T.I.M.E. Projects 2023-2024

Top International Managers in Engineering

Application Form

Deadline for submission: ***January 19th, 2024***

Please submit the completed form to: ***gwenaelle.guillerme@time-association.org***

Applications must be submitted by e-mail only. You are required to attach a scanned copy of a Letter of Support signed by the Head of your Institution.

Please remember that T.I.M.E. promotes international cooperation and therefore only applications from consortia of at least three T.I.M.E. members in three different countries can be accepted.

You will be notified of the results of the selection after the Advisory Committee meeting on ***February 2023****. Projects run from February 2023 to January 2024.*

Title of Project	
Summer school of GeoBIM for SDGs	
Acronym (if any)	
GeoSDG	
Details of the Applicant	
Name of Institution(s)	Norges teknisk-naturvitenskapelige universitet (NTNU)
Faculty/Department/Office	Department of Civil and Environmental Engineering
Contact Person/s and Details	Hongchao Fan Geomatics Group at NTNU Høgskoleringen 7a,7491,Trondheim, Norway hongchao.fan@ntnu.no 0047-73559665
Summary of the Project (max. 2000 characters)	

This project will deliver an international summer school on the integration of Building Information Modelling (BIM) and Geographic Information Systems (GIS) in Sustainable Development Goals (SDGs) monitoring. GIS and BIM exploit the power of 'where' by creating 3D models and maps of physical assets and the use of GeoBIM for AM/FM (Asset and Facilities Management) allows effective information management for decision making at both macro and micro scale. Knowing the "where" of data is also the only way to link the disparate data underpinning a digital twin.

The interdisciplinary summer school is targeted at 10 PhD students from the universities included in the consortium, from GIS/3D City Modelling and BIM, with the goal being the creation of a network of students with a strong awareness of concepts and skills outside their home discipline and the ability to work in interdisciplinary teams. The workshop will be open to PhD students, upon the verification of their technical and interpersonal skills, through their CV.

Through a mix of theoretical and practical work, participants will obtain knowledge and skills in modelling Digital Twins of building objects (3D building models and BIM models) in urban area, the concepts of Condition Inspection and Assessment of assets, exploring the methodologies for condition data collection and processing in different contexts. They will then use the integrated, interoperable data

(from the three different disciplines – AM/FM, BIM and GIS) within a relational database to develop a portfolio evaluation of the buildings' market value.

The summer school will be hosted by one of the five institutions involved in the project. These include academics and PhD students from T.I.M.E. partners and one top level institution among countries within the T.I.M.E. priorities list - University College London (UCL, UK).

Reason for applying for T.I.M.E. funding (max. 2000 characters)

GeoBIM is one of the key technologies of digitalization. While digitalization techniques can contribute significantly to the fulfilment of every SDG, GeoBIM can directly contribute to six SDGs, namely, clean water and sanitation, affordable and clean energy, industry, innovation and infrastructure, sustainable cities and communities, and climate action. The topic of Asset and Facilities Management is also strongly related to the SDGs such as good health and well-being, and decent work and economic growth.

The GeoBIM community is growing Europewide and more and more attention is given to the potential of this powerful integrated approach, from public players, industry and academia. However, practical applications of the GeoBIM approach in Asset Management are few and, in academia and teaching, the topic is not yet widely explored.

Nowadays, the GeoBIM for monitoring SDGs is being currently addressed primarily through an industry/academia collaboration hosted by Euro SDR (European Spatial Data Research), with contributions from a number of the partners in this proposed summer school. Within the GeoBIM project; the Amsterdam Institute of Advanced Metropolitan Solutions (AMS-institute), co-organised the "GeoBIM benchmark workshop" in December 2019. The GeoBIM summer school was successfully lunched in 2020 with the support of T.I.M.E funding. It was held online due to the Covid-19. In 2022 and 2023, the second and third GeoBIM summer school was held in Milan with the support of the Polytechnic University of Milano. Through the previous summer school, we collected valuable experience and observed that this summer school has become a platform for knowledge exchange, network building, and collaboration. Slowly, it is getting more popular in the domain of GIScience in Europe, because PhD students in GIScience across Europe are now discussing the summer school and expect to follow it to obtain skill and knowledge of GeoBIM on the one hand, and carry out international exchange on the other hand.

We come back again to apply for T.I.M.E funding to enhance our idea and push the summer school to the next stage as a well-known and effective platform for students from different countries to learn knowledge, make friends, build up network for future career, and for teachers to exchange teaching and research experiences, brainstorming new ideas, and have joint projects and publications.

From this year, we are bringing two more T.I.M.E. members into the summer school. This includes one university from EEA but non-EU country: NTNU, and one university from China, the Xi'an Jiaotong University. This will allow younger researchers and PhD students to start to form a more diverse international, collaborative network which is so important to their future careers. The interactions in line with the GeoBIM summer school among the four T.I.M.E. universities are both at student and professional levels. In fact, since the first GeoBIM TIME project has been funded, the mobility of academics and students across institutions has flourished and this was crucial for boosting the success and international prestige of both individuals and academic institutions: one of the research students who attended and co-organised our summer school now holds a lectureship in UCL. This is exactly the aim of the T.I.M.E. Association and we are confident that having our project funded again will lead to several other successful career paths and progressions.

Expected outputs of the project

- Enhance the connections and collaborations among T.I.M.E universities
- Turn GeoBIM summer school into a long-standing platform within T.I.M.E collaboration.
- Increasing the knowledge on the GeoBIM for Asset Management through the investigation and teaching of theories and practices in BIM, GIS and advanced information management tools.
- Development of case studies and demonstrations on the potential of GeoBIM for Asset and Portfolio Management, in the perspective of the development of a digital model of the built

environment.

- Increasing knowledge exchange among different disciplines: Asset and Facility Management, Architectural Engineering and Geographic Information Science;
- Material for an interdisciplinary school on GeoBIM in AM/FM that can be re-used to train future generations of students within and across the partner universities

Target group/s and expected impact

The summer school is targeted at PhD students from the partner institutions – and we will specifically target students from all three disciplines. Working in interdisciplinary teams, the students will address the issue of how to integrate information related to the Condition Assessment (CA) of the indoor and outdoor spaces of a physical asset into a digital 3D GeoBIM environment, allowing to store, analyse and visualise geolocated AM/FM information within the context of the development of a digital twin. This assessment allows to achieve the overall evaluation of the physical assets. A subset of this information concerns the condition of the buildings. Therefore, the maintenance condition detected through the condition assessment will be related to their market value in a GeoBIM approach for portfolio management.

The summer school is expected to impact on:

- The advancement on the knowledge in GeoBIM for Asset and Portfolio Management;
- The development of digital-based decision-making tools based on innovative approaches and technologies;
- Increasing the collaboration and knowledge exchange among the partner universities. This will provide the strong base for a further collaboration among institutions;
- Increasing the students' confidence and awareness of group work activities and improving their presentation skills and confidence (particularly where English is not their first language)
- Providing visibility to the research and teaching topics Europewide and to the funding institution: T.I.M.E.

In addition, we will contribute to the interdisciplinary training of PhD students – interdisciplinarity is a fundamental skill for researchers of the future.

Sustainability of the programme

The budget will be mainly spent to cover the travel and accommodation expenses of teachers and students involved in the project. The Summer school will be preferably held in the premises of the institution belonging to the targeted priority countries (UK). This will allow to involve the partners even more actively in the development of the proposed project.

To ensure the sustainability and the success of the project meetings and discussion, organisation of the school will be done via video conference, allowing the budget to be used for the actual delivery of the summer school during the planned teaching period.

A webpage reporting the description of the summer school and the main updates of the project will be developed and the major social networks will be used to advertise the initiative and to update the scientific community.

Moreover, the teaching materials and tools will be promptly provided to the participants and shared among the teachers via a learning management system (e.g. Beep, Moodle) which will be used also as main communication channel with students when the summer school will start

Specific deliverables

A preliminary itinerary is as follows:

Day 1

- Morning, theory: Asset Management/Condition Assessment, Building Information Modelling
- Afternoon: practical examples and exercises

Day 2

- Geographic Information Systems and databases
- Afternoon: practical examples and exercises

Day 3

- 3D City Modelling and GeoBIM, Capturing 3D city data

- Afternoon: practical examples and exercises

Day 4

- GeoBIM in asset management
- Afternoon: practical examples and exercises

Day 5

- Students' work in groups / presentation preparation
- Afternoon: final presentations and remarks

Organisation

- Web page activation
- Communication and advertisement (via social networks)
- Preparation of the teaching materials

Dissemination

- Final presentation (final seminar)
- Publication/report

Total duration of the project

The summer school will last 1 week in September 2024 and will be held in one of the University of the consortium, preferably one of the institutions among the targeted priority countries.

Planned budget

The planned budget is 16.000 Euro, to be used for lectures' travels.

Budget T.I.M.E	10.000
Costing	
Travels and accommodation for teachers (4 people)	
1 Flight return	2.000
Transports round trip	500
Public transports	300
Accommodation (single room, 6n)	5.000
Meals	450
Daily allowance for students (10 people)	
Daily allowance (100€/day)	6.000
Final presentation open to public	
Welcome & coffee break	450
Publications and dissemination	1.300

Requested financial support from T.I.M.E.

The total request financial support from T.I.M.E. will be 10.000. The budget will be as long as possible, divided equally among the involved institutions.

Other sources of funding

Technical University of Munich and Xi'an Jiaotong University together will support the summer school with 6.000 Euro. (mainly by covering travel cost)

Members of the consortium

TIME members:

- Norges Teknisk-Naturvitenskapelige Universitet (project leader)
- Politecnico di Milano
- Technical University of Munich
- Xi'an Jiaotong University

Other members

- University College London (UCL);

Key Staff (Name, Position, E-mail)

Name	Position	e-mail
Hongchao Fan	Professor	hongchao.fan@ntnu.no
Terje Midbø	Professor	terje.midtbo@ntnu.no
Fulvio Re Cecconi	Associate professor	fulvio.rececconi@polimi.it
Nicola Moretti	Lecturer	n.moretti@ucl.ac.uk
Claire Ellul	Associate Professor	c.ellul@ucl.ac.uk
Meng Zhang	Professor	zhangmeng01@mail.xjtu.edu.cn
Yu Feng	Post doctor	y.feng@tum.de

Check List

- ***Attach a signed Letter of Support from the Head of the Applicant Institution***

Send this form and supporting documents by e-mail only to:

gwenaelle.guillerme@time-association.org

THE DEADLINE* FOR *THE SUBMISSION OF APPLICATIONS IS JANUARY 19th 2024

Norwegian University of Science and Technology
Faculty of Engineering
Department of Civil and Environmental Engineering

Date: 2024-01-19

Letter of support – Summer school of GeoBIM for SDGs

I confirm that our Department of Civil and Environmental Engineering support the application for the T.I.M.E. Project named Summer school of GeoBIM for SDGs 2023--2024.

Our contact person and project leader is professor Hongchao Fan of our Geomatics Group.

Yours sincerely

Einar Aassved Hansen

Head of Department
Department of Civil and Environmental Engineering
NTNU Trondheim

Address	Org. no. 974 767 880	Location	Phone	Contact person
NO-7491	Email:	Høgskoleringen 7A	+ 47 73 59 46 40	Einar Aassved Hansen
Trondheim	kontakt@ibm.ntnu.no	Gløshaugen		Mob.: +47 9305 8685
Norway	https://www.ntnu.edu/ibm			

T.I.M.E. Association

Top International
Managers in Engineering

T.I.M.E. Call for Projects 2024_2025

Application Review Form

Project applications are assessed on their own merits, and may or may not be accepted by the Advisory Committee. Your role is vital, as it gives guidelines to the A.C. in making its decisions. Please assess each application anonymously, against the criteria stated in the Call for Projects and restated below. You are reminded of the overall priorities (key objectives):

- **Promotion of international education's role and benefits to higher education institutions, students, researchers, teaching staff, and companies;**
- **Strengthening academy-industry partnerships;**
- **Short study[1]** (Summer school proposals are eligible for T.I.M.E. funding if they involve a partnership between EU and non-EU members, or if the Project coordinator of the summer school is a non-EU member) **and research programs:**

There are five specific criteria for assessment. Please grade each criterion on a scale from 0 to 4, as follows: 0 – poor; 1 – weak; 2 –average; 3 – good; 4 – very good. The aggregate of the grades you assign will give an overall grade out of 20.

Thank you once again for offering your help with this process. The reviews are anonymous and you should not write your name on the form. Once you have finished both assessments, please date and send them in PDF format by e-mail to:

gwenaelle.guillerme@time-association.org

Project Title: Summer school of GeoBIM for SDGs

Coordinating Institution (Applicant): Norges teknisk-naturvitenskapelige universitet (NTNU)

Grading

1. **Quality of international cooperation and impact:**
   Grade (out of 4) 4_____(from 0: poor to 4: very good)

   Comment/s: The proposed project presents very good quality and involve members from five different countries. The impact is expected to be substantial.

2. **Contribution to the visibility and attractiveness of T.I.M.E.:**
   Grade (out of 4) _3_____ (from 0: poor to 4: very good)

Comment/s : This is a five-day summer school, so the visibility and attractiveness of TIME will be adequate

3. **Contribution to the key T.I.M.E. priorities (see above):**
   Grade (out of 4) _3_____ (from 0: poor to 4: very good)

   Comment/s : This proposal fulfills two out of three TIME priorities since there is no visible academy-industry synergy

---

4. **Originality and innovative approach:**
   Grade (out of 4) _4_____ (from 0: poor to 4: very good)

   Comment/s : The project proposes an innovative approach to integrate BIM and GIS.

5. **Quality of work plan, agenda and feasibility:**
   Grade (out of 4) _3_____(from 0: poor to 4: very good)

   Comment/s : The preliminary agenda is adequate. However, there is no detailed planning schedule presented.

Aggregate Grade (out of 20) _17_____

Recommendations (if any):

Date: 3 February 2024

Please scan this completed form and return it (e-mail only) no later than February 9h 2024 at 8 p.m. Paris time (GMT+1) to:

gwenaelle.guillerme@time-association.org

THANK YOU FOR YOU HELP !

Reminder: The assessment process is anonymous. Do not put your name, and not inform anyone else that you have reviewed this project. Strictly confidential.

Advice: Please assess the project on its own merits. In all cases, refer to the key objectives (overall priorities) mentioned above on Page 1.

Information: The T.I.M.E. Advisory Committee, meeting on February 29th next, will decide, based on your assessments, which projects (if any) to fund. You will be informed of the outcomes of the selection process thereafter.

Gwenaëlle GUILLERME
Secretary General – T.I.M.E. Association
January 20th 2024.

T.I.M.E. Association

Top International Managers in Engineering

T.I.M.E. Call for Projects 2024_2025

Application Review Form

Project applications are assessed on their own merits, and may or may not be accepted by the Advisory Committee. Your role is vital, as it gives guidelines to the A.C. in making its decisions. Please assess each application anonymously, against the criteria stated in the Call for Projects and restated below. You are reminded of the overall priorities (key objectives):

- **Promotion of international education's role and benefits to higher education institutions, students, researchers, teaching staff, and companies;**
- **Strengthening academy-industry partnerships;**
- **Short study[1] (**Summer school proposals are eligible for T.I.M.E. funding if they involve a partnership between EU and non-EU members, or if the Project coordinator of the summer school is a non-EU member) **and research programs:**

There are five specific criteria for assessment. Please grade each criterion on a scale from 0 to 4, as follows: 0 – poor; 1 – weak; 2 –average; 3 – good; 4 – very good. The aggregate of the grades you assign will give an overall grade out of 20.

Thank you once again for offering your help with this process. The reviews are anonymous and you should not write your name on the form. Once you have finished both assessments, please date and send them in PDF format by e-mail to:

gwenaelle.guillerme@time-association.org

Project Title: Summer school of GeoBIM for SDGs

Coordinating Institution (Applicant):

Norges teknisk-naturvitenskapelige universitet (NTNU) - Department of Civil and Environmental Engineering

Grading

1. **Quality of international cooperation and impact:**
   Grade (out of 4) _4_(from 0: poor to 4: very good)

Comment/s:
The greatest asset of this project is the creation of collaborative opportunities to address interdisciplinary issues through a network of students who act as researchers.

2. **Contribution to the visibility and attractiveness of T.I.M.E.:**
   Grade (out of 4) _4_ (from 0: poor to 4: very good)

   Comment/s :
   Following on from point 1, if the project will be supported, T.I.M.E. will have made itself visible by supporting a project that enables the creation of such an interesting international network in the field of Build Environment.

3. **Contribution to the key T.I.M.E. priorities (see above):**
   Grade (out of 4) _4_ (from 0: poor to 4: very good)

   Comment/s
   The creation of an international network of students/researchers from participating major universities in the field of Building Information Modelling (BIM) and Geographic Information Systems (GIS) for the Sustainable Development Goals (SDGs provides the prerequisite for achieving results that can then be successfully implemented in practice. And that is in the area of real environmental sustainability. This is in the use phase of buildings, which is the longest and most important in the life cycle of buildings. The results can be used not only as input for further research programmes, but also as a basis for further teaching of students.

4. **Originality and innovative approach:**
   Grade (out of 4) _3_ (from 0: poor to 4: very good)

   Comment/s
   Similar training has already been carried out in various other fields. But that does not detract from this proposal.

5. **Quality of work plan, agenda and feasibility:**
   Grade (out of 4) _ 3__(from 0: poor to 4: very good)

   Comment/s

   I think that the documents submitted for this project (timeline, budget) are sufficient for its assessment. The costs appear reasonable.

Aggregate Grade (out of 20) ____18____

Recommendations (if any):

I would recommend the project for approval. For the future it might be good to consider involving more students in the group.

Date: February 7, 2024

Please scan this completed form and return it (e-mail only) no later than February 9h 2024 at 8 p.m. Paris time (GMT+1) to:

gwenaelle.guillerme@time-association.org

THANK YOU FOR YOU HELP !

<u>Reminder</u>: The assessment process is anonymous. Do not put your name, and not inform anyone else that you have reviewed this project. Strictly confidential.

<u>Advice</u>: Please assess the project on its own merits. In all cases, refer to the key objectives (overall priorities) mentioned above on Page 1.

<u>Information</u>: The T.I.M.E. Advisory Committee, meeting on February 29th next, will decide, based on your assessments, which projects (if any) to fund. You will be informed of the outcomes of the selection process thereafter.

Gwenaëlle GUILLERME
Secretary General – T.I.M.E. Association
January 20th 2024.