



ECT and ICT: meeting the future head on

Rotterdam-based container terminal operator ECT is currently working on automation systems that the company believes will define the future of container terminal operations. ICT provides software maintenance and standby services and is working on a number of improvement projects and new systems and applications. ECT and ICT are also involved in several innovation processes, aimed at keeping ECT several steps ahead of its competitors, both in Rotterdam and beyond.

Europe Container Terminals (ECT) is the leading and most advanced container terminal operator in Europe. The company handles the vast majority of the millions of containers passing through the port of Rotterdam each year. ECT has two deep-sea terminals operating 24/7, 365 days a year, and its main priority is to deliver optimum service and performance to its many clients.

Hans Spanjersberg has worked for ECT since way back 1979 and has been IT manager for the past nine years. His responsibilities cover ECT's automated systems at the two huge terminals on Rotterdam's Maasvlakte, as well as at other terminals in the Netherlands, Belgium and Germany. "It is a massive and remarkably complex operation that is changing constantly. But that's one of the joys of working



for ECT. It's a company that thrives on change, on constant renewal and innovation. The growth I've seen since 1979 is phenomenal, both in terms of the sheer volume of containers and in the level of automation. Every day, there is a new challenge to overcome, so there's certainly never a dull moment."

In late 2015, ECT was facing another major challenge, with the new terminals on Maasvlakte 2 due to open in the near future. This will make competition for container clients even fiercer, Hans says. "We're likely to see a fair amount of container volume shift to the Maasvlakte 2 terminals. So we have to act now and innovate if we are to compete effectively. But that's nothing new for us, we are constantly looking for ways to innovate and improve our services."

Making the future happen, today

This is one of the advantages of the relationship ECT has built up with ICT over the years. "We are working very closely and intensively with ICT to make the changes and IT improvements we need to compete in the years ahead. We're basically working to make the future happen, today. The new terminals on Maasvlakte 2 are very advanced, very state-of-the-art and will be very hard to beat. But ECT and ICT are currently working together to develop what we call ECT 4.0. That will be way beyond state-of-the-art," Hans says.

One of the projects the two companies are working on right now is a modularisation project, which is aimed at developing the AGV (Automatic Guided Vehicle) modules. "A few years from now our terminals will probably be fully automated," Hans says.

Innovative and exciting

If Hans was asked to sum up ECT in just a few words, innovative would be the first word to spring to mind,

he says. "Definitely innovative. Constantly changing and very exciting. It's a bit of a boy's dream for me, working at a company like ECT. Every time I drive into this terminal, I feel excited. It's the scale of the operation, and all the giant equipment, but also the technology involved and the importance of IT. It's a very challenging environment. But making things happen is what makes it exciting," Hans says.

ICT's Bart Overgaauw agrees wholeheartedly. The beauty and excitement of working for ECT as a client is that you see your work in action, often in real time. "At ECT you see your software in action, helping to move huge vehicles and thousands of containers from one spot to another. And software is only going to become more important in the future, when practically everything here is automated."

Business as usual

This alone brings it home to you just how important that software is and how robust and stable it has to be. "This is a 24/7 operation, so when we shift to the latest version of an application there is no room for error. We can't shut down to test software. Of course, we've both done a lot of work together before that happens. People from ECT and ICT discuss what the software should do, its functionalities and any changes and new requirements," Bart says.

And of course the testing is as robust as the software need to be. "Yes, once we've discussed all of that, our people design the new software or new version to meet the latest requirements. Then people in bionics start development and testing. And then we test it here in ECT's own integration and test environment. A team tests the software in almost real life simulations, to check out the impact of the new version. And when it's stable, and only then, we give the green light for implementation. That's basically how it works here," Bart says.

Quite rightly, ECT's clients expect total reliability, and ECT is totally committed to providing the very highest levels of service, Hans stresses. That is why it's vital to have a close working relationship with your suppliers, he adds. "We have a very extensive relationship with ICT, with regular meetings at every level of both organisations. Right from the top to the people on the development teams."

Bart agrees: "This is a 24/7 operation and when there's an issue and something happens, then everybody wants to contribute to the analysis and try to fix the problem. We have to make sure everybody is doing what they are supposed to be doing. Our joint goal has to be a system that is so stable that there are no or virtually no disruptions. So no need to put out fires, so to speak," Bart says.

And that, Hans says, will be ECT 4.0, which could be the Internet of Things in action on a huge scale, with everything on the quays linked by sensors and all controlled remotely. "That is the direction technology is moving, certainly in this sector, so we will have to adapt to that technology if we want to remain relevant and competitive in the future."

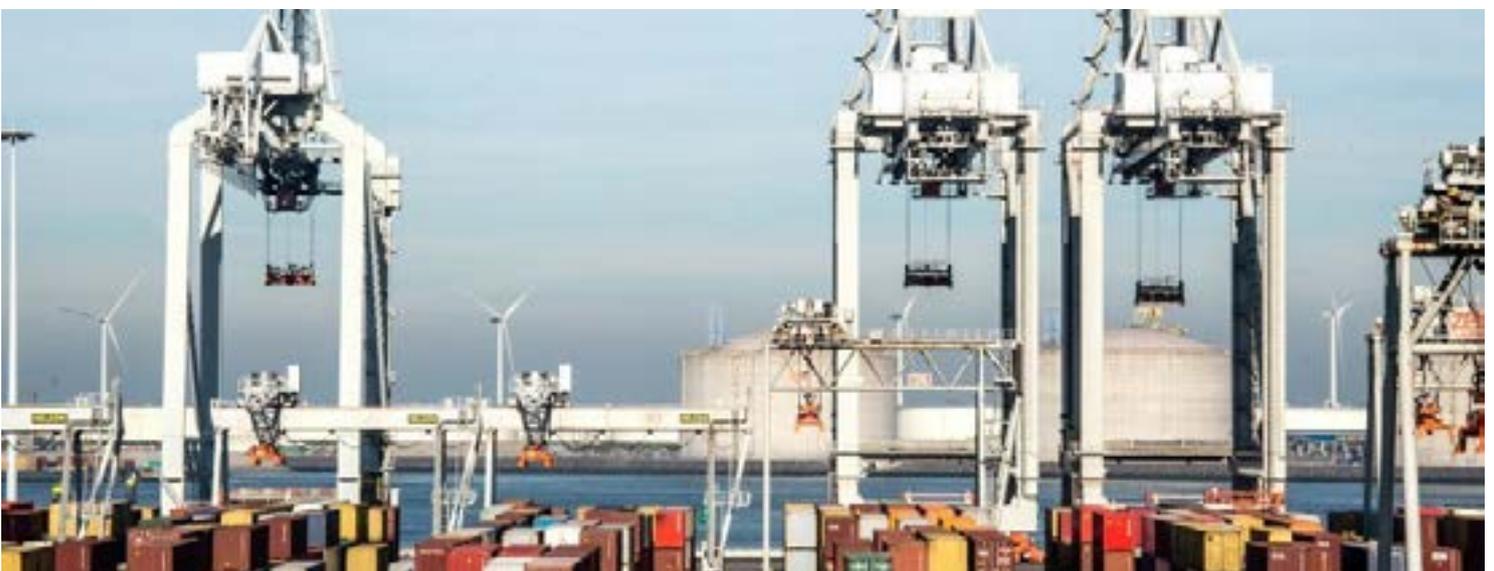
That is why ICT's developers need to focus entirely on the software, on developing version 4.0. And at the same time, ECT expects ICT to constantly reduce the number of incidents in its capacity as a maintenance and support supplier. That also requires focus, Bart says: "That is one of our biggest challenges and one of our main priorities, to achieve that focus on both fronts, as a software

developer and as a maintenance and support supplier. We are making progress and as Hans will tell you we have managed to reduce the number of incidents substantially thanks to close cooperation between the two companies. We still have a lot of work to do, but that is a challenge we're more than happy to take on," Bart says.

Stability is vital

Stability is how ECT stays ahead of the competition, and stability will be even more vital when the operators on Maasvlakte 2 open for business. "So that's our biggest short and long-term challenge in one: staying ahead of the competition, being better than the rest. And that means being more stable, more reliable and more innovative than our rivals. If they launch version 2.0, we need to be ahead of that, with higher productivity levels and total reliability."

And ICT's biggest challenge at ECT is to make that happen, Bart says, given the sheer immensity of the ECT operation, which spans several kilometres in the Maasvlakte area. "Our main challenge in the short-term is to make it stable and in the long-term to make the software modular. That will make it a lot easier to make changes and improvements in one part of the operation without affecting other parts. Right now, if one automatic crane breaks down that has a knock-on effect and it can take hours to get all the cranes up and running again at full capacity. Introducing modular systems will help us solve that problem. Of course, that won't happen overnight, so



in the short term we have to find a way to get back to full productivity levels much more quickly after an incident.”

ICT's Bulgarian subsidiary Strypes has made a new assessment of the design of the architecture and one of the objectives they are working on is to reduce the impact of the breakdown of, say, one crane on the full terminal operation. “Happily, this doesn't happen very often, but when it does the complete terminal grinds to halt – over 30 automated quay cranes – and it can take days to fully recover from that,” Hans says.

This is why innovation is so important in this business, Bart says. Innovation is how ICT helps its clients stay ahead of the game and remain competitive. Because it frequently involves looking for the solutions to problems before a problem even exists. “It's about anticipating future requirements and developing new techniques and new tools. That kind of innovative thinking also creates an exciting and challenging environment for our people and makes ICT more attractive as an employer. So it's a win-win situation. We can attract and retain the motivated people we need to get the job done.”

Challenging and exciting

Innovation must also lead to lower costs. And smarter working, recognising patterns and implementing creative solutions, mean that part of the maintenance budget can be used to do innovative things. It helps ICT to have challenging and highly critical clients like ECT, Bart adds. “ECT constantly challenges us to be better, just as the assignment to redesign the system architecture challenges us to be more innovative. ICT is very much a learning organisation. We learn from all our clients and we learn even more from those that constantly challenge us. We feel very much that we're on the same team with a very definite shared goal. A very challenging goal, but that's what makes working for ICT exciting.”

ECT does put a lot of trust in ICT and Hans is confident they will achieve their shared goals. “We have a very exciting and challenging terminal here, and together we can take it to the next level, to the 4.0 level. A very high-standard product based on very refined architecture, with all kinds of innovations and all kinds of new ideas. Our challenge to ICT and its people is to carry on bringing us your ideas, your innovations. We're here to listen.”

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