Better management of real estate with data

Data-supported work on the campus of the future. That is what Marcel van Oosterhout, director of Erasmus Centre for Data Analytics, has been doing for years. Together with researchers, students and the business community, he is shaping the Smart Campus Project. The university campus in Rotterdam is one big testing ground.

Together with Gerrit Schipper, director of AI, Data & Digitalisation within Convergence, Marcel van Oosterhout founded the Erasmus Centre for Data Analytics (ECDA) five years ago. Soon after its foundation, ECDA was expanded to become a centre of excellence in the field of the social impact of data, AI, digitalisation and immersive technology. The centre connects researchers from Erasmus University across all faculties. Together with external partners and stakeholders, they work together on the social challenges of today and tomorrow. And always based on the opportunities that data analysis and AI offer. Van Oosterhout sees these opportunities growing every day.

What do you think is the power of data analysis and AI?

'It is about gaining insight into your real estate, your users and your processes. If you have a good view of that, you can manage your business operations much better. Then you can plan more efficiently and really contribute to a pleasant, sustainable and future-proof campus. Within the Smart Campus Project, we focus on three specific goals: operational excellence, sustainability and the well-being of campus users. We want to take extra steps on these themes in the coming years. For us, the main challenge now is to extract the most important insights and patterns from this enormous mountain of data and then discuss them with the content experts.'

'Opportunities lie precisely in the combination of data from different sources

How do you get the story out of that data? And what role does AI play in this?

'We get data from a huge variety of sources, and it is precisely in that combination of data that there are great opportunities. But that also immediately presents a major challenge: we have to retrieve the data that is often 'stuck' in separate systems and bring it together in one environment. We can then develop tools and dashboards to distill the story from that data. The first step in this is to look back with the help of data. What is happening on campus and how can we explain that? Then we can go a step further and predict what will happen on certain themes based on trends from the past. We can then proactively steer on that. If we then go a step further, we can use trends with the help of AI techniques to make our systems self-learning. For example, we can develop smart buildings that help to control energy systems intelligently.'

So AI takes over a large part of the thinking?

'We are not there yet and the question is whether we should want that. Sometimes you don't need AI at all to implement certain improvements. If you have a good dashboard, on which you visualize your data, you can already support decision-making very well. You don't need AI for that at all. I think we need to look beyond the hype and only use AI where it offers added value. In the coming years, we will try to find out in experiments where exactly those opportunities of AI lie.'

Does that mean that data analysis will remain human work for the time being?

'Yes, I think so. It also takes time to change the way of working and get people on board with a more data-supported approach. That is still an important challenge. Technically, a lot is already possible, but the mindset and way of working of many employees still need to change. They need to develop the skills that will allow them to look at the campus from a data-supporting perspective. Fortunately, we still have some time. We are actually only at the beginning of this transition. The Smart Campus Project has only just started and will be continued in the coming years after 2.5 years. Then we will deploy the eight experiments that are currently running even more broadly and scale up and integrate successful experiments into our way of working. We will also train users in data-supported working and continue to experiment with new smart campus concepts and techniques. In doing so, we try to connect as much as possible to the overarching vision for the Campus of the Future. We believe that we can make an important contribution to this from ECDA.'

==We want to collect feedback from campus users with a smart app.==

What does the Campus of the Future look like?

'The campus plays an important role as a meeting place for students, researchers and stakeholders. This has become even more apparent during the Covid period. We are increasingly moving towards the American campus with more housing, more catering, sports and culture. And we are very consciously trying to bring the city onto the campus. It really has to become a vibrant hotspot for living, learning, working and researching. Some of the education will be followed online, but another part requires a physical campus with good facilities. A place with sustainable buildings and lots of greenery.'

What is the role of ECDA in all this?

'It is our task to map out all the different needs and to collect all the necessary data, so that we can optimize our campus processes. We are increasingly using sensors in our buildings and on our premises. The next step is to also collect data from the users themselves. Then we will gain even better insight into how the campus is experienced. For this purpose, we are going to develop a smart app that not only informs campus users, but also allows us to collect very direct feedback. This will allow us to manage from two data sources: from what we measure objectively and from the experience of the users.'

Developments have been rapid in recent years. What changes do you expect in five to ten years?

'New technologies will enter the market and support our processes even better. I expect that immersive technologies, such as smart glasses, will help students find their way around campus. And if I look a little further into the future, I also see a role for the metaverse, the place where people come together virtually. What the university's metaverse looks like and how it relates to the campus, we will have to discover in the coming years. We can only shape that by experimenting, learning and implementing based on those results.'

Dr. Marcel van Oosterhout is director of Erasmus Centre for Data Analytics. Together with the Real Estate & Facilities department and Erasmus Digitalisation & Information Services, Van Oosterhout is working on the Smart Campus Project for the Campus of the Future.

Source: Met data beter sturen op het vastgoed - IVVD