

DRIVE

10 YEARS OF
ACE MOBILITY

**AUTOMOTIVE
ENGINEER BUILDS
ASPARAGUS ROBOTS**

**THE AUTOMOTIVE
INDUSTRY IS FULL
OF NEW CHALLENGES**

ACE



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DRIVE INTO THE FUTURE

We are pleased to present this ACE Mobility Magazine, created to celebrate our 10th anniversary. In recent years, we have experienced wonderful developments that we would like to share with you. Personally, I got involved with ACE early on. At the initiative of employees of Arnhem and Nijmegen University of Applied Sciences and Fontys University of Applied Sciences who wrote a business plan together, ACE started as one of the first nationwide Centers

automotive engineers that the automotive industry is crying out for. There is intensive cooperation with knowledge institutes and the business community, from internships and graduation assignments to doing joint research and updating the curriculum. Long story short: ACE Mobility is here to stay.

An anniversary is a good time to look back, but also ahead. And we do both, in various articles and interviews with

'ACE Mobility has since become the linking pin between the automotive universities and automotive companies.'

of Expertise. ACE Mobility has since become the linking pin between the automotive universities and automotive companies. ACE's small team is fully dedicated to fulfilling its task, which is to turn out highly trained

people in education and (young) graduates in the industry. We are grateful to our partners who have made these 10 years possible.

I hope you will enjoy this magazine!

Colophon

Drive is an edition of ACE Mobility on the occasion of the ten-year anniversary of the Automotive Center of Expertise

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AN INTERVIEW WITH PIETER MOERMAN,
PROGRAMME LEADER AT KATAPULT
AND PLATFORM TALENT FOR TECHNOLOGY

CENTERS OF EXPERTISE AS LINKING PINS

For ten years, ACE Mobility has been connecting business, higher vocational education and social challenges. This made ACE one of the first Centers of Expertise in the Netherlands, and also one of the most successful. Let's look back in time, and also take a glance at the future with programme leader of Katapult Pieter Moerman.

Pieter has been closely involved in the start-up of several Centers of Expertise since the early years. 'It may sound strange, but at the start, despite a shortage of qualified personnel, there were few or no structural collaborations between businesses and universities of applied sciences, even though they desperately need each other. The Center of Expertise concept has proved to be the linking pin that brings these worlds closer together.'

Focus on business

In these Centers, educational institutions, business and government cooperate closely. They forge connections between higher vocational education, top sectors and social challenges, with a view to delivering more and better students

through demand-driven education and practice-based research. ACE Mobility was one of the first Centers of Expertise in the Netherlands. There are now over sixty, with several more being added every year. 'This shows how successful this form of cooperation is.'

Success story

So what about ACE Mobility? Pieter replies: 'I see ACE as a true success story. In fact, it is often cited as a prime example of what a Centre of Expertise should do. Look, for example, at the level of involvement of businesses and the quality of its projects. I think ACE has found its value as linking pin between industry and education.'

Future

How does Pieter see the future of ACE? 'I think the biggest challenge for the next ten years is improving our name recognition. I think the municipality of Helmond and provinces should step up their lobby in The Hague to raise attention and money for the sector so that we can further expand our network. Automotive is one of the top sectors in the Netherlands and I expect great things from it going forward.'

10 YEARS OF ACE MOBILITY



‘High-paced pioneering in the early days’

Marc de Leeuw
First director of ACE

‘What am I most proud of? Perhaps that in 2010 we realised a business plan for ACE Mobility within a month. We managed to get everyone on the same page, and we became one of the first three Centers of Expertise in the Netherlands. Our goal was to educate more and better students by bringing education, research and business closer together.

Early on, it was pioneering work. What we had put on paper often did not work in practice. We spent many hours consulting with the Universities of Applied Science and the business community. But the will to work together was there right from the beginning. We laid down a good

foundation within a very short time, from a sound study programme to the possibility for companies to help shape the curriculum. We also worked with an ACE education development group and business account management from the beginning.

After three years, I stepped down as director and went back to work in business, but I have always kept an eye on how ACE Mobility was doing. I think it is great to see that what we came up with at the beginning, is now commonplace in education. There is far more cooperation between business, research institutions and education. ACE Mobility has been a real trailblazer in this field over the past 10 years.’

2011-2014



‘We had to fight for our successes’

Janneke Hoekstra
Former chair of the Board

As director of the Technology Faculty at HAN, Janneke Hoekstra was responsible for all technical programmes and lectureships. In addition, she was chair of the ACE Mobility board for many years.

‘With the arrival of ACE Mobility, the Universities of Applied Sciences and the business community started to work more closely together. And that has borne fruit. Not only has ACE succeeded in recruiting more students, but the curriculum now better matches the demand from the market. Finally, doing research together is a source of inspiration for all concerned.

But those successes did not come easy. Working together can sometimes be difficult. You are working with

universities that each have their own curriculum and timetable that ties in with the other study programmes. In addition, you have to get the students on board. I think the business community is sometimes amazed at how difficult it is for universities to get things moving. But despite these pitfalls, we have succeeded and I am proud of that.

I was last involved with ACE in 2020, as a member of the jury for the best graduation project. That was a wonderful experience! I saw some great presentations by young talent. I also have fond memories of the annual Automotive Career Day at HAN, where students get a taste of the business world. It was always a festive day.

2014-2020



‘Emphasise ACE’s bridging role’

Monika Hoekstra
Former director

‘When I started here in 2014, I was tasked by the programme council with realising a new vision and a business plan. I started working on the question: What will the future of ACE look like? At the time, that was still a big question mark.’

Because of my experience with national innovation programmes (top sector HTSM), my business administration background and my affinity with technology, the role of director really suited me. I saw ACE as an ambitious organisation. Those ambitions were expressed rather

grandiosely, but in the early days it was not always clear to everyone what the value of that proposition was. I thought it was important to crystallise the purpose and role of ACE. It starts with a dream, but at the end of the day everyone in a partnership asks themselves: ‘What’s in it for me?’

We have deliberately chosen playing a bridging role between students, teachers and the business community as our starting point. I see ACE as the connector between these links in the chain.’

2014-2017



‘I have seen ACE Mobility grow into a professional organisation’

Ella Hueting
ACE Board Member

‘When we wrote the application for this expertise centre, we had clear goals in mind. For example, we wanted to pool the teaching community in the Netherlands and conduct practice-based research within ACE. We also aimed to get as many talented students as possible on board to keep this innovative sector going. And we did!’

I have seen ACE Mobility grow into a professional organisation over the years. While in the beginning we were still looking for ways to bring all parties together, we are now a serious partner for the automotive industry.

We exchange knowledge, consult frequently and conduct research. We have also made automotive education more attractive, mainly by working with student teams. The ECO marathon with lightweight vehicles and racing with electrically-powered racing cars are some great examples of this. There are many companies in the Netherlands that deal with ACE. Now that we are well known nationally, it is time to assert ourselves internationally as well.’

2016-2021



WE DRIVE TOGETHER

The scarcity of technically trained personnel in the Netherlands has been a challenge for years and this is likely to remain the case for some time. It is a problem that also affects the automotive sector. ACE Mobility is working towards a solution, together with its partner companies, one of which is DAF Trucks. An interview with Employer Branding Manager Maurice Klaassens.

Why did you enter into a partnership with ACE Mobility?

'The idea behind the partnership is that we make a joint effort to keep filling the automotive jobs pool. As a company, DAF Trucks can enter the labour market on its own, but acting together is far more effective. We have been partners with ACE Mobility for eight years now, and we feel it has been a great success.'

What has the partnership achieved?

The automotive sector is facing a massive challenge to make mobility highly sustainable at a rapid pace.

This is only possible with enough technical experts working in our sector, both in our company and elsewhere. In order to make more people excited about a job in the automotive world, good cooperation between education and business is of great importance. And ACE Mobility plays key role in this. Through regular consultation, we ensure together that education continues to meet the needs of the market. As the business community, we then provide internships and interesting (graduation) assignments.'

How do you ensure that DAF Trucks keeps a high profile among automotive students?

DAF Trucks makes a few appearances during their study. In the first year, many students visit us and we introduce ourselves to them, in the second year we do a joint project. Third-year and fourth-year students can choose to do an internship or graduation with us. It's funny, but students often do not know that DAF Trucks employs 9,000 people and produces 208 trucks every day

in Eindhoven. And that we have a wide variety of jobs: from mechanics to IT and from HR to engineering. The range and diversity of jobs at our company are not immediately obvious to outsiders. That is why I think it is so important to introduce students to DAF Trucks at an early stage.'

What would you like ACE to do going forward?

'It would be great if a network of engineers was created within our automotive sector who can be deployed with multiple partners under the direction of ACE. So we can learn from each other. Another great combination is: business experts as teachers. By teaching part-time as an automotive engineer, you stay in touch with education. I also think it would be inspiring if students could take an extra module or minor at ACE Mobility in addition to their automotive training, so that they can add an ACE plus to their CV, for example. This will hopefully act as a magnet for students and potential employees.'



*'Together we can
fill the automotive
jobs pool'*

UNIVERSITIES JOINING TOGETHER IN ACE

'What is ACE all about? That's simple. It is about the people. The people of the institutes, the schools and the companies. In the past few years, they have laid a strong foundation for this connecting partnership. Now is the time to develop and grow further, ensuring that after a good start, the flourishing automotive sector will also have a healthy future.' Lecturers of HAN and Fontys Universities of Applied Sciences: 'We have a solid foundation, but now we must build on that.' 'We were pioneers,' says Paul Janssen, education manager at Fontys,

who has been involved in ACE from the very beginning. 'Initially, what we had was mostly questions; what should a centre of expertise actually accomplish? And how do we set up a community, educational programmes, follow-up processes? When the choice was made to appoint a separate director for ACE, this gave us both more focus and more independence. Joint programmes were set up and contacts with the professional field were established. And that quickly yielded results.'



'ACE is all about the people.'



From left to right: Paul Janssen, Paul Claessen and Yvonne Kirkels

Facilitator

Contacts between them rapidly intensified. Paul Claessen, Senior Lecturer Automotive at HAN, also experienced this. Still, he was not immediately thrilled when he heard that Brainport was also setting up an Automotive study programme. 'We used to see each other as competitors. But that idea soon evaporated when we sat down together. With the companies, a community quickly developed that felt they had common interests. ACE played an important facilitating role in this. How do we feel, looking back? The partnership has been a great success, both for the companies and

for the universities. I am convinced that together we have succeeded in raising the influx of students. We would never have achieved that separately.'

Interaction

Under the guidance of ACE, companies and educational institutes were drawn to each other like a magnet. Workshops for first- and second-year students were held, master classes were organised and currently there are hybrid lecturers who partly work in business and partly supervise students. 'There is a wealth of mutual interaction,' says Yvonne Kirkels, who is closely involved with ACE at Fontys, including as coordinator of the

Automotive Management Program. 'The gap between business and education has narrowed considerably. Applied research is more innovative, it is easier to find internships, graduation places and guest speakers. The partnership is becoming ever more natural.'

One-stop shop

How can the success of ACE be explained? The representatives of the universities of applied sciences say that the one-stop shop function is particularly valuable. 'That applies to both companies and the schools,' Paul Claessen adds. 'For research, if you need students, if you want to influence

'We are each other's peers and we help each other to improve quality.'



the curriculum; it is all concentrated in one place, and that is a major step forward. There is an ongoing dialogue between education and the professional field, and that is vital for good coordination.' Paul Janssen: 'I also feel that together we are ensuring that the education is of the highest level, partly because of the direct link with the professional field, and partly by keeping each other focused with internal audits and other measures. We are each other's peers and we help each other to improve quality.' Paul Claessen agrees. 'The processes run very smoothly. Look at how fast we jointly created the new professional profile, that was extraordinary. It was made possible because we know each other well, communication lines are short and ACE maintains the contacts so well.'

Other issues

After ten years of ACE, it is time to look ahead at what steps need to be taken in the future. This is actually a

very natural process. Yvonne Kirkels: 'There is a clear broadening of the focus. Initially, everything was focused on technology and engineering. And this is reflected in the student population. After all, the students are mainly kids who love cars. But the cars of the future are going to be more like robots. And other areas are coming up, like shared transport and smart mobility. I work in automotive management at Fontys and there are noticeably more questions in that area. What new business models are emerging, what does digitisation mean for automotive companies? In that context, it seems to me a logical development for ACE to expand to include other partners. And yes, it will also lead to an intake of students with a different profile.'

Consistency

Looking back on ACE's first 10 years, the conclusion is that we may cast modesty aside for a minute and feel some pride. This partnership in the

field of automotive can serve as an example of how the professional field and education can find each other. Just look at the research branch that has been set up, at the joint activities that students from the universities of applied sciences are undertaking together and, above all, look at the ambitions. 'What ACE will look like in ten years? The range of subjects will definitely be far broader,' the teachers believe. 'Perhaps by then we will have started cross-border partnerships, with both schools and companies,' hopes Paul Claessen. 'Or with students from the different schools working together on projects in multidisciplinary teams,' Yvonne Kirkels adds. 'However,' Paul Janssen emphasises, 'It is vital that administrators and policy makers also continue to believe in this and show consistency. ACE is a great initiative, but it needs time to blossom.'

WORKING TOGETHER ON AN ELECTRIC SOLAR CAR



**SOLAR IS ONE OF THE SOLUTIONS
THAT DRIVE US INTO THE FUTURE**

Students of the Universities of Applied Sciences Automotive Engineering courses can do a minor in their third year. One of those minors, which is given at the Automotive Campus in Helmond, is dedicated to electric driving. In six months' time, in addition to the necessary theory, the students can actually work on electric vehicles. The goal is to establish a Fontys student team to work on an electric solar car and participate in the World Solar Challenge in Australia. This team is sponsored by ACE Mobility. Some of the students tell about their experiences.

and experience gained by their predecessors.' Tim Prinsen: 'The student team before us did the first investigations. Some car parts have also already been purchased. It is now up to us to see how we can build a driving prototype. Can we do that? I think so. In fact, I bet a case of beer on it.'

Clear division of roles

Bas: 'Of course we have to adhere to the frameworks and rules of the World Solar Challenge, but in principle the students are free to do as they please. They have gained theoretical

*'Can we do that? I think so.
I bet a case of beer on it.'*

Besides a passion for cars and technology, all participants in the minor have one thing in common: a strong interest in electric driving. 'My parents have been driving an electric car since 2013. So for me it's perfectly normal,' says Jelle Kort. His fellow student Nuh Dogan adds: 'Electric driving is the future. That is pretty clear by now. So how great is it to be working on such a new development?

From scratch

The students participating in the minor spend most of the first few weeks at school. Once they have learnt the theory, it is time for the next phase. 'Over the next few months, they will be working full-time on setting up a student team and developing an electric solar car,' explains Bas Geleijns. He is responsible for the minor together with his colleagues Desirée Seo and Sander Baas. 'The idea is that students build on the knowledge

knowledge for six weeks, and now it is time to put that knowledge into practice. It's cool to see the great results that come out of this.' Brian Bastiaens explains: 'We immediately made a division of roles within our team. For example, one group is working on the electric drive, while other groups are working on the chassis or the suspension.' Eventually, the students also want to cooperate with other students. Stan de Graaf: 'We don't know anything about PR and marketing. How great would it be if we could get help from students of Communication or Marketing?'

Future

For most of the students, the future is still uncertain. But Brian already has a pretty good idea: 'Because this programme is so broad, you come into contact with many technical disciplines. It is a very broad sector, so I also want to develop myself broadly.'



'The automotive industry is full of new challenges'

ACE Mobility is just as dynamic as the automotive industry itself. And this has certainly had an impact in recent years, because it is more important than ever to bring business and education even closer together.

The starting point is finding out where the business challenges are and seeing how the educational institutions can better respond to them. Director Kees Slingerland explains: 'We had put ACE on a solid footing, but it is important to keep checking if what we are doing still matches the demands of the business community. Because ACE's raison d'être is those companies. They are what the Universities ultimately train the students for.'

Part of an ecosystem

And so ACE Mobility allowed itself some time for reflection. 'We commissioned an extensive study of developments in the sector by KPMG, which showed that the automotive sector is developing at a tremendous rate, even faster than we had anticipated. Developments such as electric cars, self-driving vehicles and the sharing economy will dominate our sector in the coming years. That has major implications for the industry as we know it.'

He gives an example: 'Sales of electric cars are rising fast. Ten years ago, there were hardly any on the market.

And this trend will affect not only OEMs and their suppliers, but an entire ecosystem of companies. But diesel engines will be part of the market the coming ten years, so we still need specialised engineers on it. On the other hand, new jobs and new opportunities and challenges are emerging. As a sector, we are becoming part of a larger ecosystem, which also includes energy companies, ICT companies and other service providers.'

Role of ACE

The conclusions of the KPMG report also determine ACE's direction over the next few years. 'It is up to us to get the image of a sector that is in motion across to those potential students. Many boys, as they often are, still think our industry is about tinkering with cars. That will have to change, and that is where we come in. Also, we attract other interested parties, like electrical engineers and ICT specialists.'

Premier League

To keep in touch with what is going on in the business world, the ACE team looks mainly to its business partners. 'These companies are the critical mass. They tell us what is happening and what is needed in the sector. I sometimes jokingly call this mix of large and small companies the Premier League of the automotive sector. They are the trailblazers,

they determine the direction. It's good to be able to sit down and talk with them on a regular basis.'

ACE Academy

In the coming period, ACE will be focusing on a number of projects. 'One of these is the ACE Academy,' the director proudly explains. 'In a sector that is constantly evolving, the knowledge you acquired as a student will not be sufficient. It's for good reason that we speak of lifelong learning nowadays. Professionals must continue to develop throughout their careers.' For the Academy, ACE joins forces with various partner companies and educational institutions. 'There is a massive amount of knowledge in the sector among many organisations, which we must pool and offer to interested parties, so that together we can develop new knowledge and preserve the knowledge in the sector. That is absolutely vital. Ultimately, we want to show with ACE that even a small organisation can be a key partner for the business community and knowledge institutions. We need each other badly. And fortunately, at ACE Mobility we are proving it every day.'



SECONDARY SCHOOL STUDENTS DESIGN A VEHICLE

How do you make a vehicle as economical and sustainable as possible? HAN University of Applied Sciences asked the Graaf Huyn College's secondary school students to investigate. Under the supervision of teacher Maurice Verhees a well-founded plan was realised. 'HAN University of Applied Sciences told us our students were on a par with second-year automotive students. I think that is a remarkable compliment.'

Mirthe Storcken (16), Rens Rekko (17), Stan van Hoesel (17) and Sem Coolen (18) chose the Technasium during their secondary school studies. Maurice: 'The Technasium is a national educational formula for science courses at secondary school level.' Part of the Technasium is the Research & Design course. 'In this course our students are given practical assignments. In their final year, they work on a project in a team setting.' Rens: 'We were told to develop a vehicle on a budget of just 500 euros.'

The process

How do four students go about tackling such a complex task? Maurice: 'My role is that of a facilitator. I put the pupils on the right track by giving them tools and by scheduling regular meetings. And they responded

better than I could ever have hoped.' Rens: 'I enjoy working on practical things, far more than learning from a book.' Mirthe: 'The assignments are tightly defined, but within those limits we are free to use all our creativity. I do not feel this learning method is difficult. In fact it brings out the best in me, I think.'

Recumbent bicycle as well as car

At the end of the project, the four students presented the final product to HAN and the teacher. Mirthe: 'It turned out as a combination of a recumbent and a car.' The students chose a vehicle with an electric motor. Rens: 'An electric motor requires less maintenance and is less expensive. But in addition to lower costs, we found it especially important to choose a sustainable power source.'

Passed with flying colours

The students got top marks for their assignment. Their supervisor says: 'They were very thorough: they carried out their research in a very methodical and detailed way.' The client, HAN, was also very pleased with the result. 'The plan is written so clearly that someone could build the vehicle just from the documentation and explanation.'

HAN UNIVERSITY
OF APPLIED SCIENCES

'We were told to develop a vehicle on a budget of just 500 euros.'



ACE Mobility programme manager Saskia Lavoo assessed the project: 'The fact that they chose a tricycle with an electric motor shows innovative and outside-the-box thinking. The intellectual ability of these students is on a par with that of second-year HAN students. It's wonderful to see young people being introduced to the profession at such a young age.'

AUTOMOTIVE ENGINEER BUILDS ASPARAGUS ROBOTS

'I like the fact that ACE Mobility is committed to bringing the business community and students into contact.'

Arno van Lankveld always had a thing for automotive, but also loved being an entrepreneur. He has found a way to combine the two in his company AvL Motion. The first asparagus robots he has built are already working in the fields. His ambitions are sky-high, but the growth he is aiming for is dependent on finding enough (technical) staff.

Arno's adventures in business started in his attic room. While working for various companies as a TCPM project engineer, in his spare time he was working on starting his own business. I have always dreamed of being my own boss,' he says. His parents are also entrepreneurs, in agriculture to be precise. Arno saw how they struggled to find enough staff to harvest the asparagus crop on their land. There had to be a better way, he thought.

Learning about business

So, in the evenings, he not only worked at his drawing board, but also did market research and drew up a list of requirements. 'I just went by the book', he laughs, 'and followed what I had learned in school, but I also had to find my own way, because I wasn't taught as much about business as I would have liked.' That, by the way, is his only criticism on HAN, where he graduated in 2013. 'It was a very important time for me, and I certainly learned a lot.' As a student, he also got the opportunity to do an internship at ProDakar. 'That was very special, I travelled to Morocco, South America and Russia.'

Quit my job

Back to that attic room. Once Arno had a working prototype, there was no turning back. He burnt his bridges and quit his job. 'That is when you have to go for broke!' And so he hired his first employees. He is now working on the robot with a team of fifteen.

In principle, the machine can work the land itself; the read-out and control processes are done remotely.

Internship and graduation

The adventure is about to begin for the entrepreneur and his team. They are ready to scale up and bring other models to the market, like machines that pick strawberries. But this requires extra staff. 'That's why I knocked on the doors of HAN. We want to grow, but for some positions it is really hard to find staff. I like the fact that ACE Mobility is committed to bringing the business community and students into contact.' Unsurprisingly, there is always a student working at the company on an internship. 'You have to be prepared to invest in that. Sometimes it is a smooth process, at other times a bit more difficult. That is part of the game. Our goal? Our goal is that some of them get so enthusiastic that they stick around.'

Future

In five years' time, AvL wants to build eighty machines per year. Arno can hardly wait. 'It gave me a great sense of achievement to see the machine in action for the first time and now I'm looking forward to watching the company grow further.'

'You have to be prepared to invest.'



Asparagus harvesting machine

AVL Motion has designed the first fully autonomous asparagus harvesting robot. The machine can harvest up to sixteen asparagus per minute, replacing about eighteen workers in the field.

FROM THE SCHOOL BENCHES TO THE RACE TRACK





From an early age, Matty Driessen (25) knew he wanted to work with technology and cars. While still following his automotive education, he was given the opportunity through ACE Mobility to get to know people in the world of motor racing and gain experience as an engineer. He now travels the world as an independent data engineer to test racing cars and he teaches at the Automotive Campus. 'I have had fantastic opportunities to develop my skill set.'

Getting the opportunity to travel the world with Aston Martin while you're still in school - not many people have that on their CV. Thanks to the flexibility of both Fontys and ACE, Matty was able to seize the opportunity with both hands. 'I have always had a passion for automotive, and for racing in particular. I love technology and I'm good with my hands... but when it wasn't about racing cars, I had a hard time keeping focused,' he says. 'The atmosphere in motor racing and the urge to perform really appeal to me.'

From hobby to job

Not every racing fan gets the opportunity to travel the world so young. 'The fact that I did, had to do with my hobby, which is drifting. Through drifting training I developed an interesting network. I got to test the race cars and got to know people who put me in touch with different race teams, including Academy Motorsport. And through them I came into contact with Aston Martin.'

Opportunities and possibilities

Matty received an attractive offer from that car manufacturer. 'I was still at school, of course, but eventually we found a way to do my graduation internship at Academy Motorsport and Aston Martin. I learned a lot of skills there that still serve me well.' The data engineer is also positive about the flexibility shown by both Fontys and ACE. 'I found the degree programme very interesting. Automotive is more than a good combination of various techniques; you can in fact decide the degree to which you want to specialise in certain aspects. The great thing is that you are in control. I have been able to develop in the most fantastic way. I hope that this approach to education will endure.'

Formula 1

Matty is also contributing to this educational culture himself. In addition to his work as an independent data engineer, he teaches students who are taking the minor in motor sports at Fontys. His big dream, however, is to work in Formula 1. 'I watched Formula 1 racing as a kid and it has always been my dream job. Unfortunately, that is a world that is very hard to get into. So I am slowly working my way up. Who knows, perhaps my network at Fontys and ACE might still lead somewhere? That would be fantastic.'



'I watched Formula 1 racing as a kid and it has always been my dream job.'



‘Our mobility needs are changing drastically.’

Willem Verschuur,
Director Innovation, Digital & Data
(ID&D) at Louman Group



You must have noticed. Lots of cars have been stationary in the streets in recent months for obvious reasons, as many more people are working from home. The outbreak of the corona virus has triggered a huge change in mobility: working from home and digital meetings have become the standard. If it were up to Willem Verschuur, Director Innovation, Digital & Data (ID&D) at Louwman Group, this would be the perfect time to shape the future of mobility. And he wants to do that together with the bright minds who are still in school.

'Why should a company still take out expensive car lease contracts when there are more sustainable and economical options?' Willem and his team work daily to create broader mobility offerings. 'Besides costs and employee satisfaction, sustainability is an important reason for companies to rethink their mobility. With our mobility company Driven we help companies to achieve this. One example is getting lease bikes instead of lease cars. Not only is this a sustainable choice, it also contributes to the employees' health and welfare.'

Mobility budgets

Another option is working with mobility budgets. 'They are the future. Some companies already work with a mobility card that gives employees access to shared cars, public transport or bicycles, as well as additional services such as parking and refuelling. In addition, they can monitor their mobility consumption via an app. In this way, everyone can meet their own mobility needs.'

The future

The ultimate dream of Willem and his team is to develop an app that exactly meets the mobility needs of the customer. 'Imagine: you get up, enter where you need to go into the app, and it tells you how to travel and then actually arranges it for you. Whether you choose to drive, go by train or lend your car to someone else; you can do it at the touch of a button. We're not there yet, but that is definitely where we are heading.'

Working together with the younger generation

So there is certainly not a lack of ambitions. But fulfilling them requires good staff and they are not always easy to find. 'We believe it is important to do business in a socially responsible way,' Verschuur states. 'We work with trainees and have been actively seeking cooperation with education for years. When I give a guest lesson at a secondary school, I have noticed that the classical professions such as General Practitioner or lawyer get a lot of attention. There is less interest in professions such as data scientist or proposition marketer. So there are opportunities there. We need to inform and educate young people early on about the automotive industry and the huge transition towards sustainable mobility. When I tell the kids about all the things that will be possible in the future, they tend to look at me wide-eyed. There are great opportunities in the industry, and it is up to us as companies and education to make that clear!'

DRIVE INTO THE FUTURE



The Automotive programs not only attract Dutch students, but also international students who come to the Netherlands to follow the automotive program. One of them is Stefan Dahl-Nielsen from Denmark. After graduating, he found a job with start-up company Trens Solar Trains. With a small team he is working on an electric train.

DANISH STUDENT FINDS JOB AT DUTCH START-UP





‘I see this work experience as an inspiring journey.’

Stefan moved from Denmark to the Netherlands six years ago. Why? ‘I’ve always been passionate about things that move and was looking for a suitable course. HAN offered not only a good education, but also an English-language bachelor’s degree.’ The young Dane found himself in a welcoming circle of international students. ‘It’s a great mix of nationalities: from Americans to Romanians and Bulgarians. I enjoyed that very much, there is so much you can learn from each other.’

Studying or working?

After completing his education, Stefan initially thought about completing a master’s degree and finding a temporary job. But the corona virus made that search a lot more complicated. ‘I was first offered a great job at Demcon in Enschede for three months. Then they asked me to join the start-up company Trens Solar Trains.’ One year later, he is still working there and really enjoying it.

Stefan is proud to be present at the birth of a new invention, a modular train. ‘My job is very varied; I started out designing electrical systems, but one thing led to another.’ He considers working on tomorrow’s transport as a bonus. ‘We are building a system that will run on electricity, but that is also suitable for other alternative fuel sources such as hydrogen. It is important to be very flexible in this

regard. One of the great things here is that I work with colleagues who are highly skilled in let’s say ‘old-fashioned’ automotive. So we learn from each other: what used to work, doesn’t always work any longer, but in turn they teach me a lot of practical automotive basics.’ And Stefan can put this knowledge to good use in his spare time. ‘In fact, my work is also my hobby. I often tinker with old cars and motorbikes. I just love that!’

Spotting students at career days

Although Stefan initially wanted to do a master’s degree, he now prefers to stay with the company for the time being. ‘I see this work experience as an inspiring journey and I am learning a lot.’ He is also keen to stick around for the new phase of the company. ‘We are now ready for scale-up. There used to be just four of us at the company, but that will increase many times over in the next few years. And I’m looking forward to working with lots of people from all around the world! I see an important connecting role for ACE Mobility in helping us find new colleagues. ACE made it possible for me to do an internship at powertrain and it opened many doors. Hopefully, more students will follow in my footsteps. The career days are great for this and I know that as a company we will definitely be present at the next career day.’

Trens Solar Trains

Trens Solar Trains designs electric modular ‘trains’. The word ‘train’ may be a little misleading, because Trens Solar Trains do not actually run on rails. They are an ideal means of transport for the ‘last mile’ in cities, both for freight and passenger transport, or a combination of both. The first two trains have been completed and a large inner-city distributor is currently carrying out trials with them.

NICE TO KNOW

Over
1000
students meet
companies at the yearly
ACE Career Day

51
Nationalities

26
students followed the
special TU/e pre-master
program Automotive

30
30 workshops at
the ACE partners per
year for second-year
students

150
Teachers in
Automotive
Engineering

1666
Graduates over the
last 10 years

155
International students
have graduated over
the last 10 years



3 ACE AWARDS
2018: Roel Prins
2019: Ronald Feijns
2020: Rami Awad

Development Enrolment numbers

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
HAN	220	231	214	257	265	244	262	267	262	227	231
Fontys	66	80	77	95	121	116	101	112	120	139	137
HR	84	81	63	87	86	81	98	110	118	124	133
AM										57	59
Totaal	370	392	354	439	472	441	461	489	500	547	560



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Fontys Hogescholen

 **AutomotiveNL**

ONE TEAM, ONE DRIVE

WE ARE ACE

'It is great to be involved in a sector that is on the verge of a huge change'



Kees Slingerland
Director at ACE Mobility

Even with a small organisation ACE Mobility can be a key partner for the business community and the knowledge Institutes. At ACE mobility we are proving it every day. I am very proud of the ACE team. Together we are able to play an important role in starting up research projects, organising events for students and our partners and connecting the automotive companies with the educational institutes.

With the open and motivating support of our partners we managed to stay connected with the automotive industry. Our partners continuously need an adequate supply of highly-skilled young professionals. We are addressing this by further develop our job portal and lifelong learning projects like TALCOM.

We will expose students, graduates and young engineers to the automotive sector and introduce these talented professionals to our automotive partners.



Frank Rieck
Adviser and Head of Research & Development at ACE Mobility

'We must learn from the past and work for the future, that is my motto in life. I have been involved with ACE right from the very beginning, first as a lecturer at Rotterdam University and for the past three years as an adviser and head of Research & Development at ACE. This organisation has undergone tremendous change in recent years: our role has been transformed from coordinating to entrepreneurial. We now are often initiators. It is great to see that this small team at ACE Mobility has generated so many great ideas. We are all on the same page and we rarely disagree about what our direction should be.

Together with our partners we set up valuable (research) projects; we work on the future of the automotive industry as one big family. Our work has helped to put the Netherlands on the map as a leader in smart e-mobility. That is something we have achieved together nationwide. I may be retired as a lecturer, but I still do my bit to help out.'



Saskia Lavoo
Programme manager at ACE Mobility

'As programme manager, I am involved in the ongoing development of ACE Mobility. In addition, I see myself as a linking pin between partners and educational institutions. What is the demand from the industry and how can we fulfil this demand? And what research studies are in progress that our partners can link up with?

In this high-paced automotive world, we need each other and we are getting better and better at finding each other. I hope in the future that business and education will march in step a little better. This is an important challenge for us as a team.

We have a clear mission in mind and all the members are prepared to do whatever is needed. If we need to do some basic things at an event, like applying stickers, the director also mucks in. It's great to have such a flat organisation.'



Leo Peeters
Research & Development Manager at ACE Mobility

'The broad network of ACE Mobility appealed to me immediately. I find it fascinating to contribute to the developments in the automotive sector, which is going to be completely transformed over the next few years. We are moving towards zero emission, and I would love to contribute to that.

Before that happens, there are still a lot of steps to be taken. The missing link for the electrification of heavy and intensive transport appears to be green hydrogen. That is why we are now busy designing a business-oriented test centre in the field of green hydrogen and mobility. We hope to create a place at IPKW in Arnhem where we can experiment together with our partners.

What my short-term goal is? That as a team we build up a portfolio of interesting projects, working on innovative developments with industrial and educational partners.'



Stefan Kraaijvanger
Project manager at ACE Mobility

'The great thing about my job is that for two and a half years I have been learning both from my colleagues who are extremely experienced and from people in the field. As the youngest member of the team, I get to liaise with directors and managers of the largest automotive companies. I get a lot of energy from that.

What does my daily work as a project manager look like? It is extremely varied! I search for the right subsidy options or for suitable partners, But I also organise and give workshops to second-year automotive students. The projects I work on are diverse and innovative. My ambition is to grow into a project management role in research and development. In order to achieve that, I went back to studying: I am now doing a part-time course in project management.

I think it is great to be involved in a sector that is on the verge of a huge change.'



Corine Legdeur
Communication Adviser at ACE Mobility

'Driven by language, inspired by technology: that motto that fits me like a glove. I have been involved with ACE since 2016. As a communications adviser I deal with ACE's positioning and profile. In addition, I handle relationship management. The best part of my job is that it is so varied. One day I'm busy organising events, the next I'm working with a team to produce a magazine or advising on communication issues.

During the corona crisis it became clear how important it is to maintain relationships, especially if circumstances prevent you from organising real-life events. I am proud that together with my colleague Gentiana I have been able to maintain connections with our partners through online events. We have also used this time to upgrade our website, because it is important to continuously professionalise our communication.

Everyone involved with ACE does his work with enormous dedication.'

MOBILITY DRIVES US



Gentiana Tijssen

Communication and Events
at ACE Mobility

'What appealed to me most about this organisation? What ACE stands for: bringing education and business together and the dynamics in the team. When I started working in Communications and Events in February 2020, pretty soon I had to work from home because of COVID-19. Even so, it feels like I have been part of this club for years. I could not have wished for better colleagues.'

After one year at ACE Mobility, I can look back on a few successful events of which we can be very proud. As a team, we have worked hard to manage a huge challenge: to make all events hybrid or put them entirely online. And we have succeeded in that. The turnout for the ACE Automotive Career Day 2020 and the audience for the presentation of the ACE Student Award online were even greater than ever.

It's amazing to make great steps with a small team and to think in terms of possibilities. Let's keep it up!



Thomas van Berkel

TALCOM project leader
at ACE Mobility

'Education and business working together to develop new learning formats and supplementary training materials that meet the needs of industry; that is what we aim to achieve with the Automotive Learning Community (TALCOM) project.'

Up-to-date education that responds to what is going on in the workplace is more important than ever. (Future) automotive professionals constantly need new knowledge, because the technological developments are moving fast. Our aim is to create an academy where students and workers can find the right training courses, modules or environment to enhance their knowledge and competences. We bring together regular education, commercial training and corporate training. By joining innovation, learning and working in a long-term framework we ensure that our top sector is and remains agile.

The sixty-plus organisations that are active in the community jointly contribute to the creation of the Automotive Learning Community. To me, bringing innovation, education and business together is an energizing endeavour.'



Jeroen van de Werf

IMIAT project manager
at ACE Mobility

'Making the Netherlands a leader in the implementation of Connected & Automated Transport (CAT), that is the goal of the Innovation Mobility Implementation Automated Transport (IMIAT) project, an ACE Mobility initiative. Like ACE, this project is all about connections. In the Netherlands, we have a lot of technological expertise in the field of ICT and data, but in the automotive sector it has only been applied on a small scale in passenger transport. When it comes to automated transport, there is still a lot of work to do.'

All sorts of things are involved, from vehicle development to laws and regulations that need to be adapted. In order to meet the 2030 target date, we are dividing the project into sub-projects. The organisations are raring to go; there is plenty of interest in this project, and that gives us confidence. The Netherlands is ready for it!'



Ingrid van Lierop

Office Manager
at ACE Mobility

'I started working as an office manager at ACE Mobility at the beginning of 2021. What appealed to me most, was that this combination of education and industry is rare, and it's great to see so many different parties finding each other and wanting to work together.'

In my position, I can combine both my social background and sales experience. My role is to make sure that the office runs smoothly. I take over some of my colleagues' work where necessary.

I like working in a small team, because it allows you to deal with all aspects of the organisation. The supporting role I am given in events and projects gives me energy, and I enjoy the variety of the job.'



Jan van Wijk

Hybrid Teacher project manager
at ACE Mobility

'Combining a job in the automotive industry with a few hours of teaching or coaching students is the aim of the Hybrid Teacher project. We encourage people from the field to play a role in education.'

I often hear that experts are keen to share their knowledge and experience with the next generation, but they are not prepared to quit their job. The Hybrid Teacher project makes a combination possible. It is also beneficial for the business community, as it enables them to scout and train new talent and show social engagement.

I have been involved with ACE Mobility for years and in that time the organisation has developed enormously. We now have a clear proactive role and parties come to us for advice... I could not have predicted that 10 years ago. I find it very inspiring to experience this first-hand.'

Members of the ACE Board:

- Henk Bos (Chairman)
- Ella Hueting
- Gerrit Aversch
- Albi van Buel

Members ACE Supervisory Board:

- Rob Verhofstad
- Elphi Nelissen
- Marinka Nooteboom
- Hans Corstjens
- Henri Koolen



**THANKS
TO ALL
OUR DEAR
PARTNERS,
WE LOOK
FORWARD
TO THE
FUTURE!**





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