Rinspeed combines Cars, Trains and the Web in a New Mobility Concept

“UC?” – Clever High-Tech Bubble with Electric Drive

“UC?” Is Likely the Only Car to Actually Drive at the Geneva Motor Show (March 4 - 14, 2010)

Filled with emotions and new ideas - that is the signature feature of the concept cars from Swiss car visionary Frank M. Rinderknecht that have added colorful bright spots to the Geneva Motor Show for many years. Rinspeed boss Rinderknecht always has a surprise up his sleeve and this year is no different. Once again he does what nobody would have expected from the whiz kid known in the past for his affinity for powerful machines: He’s building a subcompact car. But that’s not all: For the first time in the long history of its concept cars the Swiss automobile and concept powerhouse has developed not just a vehicle but an entire mobility concept. The cute two-seater with electric drive is aptly called the “UC?” which stands for “Urban Commuter.” But the biggest surprise is that the “UC?” was designed to be ready for future series production.

The little speedster measures less than 2.60 meters in length and is intended to help avoid gridlock in the inner cities. At the same time an advanced railcar loading system will add the option to cover long distances by train, comfortable, without traffic jams and stress-free.

The goal is to create a new mobility concept that integrates individual car ownership and public transportation. A transverse loading system using custom railcars allows loading and unloading of numerous “UC?” vehicles simultaneously and in a very short time. Train passages are booked and reserved online directly from the vehicle. Harman International provides the permanent 3G internet connection as well as marvelous sound on wheels. VoIP2Car technology provides IP telephone service, video chat, video conferences, e-mail and many more features in the “UC?”.

Integrated charging stations on board the custom railcars ensure that upon arrival at the destination the “UC?” battery is once again fully charged for maximum operating range. During the train trip drivers can visit the train restaurant, use any of the other train amenities or spend time in the privacy of their cars.

With this mobility concept Rinspeed elegantly circumvents the obstacle of limited operating range that so far has kept many interested parties from switching to zero-emission vehicles. As Frank M. Rinderknecht sees it: “I can make more efficient use of my time than spending it driving on a boring highway. I’d rather visit the train restaurant or retreat to work in my car.” The Swiss visionary is already in discussions with international railroad companies about his new mobility concept.

Anyone who lays eyes on the clever high-tech bubble for the first time is reminded of the Fiat ‘Topolino’ models from the ’30s to ’50s. This is loveable car design. Rinspeed boss Frank M. Rinderknecht: ““UC?” is a new and highly emotional web-based car world that interweaves individual and public transport in an intelligent way. We want to create a community of people who are open for a new definition of mobility.”

As in past years, the concept car was built by Swiss engineering company Esoro. The lightweight vehicle produces 130 Newton meters of torque, reaches a top speed of 120 km/h and has an operating range of 105 kilometers. That is more than enough for most traffic in urban areas. Statistics show that in Europe 82 percent of all trips cover distances of less than 60 kilometers - short-distance driving clearly represents the vast majority of all individual traffic.
The “UC?” also features a number of technical highlights: Goodbye steering wheel, hello force-feedback joystick. The new joystick technology is supplied by German electronics specialist Rafi. Rinderknecht says: “Forget everything you have learned about joysticks so far. Finally this system provides a better steering feel and clear feedback from the road.” The entire car is operated via Space Drive, a drive-by-wire system developed by Paravan, one of the leading manufacturers of handicap vehicles.

Rinspeed and its partners had to master numerous challenges surrounding the electric drive system: The lithium-ion batteries come from Li-Tec-Battery in Germany, a joint venture of Evonik and Daimler AG. The efficient and reliable on-board charger is supplied by specialist Absaar; the external stationary charger comes from ABB Séroton. Axo Holding is yet another energy company that partnered with Rinspeed on this project. The electric heater and sphere-shaped vents were installed by the specialists from Eberspächer. Rinspeed also received support from the consortium Swiss Coop, which promotes decisive action and zero-emission mobility, and from the power plants of the Canton of Zurich that provide electricity and the required infrastructure.

To save as much energy as possible the developers have placed highest priority on lightweight design: Ticona, one of the world’s leading manufacturers of engineering polymers, plays a major part in achieving this objective. The lightweight lift gate comes from Rehau, an OEM supplier for the automotive industry. The P7 Cinturato ‘Green Tires’ from Pirelli in size 195/40 R 17 are mounted on special lightweight rims from German-Austrian manufacturer AEZ. The delicate-looking rims weigh just 6.2 kilograms each. Eco-friendly lubricants are provided by Motorex.

And of course the electric “love bug” has a number of features that will stir up emotions: An immediate eye-catcher is the paint that changes color from yellow to green. The paint was supplied by Akzo Nobel, one of the world’s largest paint manufacturers. A new adhesive paint called “Stickerfix” is perfect for touching up minor cosmetic paint blemishes sustained on the road.

The jazzy leather interior including aluminum inlays and a custom leather suitcase for the roof come from specialist Sellner Group. VDO Continental Automotive has designed a new futuristic instrument cluster for the “UC?” The new cluster also houses a Swiss-made mechanical watch from Swiss premium manufacturer Carl F. Bucherer.

A beautiful crystal ‘tank lid’ from Swarovski covers the necessary 230-volt plug. A styled laser-cut coil filament embedded in the crystal lid serves as a battery charge indicator: red=empty, orange=half charged, green=fully charged. Rinspeed wants to change the electric drive’s image: The “E” signifying the electric drive isn’t shamefully hidden but displayed openly and proudly: “Look here, I drive with electric power”.

The “UC?” is designed to be available in several distinct versions: The “Ultimate Commuter” is the comfortable lifestyle vehicle for urban commuters. The vehicle of choice for pizza deliveries, mail carriers and workmen in general will be the “Unlimited Commuter.” The experts from renowned A.T. Kearney Consultants designed the modular production strategy to ensure that the car will be built as cost efficient as possible. The ultimate goal is to serve many different types of use and configuration variations: It will take just three days to build an electric car. There is a good chance the “UC?” will enter series production. The concept is designed be easily adapted and integrated by volume manufacturers. Intensive dialogues at the highest levels are already well underway.

At the Geneva Motor Show 2010 Frank M. Rinderknecht demonstrates clearly how serious he is when it comes to mobility: While the other jewels of individual mobility develop flat spots in their tires on the various show stands, the globular “UC?” will turn in laps on a track covered with artificial fur from Sibu Design. Rinspeed guests can relax in a comfortable lounge furnished by Xmobil. HD displays from Sharp will feature high-def information about the “UC?” Every successful presentation relies on perfectly printed material: Fotorotar prints all “UC?” press kits and
Swiss Made - Esoro

Frank M. Rinderknecht used highly advanced technology and a Swiss-based network of top automotive specialists for his project. So the Rinspeed “UC?” fits perfectly to Esoro’s motto: engineered by Esoro - What you dream is what you get. For the eleventh time the Swiss engineering company Esoro was hired to serve as general contractor for the entire project. Esoro was responsible for project management, implementation of new technologies, engineering, rendering, design and the manufacturing of the Rinspeed “UC?”.

Esoro realized the Rinspeed “UC?” with the help of its competent suppliers. Starting with initial concepts, it took the highly skilled development team just three months to realize the entire project. For 19 years now, Esoro has been a contract developer of concept vehicles, components and products with main focus on lightweight construction, alternative drive trains 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.

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, strong orthotropic Finite Element Analysis and crash simulation. Another recent development from Esoro is the new 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. The tailgate of the actual Smart Fortwo - the first serial produced E-LFT-component - was produced over 300'000 times since 2007 and received the JEC Innovation Automotive Award 2008.

Furthermore another production process for niche markets, like high performance cars, trucks and caravans is now under development at Esoro. The new and patented process called Melt Embossing offers the possibility to produce high-end thermoplastic composite parts with low initial invest for structural and semi-structural applications.

Since the company was founded, Esoro has been working intensively in the field of conception, implementation and tests of alternative and optimized vehicle 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, hybrid and fuel cell drives. The Rinspeed “UC?” proves impressively this competence using cutting edge technology.

Efficient solutions for the development of our sustainable le mobility - ABB powers electric vehicles on rail and road - ABB powering the railways

ABB is a global supplier of leading-edge technology for the rail industry. With a long history of providing reliable and innovative solutions, ABB has demonstrated superior capabilities in manufacturing the full scope of subsystems and components which are part of urban, inter-city and high-speed rail systems. ABB’s portfolio includes traction equipment (converters, motors, transformers), low voltage components, semiconductors, auxiliary converters and battery chargers for rolling stock applications and complete trackside traction power supply systems, medium voltage switchgear, signaling, control and communication for rail infrastructure.
ABB powering road electric vehicles: ABB develops efficient components and systems to charge road electric vehicles. It commits itself: towards the electric vehicle driver - enabling safe recharging at the required speed towards utilities and infrastructure providers, - providing integrated and smart charging solutions towards the environment, - reducing CO2 emissions, - enhancing sustainability in the development of E-Mobility.

Charging stations: Alternating current based charging stations offer: Standard charging: 230V plug (10A/16A) charging time approximately 2 hours per 50 km (depending on vehicle), fast charging: 400V plug (32A) charging time approximately 20 minutes per 50 km (depending on vehicle). Direct current based fast and ultrafast charging systems are under development. These solutions will allow charging of electric cars within the shortest possible time - similar to a conventional 'fuel stop'.

Powerful grids: Increasing the number of electric vehicles will increase the load on electric grids. Future “Smart Grids” will need to embed intelligent charging management in order to enable country-wide electric mobility that does not destabilize the grid.

**Charging the future: The company Absaar, from Altförweiler in Germany, manufactures battery recharging devices for the entire motor vehicle sector, true to its motto of “the recharging company”**

Absaar can be proud of the fact that they have been developing this field for the past 40 years and are amongst the few companies that in this day and age still produce "Quality made in Germany".

Over the last 4 decades, they have manufactured hundreds of different models covering all the different requirements of the consumer and professional user, regardless of whether it was for the motorcycle, automobile, bus, truck, boat or any other sector. Absaar can provide the right model for each application.

For Absaar, "Quality made in Germany" isn't just a slogan. Absaar offers the qualitative opposite of the cheap products of lower quality that flood the market nowadays.

Components as well as the actual chargers are all manufactured in Altförweiler from high-quality raw materials. Absaar produces almost 100% of the components used in the charger itself, whether it be the rubber feet, the plastic housing or even the transformers. Even the tiny needles on the ampere meter are produced in-house.

Absaar didn’t only make a simple standard charger for the "Rinspeed UC?" the internal development department was also responsible for the development of a highly-innovative Lithium-Ion charger. This charger reduces charging time significantly whilst still meeting all relevant safety standards for this battery type.

At the same time, Absaar let it be known that it would foster this development to reduce even further the charging time on this type of battery.

The optimization and perfection of charging time is one of the most important goals for future progress, and thanks to their high energy absorption capacity, Lithium-Ion batteries offer far more possibilities than traditional lead-acid batteries.

This innovation, the constant strides forward made in further development plus investment in its own development department, are the reasons why Absaar is still ranked as a market leader after forty years in battery charging technology.
Aget together for concerning automotive future - At Rinspeed and AEZ interests go hand in hand

AEZ and Rinspeed - at this year’s Geneva Motor Show their relationship finally develops into a story of success. This is as the Austria producer of light-alloy wheels and the Swiss car manufacturer are cooperating with each other for the fourth year in a row. This time AEZ has contributed the eye-catching 17-inch “forged motorsport blank” wheels to the UC? mobility concept. They impress with their cool graphite-colored coating and front-polishing, 32 graceful spokes and above all with their exceedingly low weight of six kilograms per alloy.

Both companies share a pronounced interest in innovation. This cooperation provides positive synergy effects. A modern electric vehicle like the “UC?” in particular profits from the tireless work of the AEZ technicians in weight optimization. This pursuit for perfection is, of course, also reflected in the product range: for example AEZ offers the models Nemesis, Forge A and Xylo with the newly developed Lite tec weight reduction technology. The outstanding quality of all alloys is guaranteed by the in-house production in Germany.

Environmentally-friendliness is the catchphrase of the moment in the automobile industry. Studies by Rinspeed show however, that sustainable car construction is not just an empty phrase taken out of marketing manuals. This was also underlined by the previous models eXasis, sQuba and the iChange, which each demonstrated an economically sensible move. AEZ is proud that it has been able to make an important contribution towards the realization of each of these visions with its “Made in Germany” quality light-alloy wheels. Many more cooperative projects with innovative ideas may follow.

AkzoNobel showcases StickerFix repair system at Geneva Motor Show

AkzoNobel Car Refinishes has teamed up with specialty concept car producer Rinspeed to integrate its innovative StickerFix repair system into the Swiss firm’s UC? car, which is due to be shown for the first time at the 80th Geneva Motor Show in March.

StickerFix is a modern, high quality adhesive DIY repair system which uses patented AkzoNobel paint technology in combination with a specially developed vinyl sticker. The system makes it possible for owners to quickly and easily repair minor nicks and scratches by simply applying the ultra-thin adhesive foil over damaged sections of their vehicle.

The UC? - which signifies both “Urban Commuter” and “You See?” - is a lightweight two-seater electric urban commuter car with a top speed of 110 kilometers per hour and an operating range of 120 kilometers. It has been painted with AkzoNobel’s fully compliant premium line of Sikkens products. Both companies will be sharing display space at the Geneva event.

Explained Phil Coady, AkzoNobel Car Refinishes’ Director of Marketing Europe, Middle East and Africa: “StickerFix is a truly unique concept for the vehicle repair market around the world. What distinguishes StickerFix is the combination of modern innovative technology with outstanding performance and simple DIY application properties. It gives vehicle owners a completely new way to keep their vehicles looking their best, with custom color-matched stickers that are practically invisible. The marketing campaign slogan concisely expresses the product concept: Easier than easy.”

StickerFix - which can be applied to damaged areas or used for protective purposes - has been extensively tested and meets demanding standards for adhesion, car wash and steam cleaning resistance, as well as resistance to salt
spray, stone chips, gasoline and weathering. It has proven superior to touch-up pens in real-life tests, has excellent shelf-life and can be easily removed from a vehicle by applying heat with a normal hairdryer. The product is also highly sustainable, unlike touch-up pens, as no volatile organic solvents are released during the application.

AkzoNobel is proud to be one of the world’s leading industrial companies. Based in Amsterdam, the Netherlands, we make and supply a wide range of paints, coatings and specialty chemicals - 2008 revenue totaled €15.4 billion. In fact, we are the largest global paints and coatings company. As a major producer of specialty chemicals we supply industries worldwide with quality ingredients for life’s essentials. We think about the future, but act in the present. We’re passionate about introducing new ideas and developing sustainable answers for our customers. That’s why our 60,000 employees - who are based in more than 80 countries - are committed to excellence and delivering Tomorrow’s Answers Today.

AkzoNobel Car Refinishes is one of the world’s leading suppliers of paints and services for the car repair, commercial vehicles and automotive plastics markets. It sells coatings for car body refinishing, or recoating, to customers including bodyshops, distributors, fleet owners, automotive suppliers and major bus and truck producers. Brands include Sikkens, Lesonal, Dynacoat, Wanda, and Sikkens Autocoat BT. Operating in more than 60 countries, Car Refinishes has specialists around the world who understand local markets and can serve local needs. Its state-of-the-art customer services, color and technology solutions include offering technical and logistical support and the delivery of training programs.

The three-day electric car - A.T. Kearney has been developing a flexible production concept for the Rinspeed "UC?"

Leading management consultancy A.T. Kearney has developed a production concept for the "Rinspeed UC?" concept vehicle which was demonstrated today at the 80th International Motor Show in Geneva. With this concept, the core manufacturing time is reduced to a mere three hours and delivery can be made just three days after an order has been placed. The innovative "UC?" commuter vehicle is the centerpiece of a mobility concept developed by Rinspeed together with 21 partner firms. The vehicle itself is an electric car developed on the basis of the Fiat 500. When creating the manufacturing concept, the A.T. Kearney experts focused on strict modularity in the vehicle construction and on an innovative production configurator.

As A.T. Kearney Global Automotive Partner Niko Soellner points out: "When we were developing the production concept for the "Rinspeed UC?", we concentrated on customers' requirements and took as our motto "individual and fast". We regard the production as a rapid connection between the customer's needs on the one hand and the economic success of the manufacturer on the other."

Modular design and simple vehicle configuration: The modular design of the vehicle means that manufacturing complexity is avoided right from the outset. A.T. Kearney Automotive Principal Steffen Gänzle explains: "Through the use of modules, maximum configuration combinations are achieved with a minimum number of components. As a result, the production processes are manageable and transparent for both manufacturer and customer."

An innovative product configurator is used to determine the feasibility of the customer's construction and production wishes. The customer selects configuration modules on the basis of a large number of combinations, which are realized with a range of production modules. Only in this way can the continuity and consistency of the module concept be assured.

Carl F. Bucherer manufacture movement featured in UC?
The concept cars of Frank M. Rinderknecht are the work of an individual who goes his own way, undeterred - much like Carl F. Bucherer, the founder of the Lucerne-based watch making company of the same name. For company CEO Thomas Morf, this was a reason for supporting his latest project: “Once again, the “UC?” stands for change, forward-looking technology and passion on a grand scale. It’s this wealth of new, innovative ideas and concepts that makes Rinspeed so fascinating”. Perhaps even more important, though, is the philosophy shared by Carl F. Bucherer and Rinspeed: that of taking sophisticated technology, first-class materials and unconventional design, and distilling them into conceptually compelling products that exude innovation and progress.

The fact Rinspeed and Carl F. Bucherer share a common philosophy and work actively together is evidenced by the UC?’s interior. The dashboard is transparent and integrates a painstakingly skeletonized Carl F. Bucherer-manufactured movement. To show off the components in this mechanical gem to their best advantage, the movement is housed in a Plexiglas case without a dial. The time - in hours and minutes - is indicated by the hands characteristic of the Patravi collection. At the same time, the movement embodies the credo that underlies the UC?: first-class Swiss quality and innovation coupled with an unending quest for perfection.

Carl F. Bucherer is an independent, worldwide distributed watch brand that stands for high-level technological innovation and a contemporary aesthetic. Carl F. Bucherer has strengthened its market position as a premium-segment watch manufacturer by establishing Carl F. Bucherer Technologies SA in Sainte-Croix, a workshop specializing in research, development and the manufacture of in-house movements, and by launching its own CFB A1000 movement. This features the first reliable peripheral rotor, thus combining the aesthetic appeal of a hand-wound movement with the convenience of automatic winding.

For eco-friendly mobility: the ”Urban Commuter” concept - Rinspeed picks up the pace together with Coop

Coop is supporting the Swiss concept powerhouse Rinspeed in its latest project: the eco-friendly ”Urban Commuter” concept embodies modern living combined with active environmental protection. It combines an emission-free electric car for urban transport with a public transport system for longer distances. The world premiere of this mobility concept of the future will be at the 80th Geneva Motor Show (4 - 14 March 2010). Afterwards, the Urban Commuter will be going on tour, where people can discover it at various Coop shopping centers.

Personal mobility is a firm part of our everyday lives. Many customers go shopping in their cars. That’s why Coop considers shopping traffic and transport to be highly important. Coop is committed to ensuring that consumption leaves a smaller footprint. It goes without saying that transport is a key issue here. With the ”Urban Commuter” concept, Rinspeed is taking a bold and creative approach. The idea of an electric car that can run short distances independently and docks onto a train for long distances is highly convincing. Although it will take some time for this idea to become a reality, Rinspeed and Coop are aiming to initiate a discussion and to encourage people to think about things in a new way. After all, where would we be now if we had failed to take all of history’s great inventors seriously...?

A relaxed journey from Basel to Geneva: The ”Urban Commuter” is based on an innovative concept. The idea is to load the electric car onto Swiss trains for longer distances. Thanks to rail transport, both the environment and drivers’ nerves will be spared. This means that, in future, you will be able to travel comfortably to another part of the country and still be mobile when you arrive.

Powerful innovation driver: Over 20 years ago, when many people still found the idea of organic products a joke,
Die Agentur is a full service Ad Agency with it's main office in Saarbrücken

Die Agentur develops integral communication solutions. The service includes everything from classic communication and design to photography and interactive applications. We further expanded with the establishment of our In-House film production, called Movie Division.

Clear, straight to the point and exceptional communication is our philosophy. Therefore, it is self-evident that an innovative customer, such as Rinspeed is attended is to with great care enthusiasm and passion.

Die Agentur is responsible for the entire Rinspeed communication. This includes web design, PR for the new concept car, the production of an image film, a making-of also the presentation on the motor show in Geneva 2010.

Die Agentur has both national and international clients. Names like Samsonite, BMW, O’Neil, Rinspeed, Coca-Cola and Bertelsmann/Mohn speak for themselves. Die Agentur has currently 30 employees.

About Dynamedion

Dynamedion was founded in 2001 by Tilman Sillescu and Pierre Langer, two composers with university degrees in music. With a steadily increasing number of contracts and growing customer base it has since become the leader in soundtrack composition and sound design on the continental European computer game market.

Our creative unit consists of professional musicians and composers, all of whom can draw on a rich and diverse background of experience. What’s more, Dynamedion can tap into a network of carefully selected partners (orchestrators, audio engineers, solo artists, orchestra musicians) available to provide flexible and reliable assistance, as needed.

Over recent years, Dynamedion has worked on over 250 projects in the video game, TV and film industry and has been showered with numerous prizes and music awards. In 2003, 2005, 2006 and 2007 some of the team’s compositions were performed live at the opening concert of the Games Convention in Leipzig, Germany - Dynamedions game music has been featured on classic radio stations, in a huge variety of TV documentaries and within the “Play!” concert series all over the world.

In 2005 Dynamedion produced highly successful, first benchmark live orchestra recordings for a German game soundtrack, setting the standard for large-scale projects in the industry. With numerous further orchestral productions for the video game industry, Dynamedion has earned itself a reputation for unsurpassed quality and integrity in this area.

End of the "ice age" for electric cars - Eberspächer catem delivers innovative heating system for UC?

The charming £ runabout also features an innovative heating system: the high-voltage PTC heater from
Eberspächer catem manages the high voltage of 300 V typical for electric vehicles while simultaneously delivering impressive performance. This provides Frank Rinderknecht with an elegant solution for the “heating problem” that is common with this type of drive. Like all electric vehicles, the UC? requires an auxiliary heater to compensate for the absence of waste heat from a conventional combustion engine. An output of 5 kilowatts ensures the PTC heater can heat up very quickly, as much as 60 degrees Celsius in 30 seconds. Thanks to the electronic control - via PWM, LIN or CAN - heat output is infinitely variable between zero and 100 percent. That means the interior will be comfortably warm very quickly even on cold days and that heavily iced windows will thaw quickly. As long as the UC? is charging its drive battery, the device can also be used as a park heating. The efficiency is about 99 percent. Highlight is: The devices are capable of working with high vehicle voltages of up to 500 volts in electric, hybrid, and fuel cell vehicles. Multiple electrical insulation up to 2000 volts and a reinforced insulation assembly ensure compliance with the highest safety standards. Thanks to the compact design and the low overall weight of just 1.8 to 2.5 kilograms the heaters fit even in very small vehicles such as the UC?. High-voltage air heaters can provide fast heat and are recommended for entirely electric vehicles such as the UC?. High-voltage water heaters are offered for more complex electric. Since they are connected to the cooling circuit, they can use the waste heat from the combustion engine in hybrids or the energy from the fuel cell during startup for heat. This also makes it possible to heat up the sensitive drive battery in winter and cool it in summer.

EKZ commit themselves to the area of electro mobility

As one of the largest energy companies in Switzerland the EKZ (Elektizitätswerke des Kantons Zürich) have committed themselves to the area of electro mobility. The goal of this commitment is to help energy efficient vehicles to achieve a breakthrough. One thing is clear: the electric car will run on the product about which we have gathered extensive know-how over many, many years. In addition, not only do the EKZ provide almost one million people with electricity, they also support sparing use of energy and promote measures to increase energy efficiency and reduce CO2 emissions. Electric cars fit perfectly with these goals.

The EKZ have already included several electric cars in their own fleet of vehicles and test them constantly in practical situations. The results from these test operations are also passed on to their customers. In addition, last year the EKZ took the first step towards setting up a public charging infrastructure: twelve new charging stations in canton Zurich ensure that the batteries of electric cars can be recharged along the way. At home too, the EKZ support the owners of electric cars with their know-how in all questions related to power connections for cars. They help, for example, with the choice of the correct socket to ensure the battery is charged in the most efficient way.

Electric cars will only make the breakthrough when they have a far greater range thanks to new battery technology and an affordable price. Another important aspect to be taken into consideration is that the cars also have an emotional appeal and fascinate prospective buyers. What could be better then, than working together with Rinspeed. With its concept cars that never fail to astonish and surprise the company has succeeded like no other in combining emotional appeal with a visionary concept of mobility, innovative drives and sustainability. This year concept powerhouse Rinspeed presents not just a new electric car, but with the ‘UC?’ an entire mobility concept for the future. The EKZ are pleased to be able to give the project added energy with a charging station.

Harman International Automotive Division presents the newest Infotainment and Audio Technology in the Rinspeed “UC?”

Modular architecture enables individually tailored solutions, Innovative Flash HMI ensures maximum user comfort, Harman Kardon GreenEdge sound system unites uncompromised sound reproduction with low-level energy
Harman International reveals the future of mobile infotainment and communication technology in the Rinspeed “UC?” concept car. The centerpiece of the powerful system is Harman’s new scalable infotainment platform that offers maximum connectivity with fast Internet access and excellent user comfort. Another highlight of the concept car is the ground-breaking revolutionary high-performance GreenEdge sound system from Harman Kardon - an innovative technical solution that fulfills the objective of uncompromised sound quality while offering maximum energy efficiency. In addition, innovative HALOsonic technology generates custom tailored engine sound in and out of the otherwise almost completely silent electric car to ensure safety as well as an authentic driving experience.

Visions of excellent Connectivity with Maximum User Comfort: The “UC?” has powerful broadband access to the Internet. For example, the driver has the possibility, to check out his complete travel for road and rail and can online book his train tickets - all while on the move. All functions may be voice controlled to ensure both a safe and informed driving experience. Furthermore, the system allows access to a virtual media storage solution, so that the passengers could access their remote personal data at any time. In addition, one of the USB interfaces could be used to connect smartphones, enabling their applications to be reproduced on the display. The scalable, high-performance infotainment platform also supports further communication channels, like Internet radio as well as social networks.

In addition, an environmentally responsible navigation system is enabled by a unique routing algorithm that intelligently calculates the most energy efficient route.

Specially Adapted Harman Kardon GreenEdge Sound System: To ensure the best possible entertainment while on the move, the “UC?” includes a high-performance HarmanKardon GreenEdge sound system: the GreenEdge sound system, which is specially adapted for the Rinspeed “UC”, requires far less energy than conventional systems. The optimum combination of low current demand, light weight materials and custom designed high-efficiency amplifiers and sound transducers ensures maximum energy efficiency, while at the same time producing uncompromised authentic sound reproduction with amazing dynamic range.

HALOsonic - Sound Synthesis Ensures Safety and Driving Pleasure: The electronically generated engine sounds are a revolutionary advanced feature of the “UC?”: Two high-efficiency speakers - specifically developed for the exterior of the car - are used to play back the dynamic engine sounds generated by the ESS algorithm. Pedestrians, children at play or cyclists who wouldn’t normally notice the almost silent “UC?” without the external ESS, can now be made aware that a car is approaching by means of synthetic “engine sounds”.

In parallel, the internal engine sound synthesis is generated within the “UC?” via the Harman Kardon GreenEdge audio system; establishing the familiar link for passengers between the tactile, visual and auditory driving experience.

**hiwave.net Mobile Communication**

Hiwave was established 2005 as first system house for Proximity and Bluetooth Marketing in D/A/CH. The Berlin-located telecommunication company offers turnkey-solutions for integrated Mobile Marketing, Bluetooth, NFC, WLAN, Tagging, Couponing, and Digital Signage. Hiwave’s Content- and Campaign Management Software hiwave.net CCMS is the first platform independent AdServer for Proximity Marketing and mobile user tracking. Hiwave creates mobile content, manages ad-planning of Mobile Marketing campaigns, and integrates Mobile
Marketing and Digital Signage systems.

Proximity Marketing: Proximity Marketing is digital Mobile Marketing via cost-free short distance wireless standards. Advertisers deploy Proximity Marketing hotspots as innovative, and cost-effective customer-care and service channel. Individual and customized mobile contents like vouchers, entertainment, and product information, are sent directly to the local target-groups. This way of Mobile Marketing leads to a much higher brand evolvement with additional viral effects. Bluetooth is the most popular short distance wireless standard with more than 80 percent prevalence in D/A/CH and EMEA.

Deployment areas: Proximity Marketing is deployed in out-of-home media like city-light-displays, on fairs, exhibitions, congresses, at shopping centers, cinemas, sport and event stadiums, at airports and railway stations - wherever your target-group is present. Proximity Marketing can be integrated in image marketing, interactive marketing campaigns, and sales promotions at any point-of-contact.


Hiwave References: Audi, BECK'S, Burger King, Coca-Cola, Deutsche Telekom, EA Electronic Arts, Eastpak, Fiat, Goodyear, McKinsey, Mercedes-Benz, Metro, Mini, Opel, Porsche, ProSieben, Red Bull, Sony Pictures, Swisscom, T-Mobile, Telefónica o2 Germany, Wall AG.

Li-Tec Cerio motive battery powers UC?

Li-Tec’s high-tech accumulator cell is qualified for mass production and combines outstanding properties with it’s unique Cerio technology. It is based on the special combination of ceramic materials and high-molecular ion conductors. This grants the Li-Tec cells all-time superior properties. Cerio technology which has been developed for Formula One is based on the ceramic Separion separator and sets standards for cycle stability, rated power and safety. Moreover, the compact design of the Li-Tec cells allows for high energy density at low weight.

Core to the Cerio technology is the ceramic high performance separator Separion. The separator membrane is very thin and extremely heat resistant. The innovative separator reliably separates anode and cathode and prevents a dangerous inner short circuit. With the world-wide unique ceramic Cerio accumulator technology powerful energy storage systems are designed for a broad spectrum of advanced applications. Li-Tec’s high-tech battery cells are the only mass produced cells with the ceramic Separion high performance separator and Litarion electrodes from Evonik.

Li-Tec Battery GmbH - a Joint Venture of Evonik Industries AG (50.1%) and Daimler AG (49.9%) - develops, produces and markets large-scale lithium ion battery cells for automotive applications and battery systems for industrial and stationary applications.

Powerful lithium ion batteries are the most promising solutions for future mobile energy supply. In this forward-looking alliance the Chemistry Know-how of Evonik partners with the automotive competence of Daimler.

With ongoing investments and consequent expansion Li-Tec meets the dynamic market needs. Three-digit million Euros have been invested so far and further investments have been kicked-off by the share holders recently. In 2011, several million battery cells will be mass produced in the integrated production Verbund in Kamenz/Saxony near Dresden. Both Evonik and Daimler are committed to growth and Li-Tec’s high-end technology and will ensure a competitive and leading market position.
Sustainable mobility concepts correspond to real-life. With Rinspeed’s UC? innovation and high-tech match prevailing needs.

**Motorex supplies „green“ know-how for Rinspeed UC**

Switzerland’s biggest lubricant producer Motorex supports the latest concept car project from Rinspeed with a lot of technical know-how in lubricants and greases. The Goal of this partnership is to make the vehicle „pollution free“ not only in the engine, but also with the lubricants and greases.

After the successful cooperation for the world’s first diving car sQuba and last year’s project iChange, the Motorex specialists have again put together a very special lubricant plan for the UC. Motorex has made all the lubricants and greases in use rapidly biodegradable.

Frank M. Rinderknecht states: „Because we have used a zero emission engine, it was very clear to us from the beginning that we wanted to minimize the pollution in every aspect. With Motorex, we have a partner that has the Know-how and is able to address our specific demands. Furthermore, they have already supported us optimally in the development of the sQuba and the iChange in the same area.

Manuel Gerber, Marketing Director at Motorex: “Every year, the partnership with Rinspeed is a perfect opportunity to explore the different routes of development in our market. Although the UC features an electric engine which does not need any motor oil, it was an interesting challenge on all the other lubricants and fluids used. At the same time, it was another possibility for us to prove our readiness for the future, our innovation-power and our flexibility. We could profit from our years of experience in rapidly biodegradable products in many different areas of applications.

**Paravan contributes exclusive high-end innovations to UC project**

SpaceDrive system of Baden-Württemberg vehicle adaptation expert Paravan navigates its way into UC project of Swiss entrepreneur Frank Rinderknecht.

The German company has led the field in special-purpose vehicle adaptation for years, having earned a reputation for its hands-on approach to customizing vehicles to the individual needs of motorists with a caring regard for their physical restrictions.

A revolutionary product developed by Paravan is now also making an entrance in Rinspeed’s UC project. The product in question is the multiple award-winning drive-by-wire SpaceDrive system. SpaceDrive is a vehicle control system which uses electronic and digital input devices, one example of which is a joystick. Indeed, it is the latter device which is used in the UC.

The UC is driven by means of its unique four-way joystick control system which works in a similar way to that operated by a jet pilot.

The joystick communicates via two CPUs and an interface with the car. In order to perfect the driver’s handling of the vehicle and to provide feedback on the driving characteristics, the joystick is what is known as a force-feedback device which, like a steering wheel, gives the operator information about the road and driving performance.

To add the finishing touches to the picture of an innovative and future-oriented car, the UC has been fitted with control units which enable simple pushbutton control of all the secondary functions in the vehicle interior, such as windscreen wipers, horn, etc.

The collaboration between Paravan and Rinspeed can be summed up quite simply by the slogan of Roland Arnold, Director of Paravan GmbH, which is “For a perfect mobility worldwide”.
Pirelli is to continue its cooperation as a technology partner with Rinspeed in 2010 too

After successful cooperation as the exclusive tyre partner for the Rinspeed "sQuba" in 2008 and the "iChange" in the preceding year, Pirelli is proud to be, once again in 2010, the technology partner for a new and exciting Rinspeed world premiere: the Rinspeed "UC - Urban Commuter", whose excellent ground contact is guaranteed by the environmentally-friendly Cinturato P7 195/40 R17 tyres, a dimension that has been specifically designed for this vehicle model.

With the "UC", Rinspeed is making a bold statement for a new era in the automobile world: an emissions-free car which further reduces its energy consumption thanks to its smaller size and lighter weight. As an innovative technology partner, today Pirelli already complies with the environmental guidelines of tomorrow, and in doing so, neatly punctuates both parties' image transfer.

Cinturato Pirelli - first environmentally-friendly tyres up to 18": One year after the hugely successful debut of the Cinturato P7 with properties ranging through environmental protection, safety and high performance, as well as a reduction in fuel consumption and pollutant emissions, these are proof that Pirelli is taking a giant leap in the right direction with its groundbreaking Green Performance.

Rafi GmbH & Co. KG - The Rinspeed Partner at the Man-Machine Interface

As a specialist for input solutions, Rafi contributes with the controls as well as the driver’s station including steering wheel, roof and door operation and the joystick for the "UC Urban Commuter" project. Input solutions in the automotive sector have been a main pillar of the south-west German company Rafi GmbH & Co. KG for many years.

At the Ravensburg site, Rafi formed a team of dedicated experts from the disciplines of input and data processing technology, design and ergonomics as well as production technology for the automotive field as early as in the eighties. Trend-setting steering wheel multi-function units and input landscapes with the associated electronic systems for absolutely reliable solutions are developed here - for passenger cars, commercial vehicles, rail vehicles and watercrafts. Rafi’s innovative power is based on long-term experience in the development and manufacture of ever more complex input components and the integration of different disciplines of knowledge to form an engineering team. Rafi covers the complete development and production process. Rafi conducts fundamental research for new switching and material technologies. The development of circuitry and software is done at the parent site in Ravensburg just as the 2D and 3D design of simple components and complex control landscapes. The degree of inhouse production ranges from complete mechanical production, single-colour and multi-colour plastic injection moulding and sheet metal processing to screen printing and pad printing in various colour spaces.

Rafi performs automatic assembly in large volumes and manual assembly of SMD and THT components and uses all common soldering processes. Automatic functional testing guarantees absolute reliability of all components, which is particularly important in the vehicle manufacturing sector. Rafi has been certified to DIN/ISO 9001:2000, to the special automotive standard ISO/TS 16949: 2002 and the medical engineering standard EN ISO 13485.

High-Performance lightweight construction reaches new dimensions - Rehau presents all-polymer tailgate

For the world premiere of the “Rinspeed UC?” Rehau, the renowned development partner, presents a new dimension in high-performance lightweight construction - an all-polymer tailgate with integrated inner structural element made of thermoplastic high-performance fiber composite materials. The new concept from the globally active polymer specialist based in the town of Rehau, in Germany’s Upper Franconia, promises up to 30 percent less weight than conventional tailgates and thus opens up new perspectives for efficient electro-mobility.

Rehau developed the manufacturing process itself, breaking new ground in increasing the energy efficiency of cars. Weight reduction with complete functional integration is the motto. “Thermoplastic high-performance composite materials are attractive by virtue of their properties, their functionality and their ultimate cost effectiveness for use in vehicles driven by alternative sources of energy”, explains Dr. Franz Kind, Head of Automotive R+D. Structural elements of both the drive systems and bodies of electrically driven cars could be mass-produced at considerably
less expense. This is why Rehau makes the ideal development partner and systems supplier for renowned car manufacturers and electro-mobility pioneers such as Rinspeed.

The polymer tailgate is intended to make its debut on the “UC?”. A structural element entirely made of thermoplastics with extra fiber reinforcement in critical areas. Other components, such as spoilers or rear windows, are bonded on with ease. “We have reached a point at which series production applications can be readily brought to fruition - commercially viable and sustainably energy efficient”, declares the Head of R+D, in conclusion. “That’s exactly what the future will be all about.”

True beauty comes from within

The Sellner Group is one of the world's leading suppliers of innovative surface finishes for the interior of premium class vehicles to the automotive industry. Our product spectrum ranges from trim items finished in wood, aluminium, carbon and lacquer, technical textiles, injection moulded plastics for support and functional items through to the application of leather to surfaces. We are therefore able to offer complete solutions from one single source. The Sellner Group employs more than 2100 employees at 14 different locations worldwide and achieves sales revenue of 270 million euro. Our customers include BMW, Mercedes Benz, Porsche and Audi as well as major Tier 1 suppliers.

Our design department constantly strives to stay one step ahead which requires innovation and experience in equal measure, this combined with the passion to always make something a little better. The trained eye of our designers can spot current trend developments in many places: at trade fairs, in magazines, on the Internet, in market analyses or simply on the street. Here are the sources of many valuable ideas which, in a suitable form, are applied to our design concepts. Current notions, new insights and innovative procedures are discussed in workshops. Our designers use computer graphics to visualize the results of the workshops and, with the support of design technicians, develop new surface finishes in metal, wood and leather. With the abundance of ideas and possibilities available within our group we can support customers who may have only a vague concept of how the surface finish of their future products should appear. However, our design team is also the ideal partner for the realization of explicit decor requirements and for the reproduction of master samples.

Frog seeks driver : This could also be the motto for our interior concept for the UC?. The interior of the UC? uses well known materials in new combinations: extravagantly decorated aluminium flashes below high quality, expertly worked leather. Two valuable materials that could not be more different from each other fuse together in an exciting composition. The flowing contours of the interior are completely covered in green nappa leather: not even the foot well has been left out, decorated with an impressive diamond design it demonstrates a further use for this fine material. The highlights can be found on the doors and the instrument panel: here cool aluminium contrasts with warm yellow leather. The banded design is a dynamic combination which results in the interior reflecting the sportiness of the compact UC?.

Sharp - Official multimedia partner for Rinspeed

Rinspeed, the renowned Swiss car and concept forge, is collaborating for the sixth time in a row with Sharp, one of the world's largest technology companies, this time on the new concept car "UC?". An extraordinary concept deserves an extraordinary presentation. And as always, Sharp provides this through a number of the latest full HD LCD TVs (with full LED backlight) which will bring the ideas and properties that are behind this new concept car even closer to the viewer - pin sharp and in a colour brilliance that has never before been seen. At the same time, the new LCD television sets in the Aquos LED series with full LED backlight technology are particularly energy-saving.

Sharp globally: The company, which has more than 54,000 employees all over the world, is active in nearly all electronics sectors and offers a huge range of products. Since the company was founded in 1912, innovation has been an integral component of our corporate philosophy. Correspondingly, the company's name, Sharp, is derived from our first major invention made in 1915, the "Ever Sharp Pencil", the world's first mechanical pencil. Today, we are one of the leading manufacturers of digital information technologies. Among other things, Sharp counts among
the leaders in the production of LCD flat-screen TVs and solar panels, two sectors that have been attracting particular attention for some time already.

LCD technology is inextricably linked with the name of Sharp: Since 1973, when Sharp produced the first LCD pocket calculator, the company has been playing a leading role in liquid crystal displays. Recently, the technology company introduced the two new Aquos LCD TV series LE700E and LE600E with full LED backlight. At a power consumption of less than 100 Watt at 52 inches in home mode, Sharp thus presents LCD TVs with the lowest energy consumption in the world. In addition, Sharp’s full LED backlight features extremely high contrast ratios of more than 2,000,000:1, an even more natural colour reproduction as well as a uniform display illumination of more than 90 percent.

Sharp solar technology: Sharp can look back on almost 50 years of experience with solar energy and is the world’s driving force for the increased and environmentally friendly use of photovoltaics. Apart from mono-, poly- and microcrystalline solar cells and solar modules, the company also manufactures light concentrators. In addition to three module manufacturing plants in Japan and one in Tennessee/USA, solar power modules have been manufactured for the European market in the Welsh town of Wrexham/Great Britain since 2004. Furthermore, the solar pioneer is buying glass and silicon for the production of cells and modules in Europe and is collaborating with partners in setting up solar power plants.

“UC?” trade fair stand - made by Sibu Design

The realization of the unusual “UC?” trade fair stand for the Geneva Motor Show 2010 constitutes the first joint project between Rinspeed and Sibu Design.

Austria-based Sibu Design can look back on 25 years of branch experience as a manufacturer of patterned sheets and today enjoys icon status. Its products represent a benchmark for exclusive interior design worldwide and have been employed in numerous leading projects in the areas of display window concepts, trade fair and shop design. To name but a few, Etienne Aigner, Palmers, Armani Casa, H&M and Prada have all used Sibu Design sheets for their interiors.

The stand in Geneva, which has more than 200m², is the first to be entirely fitted with fake fur flooring and the lounge-like, elegant Pelo Savanna design is certain to prove an optical highlight. Moreover, Sibu Design sheets with graffiti themes also serve to underline the urban mobility of the vehicle of display. Lastly, Cristal Rombo Bianco is used as a wall decoration in the lounge area and thus lends this model project a final touch of class.

Ticona supplies lightweight plastics for the Rinspeed UC? concept car

Ticona, the technical polymers business of the Celanese Corporation, produces and markets a broad range of engineering polymers for applications in automotive construction. For the new UC? electric car from Rinspeed, Ticona has supplied so-called Celstran tapes with PP honeycomb; these tapes ensure stability as lightweight sandwich layers in trunks and battery housings. The Celstran tapes are particularly notable for their low weight, high degree of stiffness and toughness as well as environmentally friendly processing and excellent recyclability.

Innovations in electric mobility would be virtually impossible without the use of engineering plastics. The development of more durable and safer membranes for use in lithium-ion batteries has been an important topic in the automotive industry for years. But numerous other less talked-about components are indispensable in the production of economical and ecological drive solutions. Metallic materials often do not have the properties required. Ticona has the right materials available for every type of electric drive; for example components for automatic start-stop systems that considerably reduce the fuel consumption of micro-hybrid vehicles in city traffic, sensor elements for various applications or DC converters for full hybrid solutions.

Ticona also provides a comprehensive line of engineering thermoplastics for classic automotive construction applications. Door locks, airbags or fuel pumps - Ticona makes production more economical, the final product more durable and processing easier and safer.
Ticona generated sales of $1.06 billion in the 2008 business year. The company has approximately 2,000 employees worldwide and operates production, compounding and research facilities in the USA, Germany, Brazil and China.

**VDO - Continental - Mobility thought through**

Continental, was founded in 1871 in Hanover, Germany, is able to look back over a hugely successful past. In the firm’s history that stretches over almost 130 years, the company has brought individual mobility onto the street and has initiated, fostered and accompanied the launch of numerous technical developments. Today, Continental as an automobile supplier is ranked in the top five worldwide and second in Europe.

But individual mobility is now facing its greatest upheaval since the invention of automobiles. With their know-how, technology and products, Continental is best positioned to help decisively fashion the automobile sector’s major trends in safety, environment, information and affordable vehicles. The company forges the mobility concept of the future through six divisions: tyre and breaking systems, powertrain and chassis components, as well as with instrumentation and infotainment solutions.

"Always On" - the vision of the Interior division: In the interior division, Continental bundles together all activities that deal with information management, including the processing, prioritising and presentation of information in vehicles. The vehicle driver should at all times have the accurate, requested and necessary information available to him or her. The Interior division develops its work so successfully that is has become a world-market leader in the fields of instrumentation, telematics systems, tachographs and bodywork electronics.

Driver information - emotionally displayed: For the Rinspeed “UC?” E-Car, Continental has created a unique information terminal under the VDO brand name. As an interface between man and machine it collects together all the important vehicle data, processes it and places the correctly prioritised and precisely accurate information obtained at the disposal of the user.

Achieving a reduction in the information flood to the absolute basics took on utmost priority during development. The goal is to unburden the user as far as possible whilst leading him or her safely and quickly through the ever-growing volume of traffic.

Apart from the clarity of the information system, it was also important to Continental’s Swiss design and development team to represent the factual, neutral data streams via an instrument which would support and enhance an emotional experience in the interior of the vehicle.

**About Voip2Car**

The Swiss company Voip2Car AG is bringing the World Wide Web to the car without any limits. The new system offers all of the benefits and functionalities of a fast internet connection: drivers can now chat with their families, friends and business partners at neutral cost or hold IP calls and video calls while they are on the move.

Telephone and video conferences involving several business partners simultaneously can be connected with ease using Voip2Car. As well as the extensive telephone functions which even allow you, for example, to block business partners who you do not wish to speak to using caller recognition or to instantly redirect important calls, Voip2Car also offers a whole host of functionalities which have not previously been available to people on the move. Fast surfing on the internet and the retrieval and sending of e-mails or SMS are just a small fraction of the extensive functions which are now possible with ease from the comfort of your car thanks to Voip2Car.

All functions are available quickly and easily on Voip2Car itself via a user-friendly interface which has an attractive design. Thanks to Voip2Car, now anybody really can also enjoy fast internet access with IP telephony and all of the associated amenities from the comfort of their car.

**Exclusive lounge furniture on the Rinspeed stand**
As a long-term partner of Rinspeed, Xmobil Design+Marketing GmbH frequently provides its innovative contribution for the configuration of the interior of the concept cars and the fair stand.

For this year’s UC? Xmobil was mainly acting as a designer of the lounge area of the booth stand. A seating scenery composed by modular elements creates a cosy meeting atmosphere inviting the guest to stay. A shapely designer couch creates an additional relaxing effect with a shell resting only on a central point and thus creating an imagination of floating in the air. This feeling is intensified by its massage function having effect on the entire couch. After all, the exterior cover of the UC? is a product of Xmobil.

Since the foundation of Xmobil Design + Marketing GmbH in 1997 by Christian Grübl the company has extended and diversified its development and product program continuously. Xmobil is mainly acting as an independent marketing and development partner of well-known European manufacturers and suppliers in the automotive and furniture industry.

The following material and products from the base of Xmobil’s services: Leather, artificial leather, technical and fashion fabrics and a combination of these materials.

Leather fittings, seat covers, seating systems, floor mats in textile, velour, rubber or a combination of these materials, protective covers (indoor, outdoor, transport, presentation), accessories and lifestyle products. High-quality furniture, wall and floor panels for different areas.

Xmobil runs three offices in Germany: The headquarter is located at the lake of Tegernsee south of Munich, branch offices are located in Lorsche and Düsseldorf.