



BLOG

Cool to see that your **concept** works in practice

Dolf's Challenge



Dolf Veltkamp
 Technical project leader at ICT Group

The more concrete the better, according to software engineer Dolf Veltkamp. It makes him happy when he gets to develop software that initiates physical processes. "For me, the challenge of the profession of software developer is not in working with the latest technologies, but in translating a process into software." That's the reason why he feels so at home in ICT Group's Water & Infra business unit.

Dolf currently works as a technical project lead on replacing the automation of the water treatment plants of the Hollands Noorderkwartier water board. This water board protects the part of North Holland that is situated north of the North Sea Canal from water and drought. In addition, it ensures safe waterways and wastewater treatment. Water treatment plants play an important role in the process of waste water treatment.

Security by Design

"The water treatment plants were all designed at a time when there were substantially fewer possibilities in the field of ICT as there are today", says Dolf. "What's more, a lot of the hardware (PLCs and associated IO-modules) has become obsolete." In short, plenty of reasons for replacing it and to modernise and standardise the software. "We are rewriting the software from scratch. We are making



the systems much more standardised than they were, and as a result they become easier to maintain. By using a software generation tool that was developed in-house, repetitive programming work is taken off our hands. This allows us to focus on the programming work that's fun. In addition, we are paying a lot of attention to cybersecurity, because today's water treatment plants have an internet connection to enable remote management and to create various links with third party information systems. That was not the case when they were designed. Of course, we have to do whatever we can to prevent hackers from breaking into the operating software from outside and disrupting the systems. That's the reason why we work according to the principles of Security by Design."

Combination role

Dolf describes his role as technical project leader as a cooperating foreman. "I create the design for the software, liaise with the customer, manage the development team and maintain contacts with our colleagues from Electrical Engineering & Instrumentation (E&I), who are responsible for replacing the control cabinets. In addition, I am co-writing the new software. I like this combination role. By remaining part of the development team I keep in touch with the profession, which allows me to make a much better translation into a future-oriented software platform."

The team uses the ABB Ability System 800xA as a development platform. "This technology is developing less rapidly than modern programming languages that are used to build solutions such as web applications", says Dolf. "And this makes sense, as you don't want to adjust or update a water treatment plant every three months. The challenge in our profession lies much more in getting to know your client's systems, and making the translation into software. That's the part of my job that I like best."

A different project every few years

Dolf has been working at ICT Group for years and hopes to stay there for a long time. "I work in the project section

and for me this means that I can work on a new project every few years. The nice thing about this company is that you can exert a lot of influence on where you end up. At times I'm also involved in the process of writing replies to tenders by providing input, so I know very well what's in the pipeline. If something comes along that I think is really cool, I always let people know. As a result, chances are that they will ask me for that project. Because you have plenty of opportunities for influencing the direction of projects you will be involved in, you actually have your career in your own hands at ICT Group," says Dolf.

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The project at the water board is nearing its final phase. The software standard has been completed, and now we're in the roll-out phase. The majority of all fifteen water treatment plants have been converted, so the project is expected to be fully completed during the second half of 2022.

For the coming year, there are another two interesting projects within the HHNK project: Automating a new wastewater treatment plant based on Nereda technology (batch-purifying wastewater) and automating a new test environment, in which the already purified wastewater receives various post-treatments so that it can be used as cooling water for server parks. Dolf: "This is something I really like because they are really nice new innovative aspects. " As so often in his profession, it's all about learning by doing." If you are eager to learn and you are fascinated by how large systems work in the domain of water and infrastructure, you will get your money's worth in this work."

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