
# BEST PRACTICE
# RESEARCHERS AT VU, VUMC AND UVA SHARE THE FACILITIES AT THE O|2 LAB BUILDING

**We speak to Bob van Graft (IT Director at VU) and Ineke Molenaars (former IT Directeur at VUmc), both of whom are closely involved in the development of the O|2 Lab Building.**

**The O|2 Lab Building in Amsterdam is the first building in the Netherlands developed specifically for pioneering scientific research between multiple institutions. Researchers from three institutions – VU, VUmc and UvA – are working together in the same building on scientific research in the field of human life sciences. This working partnership requires collaborative support at ICT level too.**

## 750 researchers in one building

The O|2 Lab Building provides state of the art laboratory facilities and space for around 750 researchers in the field of human life sciences. Chemists, molecular biologists, bioinformaticians, neuroscientists and medical practitioners from VU, VUmc and UvA are working together on fundamental public health issues, including the prevention of Alzheimer's, drug development and the prompt detection of cancer. High-quality research facilities are required for this type of research. Examples include 3D and super-resolution microscopes, ultracentrifuges and radioactivity labs. Ineke Molenaars, former IT Director at VUmc: "It was not a matter of choosing to share the research facilities. It was actually essential, because the institutions were no longer able to finance these facilities alone." Resources are shared where possible – along with research facilities, but also workstations and climatic chambers for example. The aim is to encourage joint usage wherever possible, and to only keep those elements separate where this is essential, e.g. for safety reasons.

## Collaboration without obstacles

Bob van Graft, IT Director at VU: “The next issue was how to support this in terms of ICT to ensure that researchers are able to do their work regardless of which institution they are from or where they are sitting in the building.” Researchers from the three institutions need to be able to work in the same building without encountering any obstacles. Although this may sound simple, it actually presents a major challenge in terms of ICT. “This effectively involves drawing up protocols, concluding agreements, establishing connections, installing certain firewalls, and so on,” explains Van Graft. “These are all technical facilities required to ensure that a building of this kind runs smoothly. During this process we made use, in part, of the services provided by SURF due to the fact that all three institutions are connected to one another via SURF.”

## Virtual networks

Thanks to eduroam, researchers at the O|2 Lab Building can easily access the building’s Wi-Fi network. Gaining access to the fixed network constitutes a greater challenge. Van Graft: “We are working with three separate entities housed in the same building, and all of their ICT systems have to be linked to one another.” The network protocol 802.1X is used to connect the three networks. This enables virtual networks to be created that are recognisable for a certain domain. Van Graft: “If a researcher logs in to a workstation using their account from a particular institution, the network recognises the institution that the researcher belongs to and reroutes them to their institution’s online environment.” This means that researchers at the O|2 Lab Building can use the applications and services of their own institution without delay. The connection is established via the multi service port (MSP) for the institution to which the researcher belongs. This also means that a data/computing cluster is not required in the building itself. Instead, the building is well connected via the network. Data storage and/or computing capacity is available for the respective institution via the network.

> “Researchers from the three institutions need to be able to work in the same building without encountering any obstacles.”

## “Follow me” printing

Finding an effective print solution was another technical challenge. Molenaars: “We did not want to put a new swipe card system in place for the printing process – people already have enough cards and passes as it is. This is why we decided to opt for authentication via SURFconext. This solution is known as

## Workstation concept

In total, 95% of the workstations in the O|2 Lab Building are flexible and not tied to a specific person. The monitor, keyboard and mouse at the workstation are connected using a port replicator. A researcher can connect their laptop to the port replicator as desired. It is also possible to connect a desktop, e.g. for extensive graphic image processing. The port replicator also establishes a connection to the network via protocol 802.1X.

This is essential, as the network assignment process is not the same for all of the institutions. VUmc relies on static network assignment, while VU and UvA use dynamic network assignment. The port replicator can be used to create a workstation concept that remains consistent despite the differences in network use and the use of laptops or desktops.

"follow me" printing." How does this process work? A VUmc researcher at the O|2 Lab Building sends a printing job to the printer and this job is added to the VUmc printer server. The server forwards the job to the VU printer via a VPN connection, as VU owns the building (and therefore the printers too). SURFconext sends information with the job, such as the researcher's institution, user ID and email address (for scanning). The researcher then authenticates the job at the printer using their institution card. This means that they can print what they need, regardless of which institution they are from. The allocation of the print jobs is controlled in this way as well. SURFconext ensures that shared printing is flexible and scalable. It is also easy to link other institutions to the system if required.

**"Three separate units converging in the same building. This is where SURF plays a key role."**

## More collaboration

Molenaars and Van Graft are enthusiastic about the collaboration, and the researchers are extremely satisfied. As such, the collaboration is set to continue. Molenaars: "We are currently working on a project that involves bringing all imaging research and apparatus from VU and VUmc together in one building. This building has to be completed by 2018." Van Graft also sees opportunities for the education sector. "A setup such as this would enable a student to use another institution's facilities. By way of example, UvA students working at VU now have Wi-Fi access via eduroam, but are not yet able to print anything off. We are consulting with one another on this in Amsterdam."

## More information

- www.surf.nl/msp
- www.surf.nl/surfconext

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