An interview with Mr. Dirk HAEX,

Engineering & Operations Director and General Director (a.i.) of Belnet

What are Belnet's key services?

For the last 30 years, Belnet has made its infrastructure available to universities, colleges, federal scientific institutions (FSIs), and public or private specialized research centres of all sizes. In addition to our network, which allows academic researchers and students to share large amounts of data securely, we offer a range of services: eduroam, which connects them to the wifi networks of other participating organisations across Europe without having to request specific access, DMPonline.be, which allows researchers to generate and manage their data management plans, and our Storage service, which offers secure, bespoke cloud hosting for research data and other data.

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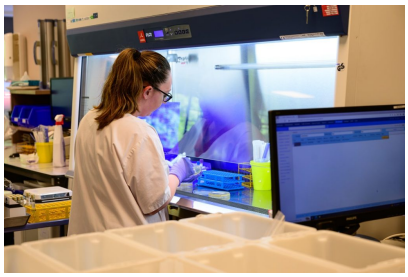
In the area of cyber security, we provide an anti-DDoS platform that over 50 customers use to track daily attacks and vulnerabilities in real time. We are also keen to relieve universities of certain ICT-related tasks as part of our Campus Solutions offering. Thanks to its partnership with Belnet, the UMONS was the first Belgian university to benefit from this new solution.

Belnet is also developing its portfolio of OCRE (Open Cloud for Research & Education): research and educational institutions can benefit from this framework agreement negotiated at European level (GÉANT) to use cloud services without having to launch a call for tenders. In addition, we have successfully negotiated attractive terms with major cloud providers (Google, Microsoft Azure), while also integrating more local providers such as Proximus. Our negotiating power is based on the size of the market we represent: a larger market, with stronger local roots, benefiting Belnet's customer institutions.

Belnet is playing a key role in the Belgian open science landscape. Could you tell us about your current initiatives?

As part of the EOSC (European Open Science Cloud) programme, which aims to give the EU a global role in research data management and to ensure that European scientists enjoy all the benefits of data-driven science, Belnet has been assigned to lead the FedOSC project, which represents the implementation of the open science concept at federal level. Last year, an initial exploratory phase involved 42 bilateral roundtables with FSIs to sound out their expectations, and a benchmark with stakeholders in Belgium and Europe. These exchanges enabled us to formulate a proposal: to first develop an open science platform and tools for the less mature FSIs at this level. In collaboration with Belspo, we have recruited 3 data stewards to guide researchers in this new way of working.



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After this initial implementation phase, the programme will soon see its first concrete result. This is the launch of the first service available to researchers: PID (persistent identifier). This service assigns a unique ID to each researcher and each research project. It is a good way of facilitating access to the former and obtaining information for the latter.

Another notable improvement is the renewal of the DMPonline.be platform. This platform offers researchers a tool for managing multilateral research projects. DMPonline.be enables them to collaborate even more effectively, particularly in the area of data management.

Belnet is fully engaged in a number of strategic innovation projects. Could you tell us a bit more about BOOSTED?

The BOOSTED project stands for ‘Belgium Optical network for Optical frequency Standards and TimE Dissemination’ and aims to develop an optical network for time & frequency (T&F) transfer in Belgium and connect it, via France, to the European metrological network. Led by the Royal Observatory of Belgium (ROB), it started at the end of April 2023 and will run until the end of 2026. The technical requirements to be

met to transport the ultra-stable time & frequency signal over the Belnet fibre optic network are being explored in close consultation between the ROB, Belnet, UCLouvain, REFIMEVE, the Observatoire de Paris, the Laboratoire de Physique des Lasers (LPL, Paris) and GÉANT. This new way of delivering the correct time, down to the nanosecond, is of interest not only to researchers, but also to 4G and 5G operators and weather forecasters. The project is continuing in collaboration with the Royal Observatory of Belgium with a view to developing long-term partnerships.

What about the BeQCI project?

The BeQCI project brings together partners from R&E and industry to implement and test a Quantum Key Distribution network, i.e. a combination of optical fiber links and Quantum Key Distribution (QKD) boxes, which use the effects of quantum physics to generate a stream of random data at both ends of the optical fiber. This guarantees that this way of exchanging cryptographic keys is perfectly secure, and always will be.

At the beginning of June 2025, a new milestone was reached: the first cross-border QKD network became a reality. Following last year’s deployment of the first quantum communication infrastructure in Ghent, Belnet has now also succeeded in creating a QKD link between Belgium and the Grand Duchy of Luxembourg, the very first cross-border MDI QKD link in the Benelux, covering a distance of 45 km.

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Ultimately, the BeQCI project aims to develop a scalable quantum communication infrastructure in Belgium, Luxembourg and, soon, the Netherlands. It thus paves the way for the European cybersecurity infrastructure of the future.

Any other innovative projects worth mentioning?

Belnet has just been awarded, along with other research networks, a European supercomputing project. Once again, this project will benefit its members (research centres and universities).

What are Belnet's upcoming projects?

As part of our new 2025-2029 strategy, we will be even more attentive to the specific needs of the various user communities, and will keep innovation at the heart of our activity. Beyond the connectivity layer, our basic foundation, we will propose a scalable offering with our Cloud services in our own data centers, next to the OCRE portfolio, as well as our Trust & Security services for connectivity and data protection. We will also adapt and let evolve our AAI (Authentication and Authorization Infrastructure) services.

Eager to strengthen the security of large research institutions, Belnet is taking steps to bring its critical infrastructure into compliance with the European NIS2 (Network and Information Security) directive.

In the same spirit, we have launched a training programme on cyber crisis exercises for universities, Federal Scientific Institutes and university hospitals. The aim is to raise awareness among different institutions about the importance of IT crisis management and preparedness. Since end users are the first line of defense, it is crucial that they are well informed about ransomware and phishing techniques that pose a high risk to information security. A pilot project took place in 2024 and the third edition will be organised in 2026 to help colleges of higher education gain maturity.

Belnet

WTC III

Boulevard Simon Bolivar 30 B 2

B-1000 Bruxelles

Tel.: +32 (0)2 790 33 33

E-mail: info@belnet.be

https://www.belnet.be/en/home