Rinspeed and Harman develop comprehensive mobility concept and corresponding vehicle. The incarnation of the idea is:

“microMAX” - the networked swarm car

At the very latest ever since the publication of Frank Schätzing’s novel “The Swarm”, everyone knows of the potential power of intelligent collectives - much more powerful than merely the sum of all its individuals. With “microMAX” Frank M. Rinderknecht, boss of Swiss creative powerhouse Rinspeed, transfers the idea of swarm intelligence to urban traffic and sets out to do nothing less than to revolutionize it. The incarnation of the idea is “microMAX,” on display at the Geneva Motor Show, March 7 through 17, 2013. The ingenious commuter vehicle merges personal and public transportation in very clever fashion. In the Rinspeed “microMAX”, renowned manufacturer of top-class automotive multimedia and infotainment systems Harman for the first time introduces its vision of an “urbanSWARM” community concept based on the Harman Cloud platform. This concept involves combining the company’s individual technical features that are already available commercially today with a comprehensive Cloud-based mobility concept. This allows, for instance, easy access to navigation functions in real time. Based on the information from all vehicles connected to the swarm, the system can modify the routes dynamically to account for current traffic.

Rinderknecht says: “We have developed an intelligent and eco-friendly mobility concept complete with its own vehicle that combines the benefits of personal transportation with those of taxis, car-sharing services and carpool concepts as well as those offered by public transit. It uses the powerful UMTS and LTE data networks in urban centers and operates in real time.”

“microMAX” owners belong to a modern mobility community that allows all microMAX vehicles to be used with maximum flexibility: by people driving themselves, by regular commuters in permanent carpools, but also by people looking for on-the-spot rides or needing to cover individual legs of their trip with the help of several “microMAX” participants.

A special app custom-developed by Harman for this purpose gives all road users who are looking for a transport option and are part of the selected community access to the new mobility concept. Potential riders only need to enter their destination; the “urbanSWARM” community uses Cloud technology and access to the collective information and experience of the entire swarm of vehicles to do the rest. Because the system has information about routes, destinations, traveling speeds and occupancy of all vehicles in the swarm, it calculates potential ride opportunities in real time and - if called for - even determines transfer options. This creates an extremely efficient, flexible and convenient transport system with maximum capacity – without wait times, without prior planning and without detours. Cyclists can even have their bicycles taken by piggyback over longer distances. A compatible e-bike has already been developed and is being marketed by bicycle manufacturer Grace.

“microMAX" lends form to the overall concept. With this incarnation of sustainable mobility, Swiss car visionary Rinderknecht and Harman define an entirely new class of vehicles with hitherto unseen spaciousness. The engineering - following a long tradition - was done by 4erC; the “microMAX” was built at Esoro, among others. With a length of 3.7 meters, roughly equivalent to that of a BMW Mini, “microMAX” not only offers plenty of space for the driver, three passengers and a unfolded stroller

or shopping cart, it also provides the desired privacy! The vehicle height of just shy of 2.2 meters permits the installation of comfortable and space-saving upright seats equipped with a custom-developed safety belt system from TRW, a top vendor in the vehicle safety sector. But above all, the invitingly modern interior from surface specialist Hornschuch as well as headliner and roof pillars covered with special textiles from Strähle&Hess affords the occupants an outstanding sense of spaciousness with a homey lounge character. All occupants furthermore enjoy such amenities as a coffee maker, refrigerator for refreshments and unlimited connectivity for entertainment purposes or for working while on the move. Window panes manufactured and enhanced by KRD from Plexiglas made by chemical manufacturer Evonik ensure the vehicle's safety and low curb weight. Also contributing to the latter are lightweight-design interior components from Gaugler&Lutz that were manufactured by the Thuringia Center for Mobility Innovation. And the latest NFC (Near Field Communication) technology from Harman makes it fast and easy to identify drivers as well as passengers. This solution also allows access to personal data, community profiles and payment systems.

Rinderknecht: "microMAX" aims to encourage potential passengers to get in and ride because it is extremely convenient and simple." Its summery turquoise paintwork harmonizes perfectly with the custom-developed silver AEZ alloys, and beams at every observer. It goes without saying; the "wellness animation program" also includes an auxiliary heater and air conditioning technology from Eberspächer.

The spacious interior has an airy and light feeling. The clearly arranged VDO instrument panel dominates the area in front of the driver. Its central control unit has been custom-programmed by software service provider Noser specifically for the "microMAX." The command center for the "urbanSWARM" community platform is the 19-inch HD touchscreen from Harman, which features a multi-dimensional HMI (Human Machine Interface) and offers expanded display functions.

It goes without saying; "microMAX" is an all-electric vehicle powered by a forklift drive system from world market leader Linde Material Handling. The system is recharged at intelligent charging stations from infrastructure pioneer RWE. Since the vehicle operates very quietly, the Harman specialists have developed an acoustic pedestrian safety system based on their HALOsonic technology. A synthetically generated, replicated engine sound that emanates from the front of the vehicle provides early warning to pedestrians. This effect is further bolstered by the fact that the nature of the sound always reflects current engine load, engine speed and vehicle speed to ensure the vehicle provides pedestrians with the best possible auditory clues.

"microMAX" is a clever mobility concept with a comprehensive approach. As is natural for Frank M. Rinderknecht, he has created a concept car filled with such emotion and spiced with a host of technical highlights that even Swiss insurance giant Zürich has become involved. In light of such potent partners, what would be more logical than to contemplate series production? No wonder that dynamic Frank M. Rinderknecht is toying with this possibility in his capacity as a showcase for Swiss watch manufacturer C.F. Bucherer. Various equipment modules, for example, for craftsmen, mail carriers or express courier services, make this revelation in space extremely versatile. As the leading vendor of professional 3D visualizations in real time, RTT has already made these various versions "tangible" with a proprietary app. Düsseldorf-based consulting firm A.T. Kearney has developed a corresponding manufacturing and marketing program for the series production. These unique visions

are communicated in easy-to-comprehend fashion thanks to promotional support from Vollmond advertising agency based in the German state of Saarland.

Our partners have the floor:

AEZ - Standing up whilst sitting down?

Sitting in a car is nothing new; neither is standing up in a vehicle. However, standing up in a car has so far only been possible in vehicles of the small lorry and minivan category if they are equipped with the appropriate body. Making private transport more efficient, environment friendly and attractive at the same time, are challenges that are constantly present themselves to us. The interaction between AEZ, who has provided its know-how for the development of the “microMAX“, and Frank Rinderknecht of the Swiss think tank Rinspeed was therefore a logical step.

Innovative design with maximal benefits

The basic concept of the AEZ-design for the latest „microMAX“ study derives from two drive concepts, currently most frequently discussed in the area of E-mobility – the wheel hub motor on one hand and the centrally located motor on the other. By developing the AEZMax, AEZ solved the well-known challenge to „catch two birds with one web“. Developing a solution to cover the motor unit, mounted into the large wheel, and how to facilitate natural ventilation for the cooling of the E-drive were the challenges in case of the wheel hub motor. The shovel-like openings guide the airflow to the motor casings thus achieving the desired cooling effect. In case of the centrally located motor, the design remains the same since the cooling possibility is used for the brakes here. Design is key in both versions. Due to the open and light style, the wheel appears larger and gives the vehicle a well-balanced, aesthetic look.

Pleased with the successful cooperation, Norbert Frohner, General Manager of AEZ Leichtmetallräder, says: „The result is an innovative wheel design with maximal benefits“. Since the wheel in the middle section needed to look very solid, the large surfaces have been three-dimensionally eased by protruding terraces, giving an optical impression of additional depth. The asymmetrical pin bores follow the line of the openings and draw the edges further toward the outside. Matching the wheel, a hub cap in three-dimensional design is also available.

The goal to „revolutionise short distance traffic in urban centres“ and to unify the aspects of private and public use in a simple, easy and highly efficient way is definitely achieved by Frank Rinderknecht and his concept car. The highlight with new standing seats thus creating a new miracle of space is simultaneously an invitation to everyone: "hop on, hop off and enjoy the ride."

A.T. Kearney

Management Consulting firm A.T. Kearney and Frank M. Rinderknecht, founder and head of the Swiss company Rinspeed, have reviewed the MicroMAX study for series readiness and developed sustainable business models.

Introducing the World of microMAX

Urbanization 2.0 and demographic revolutions are two key drivers which tremendously challenge today's and tomorrow's infrastructure, in and beyond the mega cities. Growing customer demand for efficient mobility services, ergonomic transportation, and integrated connectivity while having a positive impact to higher social responsibility require new mobility solutions. Yet prices should be affordable for both corporate and individual customers. "The price range should be between 5,000 € and 10,000 €, depending on the powertrain and features", says Götz Klink, Automotive Partner at A.T. Kearney. Besides, product launches should be rapidly realizable: "Series production can be ready in less than 30 months, presuming an agile business model with market proven modules and re-use concepts" says Steffen Gänzle, Principal.

Offering Mobility Solutions

The flexible vehicle family concept combined with attractive sales prices build the fundament for the unique value proposition pillars, the "4S":
- Space: Easy entry, lounge comfort and ergonomic mobile working stations
- Speed: Fast lanes, intelligent routing and its small size allow quick movements
- Service: Real-time booking systems, high speed connectivity, application suite, online tickets & e-pay
- Social responsibility: Electric drive and paperless ticketing/billing with mobile devices

Each of the 4S features can be adjusted to customized offering packages for B2B and B2C peers. Those include e.g. routed public transport, point-to-point commuting services, in-car retailers, food / mail / parcel delivery services, car / house mechanics, on-campus shuttles and further more.

Taking the offering package of routed public transport as an example, a poorly utilized and frequented bus route with 15 static stops can be substituted by the optimized application of the microMAX mobility solution. Passengers can flexibly book their rides on a fixed line and hop on and off wherever demanded. After real-time booking is completed, the optimized route will be defined for the selected microMAX vehicle. During the ride, the passenger enjoys services which have been selected in the ordering process using the integrated online product configurator:

The offering package "public transport route" includes several benefits for the customer:
Space: Three ergonomic workspaces per cabin allow an easy hop-on and off at every corner
Speed: Up to 80% less scheduled stops decrease cycle time and optimizes fast lane usage. Guided by an intelligent and flexible navigation system, microMAX saves of up to 30% travel time compared to public busses.
Service: Easy payment options through Near Field Communication ensures flawless speaking during on- and off boarding. Additionally, microMAX can be booked for holding meeting, where teams can run conferences or video calls without wasting time.
Social responsibility: Each ride reduces emissions to a minimum while using maximum space on a micro mobility platform.

Flexible business models

The ambitious goal to break even at a sales volume of 5000 units per year and an annual net profit of

3%-4% can be achieved by its modular construction technique. “By expanding the lifecycle and stretching module use, a profit increase up to 8% is realizable” explains Steffen Gaenzle.

In addition, the low cost production system leverages the modular plug-and-play manufacturing concept. Volume expansions can be easily done by regional manufacturing footprints using easy-to-build plants.

Smart, innovative and space-saving - Carl F. Bucherer sponsors Rinspeed microMAX concept car.

This year Carl F. Bucherer is backing another exciting project from Swiss custom car specialists Rinspeed AG. The microMAX electric vehicle has a relatively small footprint with loads of space and was designed to revolutionize local and short-distance transport.

For over 35 years now Frank M. Rinderknecht has been realizing his dream of building visionary cars that combine innovation with cult status and sustainability. During that time Rinspeed’s production of concept cars and limited series have established the company’s solid reputation. The latest creation to leave its workshops combines the amazing sensation of being in a lounge with enormous practicality: just 370 cm (approx. 12’) long, it offers plenty of space for a driver, three passengers and a baby carriage or luggage. The vehicle is 220 cm (7’2”) high with comfortable, space-saving standing seats that are equipped with safety belts and create a comfortable, congenial atmosphere inside the car. Apart from a coffee machine and a fridge, the interior also has Internet access for the mobile office or gaming, depending on the needs of the passengers.

Sustainable concept.

Behind the unusual design of the microMAX is another innovative idea: above all, it is hoped the concept car will change our long-term attitudes to short-distance transport by cleverly bringing together private and public use in individual travel. The idea is to encourage potential passengers to join the driver for the ride. This would slash carbon dioxide emissions and travel costs at a stroke while radically reducing traffic congestion. A choice of models and extras make the microMAX incredibly adaptable, and it can be fitted out to meet the needs of, say, tradesmen who have to transport lots of equipment.

A shared philosophy.

The concept cars developed by Frank M. Rinderknecht continually redefine mobility. They are the work of a man who insists on going his own way, come what may. Just like Carl F. Bucherer, in fact, the founder of the Lucerne-based watchmaking company that bears his name. Apart from this, the brilliantly conceived mobility concept is another compelling example of what happens when someone has the courage and passion to tread unbeaten paths – just like the timepieces created by Carl F. Bucherer.

But perhaps even more important is the philosophy the two companies share: distilling sophisticated technologies, first-class materials and unexpected forms into products whose design appeals to people far and wide.

Continental - Mobility Re-defined.

Continental, founded in Hannover in 1871, can look back on a successful past. In more than 130 years of the company's existence, it has brought the individuality of to the mobility-world onto the street. This has initiated, encouraged and guided further technical development. Today Continental, with a turnover of more than 30 billion Euros, belongs to is one of the world's largest automobile suppliers.

Individual mobility is about to make the biggest leap forward since the invention of the automobile. With their know-how, technology and products, Continental is best-prepared to make decisive statements in the mega trends - safety, environmentally-friendly, information and reasonably-priced vehicles, in the automotive branch. The company drives forward with mobility concepts of the future under five divisions: tires and braking systems, gears and vehicle components, and instrument and information solutions.

"Always On" - the vision of division Interior

In the Interior division, Continental has packaged together all activities connected to information management for data in vehicles: the preparation, prioritization and its presentation. The driver should have available the exact required and necessary information at all times. The Interior division has successfully completed the task and therefore made themselves an important partner in these areas: instrumentation, telematic-systems, tachographs and bodywork electronics.

Vehicle data - visualising special applications

For the Rinspeed microMax E-Car, Continental has, under the brand name VDO, produced a simple to use touch-information terminal based on Android technology. Together, with an expert team for Android applications from the company Noser Engineering, a new, configurable interface via self-definable Apps, was created suitable for vehicles. Apps, well-known from smart phone applications, can be transferred to the vehicle, whereby the focal point is the format and display of all essential vehicle data. Apart from the high quality and clarity of the information system, it was important to Continental's Swiss design and development team to keep their "Look & Feel" style of the VDO gauges.

Eberspächer ensures the right climate in the new "microMAX" from Rinspeed.

Individually shaping short-distance traffic for fast journeys and fewer traffic jams: The "microMAX" study from the Rinspeed company shows how this might work. Passengers can get in and out in seconds thanks to a large door, a height of over two meters, and the vehicle's distinctive upright seats. To ensure the wellbeing of all occupants - whatever the weather - on their trips in this electric vehicle, heating and air-conditioning specialist Eberspächer has equipped the van with an Airtronic bio-ethanol heating unit, a powerful PTC heater and high-voltage split system air conditioning.

The electrically powered "microMAX" combines very small dimensions with generous space for occupants. This requires specially designed heating, which reliably ensures pleasant temperatures in the passenger compartment, while scarcely impacting on the battery capacity of this electric van. To meet these requirements, the Rinspeed study makes use of a powerful air heater from Eberspächer.

A special highlight of the Airtronic E2 is that it heats 100% with environmentally friendly bio-ethanol, and functions virtually independently from the vehicle battery. So, the range of the “microMAX” is only slightly diminished, even when the Airtronic is at full power.

When it is turned on, the Airtronic extracts air from the environment and quickly heats it to an agreeable temperature using a power setting of 2,200 W. Adjustable air nozzles in a modern design on the front and rear windows distribute the air evenly throughout the “microMAX”. A further advantage of the Airtronic E2 is its different output settings. These enable the temperature inside the van to be adapted with ease, further reducing the air heater’s already low consumption. Thus, in the efficient low output setting, the heater only consumes 0.16 litres of bio-ethanol an hour, even in continuous operation.

Individual warmth for every passenger

With its upright seats, the “microMAX” is an unusual mode of transport, with a personal area for each passenger. As well as the heating provided by the Airtronic E2, each passenger footwell is equipped with additional PTC (Positive Temperature Coefficient) heaters from Eberspächer. This way, every passenger can enjoy their own personal comfort zone. The electric heating elements are extremely compact, and each occupant can adjust them individually to suit their own heating needs.

Esoro - Swiss made.

Frank M. Rinderknecht used highly advanced technology and a Swiss-based network of top automotive specialists for his project “microMAX”.

For the fourteenth consecutive time the Swiss cleantech engineering company Esoro has been development partner of Rinspeed. Esoro has been responsible for the electrification, the design and realization of the electromechanical components and the adaption, design and implementation of new technologies from various project partners. In addition Esoro has been responsible for the final implementation and assembly of the entire car - the exterior and the interior.

Esoro has now 22 years of experience as engineering partner for product developments, concept vehicles and components focused on lightweight construction, alternative drivetrains and mobility. During this time Esoro has gained a well-deserved reputation for excellent efficiency and innovative solutions, which is demonstrated by numerous prototypes and serial products.

Since 1990 Esoro has been working intensively in the field of conception, implementation and tests of clean car concepts and drive systems. Esoro is thus one of the few companies in the world with well-founded experience in development and operation of electric, plug-in-hybrid and fuel cell drives. These activities are our core competence. Esoro therefore realizes EV projects in close cooperation with well known OEM’s starting with the initial conception and the prototype through to the serial project phase.

Esoro is also developing fiber reinforced components from initial conception up to pre-production samples. In-house specialists optimize the component properties and characteristics throughout the entire development process. Important steps are non-linear, orthotropic Finite Element Analysis and

crash simulation.

Another development from Esoro is the E-LFT production technology developed for Weber Automotive. E-LFT makes large scale production of high-strength and lightweight composite parts affordable. E-LFT composite parts weigh more than 30 percent less than comparable steel parts. For the development of the Smart fortwo tailgate, which now has been produced 650'000 times with the E-LFT process, Esoro received the highly recognized JEC Innovation Automotive Award 2008.

Evonik - Transparency and lightness - Automotive glazing made of Plexiglas.

- Significant weight savings over glass
- Durable and highly transparent

Evonik, the creative industrial group from Germany, is one of the world leaders in specialty chemicals. Profitable growth and a sustained increase in the value of the company form the heart of Evonik's corporate strategy. The Group's activities focus on the key megatrends health, nutrition, resource efficiency, and globalization.

Evonik's Acrylic Polymers Business Line is the manufacturer of the inspiring plastic Plexiglas. With its molding compounds and semi-finished product specialties, it offers a broad portfolio for a variety of forward-looking applications. One of the most important markets for Plexiglas is the automotive industry.

Lightweight construction saves fuel and is therefore kinder to the environment. While this aspect is important for cars with conventional powertrains, weight is even more crucial for the growing market for electric vehicles.

This is why Plexiglas glazing is so important at Evonik: Plexiglas glazing is 40 to 50 percent lighter than conventional glass; this was one of the decisive points for the developers of the electric vehicle Rinspeed Micromax. High transparency and unsurpassed weathering resistance are further convincing properties.

The advantages are immediately obvious. Weight savings apart, the excellent transparency of Plexiglas as well as its very high weathering resistance, pleasant acoustic properties, and outstanding formability, among other features, open up entirely new design possibilities not offered by conventional glazing.

To cover the entire range of glazing for automotive construction, Evonik is pursuing two lines of development: monolithic and multi-layer systems based on Plexiglas. Coated sheets in various thicknesses have already received ECE R 43 certification for side and rear windows, and roof glazing. Plexiglas glazing is tested under real-life conditions in a Lotus race car running on a race track. This car has been equipped with a windshield and side windows made from the highly transparent, weather-resistant, and lightweight material. Plexiglas glazing has been used for a few years now and has passed the test of many races with flying colors.

And Plexiglas developers are naturally thinking ahead. IR-reflecting glazing and photovoltaic cells

integrated into vehicle roofs, for example, are already a reality. Functional integration is the key term, and the possibilities here are far from exhausted.

Evonik Industries is a worldwide manufacturer of PMMA products sold under the Plexiglas trademark on the European, Asian, African and Australian continents and under the trademark ACRYLITE® in the Americas.

Gaugler & Lutz

For three decades now, Gaugler & Lutz oHG having its corporate seat in Aalen-Ebnat has been a name for its pioneering work in the field of 'lightweight and sandwich construction'. Individual solutions for the wind energy industry, marine industry, road and rail transportation or aerospace engineering and much more have given the innovative Swabian company a renown reputation. Besides high demands on products and suppliers, Gaugler & Lutz oHG attaches great importance to top-quality materials.

'It's lighter!' - Rinspeed CEO Frank M Rinderknecht took this Gaugler & Lutz slogan to heart in the construction of the Conceptcar when developing the new 'microMax', integrating the novel thermoplastic-based patented 'Multishape' production technology of the Swabian company. Lightweight design has become indispensable in the automotive industry over a period of years, first and foremost in motor racing and development of formula 1 racing. The use of lightweight constructions favoured by forward-looking electro mobility will become one of the most important spearheads also in this field. Thanks to minimized weight, lightweight design reduces vehicular CO^2 emissions and consequently consumption, too. Thinking of the environment is top priority here. The credo is: The lighter the 'microMax', the longer the route covered. As a result, things will have to go lighter in future and this Gaugler & Lutz can realize with its new innovative 'Multishape' technology.

'Multishape' is a high-technology manufacturing process originating from the thermoforming industry and showing a similar plant technology respectively. Thermoplastic materials are being heated up and formed in a pressing tool. They regain their initial stiffness after cooling. In a 'one-shot process', thermoplastic fiber reinforced composites , also termed as organic sheets, are pressed into enormously stiff components in sandwich design using thermoplastic foam core material in a very short cycle time. These fiber-reinforced sheets can contain thermoplastic matrix systems such as PA6 or PP. Thermoplastic core material such as PET- or PMI-foams have primarily emerged as perfectly suitable materials enabling a very good bonding to the organic sheets.

Contours such as the dashboard or the rear tray of the 'microMax' can be manufactured using this technology. The great advantage besides the light and stiff sandwich structures is the possibility to producing cost-optimized components in large quantities and, above all, at short cycle times. A future-oriented production technology that surely will not only be well received in the 'microMax' application.

Grace

The Grace Pro, introduced in 2009, was not just the first e-motorbike worldwide, but also the first chapter of an action-packed story, driven by great media interest. The luxury class supplier Nicolai,

who specialize in high-quality mountain bike frames, and Mifa AG, one of the biggest bike-manufacturers of Europe, have become partners. That this concept of individualism is not only of interest to geeks, is demonstrated by the collaboration with Daimler-Benz/Smart.

Grace One

Strength, speed, innovation and design. It's no coincidence that Race is a part of Grace. 1300 watts accelerate the first worldwide e-motorbike to 45 km/h. You control the motor with the electric throttle handle. It's still up to you whether you want to step on the pedals: you don't have to… Your RFID card activates all of the important information at a glance. The large display offers excellent readability. The controller is a smart unit developed specifically for Grace. There's no external battery-pack to ruin the aesthetic lines, the energy of a sports car lies in these spacious aluminum tubes. Two halogen headlamps ensure that your vision will be optimal and lend the ONE its unmistakable appearance.

Grace MX

Where the fun on other bikes stops, it's just getting started with Grace MX. As the first hybrid bike in series production worldwide, it combines the Gates carbon drive, the NuVinci 360 hub and the powerful Bosch mid-motor, which accelerates the bike up to 45 km/h. The design provides full protection for the batteries, which are located in the lower part of the frame. The motor with a torque of 50 Newton meters and a range of up to 145 kilometers, is rotated to an angle of 45 degrees, guaranteeing optimal ground clearance and balance in the terrain. The drive technology of the hub works smoothly, maintenance-free and seamlessly with the turn of a handle – an automatic power transmission means you are always using the best gear ratio.

Grace Easy

Its agility and pace make the Grace Easy perfect in the urban jungle - with speeds of up to 41 km/h. The energy recovered when braking is transferred back to the bike through the process of recuperation. The integrated design, which conceals the rechargeable battery in the lightweight aluminum frame, exudes self-assurance. A Gates Carbon Drive guarantees a maximum level of performance and durability. BionX is the only manufacturer who has integrated a rear wheel motor with a hub gear system for optimal handling and low-maintenance.

MotorImport AG built up the Ducati brand in Switzerland until 2011. Now entering a new market, they present powerful electric vehicles with the highest standards of design and performance under the label Blue Road. A highly motivated and young team is passionate about developing urban mobility solutions for both individuals and companies. The E-Bikes von Grace-bikes are an integral part of this range, as well as the Swiss E-Scooter BO4 and the Cargo 3-Wheeler from Elmove.

Harman - The urbanSWARM Community Concept - Vision of a holistic mobility solution for 2020.

In presenting its visionary urbanSWARM Community Concept that makes consistent use of swarm intelligence, Harman is facilitating an ultra-modern, mobile society in urban areas. With its Harman Cloud Platform (HCP) and Aha™, its connectivity solutions and the breadth of its innovative display

technologies, as well as its vast experience in developing intuitive HMI systems, Harman already has all necessary technologies covered. The concept is brought ingeniously to life in the Rinspeed microMAX. It offers maximum transport capacity in minimum space and, thanks to its innovative standing seats, allows rapid transfer between vehicles.

The vision combines perfectly the advantages of public and individual transport, taxis, car sharing and car pooling concepts, while avoiding their respective downsides entirely. All cars equipped with the groundbreaking System communicate in real-time via the Harman Cloud Platform. All information necessary for quick, efficient and needs-based use is available at any time and can be accessed by the community either inside the car – or outside via mobile device.

Community members have only to enter their preferred destination; the Harman Cloud does the rest. And because it has all the information about the swarm's destinations and driving routes, speed and capacity, the system can calculate possible rideshare opportunities and necessary vehicle changes in seconds. This creates a highly efficient, flexible and environmentally friendly traffic system with an exceptionally high transport capacity without the need for long wait times, extensive planning or detours. And thanks to the information gathered from the swarm, and because the vehicles are not bound by fixed schedules, routes or stops, the system can always choose the quickest routes automatically. Comprehensive real-time analysis of the swarm information in the Harman Cloud will allow a number of other innovative features: urbanSwarm cars could for example scan their environment continuously for free parking space suitable for the compact microMax, and share this information with other swarm participants in real-time.

The owner can enjoy significant benefits as well – while others are facing rapidly rising costs for their transportation needs, microMAX drivers share them with their co-drivers. And, in contrast to buses, taxis or the train, the vehicle can be individually tailored to the passengers' needs. A quick log-in via NFC enabled cell phone at the chosen seat is all it takes for passengers to access their personal information, from individual music or film collections, through emails to their own desktop at work – all content is readily available on the pre-installed tablets and can be used seamlessly.

The Harman Infotainment System's central control in the microMAX is a rear projection touch screen with full HD capability and LTE connectivity. At 19in diameter, it is larger than any in-car infotainment screen on the market. Its top third is reserved for community functions, while the rest is available for navigation and information on the urbanSWARM. In the community area, the driver can choose easily between different passengers and confirm their requests. In exchange, they receive information on their point of entry, the pick-up time and the estimated arrival-time at their individual destination via mobile device.

With the Reality Street View function, driver and passengers can also switch in to the front-end cameras of other microMAX vehicles. This allows them, for example, to check the reason for traffic delays "with their own eyes". But if they wish to travel entirely "in private", every microMAX driver can simply switch into the respective mode, nevertheless continuing to benefit from the swarm intelligence.

Drivers and passengers can even choose to receive a wake-up call from the Harman Cloud. The system takes into consideration the real-time traffic information available through the swarm, adds

time for breakfast and the morning routine and then calculates an appropriate wake-up call through the microMAX app on smartphone or tablet. This way, drivers will always be on time and passengers simply have to step outside their house just in time as their own private urban shuttle arrives.

The HMI concept provided by Harman is perfectly integrated into the vehicle and makes full use of the car's control elements like the oversized touchscreen. Harman makes maneuvering microMAX always safe and easy - a clear advantage of fully integrated solutions that apps on mobile devices are unable to provide.

As far away as the idea might seem, the "urbanSWARM Community Concept" could significantly reduce rush-hour traffic in urban areas. In the long run, the switch to autonomous vehicles could increase the system's efficiency even further. Harman will continue to develop its vision of a safe, easy-to-operate, efficient and environmentally friendly vehicle for everybody.

Hornschuch - Interior design by the surface specialist - Inner values.

With the microMAX, Hornschuch and Frank M. Rinderknecht are continuing their successful cooperation. For the fourth time, the specialists from Weissbach have beautified a Rinspeed Concept Car with their know-how, but the scope and intensity of the cooperation have reached a new level in 2013. A revolutionary vehicle demands an innovative interior concept. The mutual goal was to create a comfortable lounge atmosphere with high-quality materials and subdued, light colors. Hornschuch was included in the planning at an early stage. The interior concept was created based on the trend book called Brand + Product Experience 2013: the color and materials, which define the look and feel, were designed by employees of the Hornschuch Design Center and the business area Transportation and Interior in close cooperation with Frank M. Rinderknecht.

Hornschuch customer Interstuhl contributed the "standing seats", custom designs based on the "Silver" model, the style icon among design office chairs. The seat elements were upholstered with skai Sanovara Stars in three tone-in-tone, trendy metallic colors. A somewhat darker tone of synthetics decorates the surfaces of the side panels, the lower dashboard, and the seat supports. The trendy hammered-look design was also used on the latter, creating a high-quality impression. The dashboard, the door panels and shelves behind the rear seats are decorated with the extraordinary skai Soshagro EN, which stands apart from other materials due to its exotic manta ray structure and its two-tone coloring.

The floor trim is characterized by a colorful accent: skai Saristano with its very fine-grained leather look in the trendy color "choco". The floor itself is a completely new development. Its surface is decorated by a TPO film of the latest generation, which Hornschuch markets under the name "lite skin", in the sophisticated wood design Nocce Dijon. The "green" material is emission-optimized and contributes to the lightweight construction concept of the Rinspeed microMAX with its light weight. For the substrate too, Hornschuch found the perfect solution together with the floor specialists of MeisterWerke: highly compressed cork, which provides excellent insulation and very good sound protection.

All of the materials used combine to create the desired classic lounge character, which stands in bold contrast to the furnishings of classic vehicles of short-range public transportation. But Hornschuch is

also present on the exterior: the sides are decorated with a self-adhesive d-c-fix design film, which shows the microMAX as an ecological, sustainable vehicle in a network of streets. The exclusive design of the digitally printed film was created, just like the film itself, by Hornschuch. skai Soshagro, which was used in the interior, is used again around the license plates in the color "forest". Nine innovative materials from Hornschuch are used in the microMAX, more than ever before. Here, Hornschuch once again demonstrates its design competence and innovative leadership. In the interior - and beyond.

KRD Sicherheitstechnik - Just like glass - only better!

Good ideas are like beautiful people: they shine even more when dressed in the proper clothes. That's why the paint is of such importance for visionary automobile concepts such as the Rinspeed microMax. If black, transparent or any other color of the rainbow: painted surfaces appeal, give the impression of quality and convey emotions.

Hold on: transparent? Yes! Because the Rinspeed microMax introduces tremendously practical windows made of PMMA plastic to our roads. Easily moulded into nearly any shape and all the while much lighter than glass - what else could a designer want? But there is one disadvantage to these plastic panes: straight out of production, in most cases they are too soft and not abrasion-resistant, a little bit of wind-borne sand would be enough to blur your view.

Unless you reach into your bag of tricks - and come up with transparent high-end coatings that permanently take care of the abrasion problem. A crystal-clear coating, only a few microns thick, flexible but hard as glass: no science fiction any more for KRD Sicherheitstechnik GmbH in Geesthacht, who have been taken on board as consultants by Frank M. Rinderknecht for the development of the microMax. The staff of this well-known coating specialist in the North of Germany possess decades of experience in coating of plastic sheets. And they have the proper coatings, partly developed in their own laboratory, based on siloxanes, thus on polymers that are closely related to the chemical properties of glass. Abrasion-resistant and tailor-made for all challenges in viscosity and flowability.

"Everything started in the eighties", states Korinna Brammer, daughter of the company's founder and today's Manager of the KRD group of companies. "It was then we found a way to protect the plastic windows of police vehicles from vandalism. But for a couple of years now we have also been contacted by automobile designers to help them present their visions in the proper light".

Especially because coating of transparent surfaces without the proper know-how can result in a number of things going wrong. "Exact work right down to the last detail is vital" says Korinna Brammer. "If the coating does not run off as planned, if it dries either too fast or too slow, this immediately results in streaks". When using colored coatings or even color gradients, a tenth of a second can make a difference in flow behavior or color intensity. "Often being unique specimens show car windows do make this challenge even more exciting for us - we have to succeed at first try!"

But there's more to Kasi coatings and coated super-sturdy Kasiglas plastic sheets than just good looks: such as for example repelling Graffiti or absorbing Infrared light if required. For the microMax,

Rinspeed has concentrated on the essential: abrasion-resistant and transparent without streaks please! It does not always have to be the evening gown…

Linde Material Handling - Engineered for your performance.

Linde Material Handling GmbH (Linde MH), a company in the Kion Group, is one of the world's leading manufacturers of forklift trucks and warehouse technology de-vices and is the market leader in Europe. The company also offers its expertise, which it has gained from many decades of developing and producing electrical drive systems, to external customers for a wide range of applications. As an internationally active company, Linde MH employs a staff of 13,800 and operates production and assembly plants in all key regions worldwide, in addition to running a global sales and service network.

In the industrial truck sector, Linde MH has been setting benchmarks as a leading innovator and technology provider for over 50 years. The company unveiled its first electric truck back in 1971 at the Hannover Messe Trade Fair. Since then, it has built around 3.5 million electric drives for mobile working machines. Among the company's range of products are electric motors with outputs ranging from 1 to 35 kW, as well as innovative drive systems.

The experience that Linde MH has gained in developing electrical drive systems for industrial trucks over the last 40 years can also be transferred to other fields of application. The New Business and Products division has demonstrated this achievement with a number of impressive examples: Electrical drive technology from Linde MH can be found in an electrical rail trolley for rail engineering and a light-duty truck, amongst other products. The "Linde E1" electric cart, which can go from 0 to 100 km/h in 3.45 seconds, and thus set the world record in 2011, is based on truck components.

Karabag GmbH, a vehicle manufacturer based in Hamburg (Germany), has even puts its trust in drive technology from Linde MH with the New 500 E, an electric vehicle based on the Fiat 500. The New 500 E can accelerate to a maximum speed of 105 km/h and can go from 0 to 50 km/h in 8.5 seconds. With a range of 100 km, the New 500 E is the ideal city car. The total costs per month are also over 50 euro lower than with a Fiat 500 series vehicle fitted with a petrol engine.

The same drive technology, which is based on components in the E35 electric truck, is also built into the MicroMax. The electric motor, which boasts a peak output of 28 kW, the power module with air cooling and the LINC 1 controller all stem from Linde MH series production. The central electric system with main contactor, charging circuit and DC/DC converter has already proved its worth in the truck.

By involving itself with this mobility concept, Linde MH is looking to the future and providing a further example to show that, even today, the company is in a position to deliver cost-effective, efficient and high-performance electronic drive systems for all manner of applications.

Noser Engineering - Automotive Infotainment and Telemetry - We know how.

Swiss based Noser Engineering AG known for its high quality, industrial software engineering solutions and global contribution to the Android platform, joined Continental Automotive

Switzerland AG to co-develop a range of Android based dashboard instrumentation which provides telemetry data and a contexual driving experience for the new microMAX 'car-to-go-with-the-app' concept from Rinspeed.

With years of experience in embedded and mobile solutions, the close collaboration with Google in the development of Android, the recent implementation of the AMG Performance Media in collaboration with AMG and a long standing relationship with Continental Automotive Switzerland, Rinspeed's new microMAX car-to-go-with-the-app' concept gave us the opportunity to demonstrate our expertise to automobile manufacturers and suppliers.

Noser Engineering contributed the software for the interactive cluster element of the microMAX. This element is used to provide added value to the driver through specifically fitted instrument displays with intuitive touch controls. The Android based software is fully configurable and expandable. Various input sources and formats are supported and the presentation of any kind of input signal (CAN bus, USB, Bluetooth, touch events, general I/O) can easily be adapted to the customers' needs via a simple configuration language. The system is aware of the state of the vehicle (halted, driving, etc.) which can be used to offer contexual information. The same mechanism is also used to alert the driver, for example, when energy is running low.

Recently, German luxury sports car manufacturer Mercedes-AMG commissioned Noser Engineering to develop AMG Performance Media APM, the world's first production-ready Android based automotive infotainment system. APM provides the driver and passengers multimedia, internet and telematics data on display. The racing feature allows the driver, while driving around a race track to measure lap and sector times as well as record vehicle data for later evaluation. The analysis allows the precise correlation of steering angle, throttle position, brake pressure, longitudinal and lateral acceleration etc. with the position of the vehicle on the track, and thus helps the driver maximize the driving pleasure with the AMG.

"The whole project took less than 2 years, from the first evaluation of an early generation of hardware to the stamp of approval by Daimler's quality assurance." said Daniel Bruengger, Head of Automotive, Noser Engineering AG. "In close cooperation, the project was conducted in an agile way by progressively implementing the system based on customer feedback and requirements. This made it possible for AMG to influence the course of the project significantly, without causing delay."

Noser Engineering helps customers within the Automotive industry and other sectors implement projects successfully, develop products more efficiently and accelerate time-to -market. Noser Engineering's integrated approach draws upon expertise and experience from a range of technology areas, including Android™, Windows Phone 7/8, iOS, Embedded, .NET, Testing and Application Lifecycle Management.

RTT provides creative tradeshow concept for Rinspeed - The interactive microMAX experience.

Sharing Rinspeed´s passion to bring constant creative innovation to the automotive industry, RTT has developed an interactive approach for the Geneva Automobile Salon booth. This gives visitors individual access to the information about the microMAX concept they are looking for.

The interactive billboard shows a concept sketch of the microMAX that is tracked by a smartphone or tablet to show additional visuals and information. To achieve this, real images of the vehicles are overlaid with 3D models and concept sketches of the different use cases. Through the integrated app the user can switch between different utility vehicles, such as the London cab version or an airport shuttle. The concept for the app and the interactive billboard was developed by RTT and INSTNT.

As a strategic partner and forward thinker, RTT establishes new approaches to product development and marketing - from individual solutions all the way through to fully integrated process support. RTT understands 3D visualization not only as a technology, but as the medium for a new era of interdisciplinary, innovative visual communication through creativity, high-end software, and consulting.

RTT is an integrated provider of solutions and applies 3D visualization as a key technology, enabling companies to make the right decisions and to promote products early, reducing time to market massively. Right from the early design and development stages, 3D visualizations enable our clients to present photo-realistic products and to place them in an evocative setting before the product is on the market.

With the 3D data set, a wide range of marketing and sales tools can be immediately produced: product images, films, brochures, interactive event applications, websites, training materials and much more. There is no limit to imagination!

RTT is headquartered in Munich with offices in Stuttgart, Hamburg, Paris, Milan, Brussels, Los Angeles, Detroit, Sao Paulo, Shanghai and Tokyo. INSTNT develops interactive digital concepts and is located in Munich. Selected automotive customers: Audi, BMW, Daimler, Ferrari, Fiat, Ford, General Motors, Honda, Jaguar Land Rover, Lamborghini, Lexus, Mazda, Mini, Nissan, Opel, Porsche, Rolls-Royce, Toyota, Volkswagen, Volvo.

RWE offers charging solutions for environmentally sustainable mobility.

Electromobility is often perceived simply as a change in technology. However, it is also part of a value change, demonstrating the trend towards more sustainable travelling in the future. RWE Effizienz has the technologies and products to align businesses with this change. RWE is a supplier of smart charging infrastructure and IT services and offers intelligent eMobility solutions for cities, vehicle fleets and private users of electric vehicles. It operates one of Europe’s largest networks of public and private charging stations with 2,150 smart charging points for electric vehicles.

Successful metropolitan projects

RWE has acquired extensive eMobility know-how in metropolitan projects that were successfully carried out in Berlin and Amsterdam.

Berlin was one of the first cities where RWE ran pilot programmes with several leading automobile manufacturers. The city has the highest rate of electric vehicles in Germany, the biggest network of public charging infrastructure, and is also the biggest test field for eMobility in the country.

The city of Amsterdam believes that between now and 2015, the number of electric vehicles on its streets will rise to 10,000. One thousand new charging points are to be installed in public spaces over the next few years. Helping the city achieve this ambitious target is the Dutch energy supplier, Essent, owned by RWE. Essent has so far installed more than 200 new charging points in Amsterdam.

With an award winning eMobility strategy

2012, RWE Effizienz was awarded the European Electric Vehicle Charging Infrastructure Competitive Leadership Award by Frost & Sullivan. According to the Best Practices Research Report from Frost & Sullivan, RWE Effizienz is the only company in Europe to manufacture various types of charging station in-house, to install these stations in both public and residential spaces and operate them using a custom software solution as well as supply them with eco-electricity.

RWE Effizienz: who we are.

RWE Effizienz GmbH is a service provider for energy-efficient infrastructure and a subsidiary of RWE Deutschland. The company supports its customers in saving costs and protecting the environment. From e-mobility through distributed energy generation right up to the SmartHome" home automation system and the provision of energy consulting – RWE Effizienz is an expert in everything related to energy efficiency, setting new product standards by implementing innovative approaches. By providing information and education, the company is helping to increase public awareness of energy efficiency.

Strähle+Hess - Comfort, Luxury and Quality in Cars - We deliver the details.

Founded in 1926, Strähle+Hess began as a traditional manufacturer of knitted fabrics and has developed into a supplier of specialized, technical textiles for the automotive industry.

It now has approximately 200 employees in Althengstett, Bisingen and at its branch office in the USA, all focused on using their experience and know-how to create innovations. The company's product portfolio has been further expanded through the acquisition of the subsidiary Strähle+Hess Wirktechnik GmbH & Co. KG in Bisingen (formerly STING) at the end of 2012.

Based on current trend analyses, Strähle+Hess today develops innovative textile-based surface décors for its customers in the context of holistic material and design concepts. The processed textiles allow completely novel applications in automotive interiors.

In the Solutions operating unit we implement developments in noise absorption, tolerance compensation and seat anchoring systems as well as customized solutions. Strähle+Hess's customers include all of the renowned car manufacturers.

microMAX

A new kind of transportation demands new ideas for the interior, which do justice to the versatility and the tremendous feeling of space inherent in the microMAX.

The qualities of the 4-wheeled friend microMAX, which has ample room for each of the 4 passengers plus prams, buggies or shopping trolleys, speak for themselves. To provide the MicroMAX with the accompanying feel-good factor and lounge atmosphere demands a very special interior.

Strähle+Hess's product developers have therefore developed a special textile which meets the highest demands. It is a very light, versatile material with a high-quality appearance. The textile's light weight contributes to keeping the vehicle light, which in turn helps to extend the electric vehicle's range.

The two-sided material features an aluminum coating, which not only underlines its technical character, but which also has an effect. For example, it reflects rays of light thereby avoiding heat build-up in the interior space and, in the winter, keeping the warmth inside the car. The aluminum yarns have a reflective effect and can thus make the space appear bigger. The textile impresses by being crisp and uncomplicated but nevertheless does not seem cold, but warm and cozy.

The direction of the iridescent textile can be changed depending on the desired feeling of space - one side of the material has a twill optic, the other side a melange optic. Depending on the direction of the lines a greater feeling of space can be created across the breadth, the length or the height of the fitted-out vehicle.

With suitable illumination, the semi-transparency of the material allows the mood of the vehicle interior to change - e.g. from a homely atmosphere to a technical ambience.

The possibility of using the textiles and piping as modules ensures that soiled or worn parts can be exchanged using a click system. This is particularly advantageous when MicroMAX is used commercially.

We are delighted that Strähle+Hess's new developments can help to make MicroMAX what it is: your taxi, your bus - your car!

TRW - Innovative Safety Belts Start with Buckling Up.

Unusual upright seats and the foreseen short distance urban usage require adaption of the vehicle safety system. TRW has developed together with Rinspeed a completely new safety belt concept for the microMAX vehicle. Seatbelt buckle and tongue have been eliminated and replaced by a “webbing catcher”, that allows semi-automatic buckling up and off. This handling advantage offers an additional comfort feature that can demonstrate its benefits especially in short distance commuter vehicles to provide microMAX occupants their accustomed safety system.

The webbing catcher combines the well known, mature restraint function of modern safety belts with a not yet known comfort for buckling up and off. The simplified usage can further increase belt usage rates for short distance rides and in small commuter buses.

TRW Automotive, headquartered in Livonia, Michigan, USA, is among the world's largest automotive suppliers and one of the top financial performers in the industry. With 2011 sales of $16.2 billion TRW has over 60,000 employees working in more than 185 locations in 26 countries worldwide.

TRW's key products include:
- Access and Security Electronics
- Braking Systems
- Driver Assist Systems
- Engineered Fasteners
- Safety Electronics
- Steering & Suspension Systems
- Body Control Systems
- Commercial Steering Systems
- Engine Components
- Inflatable Restraint Systems
- Seat Belt Systems
- Steering Wheel Systems

TRW uses the term 'Cognitive Safety Systems' to describe how the company is raising the intelligence of vehicle safety systems. Cognitive Safety Systems can be defined in three key areas:

Advanced Thinking:
Helping to protect people: Our sensor, electronic, driver assistance and integrated systems are raising the intelligence of vehicles.

Smart Thinking:
Smart thinking is all about value: TRW is delivering enhanced value to make safety affordable for all - whether that's through modularity, integration or cost optimization.

Green Thinking:
Improved fuel efficiency and reduced emissions are global targets: Beyond powertrain, TRW offers a range of technologies to meet these goals.

Thuringian Center of Innovation in Mobility

The "Thuringian Center of Innovation in Mobility" (ThIMo) at the TU Ilmenau is beginning its initial cooperation with the renowned Swiss enterprise Rinspeed, which specializes in innovative concepts of mobility.

The "Thuringian Center of Innovation in Mobility" offers such research solutions for backing up and supporting the change to sustainable mobility.

It plans and designs cutting-edge ideas and provides research services in the following areas:
- Electromobility
- Enhanced Internal Combustion Engines
- Powertrain
- Lightweight Technology

For participating in the visionary space miracle "microMAX", the scientific competencies of the

departments plastics engineering, automotive engineering and industrial engineering of this renowned Thuringian university were included.

Electric mobility needs lightweight design – this key note of ThIMo was consistently put into use in the project. The specific properties of plastic based composites - high strength combined with low weight - were used purposefully. Besides the special suitability for structural lightweight design, these materials also perfectly fit the interior parts produced.

Individualized solutions require flexible production technologies - rapid prototyping is suitable for that. This future technology allows the direct transformation of the developed design of the light housing into a finished product.

Modularity in the automobile enables diversity in variants - in lively collaboration with Frank M. Rinderknecht, new ideas for adaptable solutions for a seat concept were generated. The result of the brainstorming is an attachable child seat.

By means of common scientific interests and analogous creative ideas for future mobility concepts, an excellent basis for a strategic commitment between the Ilmenau University of Technology and Rinspeed has been established.

Vollmond Advertising Agency

Advertising, Full Service, Creativity & Economic Efficiency:

As a full-service partner, the Vollmond Advertising Agency has been developing promotional communication solutions in the print and non-print area since 2004. We are proud of supporting Rinspeed in the areas of brand communication as well as print and online media.

Opinions are changing, designs are varying. Only one thing remains the same - advertising! Vollmond inspires and unites people with companies. We are convinced that success is measurable and we want to thank all our customers for being able to prove this every day.

Vollmond provides safe and honest advice, planning and implementation. Thanks to national and international experience, we demonstrate our ability in the areas of advertising, marketing, design, search engine optimization and programming over and over again by acting in a loyal and reliable manner.

Among our customers are renowned representatives of various economic sectors. We do not distinguish by the amount of the budget, but we are happy about every new challenge, about our customers' success and the good feeling of having achieved something. In dealing with our customers, we rely on the human touch, trust and reliability. This ensures a smooth process flow and provides optimal results.

In other words: each of us spares no effort to perform more than you expect - day after day. Take us at our word.

W.I.R.E. - The Think Tank for Business, Society and Life Sciences.

W.I.R.E. is an independent think tank in Switzerland, which engages with global developments in

trade and industry, society and the life sciences. Its aims are to consider critically our established ways of looking at things, to identify and clarify current trends, and to develop new concepts and ideas for the future. Based on an interdisciplinary approach to research, W.I.R.E. acts as a laboratory for the exchange of ideas and information between the worlds of academic theory and practical applications. It also provides a networking platform for players and thinkers from diverse spheres of activity and expertise.

Along with sponsorship from Bank Sarasin, the Collegium Helveticum of the ETH (Federal Technical University in Zurich) and the University of Zurich, W.I.R.E. enjoys the support of an international board of experts, pioneering thinkers and decision makers.

Zurich Insurance - Building communities of safer drivers.

At Zurich, we're constantly looking at our customers' changing needs and preferences, particularly around technology and the environment. That's why we're one of the only insurers to offer innovative products and services in these areas, such as our new ride-sharing app 'Zurich RideShare'.

Zurich RideShare aims to connect people with shared mobility needs. After registering, vehicle owners can enter their planned trips into the app to offer others a ride. People interested in a ride can search the trips already entered or request a ride by entering their own information. Drivers and riders whose journeys match can then get in touch with each other through the app to make the necessary arrangements.

Profiles, feedback and ratings within Zurich RideShare will enable community members to identify drivers and riders who meet their criteria. At the end of a journey riders can rate drivers on their perceived sense of security - creating a risk profile for the driver that future riders can view. Each driver's profile also includes details of their vehicle, so potential riders can draw conclusions on security, comfort and environmental impact.

The rating system should also incentivize safer driving as it enables the community to build and view a picture of each user in a similar way to the review mechanisms in place on Ricardo and Ebay. This will improve trust and credibility among users and encourage people to try it out.

It will also bring a variety of benefits to the Zurich Insurance customers as the profiles created by the Zurich RideShare community can lead to an insurance premium based on the way they drive. Through Zurich RideShare, demonstrating safe driving can be rewarded with lower car insurance premiums and other incentives. The app will also have benefits for our business in the form of greater retention and attraction of customers, cross-selling opportunities, and a new distribution channel for simple insurance products covering other risks of car sharing.

Tilman Hengevoss, Zurich's Head of Customer Experience & Segment Marketing, GI Marketing, is confident that the app has a lot to offer: "We believe the concept of 'intelligent mobility' has many benefits to customers and communities. By encouraging car-pooling we believe Zurich RideShare will cut traffic - reducing the chances of an accident and aiding the environment."

As we continue to build insurance products and services that lead the way in mobility, we remain excited about working closely with Frank Rinderknecht and Rinspeed. We seek to work with partners that are leading the way in innovation and helping us to understand our customers' future opportunities and risks.