



## **52°North Student Innovation Challenge 2018 - Sensor Web Analytics**

---

Innovation is a driving force for the development of our economy. It is based on new, creative ideas, on applicable and implementable concepts and on generating new technologies and applications. However, a novel idea becomes an innovation only if it meets societal demands and unfolds its use in practice. It must address a certain market niche, i.e. have market relevance, or help e.g. a particular organization to improve its business.

With this in mind, the 52°North Student Innovation Challenge stimulates students and student entrepreneurs to generate and implement innovative ideas and concepts for a specific topic in the GeoIT domain. The prize acknowledges and rewards creative and innovative minds.

This year's student innovation challenge addresses the topic of analyzing sensor data in the Sensor Web and generating higher level information products. Potential ideas comprise:

- Statistical analysis of data in the Sensor Web
- Machine Learning approaches for the Sensor Web
- Composition of analysis workflows in the Sensor Web
- UIs for visual analytics in the Sensor Web
- Approaches for analyzing large datasets with high sampling rates and large spatial coverage
- Fusion of sensor data with varying spatial and temporal resolutions

Ideally, proposed ideas and applications should address issues in one of the following application domains:

- Hydrology
- Air Quality
- Ocean Science
- Mobility
- Precision Farming



52°North invites students of Geoinformatics, Informatics or related fields to submit a proposal which outlines the project idea, emphasizes its innovative quality and convincingly describes its feasibility, practical use and market relevance, as well as expected outcome. The top three proposals are then invited to implement a proof-of-concept. In the case of successful completion of the projects (including a proof-of-concept) the following awards will be granted:

- 1<sup>st</sup> prize: 2000,- EUR
- 2<sup>nd</sup> prize: 1000,- EUR
- 3<sup>rd</sup> prize: 500,- EUR

The winners will present their project results at the Geospatial Sensor Webs Conference 2017. They can also receive reimbursement of travel costs up to 1000,- EUR

Applications must be submitted no later than May 4, 2018, via email to

52°North Initiative  
Ms. Ann Hitchcock  
52nprize@52north.org

More information can be found at <https://52north.org/innovationprize>

*The innovation challenge is sponsored by 52°North GmbH, con terra GmbH, Esri Deutschland GmbH, the Institute for Geoinformatics at the University of Muenster and the Faculty of Geo-Information Science and Earth Observation (ITC) of the University of Twente. These institutions work together under the banner of the 52°North Open Source Initiative to promote research and education in the field of Geoinformatics.*

# Guidelines

## Focus

This year's student innovation challenge addresses the topic of analyzing sensor data in the Sensor Web and generating higher-level information products. Potential ideas comprise:

- Statistical analysis of data in the Sensor Web
- Machine Learning approaches for the Sensor Web
- Composition of analysis workflows in the Sensor Web
- UIs for visual analytics in the Sensor Web
- Approaches for analyzing large datasets with high sampling rates and large spatial coverage
- Fusion of sensor data with varying spatial and temporal resolutions

Ideally, proposed ideas and applications should address issues in one of the following application domains:

- Hydrology
- Air Quality
- Ocean Science
- Mobility
- Precision Farming

## Who can apply?

The applicant must be enrolled as a BSc, an MSc, Diploma or PhD student.

## The Application

The application comprises

1. A written proposal
2. A written, signed declaration
3. A tabular CV

All application documents must be submitted in digital form per email to [52nprize@52north.org](mailto:52nprize@52north.org).

## The proposal

The challenge is to compose a project proposal and implement a proof of concept which addresses the analysis of sensor data in the Sensor Web and generation of higher-level information products. The proposal should be a maximum of 5 pages (2500 words) and written in English. The following criteria apply. It must:

- provide a description of the innovation idea/concept
- describe the project goals
- emphasize its innovative quality, practical feasibility and market relevance
- outline a proposed solution – technical approach & feasibility
- include a work plan/road map/implementation plan
- describe the expected outcomes (implementation).

## Expected outcome/results

- running, tested and documented software
  - well-documented source code available in the 52N GitHub repository (<https://github.com/52North>)
  - For this we need you to sign a CLA. (<http://52north.org/about/licensing/cla-guidelines>)
- project documentation
  - blog post (<http://blog.52north.org/>)
  - any documentation needed for running and using the software. Documentation must be provided as a GitHub README.md and include the following
    - How to install
    - How to develop
    - ...

## Important dates

- Application deadline: **May 4, 2018**
- Notification of selected proposals: **May 18, 2018**
- Project start: **June 1, 2108**
- Project end, submission of final project results: **August 31, 2108**
- Presentation/award at the Geospatial Sensor Webs Conference: **September 3 – 5, 2018**

**Personal declaration to accompany my application for the  
52°North Student Innovation Challenge 2018**

|   |  |
|---|--|
| Name:                                     |  |
| Date of birth:                            |  |
| Address:                                  |  |
| Telephone:                                |  |
| E-mail:                                   |  |
| University/College:                       |  |
| Subject:                                  |  |
| Highest completed degree (e.g. Bachelor): |  |
| Semesters or years:                       |  |

I hereby declare that I recognize the following conditions of the competition and the awarding of the 52°North Student Innovation Challenge 2018:

1. I am the original author and copyright owner of the ideas and concept outlined in the paper submitted.
2. The decision of the competition's organizers is final and no correspondence will be entered into.
3. The granting of the prize will not be deemed as constituting any right to either temporary or permanent employment with any of the prize-awarding organizations.

.....  
Place, date:

.....  
Signature