



## Press release

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### **New UNESCO world heritage thanks to Belgian technology**

Advanced geographic information system (GIS) collects required information for the nomination of new world heritage sites in Calakmul (Mexico) and on the Silk Roads network (Central Asia)

**The tropical rainforests round the sprawling Maya site of Calakmul (Mexico) was recognised as natural world heritage site at the UNESCO summit held in Qatar. Calakmul joined the select circle of places that can call themselves “mixed cultural and natural world heritage” sites. This new recognition was made possible thanks to an advanced information system for heritage sites *made in Belgium*.**

Managers of major heritage sites are often faced with the same challenges: how do you manage efficiently the enormous amount of information about the site? How do you document how the site has evolved through time? What actions are necessary to ensure the preservation of the site?

To provide an answer to such questions, the Belgian Science Policy Office (BELSPO) concluded a cooperation contract with the UNESCO World Heritage Centre. This agreement provided for a series of research and development projects geared to managing UNESCO heritage information better.

#### Heritage in 4D

A Belgian consortium headed by GIM, a Leuven-based firm specialised in GIS software and services, delved into improving the information management for the Calakmul site in Mexico.

Together with the Universities of Leuven, Ghent and Liège, GIM developed an instrument that enables the managers of Calakmul to collect, manage and disseminate all available information on the site. The geographic information system uses technology such as satellite images and 3D models to map the sprawling heritage site. One unique feature is that the

time dimension can be integrated in spatial analyses. This gives managers insight into the ecological and archaeological developments through time. Because of this extra dimension, the system was christened “Calakmul 4D GIS.”

#### Extension to the Silk Roads

A similar technology was used to nominate another heritage site, namely the Chang'an-Tianshan Corridor, a 5,000 km segment of the Silk Roads network. Because of its expanse (33 sites in 3 Central Asian countries), a smart geographic information system was needed here also for planning, documentation and information management. The Raymond Lemaire International Centre for Conservation (RLICC) of the Catholic University of Leuven, together with GIM, the University of Ghent and RouteYou, built a system that laid the foundations for the recognition of this trans-national site as UNESCO world heritage in 2014.

#### About Calakmul 4D GIS

Calakmul 4D GIS is based on the GIM GeoCMS, an advanced Content Management System (CMS) that combines the traditional properties of a web CMS (management and publication of information via the Web) with the spatial analysis and display features of a Geographic Information System.

Managers can use the GIM GeoCMS to monitor, document and manage the archaeological and ecological situation of the heritage site. The system features a virtual visit to the site as well as support for the time dimension. A special module is used to compile a nomination file for UNESCO world heritage. Managers can create their nomination file in the format required by UNESCO at the push of a button.

#### Links

Ancient Maya City and Protected Tropical Forests of Calakmul, Campeche:  
<http://whc.unesco.org/en/list/1061>

Silk Roads: the Routes Network of Chang'an-Tianshan Corridor:  
<http://whc.unesco.org/en/list/1442/>

CALAKMUL BELSPO project: Development and use of a 4D Geographic Information System to support the conservation of the Calakmul site:  
<http://eo.belspo.be/Directory/ProjectDetail.aspx?projID=838>

## **About GIM**

GIM specialises in products and services for the management of geographic information. It pools its expertise in geographic information systems, geomarketing, geo ICT, geo data and earth observation to provide unique insights into the spatial dimension of its customers' activities. A multi-disciplinary team of nearly fifty geographers, engineers, physicists and IT scientists at the facilities in Leuven and Gembloux works on smart geo products and solutions for companies and governments. ([www.gim.be](http://www.gim.be))

## **About BELSPO**

The Belgian Science Policy Office and the ten federal scientific institutes are tasked with capitalising to the maximum on Belgium's scientific and cultural potential for the benefit of policymakers, industry and citizens: "a policy by and for science." BELSPO and UNESCO have been cooperating for several years. In the early 2000s, BELSPO and the World Heritage Centre concluded a cooperation agreement to promote the use of Earth observation satellites in the monitoring of World Heritage Sites. In the framework of the Man and Biosphere Programme a new cooperation agreement is being prepared. On top of that BELSPO also offers direct support to the World Heritage Centre, and finances projects, namely through the national Earth observation programme STEREO, which enables scientists and Belgian companies to develop their expertise and apply it in innovative fields (use of satellite images, GIS and GPS, 3D modelling, etc.). ([www.belspo.be](http://www.belspo.be))

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## **Pictures**

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