# Company Profile 52°North

The 52°North GmbH was founded in 2006. It coordinates activities of partners from research, industry, and public administration to conduct applied research on new concepts and technologies in Geoinformatics, in particular Sensor Web, Web-based Geoprocessing, Earth Observation, and Metadata. Besides its research activities, 52°North has a comprehensive record of professional consultancy and software development projects. This comprises especially activities in the field of spatial data infrastructures (e.g. standardisation work on in-situ observation data within the European INSPIRE framework), as well as Earth Observation (e.g. several projects for EUMETSAT, but also research projects utilizing Copernicus data).

52°North has a long history of participating and actively contributing to international standardization activities, especially the Open Geospatial Consortium (OGC). For example, the OGC working groups on the Sensor Observation Service 2.0 and the Web Processing Service 2.0 standards were/are (co-)chaired by 52°North (in case of WPS 2.0: Benjamin Pross). 52°North is an OGC Associate Member and has been an active partner in several OGC testbeds (e.g. OWS-9, OWS-10, OGC Testbed-11 to -15, Hydrology DWG Surface Water Interoperability Experiment, OGC Routing Pilot 2019). 52°North participated in the EO Exploitation Platforms Hackathon of the OGC and is involved in the specification of the OGC API - Processes, which is currently in draft.

Complementary to this, 52°North has extensive experience with the handling of in-situ observation data. 52°North was not only actively involved in the development of several Sensor Web Enablement standards of the OGC. It was also contracted by the Joint Research Centre of the European Commission (JRC) to help with an extension of the INSPIRE Technical Guidance in order to enable the handling of in-situ observation data as part of the INSPIRE framework. This is complemented by practical experiences in different domains such as ocean sciences, air quality monitoring and hydrology. For example, 52°North has helped several of the EEA member states to enable an interoperable e-Reporting workflow of near-real time air quality measurements to the European Environment Agency (EEA). Another example is the ocean sciences community. Here, 52°North is involved in several research projects such as ODIP II and SeaDataCloud which aim at enabling the interoperable provision of marine observation data through research data infrastructures which also serve in some cases as input to the Copernicus in-situ component.

## Organization

The 52°North GmbH was founded in 2006 as a German company limited by shares (“Gesellschaft mit beschränkter Haftung – GmbH”). Shareholders with the indicated shares are:

\* University of Münster (Münster, Germany) – 26%

\* University of Twente (Twente, The Netherlands) – 26%

\* Environmental Systems Research Institute Inc. (Redlands, California, USA) – 24%

\* con terra GmbH (Münster, Germany) – 24%

Although 52°North is a company limited by shares (GmbH), it acts as a non-profit organization. The shareholders receive neither profit shares nor other payments from company funds.

Prof. Dr. Albert Remke and Prof. Dr. Andreas Wytzisk-Arens are the Managing Directors of the company. 52°North GmbH is registered in the company register at the Amtsgericht (Local Court) Münster under the entry number HRB 10849.

## Core Business Areas

The open source software initiative 52°North - founded as an international network in 2004 by the Institute for Geoinformatics Münster and the con terra GmbH - coordinates activities of multiple partners from research, industry, and public administration. Its mission is to foster the development of new concepts and technologies in Geoinformatics, in particular Sensor Web Enablement (SWE), Web-based Geoprocessing, Security of Geospatial Web Services, Semantics, Earth Observation, Geostatistics, and Metadata.

52°North has a long and outstanding record in the Geo-IT domain and is significantly contributing to the development of international standards. 52°North follows a proactive innovation strategy, which becomes manifest in European (FP7 and Horizon 2020) and national research projects such as SeaDataCloud, ODIP II, ConnectinGEO, NeXOS, WaterInnEU, EO2HEAVEN, GEOWOW as well as GeoViQua and the company’s involvement in OGC Testbeds. This is complemented by professional services projects (consulting as well as software development) helping customers to integrate up-to date technological developments into their operational infrastructures. Prominent examples are 52°North’s cooperation with the European Environment Agency for enabling an interoperable exchange of air quality data across Europe, projects with national agencies such as BRGM and IRCEL-CELINE, and the development of Web-based observation data visualisation tools (e.g. Wupperverband).

52°North focuses on the development of open source software in order to promote the use of the existing developments and to motivate external developers to contribute to the advancement of the 52°North software. Whenever possible, all software developed by 52°North is put under an open source license (primarily GPL version 2 or Apache License version 2). Consequently, all software products managed by 52°North are set-up as open source projects.