



BLOG

“Nowhere are software developments moving as fast as in the **automotive sector**”

Albert's Challenge



Albert van Geemen
Projectmanager at ICT Automotive

You would think that ICT Group's Automotive business unit employs people who have been fascinated by cars since they were young. And yes, those people certainly work there, but the unit's staff also includes software engineers and project managers who thoroughly enjoy their work for another reason. Take Albert van Geemen for instance. He likes challenges and finds that an environment with very few changes quickly becomes boring. "It's the dynamics in this market that appeal to me."

Developments in the automotive sector are moving with lightning speed. Cars are rapidly evolving into 'moving computers'. Whereas in the past aspects such as design and driving characteristics were decisive for the success of a model, in the future it will be the software functions that will make the difference, says Albert. "This means that our work is becoming increasingly important. Cars are being equipped with more and more lines of software code. And

today's car easily has between ten and a hundred times more code than an airplane. When we come home, we still find it very normal to physically open the door with a key and turn on the light using a switch, but in many cars this has been automated for years. It's amazing how much technology exists in a contemporary car. And then we're really only at the beginning of the developments. The completely autonomous driving car is coming. "



The car is a complex software integration chain

Albert finds the complexity of the projects particularly interesting. "In the past, you developed software for an infotainment system, for a navigation system or for a certain safety function in a car. Today, all those areas influence each other. The outside temperature and the speed at which you drive influence how far you can drive on a battery charge. The length of your trip and the fact whether or not you have to charge on the way influences the route: what are the most logical charging points along the road? Various functions in a car that used to be completely separate from each other now have to work together. This means that the software chain is becoming increasingly complex," says Albert.

That is one of the reasons why Albert is one of the employees of ICT Group who recently obtained his A-SPICE Provisional Assessor certificate. This allows you to manage projects even better and assess them in terms of the Automotive SPICE quality requirements.

Software drives safer than humans

This is important, because the quality of software is becoming increasingly decisive for the way in which the car functions and technical developments are moving fast. Just think of topics like functional safety, AI, the cloud, encryption and cybersecurity. If you work in the Automotive unit of ICT, it may just be that you have to deal with one of these topics, says Albert. "Data from the huge number of sensors in the car is continuously processed by smart algorithms which calculate the type of action that is needed. Sometimes that happens in the cloud, but due to its time-critical nature, nowadays it is often the hardware in the car itself that is processing the data. Think, for example, of functions such as adaptive cruise control, lane assist and the automatic recognition of crossing pedestrians."

Knowledge of security required

Nowadays, car safety no longer only relates to 'functional safety', but also to 'cybersecurity'. All new cars are connected. And because they have an online connection,

they are also a potential target for hackers. This places high security demands on the software in the car. After all, you don't want a hacker to be able to take over a car and remotely adjust or control things.

"Working in the Automotive unit is never boring."



Albert van Geemen
Projectmanager at ICT Automotive

The ideal automotive software specialist does not exist

Functional safety, AI, cloud connectivity, cyber security: software engineers and project managers in the Automotive unit almost need to be five-legged sheep. Although Albert thinks that things are not so extreme. "You always work together in a team. The project you are working on often has a certain focus. One colleague has a little more knowledge of one subject, the other is at home in an adjacent field. The process-based approach that's required to be able to deliver high-quality software is present for every subject. Automotive SPICE offers the necessary tools for this. "

Albert likes that the Automotive unit is working on many different projects and on a huge variety of topics. "If you have been around for a while, you constantly come into contact with new technologies and subjects. That makes the work fun and interesting. I have been active in the same business unit for years, but I am always engaged in different work and with a different team to create and deliver attractive solutions. Working in the Automotive unit is never boring."

Would you like to know more about the work at Automotive unit? Visit www.ict.eu/jobs

Would you like to know more about the latest developments within ICT Group? [Subscribe](#) to our newsletter.