.
- § Coordinator ECN, NL
- § 34 partners
- § Runtime 4 years
- § Start October 2011
- § Integration non-CO₂ observations into ICOS
- § CH₄, N₂O, SF₆, halocarbons, ²²²Rn
- § 23 stations
- § Open for network extension

InGOS management structure



Work packages



Work packages

WP nr	Work Package title	Work Package leader
Project office	NA1: InGOS Management and coordination	Albert Bleeker (ECN)
WP1	NA1: InGOS Management and coordination	Alex Vermeulen (ECN)
WP2	NA2: Correction and harmonisation of historic concentration measurements	Ingeborg Levin (UHEI)
WP3	NA3: Harmonisation and quality control of future measurements of CH ₄ , N ₂ O and H ₂	Martina Schmidt (CEA)
WP4	NA4: Data assurance halocarbon measurements	Simon O'Doherty (UNIVBRIS)
WP5	NA5: Quality assurance and quality control of non-CO ₂ gas flux measurements	Eiko Nemitz (NERC)
WP6	NA6: Ocean measurements of non-CO ₂ gases	Hermann Bange (IFM-GEOMAR)
WP7-9	TNA1,-3: Access to supersites, stations & airplanes	Arjan Hensen (ECN)
WP10	TNA10: Access to calibration service	Armin (MPG)
WP12	SA1: The InGOS data centry	Lynn Hazan (CEA)
WP13	JRA1: Infrastructure development	Alex Vermeulen (ECN)
WP14	JRA2: Integration of remote sensing data into in situ network	Thorsten Warneke (UoB)
WP15	JRA3: Integration of data with models	Peter Bergamaschi (JRC-IES)
WP11	JRA4: Innovation in isotope measurement techniques	Thomas Röckmann (UU)
WP16		
WP17	JRA5: Innovation in halocarbon measurement techniques	Stefan Reimann (EMPA)
WP18	JRA6: Versatile capabilities of combined tall and flux towers	Ivan Mammarella (UHEL)



The InGOS network



Trans National Access



Networking objectives



- § Integrate European facilities for NCGHG observations
 - ú Linking the different communities for CH₄, N₂O, H₂, halocarbons, tracers, atmosphere, ecosystem flux, ocean
- § Improve the quality of historical, current and future NCGHG obs. (concentrations, fluxes, atmosphere & ocean)
- § Prepare expansion of the network in undersampled regions

Access and Services



- § Provide access to observation sites and facilities
- § Provide NRT data for CH₄, N₂O, SF₆ and H₂ data (building on IMECC/ICOS)
- § Provide uniform databases of observational data
 - ú Halocarbons: NILU/Geomon
 - ú Fluxes: UNITUS/ICOS ETC
 - ú Atmosphere: LSCE/ICOS ATC

Access to stations & facilities

§ 6 'super'-sites

- ú Stations where JRA campaigns are hosted

§ 14 observing stations

§ 2 aircrafts for CH₄ flux variability

§ Calibration service & Cucumber rotation

§ ¹³CH₄ isotope service



JRA: research

- § Test and further develop new sensors and observation strategies
- § Integration of in-situ data with remote sensing -> TCCON-Europe network
- § Modelling: analyze the observations and support the network development
 - ú Improved top-down emission estimates
 - ú Uncertainty estimates of derived emissions
 - ú Validation of model results
 - ú Evaluate $^{13}\text{CH}_4$ obs. strategy

JRA's continued

- § Develop continuous isotope observations for methane and maintain reference scale
- § Improve the halocarbon measurement techniques
- § Combine tall tower concentration obs. with flux tower observations into regional scale flux estimates

Some products (out of 96 deliverables)

- § Unified and improved historic dataset of NCGHG's
- § Datasets...
- § Databases for flux and concentration observations
- § Traveling FTIR and Rn system
- § Many reports and workshops
- § 2 Summer schools
- § Top down emission estimates for Europe
- § Website:
 - 📄 <http://www.ingos-infrastructure.eu>

More info..

§ Abridged DoW will be available after negotiation end

§ Leaflet on website:

<http://www.ingos-infrastructure.eu>

Coordinator: a.vermeulen@ecm.nl

Dissemination and outreach: hensen@ecm.nl

