

## ATC INNOVATION 2011 AWARD



The ATC Innovation Award honors the best recent Dutch automotive innovations.

The competition for the Award takes place every second year. It aims to show that the drive for innovation is deeply rooted within the Dutch automotive industry and spins out new innovations every year. Innovation needs inspiration, but even more it requires guts and perseverance. This spirit lives within the Dutch automotive industry. That is demonstrated wide range of applications that ATC received that reaches from Car Technology to In-Use services and ICT.

The winner of the ATC Innovation Award receives the prestigious trophée 'Het Pientere Pookje', a tribute to the archetype of Dutch automotive innovation; the DAF Variomatic, today known as CVT. In addition the winner of the 2011 competition receives an Innovation Voucher of € 7500,- granted by the High Tech Automotive Campus in Helmond; the nucleus and breeding place of Dutch automotive innovation.

The subjects of the 2011 applications are very diverse. They relate to products as well as to processes and to mechanical devices as well as to pure software innovations. Both large and small companies, industry and knowledge institutes have sent in their applications. They include companies with complete vehicle concepts, powertrains, body & trim and process related equipment. Not only well known and established companies have applied; also new companies and techno-starters take part.

Innovation is a sign of vitality. The Dutch automotive sector is proud of the companies listed here!



The 2011 jury of the ATC Innovation Award consists of:

**F. Hagendoorn / Chairman**  
Automotive consultant and marketing professional

**J. Pauwelussen**  
Professor Technology for Mobility, University Arnhem Nijmegen

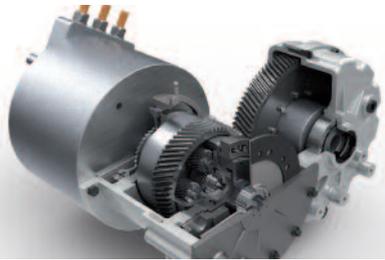
**E. Lomonova**  
Professor Electromechanics and Power Electronics,  
TU/e Elektrotechniek

**H. Hendriks**  
Vice President Global Product Centers for Cockpit Systems,  
Johnson Controls,



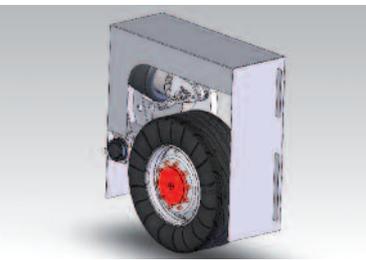
**DSM Composite Resins**  
**Palapreg ECO P55-01;**  
**first step towards full**  
**bio-based resins**

DSM Composite Resins has made the next step in bio based unsaturated polyester resins by developing and launching a 55% bio content resin for SMC and BMC applications: Palapreg ECO P55-01. This new resin offers the opportunity to produce bio-based products, based on a resin that has the majority of its raw material sourced from natural and renewable sources, without compromising on processing and performance.



**DTI**  
**Twinspeed;**  
**the transmission for EV's**

The Twinspeed transmission with Powershift functionality improves the vehicle acceleration, gradeability, maximum speed and drive range of an electric vehicle. Using a combination of linked planetary gear sets, a very compact gearbox is created. The use of a dry friction brake in combination with a dog clutch provides the comfort of Powershift. The Twinspeed transmission allows a redesign of the electric vehicle components, making them lighter, more compact, cost effective and more silent.



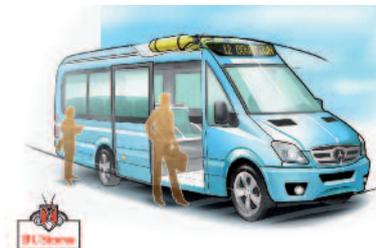
**Gemco E-trucks**  
**E-corner – integrated**  
**drive/suspension module**  
**for E-trucks**

The Gemco E-corner is a suspension module for E-trucks with an integrated electric in-wheel motor. The compact design enables new vehicle concepts without chassis beams, drive shafts or rear axles. This allows a low loading floor and large width between the rear wheel modules. The combination with the low energy consumption of the hybrid/electric powertrain makes a very strong customer offer. Gemco and the OEM partner foresee a great future for this concept with large sales within 5 years.



**Hoogerdijk Technisch Rubber**  
**/ Motio Development**  
**Smart-line: flexible**  
**embedded lighting**

The Smart-line is a new generation bump/seal rubber with integrated LED technology with an adjustable color feature for interactive signaling functions. The Smart-line can be sized to suit specific needs and wishes of the customer. It is waterproof, energy efficient, has a very high impact force resistance to meet today's market requirements. The Smart-line is perfect as a bump rubber application for busses, trailers, containers, parking places, roadside installation, boats, yacht harbors and public spaces like shopping malls.



**Silentmotor**  
**Low floor e-minibus**  
**with 0-emission range**  
**extender**

The ZELF (Zero Emission Low Floor) is an electric minibus with a low floor and a number of customer friendly features for driver and passengers. It has a special power train with a fuel cell running on 'green hydrogen'. This provided the ZELF with a range of 225 km. The fuel cell feeds a 24kWh battery. This cascade architecture is a novelty that provides extra reliability. The ZELF will be available on the market in 2012.



**SKF**  
**Electromagnetic car**  
**suspension**

SKF and Eindhoven University of Technology (TU/e) have developed an active electromagnetic suspension system that can increase the ride quality of cars by 60 percent. Cars fitted with this suspension system are also safer because they roll much less in corners. The system was installed in a BMW test car that was first presented at the AutoRAI in April 2011. Tests show that the system outperforms hydraulic systems in terms of bandwidth and energy efficiency.



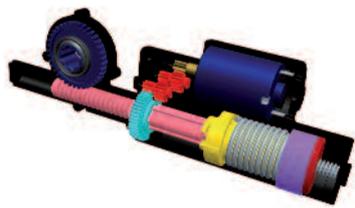
**Styron Netherlands**  
**Blow molded seat back**  
**with integrated functionality**

Seat backs are traditionally made of steel and weight saving traditionally raises costs. Styron has introduced a fully plastic structured blow molded seatback that fulfills all requirements on strength and functionality. This innovation offers a 2kg per vehicle weight saving in combination with a reduction of cost and investment, greater design freedom and improved seating comfort. The new concept meets high market interest and will be introduced on new vehicle models in 2011.



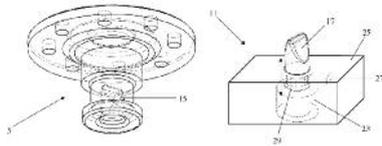
**Sycada**  
**360° EV - Interactive**  
**battery**

The biggest barrier of electric cars is the fear of being stranded at the side of the road with no battery power. This 'range anxiety' means that drivers only dare to make short journeys and perform frequent short battery recharges; bad for both the ownership experience and for battery health. Sycada's 360° EV online monitoring system deals with both issues. With Sycada 360° EV the driver can always read his battery status and vehicle range on his smartphone.



**Mirror Controls international**  
**Fail-Safe actuator for an**  
**Active Grille Shutter**

MCi currently develops an innovative actuator solution to drive the new active grille shutter (AGS) feature to be introduced on car in the coming years. The AGS system will shut the air flow through the front car grille, saving up to 2% fuel. The new actuator will have unique patented features of which the passive Fail-Safe system is the most innovative. This feature is requested to avoid the engine to overheat when the AGS system would fail.



**Nova vdWetering**  
**Truck – trailer angle sensor**  
**for a.o. rotating mirrors**

A sensor mounted on the king pin of the truck detects the presence of a trailer and the angle between the trailer and the truck during maneuvering. The sensor signal can be used to rotate the mirrors in order to optimize the view of the driver and improve safety for other road users. It can be used to rotate the rear lights of the truck of specially mounted camera's to further improve the drivers view.



**Progression Industries**  
**Cyclox clean fuel solution**  
**for HD diesel engines**

CyclOx fuel makes use of Cyclic Oxygenates; hydrocarbons including one or more oxygen groups. The chemical structure of this fuel largely prevents the formation of soot during diesel combustion rather than eliminating already produced soot during exhaust after treatment. Cyclox also reduces NOx emissions. Expressed in "costs per kg emission reduction per year", using a diesel-CyclOx blend is cheaper than the after treatment alternatives for soot and NOx. From 2020, it will be possible to produce CyclOx from second-generation biomass.



**Rodac**  
**Perforation tool**  
**for oval holes**

In co-operation with industry RODAC developed a special pneumatic tool to punch oval holes. OEMs like Audi, BMW, Ford, Mercedes, Opel, Seat, Skoda en VW). increasingly use hard soldering to assemble (Advanced) High Strength Steel body parts. The repair process of these cars requires punching oval instead of round holes. The device solves this problem in a quick, easy and effective way.



**TASS**  
**Universal CAN**  
**solutions**

The universal Controller Area Network (CAN) solution delivers detailed in-vehicle data that is live available from the internet in a universal format. This is not only innovative in itself, but also an enabler for many more innovative services. A universal module collects data from the CAN-bus and other sensors and transmit them to a server. This module fits 95% of all vehicle types on the roads today. Via a web centric configuration mechanism, these modules can be remotely configured after installation.



**TNO, TU/e, NXP, Verum, Humiq**  
**Verified: model based**  
**integrated vehicle**  
**dynamics control**

Verified is a 'Model based Vehicle Dynamics Control' method to integrate several vehicle actuators into a single control system and optimize the control effort at the same time. Verified is based on the SDRE linearization technique that obtained very good results in the aerospace industry with missiles and unmanned aerial vehicles. Verified makes it available to the automotive industry. Verified makes clever use of the ever increasing capabilities of cheap microcontrollers to increase the possibilities of online optimization.



**TU-Delft**  
**CompEx –**  
**Composite Exhaust**

CompEx is a hybrid automotive exhaust system that deals with high temperatures and sound at low weight. CompEx features a metal grid in a cylindrical insulation layer with an outer Carbon Fiber Reinforced Polymer (CFRP) shell that carries the load. Tests show that the CFRP shell remains below 200°C. The sound is significantly better. Heat shields become obsolete. Mufflers most probably as well. CompeEx saves approximately 29 kg in a front engined Ferrari.



**Who wins**  
**"Het Pientere Pookje"**



## LIST OF APPLICANTS 2011

Innovation is a sign of vitality. The Dutch automotive sector is proud of the companies listed here!



[www.dsm.com](http://www.dsm.com)



[www.dtinovations.nl](http://www.dtinovations.nl)



[www.gemco-etrucks.com](http://www.gemco-etrucks.com)



[www.smart-line.nl](http://www.smart-line.nl)



[www.mirrorcontrols.com](http://www.mirrorcontrols.com)

NOVA

[vdwetering.vuden@planet.nl](mailto:vdwetering.vuden@planet.nl)



Progression-Industry  
GREEN out of the box technologies

[www.progression-industry.com](http://www.progression-industry.com)



[www.rodac.com](http://www.rodac.com)



[www.silentmotor.nl](http://www.silentmotor.nl)



[www.skf.com](http://www.skf.com)



[www.styron.com](http://www.styron.com)



[www.sycada-green.com](http://www.sycada-green.com)



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Ministry of Economic Affairs,  
Agriculture and Innovation

Gemeente Helmond



Provincie Noord-Brabant



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