



Acronym	UPLINK
Full Title	Upscaling the Brasschaat Site through Linking Methods to FORWARDS Supersite
Grant Theme	Pilots of long-term climate impact forest monitoring sites: Providing temporally resolved ecosystem-level information on the effects of climatic drivers on forest structure and function in near real-time
Participants	iFLUX NV, Belgium (<i>coordinator</i>) University of Antwerp, Belgium
Start Date	February 2026
Duration	18 months
Description	This project will establish the Belgian Brasschaat ICP Forest level II site as a fully compliant FORWARDS supersite. The ICOS/eLTER site is located within a wider 165 ha mixed coniferous/deciduous forest, while the station is located in a study area consisting of a 2 ha, even-aged Scots pine stand (<i>Pinus sylvestris</i> L.). Brasschaat is recognised as a pioneer in eddy covariance with almost 30 years of continuous flux measurements (Horemans et al., 2020) – making it one of the oldest flux stations worldwide – and recently co-awarded ICOS Ecosystem Station of the Year 2024. Brasschaat will be upgraded with the full set of FORWARDS linking-method sensors, complemented by innovative groundwater flux sensors to support process-based synchronization and canopy monitoring with a recent custom-built drone. A supporting site, located 2 km away, will be upgraded to real-time linking methods, which combined with the wider UAV-survey, ensure regional representativeness. All data flows will be integrated into the ForestWard Observatory pipelines. The project will develop a dual modelling framework combining statistical/ML calibration and process-based water–carbon–GHG modelling to synchronise legacy datasets with new linking methods, ensuring continuity of long-term time series. These models will also support local-to-regional scaling, linking ground sensors and UAV canopy monitoring to provide wider representativeness. Finally, a replication guidance package will be co-created enabling transfer of the monitoring–modelling– UAV framework to other European sites. Long-term continuity is already secured through ICOS Belgium funding (granted by FWO) and a dedicated PhD-trajectory at the UAntwerp to investigate the water balance.



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