A new platform for data

Dr Raffaele De Amicis talks to *International Innovation* about BRISEIDE, a project he coordinates, and discusses the applications of information and communication technologies for civil protection

Firstly, could you offer an insight into the formation of the BRISEIDE and its overall aims and objectives?

BRISEIDE is an EU project funded by the ICT Policy Support Programme. This project is led by Graphitech along with 14 other EU partners, from academic institutions and public administration to industrial partners, in order to offer a platform of services to support a fast-decision actions system for use in the civil protection event-management.

In what ways will you work towards achieving these aims?

Graphitech has already worked successfully to deliver similar ICT services for environmental security projects. We are putting all of our competencies and effort into delivering a support decisional ICT platform for wider application scenarios.

For those who are not familiar, could you explain what spatial analysis WPSs and open source frameworks are and the benefits of their use?

Open source technology will help to gather a wide community of developers in order to improve time by time a service and/or the technology itself. WPS is a standardised service, which will allow the data to be interoperable and managed by different systems.

Where will your data come from? Will you be using previously collected data or original information?

At BRISEIDE we have used a lot data with a federated infrastructure, taken from an external database mostly owned by third parties such as public administrations that are not part of the project team.

Could you elaborate on how the project will contribute to environmental risk management and civil protection?

As said, the BRISEIDE platform can be a collection of services and applications thought to be supporting decisions into a fast-pace decision actions system for use in the civil protection event-management.

How does BRISEIDE's work contribute to the EU's INSPIRE project?

All of the BRISEIDE project and development have been done with full respect of the INSPIRE Directive. The individual team members have attended all the EU stakeholder INSPIRE meetings, and they are considered to be an important voice, so any suggestion is kept under the full attention of the BRISEIDE project team.

How important is collaboration within BRISEIDE and how does this contribute to the project's success?

The collaboration is fundamental, not only among the BRISEIDE team members but also towards the stakeholders.

Who are the principle institutes and organisations that you are collaborating with? What have they contributed to your studies?

As part of the project team there are universities and national authorities (eg. Geographical Institute of Portugal and the Italian Superior Institute of the Environmental Protection), external stakeholders and private and public institutions such as Ordinance Survey, HassoPlatner Institute, NASA, and the University of Nottingham.

How is the project funded?

Under the ICT PSP Programme, we receive 50 per cent of funding by the EU Commission, the other 50 per cent is self funded by each of the individual team members.

What major challenges do you expect to face in achieving these goals, and in what ways will these challenges be overcome?

In the next few months we will perform pilot projects in different countries (Spain, Italy, Greece, Croatia and the Czech Republic). Those pilot projects will give us the opportunity to test the BRISEIDE services and platform. All the results will be reported and made public.

What contributions will the project make to the field into the future? Are there any emerging fields that will benefit from your project?

The BRISEIDE project can be considered as one of the important steps in the new era of the federated use of data, and towards a practical adoption of the INSPIRE Directive, showing the advantage of implementing this technological approach, which will subsequently be replicated in other fields.

Weaving the geospatial web

The **BRISEIDE** project unites minds from over a dozen EU institutes to develop spatio-temporal web processes for geospatial application; an important and necessary movement within the federated use of data

ALONG WITH THE financial and social consequences of the current economic upheaval, the 21st Century also brings in a new aspect to be considered – the digital economy. This contemporary term refers to an economy that is based on businesses and customers who conduct transactions for electronic goods through the Internet. With more than 250 million daily Internet users in Europe and relatively every European citizen owning a mobile phone, the digital sector requires careful attention as it continues to weave an indelible pattern into our lives.

The Europe 2020 strategy which was laid out to confront the economic crisis and prepare the EU economy for future adversity has a crucial initiative attached to it for rejuvenating the digital economy: The Digital Agenda for Europe (DAE). It delineates the key role of information and communication technologies (ICT) and charts a course to optimise the social and economic potential of ICT, with the Internet primarily in mind.

The ICT Policy Support Programme (ICT PSP) funds projects to promote the realisation of DAE. It seeks to stimulate intelligent and sustainable growth by serving as a catalyst for the wider uptake and best use of innovative digital technologies and content by citizens, governments and businesses. One key project which the programme is currently funding is the Bridging Services, Information and Data for Europe (BRISEIDE) project, a consortium of 15 EU partners from nine different countries. The partners aim to develop spatio-temporal web processes for geospatial application to fill in the gap left by present day guidelines and standards which do not offer support needed by planners and decision makers for environmental management.

BRISEIDE

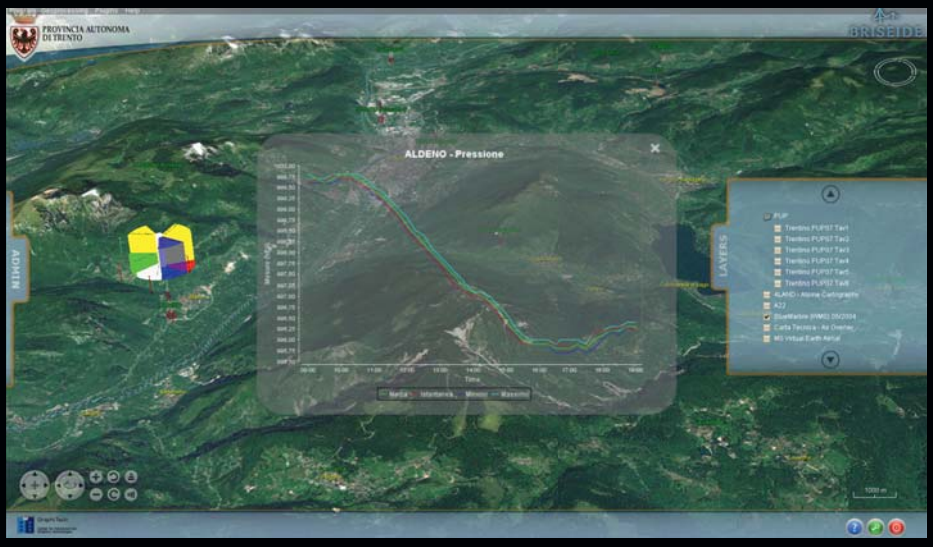
All of BRISEIDE's work will be conducted with an eye towards applications for Civil Protection and as such will be applied, tested and validated within this context. Spatio-temporal processing is used by Civil Protection operators and Public Administrations who are engaged in urban planning, resource and environmental management to guide and inform their decision making processes. The project will incorporate stakeholders, data providers, technology partners, and downstream users.

Work within the project has begun with a pilot operational phase lasting a total of 12 months. The first half of this stage concentrated on defining the project's design and requirements. This was followed by the development stage in which the team established the software components needed to allow access to spatio-temporal functions for both the server-side and client-side software components. On the server side, the Web Processing Services (WPS) modules and infrastructural components have been developed.

This phase has also succeeded in deploying the portal that holds all of the relevant resources which have been collected and used by the consortium. Additionally, an analysis of aspects associated with IPR management and how the project will make its results readily available to stakeholders outside of the consortium has been considered.

GRAPHITECH

BRISEIDE is led by the Fondazione Graphitech, a non-profit applied research centre for advanced computer graphics technologies located in Trento, Italy. Graphitech is a founding member of GraphicsMedia.Net, an International Network for the Cooperation



SENSOR OBSERVATION SERVICE (SOS) INTERFACE IMPLEMENTED WITHIN THE 3DGEOBROWSER BY GRAPHITECH, USED FOR THE PILOTING ACTIVITIES

The partners aim to develop spatio-temporal web processes for geospatial application to fill in the current gap left by present day guidelines and standards which do not offer support needed by planners and decision makers for environmental management

in Applied Research in Computer Graphics, Multimodal-Multimedia Technologies, and Visual Interactive Digital Media Technologies. GraphicsMedia.Net is a joint initiative of Centro de Computação Gráfica (CCG), Portugal; Deutsches Forschungszentrum für Künstliche Intelligenz (DFKI), Germany; Center for Advanced Computer Graphics Technologies (GraphiTech), Italy; Multimedia Interaction and Visualization Technologies (MIVTech), Panama; Center for Visual Interaction and Communication Technologies (Vicomtech), Spain; Hasso Plattner Institut (HPI), Germany (Associated Member, member of BoD).

Graphitech conducts research and activities under the broad umbrella of computer graphics, mixed reality and large-scale visualisation systems used for geographical data. Graphitech values the importance of collaboration and regularly establishes working relationships within the information technology field between other countries, namely Germany. The foundation also acts as a stepping stone between the research sector and the industry by promoting the research of advanced graphic, information processing and visual communications, including virtual engineering.

THE INSPIRE FACTOR

All of the research and development conducted during the BRISEIDE project is administered in accordance with INSPIRE, a directive that came into force in 2007 and aims to create an EU spatial data infrastructure. By 2019 its full implementation will be in place, thus enabling environmental and spatial data to be shared throughout public sector organisations. The end result will be easier access for the European public to spatial information as well as assist in policy making across countries.

The directive has several principles guiding its existence, such as ensuring that data is collected only once, maintained effectively, shared at all levels and scales regardless of where it is collected, and should also be readily available with clear specifications about how and under which conditions it can be used. The data should additionally be able to combine spatial information from different sources across Europe and share it with a variegated group of users and applications.

CIVIL APPLICATION

BRISEIDE partners also expect their results to have applications for environmental risk management and civil protection. In this area, information and its distribution is key, as well as prevention, preparedness and response. The BRISEIDE platform will be able to contribute to all of these areas and give policy and decision makers the chance to make more informed decisions.

The successful delivery of BRISEIDE's objectives will help Europe move towards a practical adoption of the INSPIRE directive, and have far-reaching applications for citizens. As with DAE, the project's work will spur innovation, economic growth and improvements in everyday life for both citizens and businesses. By providing information that is easily accessible and more widely deployed, digital technologies will help Europe to address key challenges.

THE BRISEIDE TEAM AT THE PROJECT'S KICK-OFF MEETING

INTELLIGENCE

BRISEIDE

BRIDGING SERVICES, INFORMATION AND DATA FOR EUROPE

OBJECTIVES

BRISEIDE aims at delivering time-aware extension of data models developed in the context of previous/ongoing EU INSPIRE related projects (eg. in the context of GMES, eContentPlus); application (eg. Civil Protection) based on the integration of existing, user operational information; and value-added services for spatio-temporal data management, authoring, processing, analysis and interactive visualisation.

PARTNERS

Fondazione Graphitech, Italy • **Zapadoceska Univerzita V Plzni**, Czech Republic • **Ceske centrum pro vedu a spolecnost**, Czech Republic • **52°North Initiative for Geospatial Open Source Software GmbH**, Germany • **Epsilon Internasional Anonymi Etaireia Meleton Kai Symvoulon**, Greece • **Universita Degli Studi di Roma la Sapienza**, Italy • **Sinergis SRL**, Italy • **Reggiani Spa**, Italy • **Istituto Superiore per la Protezione e la Ricerca Ambientale**, Italy • **GISIG - Geographical Information Systems International Group Associazone**, Italy • **Instituto Geografico Portugues**, Portugal • **Geofoto Drustvo S Ogranicenom Odgovornoscu Za Fotogrametrijske I Geidetsje Poslove**, Republic of Croatia • **Tehnologiju Attistibas Forums**, Republic of Latvia • **Trabajos Catastrales S.A.**, Spain • **Comunidad Foral de Navarra – Gobierno de Navarra**, Spain

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BRISEIDE