



ANNUAL REPORT 2020
Connecting the
automotive sector

PREFACE

2020 turned out to be a far more challenging year than anyone could have predicted. The COVID-19 pandemic dominated the world. It caused significant problems in the automotive industry and the world has not returned to any degree of stability as yet. For us the challenge was to fulfill our tasks with the possibilities and impossibilities that we faced in this new reality. The task became even more prominent: ACE is to **connect** companies and Universities of Applied Sciences. **Connecting** was no longer possible in the way we were used to. No events could be held where we could meet each other, no drinks, no physical gatherings of any kind. We had to re-invent the basics of what we stand for and adapt to a new setting. As you can read in this annual report, we managed to organize an extended set of activities to even better fulfill our duty. The online editions of the ACE Award and the ACE Automotive Career Day were good examples of how we succeeded in organizing meetings with a high level of interaction. We had to learn how to design

such meetings, because it really is a different way of communicating, with disadvantages but also new possibilities. Apart from such big events, our day-by-day contacts with all our partners continued and the output was of a surprisingly high level. Internships, graduate positions, research initiatives, the TALCOM programme and most other goals could be achieved without major problems.

Thanks to our partners we had a successful year! With the open and motivating support of our partners we managed to stay connected with the automotive industry.

Let us hope 2021 will allow us to return to the world we were used to. And let us hope we will be able to take away the best of both worlds from this experience: the professionalism of a smart, quick and sophisticated digital world and the warmth and pleasure of a world existing of human beings, meeting each other in person.

The ACE team



ACE Partners

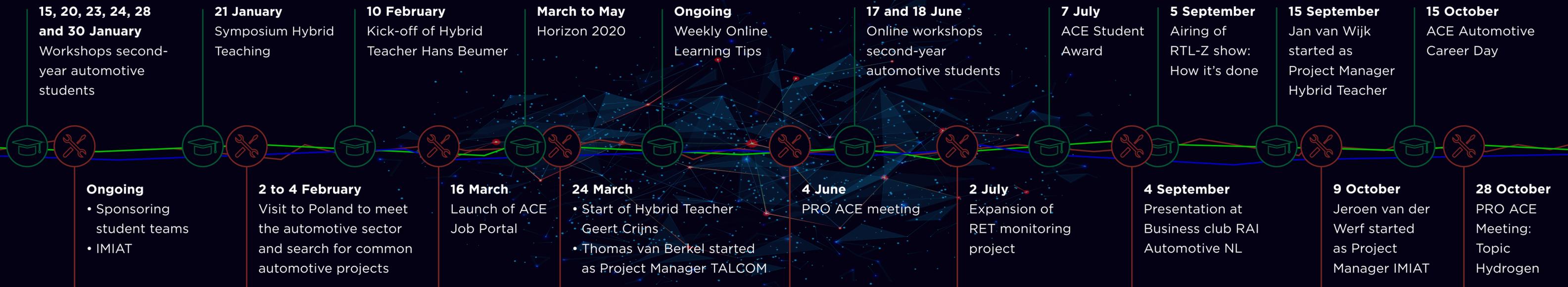


Contents	
Timeline	3
Talent	4
Industry	7
Research	12
Staff	14

Timeline Highlights 2020



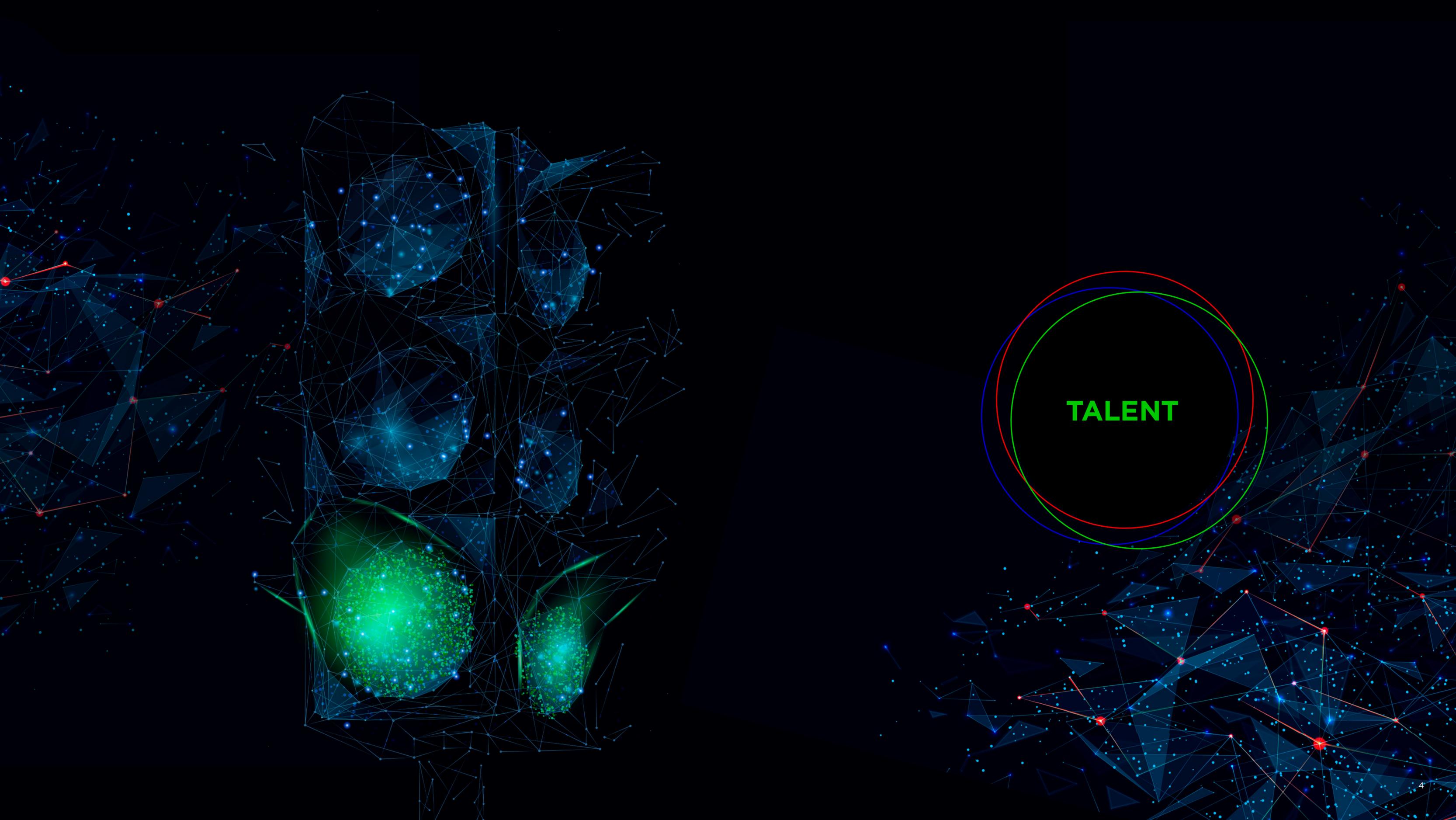
ACE Student Award



Hybrid Teacher Hans Beumer



ACE Automotive Career Day



TALENT

TALENT

Highlights of the year

This year the delivery of high-quality automotive talent was a top priority for us once more. In 2020, it remained important for us to continue to carry out our regular activities supporting universities in generating enrolments, but most importantly to ensure sufficient numbers of graduates moving into industrial employment. The pre-master, workshops, ACE Job Portal, sponsoring of the student teams, the ACE Student Award and the ACE Automotive Career Day all contributed to this goal. A very important issue was that the online connection with our partners, teachers and the students was much appreciated.

Pre-master

6

students



Basic maths

14

students



Workshops

15

total



Enrolment numbers

	2018	2019	2020
Total	500	490	501
HAN	262	227	231
Fontys	120	139	137
Rotterdam	118	124	133
Fontys AM		57	59

Interns

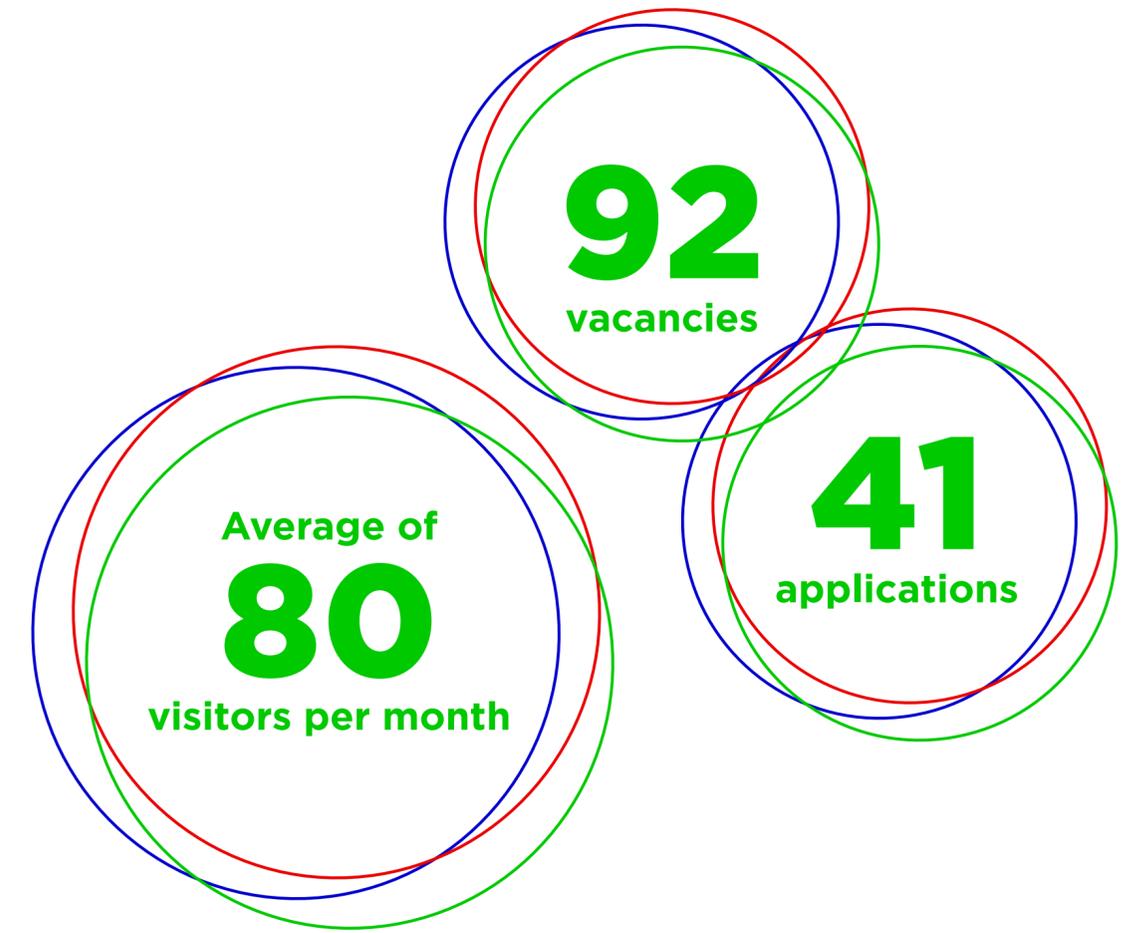
42

at ACE Partners

Graduates

62

at ACE Partners



ACE Job Portal

In order to further strengthen the connection between the automotive industry, education and young professionals, we have launched the ACE Job Portal on our website on 16 March 2020. The ACE Job Portal is an online platform where automotive junior vacancies, internships and graduation assignments are offered by our leading ACE Partners. We will promote these vacancies to potential candidates through our contacts via the Universities of Applied Sciences and social media. Since the launch of the ACE Job Portal, we have been able to post 92 vacancies to date and generating an average of over 80 visitors per month. In 2021, we want to boost this by diving deeper into online marketing. www.acemobility.nl/vacatures

TALENT

ACE Student Award 2020

Every year we organize the ACE Student Award. At this event the best students, who graduated at an ACE Partner company, are nominated for the ACE Student Award. During the event the students have the opportunity to present their graduation assignment to an expert jury. Although organizing this year's Student Award was a huge challenge, we were able to put on a successful event in a hybrid format. The nominated students recorded their presentations in advance and were able to present them both online and in person during the event. Through these presentations, the audience got some insight into the graduation assignments of the nominees.

A total of 85 live streamers and 30 people physically witnessed how Rami Awad, an automotive student from the Rotterdam University of Applied Sciences, won the ACE Award. He carried out his graduation assignment at Mitsubishi Turbocharger and Engine Europe BV. The research concerned developing a concept that is capable of digitally determining the voltage levels of any object and also to prove that this system works using equipment that is readily available.

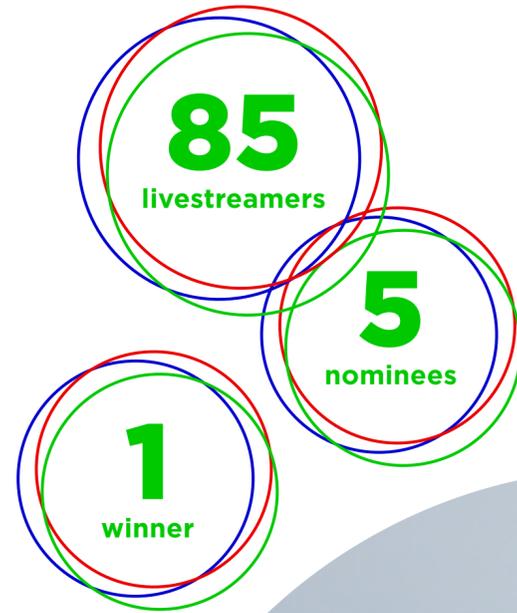
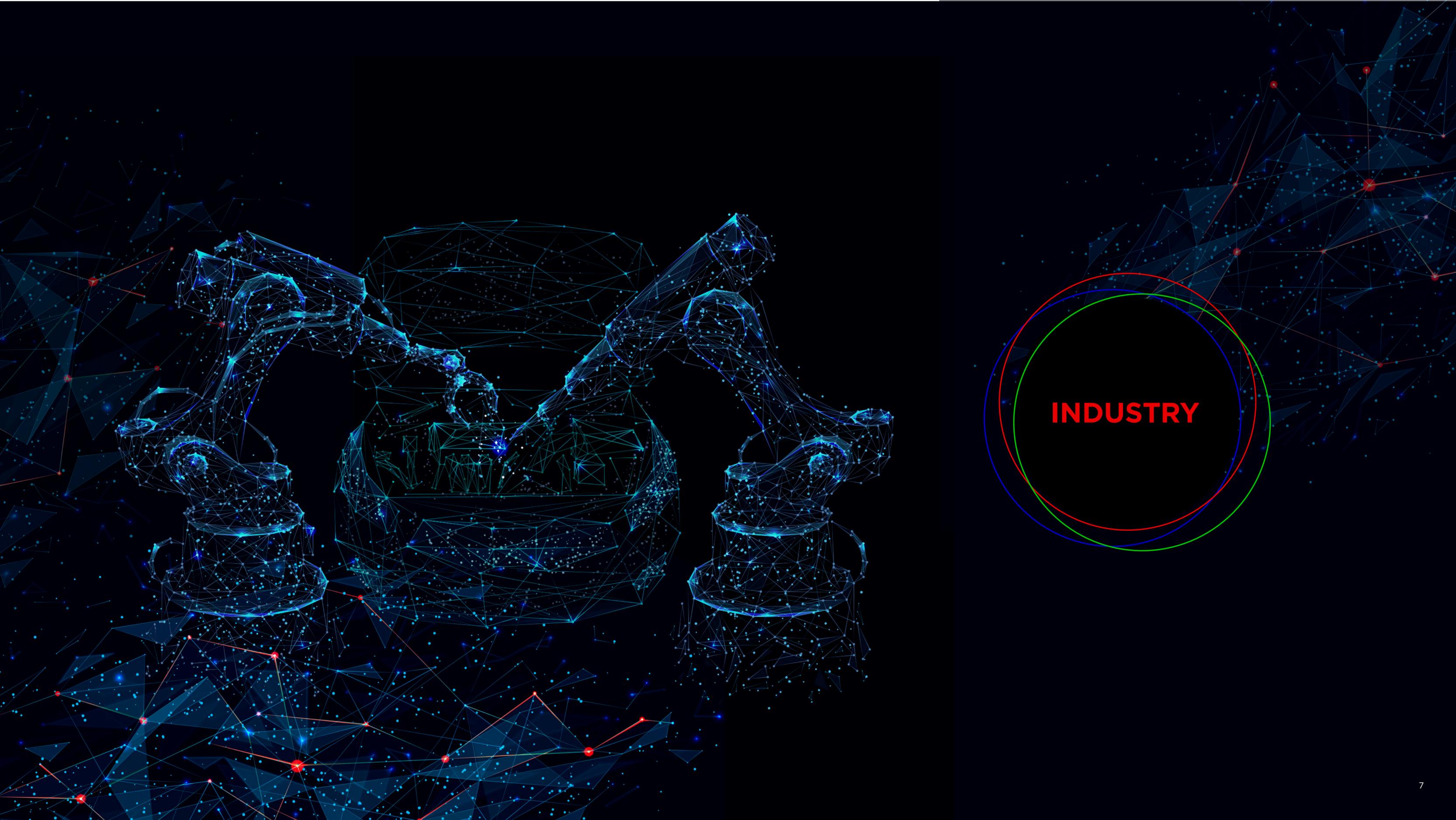


Photo: Erno Wientjes,
University of Applied
Sciences Rotterdam



Sponsoring Student Teams

Stimulating educational programmes and innovative developments in which students are going to be prepared for the industry is another high priority for us. With this in mind, we are sponsoring the student teams of the Universities of Applied Sciences (Fontys, HAN and Rotterdam) every year. The Fontys student team, ACE Solar Team Fontys, would like to participate in the World Solar Challenge. The student team of HAN, HAN Hydromotive Team, and the Rotterdam student team, Team Phidippides, wanted to participate in the Shell Eco marathon, but unfortunately the COVID-19 measures ruled this out.



INDUSTRY

INDUSTRY

Hybrid Teacher

A hybrid teacher is a person from the industry who teaches Universities of Applied Sciences students for a number of hours per week, next to his regular job. Hybrid teaching is a must to increase the connection between education and the industry. We as ACE play an important pivot role in connecting these worlds. Last year, two hybrid teachers started their guest lectures at the three Universities of Applied Sciences: Hans Beumer of EDAG Netherlands and Geert Crijns of Altran part of Capgemini. In 2021, we intend to give hybrid teaching a more prominent role within the automotive industry. In this context Jan van Wijk was hired as a Hybrid Teaching project leader.



[ACEmobility.nl/en/news](https://www.ace.nl/en/news)
Interviews Hans Beumer
and Geert Crijns

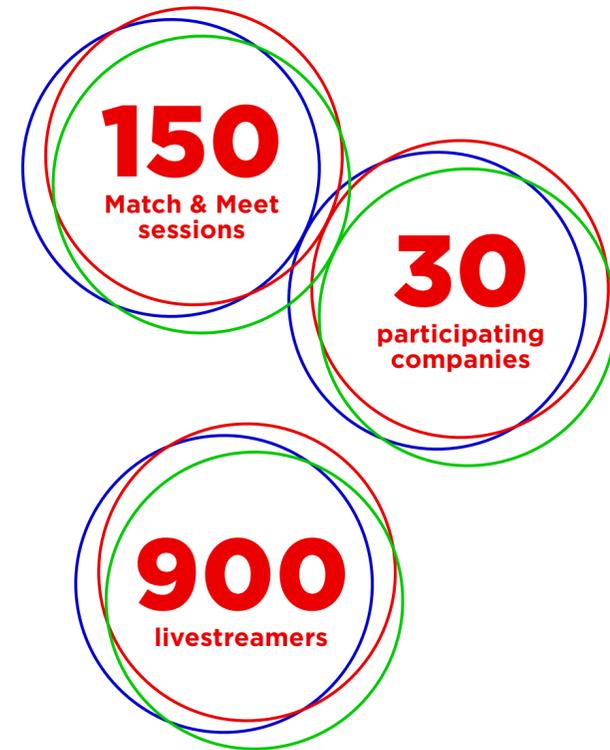


RTL-Z documentary about the automotive industry

On September 5th RTL-Z aired an interview with our director Kees Slingerland in its documentary series 'How it's done'. In the programme he explained how ACE contributes to the automotive industry in the Netherlands. The recordings took place at Fontys Automotive in Eindhoven.



INDUSTRY



ACE Automotive Career Day 2020

During the organization of the ACE Automotive Career Day 2020, a decision was made early on to not take any risks regarding the COVID-19 pandemic. In cooperation with the Universities of Applied Sciences, we completely digitized the ACE Automotive Career Day. An event platform was used which gave the automotive students the opportunity to choose from no less than 20 company presentations via a live stream. In addition, interaction was created through the Whatsapp application allowing students to ask companies their burning questions. In the afternoon, Match & Meet sessions with an additional 10 companies took place via Microsoft Teams. In this way students and companies had an opportunity to get to know each other better in a digital one-on-one conversation. Both students and companies complimented us on the professional organization.

Online workshops with industry for automotive students

Workshops are organized at ACE partners for second-year students. They normally last half a day. After some introduction, students work in a team on a specific issue and present their solution at the end of the workshop. After being able to offer physical workshops in January, the next workshops had to be converted to an online version. In June, we organized several workshops with our partners. In this way second-year automotive students could get a feel for industry practice and apply their knowledge by working on a practical topic in a group setting.

We arranged the workshops with Altran Engineering, VDL Nedcar, Nootboom Trailers, VB-Airsuspension and DAF Trucks. The workshops were fully digitized and took place via the Microsoft Teams platform. After a short introduction of the company, students received an assignment to work on. With these experiences and the positive response that we received from both students and our partners, we know we will be able to continue organizing such meetings between the automotive students and our partners in the future.



TALCOM in motion

TALCOM (The Automotive Learning Community) is a subsidized program on Life Long Learning. Knowledge institutes and industrial partners worked on bringing together the Learning Community. Subjects like autonomous driving, electrification, lightweight and biometrics are important in the automotive industry and thus also for developing learning materials that are available for employees in the automotive sector.

To bring together the existing learning materials and to further develop new materials, we organized working groups on these topics. Last year TALCOM already put on two thematic webinars: Digital Twin and Security in the Automotive which could be followed online. The ACE Academy will be the online learning platform where all these initiatives will be published soon.

INDUSTRY

Interview with Malouke Reiniers, Recruitment and HR Specialist at Inalfa Roof Systems

“It is wonderful that the connection with ACE has remained so strong, even in this remote world.”



Malouke Reiniers works as a Recruitment and HR specialist at Inalfa Roof Systems, a company that designs and manufactures roof systems within the automotive industry. From its headquarters in Venray it operates at full speed within the global market.

Like any other company, Inalfa has been experiencing first-hand how the pandemic has changed the working methods within the organization over the past year. “It has become clear to everyone how important it is to take the initiative to stay connected to the organization. We have been working from home for almost a

year and that requires certain communication skills from our employees, customers and partners.” From an HR perspective, Malouke notes that this makes the connection with students extra difficult, as there are very few activities where students and the company can physically meet. “We were pleasantly surprised when we heard that the Automotive Career Day was going to happen after all.” Inalfa participated in the Match & Meet sessions where they had several one-on-one conversations with automotive students. “The meetings were a lot of fun, but above all extremely valuable. The students were very interested in our company and some students even contacted us afterwards to express their interest in a particular internship/graduation assignment. That is proof of how crucial it is to participate in such a day!”

Inalfa’s partnership with ACE is already in its sixth year. “It is great that our connection with ACE has continued so successfully, even in this remote world. It feels good that ACE shows an interest in how we are doing as an organization and asks if we might need something and how ACE can be of service to us.” According to Malouke, this is therefore one of the many moments in which the power of a good partnership becomes very apparent.



INDUSTRY



“Progress: Doing things differently is our answer to a rapidly changing world”

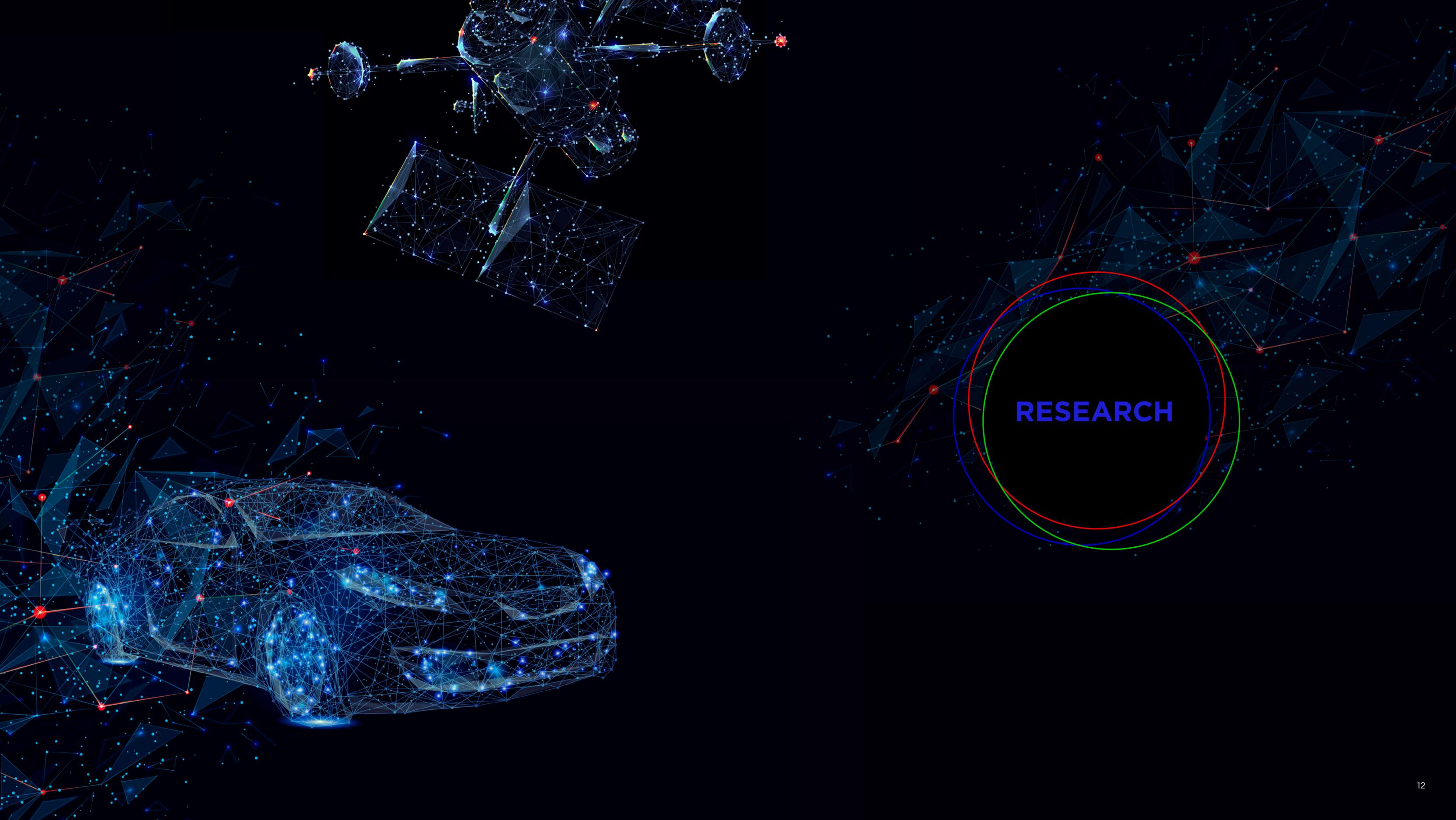
**Interview with Gerald Molenveld,
General Manager VB-Airsuspension**

VB-Airsuspension, a producer of vehicle dynamics technology, including air suspension systems for the automotive industry worldwide, has grown enormously in the past five years: from 45 to 170 employees. Gerald: “Apart from having grown so strongly, we are finding that our way of working is changing. A sustainable social innovation project supported by the Province of Gelderland is helping us to adapt to this changing world. We see that the ‘old way of working’ no longer suits us. Technology and organization were important, but nowadays motivating and inspiring our teams is our prime focus. How to create involvement, commitment, how to inspire people? Those are the key questions in our company now. We are creating strong teams and our employees are more involved in the business. By a bi-weekly open email message

to team members about the ideas, issues and inspiration, I have had over the past two weeks, our team is more involved. And it is working: employees ask me why we don’t execute the ideas and possibilities I talked about?”

Gerald Molenveld is involved in the TALCOM (The Automotive Learning Community) project and he is a member of the steering committee. He acknowledges the possibilities of TALCOM: the knowledge sharing between theory and practice is very important. But he is also critical: the process has to pick up speed. VB-Airsuspension is setting up its own academy, a digital system where knowledge can be found with the help of an intelligent search engine. “We think it is important that knowledge can be found instantly and intuitively. We also think that co-creation is becoming more important because knowledge is developing faster in a collaborative open team with a curious attitude in an environment where conditioned experimenting is a culture element.” Gerald has found that the educational institutes struggle with the challenge to change from supply-driven to demand-driven. Being demand-driven is important to keep connected with the (automotive) companies.



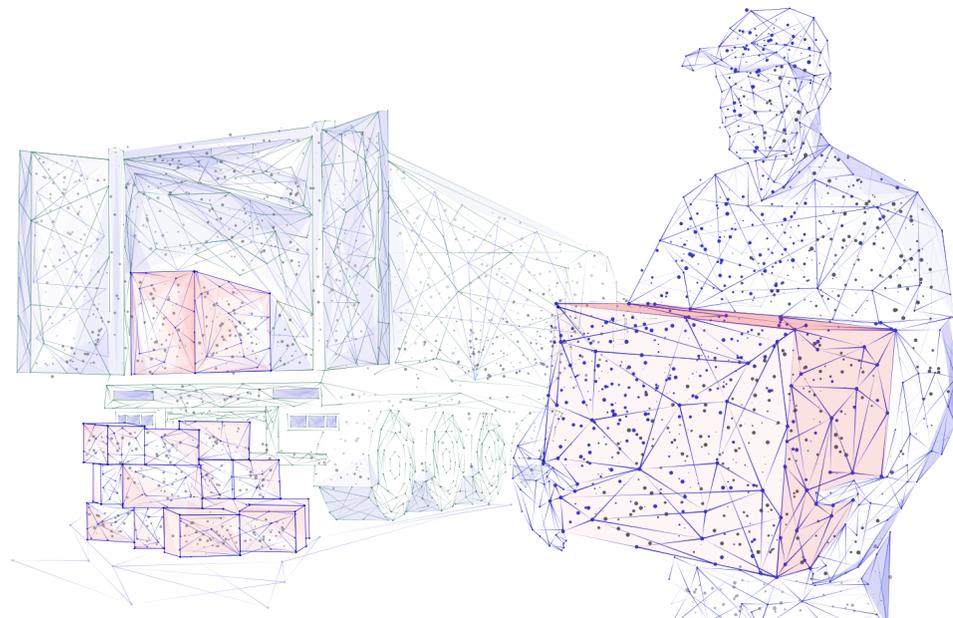


RESEARCH

RESEARCH

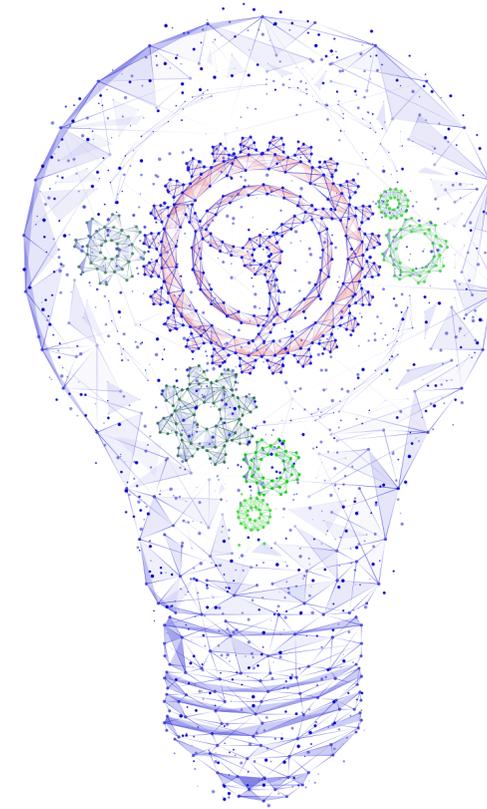
The Netherlands a leader in automated freight

By using Connected & Automated Transport (CAT) freight delivery can be faster, cheaper and more sustainable. The technology has been developed, but testing and implementation are still at an early stage. To make automated driving possible on Dutch roads, we took the initiative in 2020 to start up the IMIAT project (Innovation and Mobility Implementation in Automated Transport) with transport companies, technology industries, governments, and knowledge institutes. The ambition of the project is for 20% of the freight of the participators to be delivered with automated transport in the chosen corridors in 2030. In 2021 the project will be detailed further and a consortium of partners will be in place.



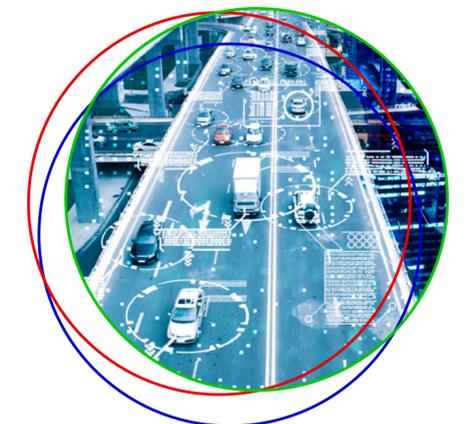
Monitoring project with RET

In 2020, we took part in a monitoring project of the e-Busz, which was converted from diesel-hybrid to battery electric by e-Traction. In September 2020, we continued and extended its monitoring activities in a project with the RET (the Rotterdam Public Transport organization). The project consists of monitoring, analyzing and reporting on some 50 electric city buses. The monitoring is carried out on several types of buses from different manufacturers and/or with different types of drive systems, including the VDL Citea Electric, the e-Busz and the Van Hool hydrogen fuel cell electric bus. A group of students from Fontys collected and analyzed the data, while a Rotterdam automotive student translated the results into conclusions that can be implemented in practice.



Joint research on lightweight materials and 3D printing

Using lightweight and recyclable materials is an extremely important topic in designing cleaner and more energy-efficient vehicles. Therefore, there is a continuous drive towards developing vehicles made of lightweight and sustainable materials. We perform joint research with automotive companies and Universities of Applied Sciences to identify opportunities for Fibre Reinforced Composites for safety-critical automotive applications, that are designed for repair and recycling. Students of HAN have recently produced 3D designs (to be inserted into composites) in several shapes. These designs will be tested for pulling forces by the students at the beginning of 2021. The findings will be shared with the automotive industry.



The start of a European research consortium

In order to join forces in Europe and to position ourselves vis-a-vis the European Commission, we have taken the initiative to form a strong international consortium on dedicated research and practical implementation. Besides us, this consortium is comprised of RWTH Aachen, Gustave Eiffel University in Paris and the University of Gdansk in Poland.



STAFF

STAFF

Expansion of the ACE Team

Due to the growing activities in 2020, we were able to expand our team in the past year with: Gentiana Tijssen, Thomas van Berkel, Jeroen van der Werf and Jan van Wijk. In addition, Leo Peeters and Ingrid van Lierop will join us in the beginning of 2021.

ACE Team:



Kees Slingerland
Director



Leo Peeters
R&D Manager
(from January 2021)



Gentiana Tijssen
Communications,
Events



Rianne Holten
Office Manager
(until December 2020)



Saskia Lavoo
Account Manager



Stefan Kraaijvanger
Business Development



Thomas van Berkel
Project Manager
TALCOM



Ingrid van Lierop
Office Manager
(from February 2021)



Frank Rieck
Head of R&D



Corine Legdeur
Communications,
Project Development



Jeroen van der Werf
Project Manager
IMIAT



Jan van Wijk
Project Manager
Hybrid Teacher

ACE Board

Henk Bos	RAI Vereniging, chair
Ella Hueting	University of Applied Sciences Fontys
Leo Kusters	AutomotiveNL (until December 2020)
Albi van Buel	AutomotiveNL (from January 2021)
Hans Maas	University of Applied Sciences Rotterdam
Gerrit Aversch	University of Applied Sciences Arnhem and Nijmegen

ACE Supervisory Board

Kees Boele	University of Applied Sciences Arnhem and Nijmegen (until April 2020)
Rob Verhofstad	University of Applied Sciences Arnhem and Nijmegen (from September 2020)
Hans Corstjens	
Zakia Guernina	University of Applied Sciences Rotterdam
Joep Houterman	University of Applied Sciences Fontys (until September 2020)
Elphi Nelissen	University of Applied Sciences Fontys (from September 2020)
Henri Koolen	VDL
Marinka Nooteboom	Koninklijke Nooteboom Group

Graduates and interns



Joshua Bruhn	student at HAN Automotive Engineering (graduated in February 2020)
Dennis Laros	student at Fontys Automotive Management (graduated in July 2020)



The automotive sector is an important sector in the Dutch economy and has global impact due to the good entrepreneurship, top-quality knowledge and level of innovation that are present in the Netherlands. The automotive sector is faced with strategic challenges: electrification, autonomous driving, data connectivity and sustainability are still the most important topics for 2021.

Our partners continuously need an adequate supply of highly skilled young professionals. We will address this need by further develop our job portal and life-long 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.

The COVID-19 pandemic learned us how to work more efficiently and more professionally in certain respects. We have learned to live in a digital world. When the pandemic is overcome – hopefully soon – we will endeavour to combine both worlds: the digital world with its efficiency, speed and directness, with the human world, with friendship, enjoyment and openness.



Visiting address

Automotive Campus 30
5708 JZ Helmond
the Netherlands

info@acemobility.nl