

Help from above!

Fit for the Future with SNOWsat

sn^owsat®

Learn more about the
SNOWsat technology
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The leap into the park sector

Kässbohrer Geländefahrzeug AG and Schneestern entered a partnership back in October 2013, the magnitude of which was wholly unprecedented within the snow park sector. The partnership is intended to foster common values like creativity, professionalism and responsibility.



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FROM GREEN TO BLUE – 360° approach

BLUEIQ is Kässbohrer Geländefahrzeug AG's corporate philosophy for a responsible future. We are tackling the challenges of tomorrow.



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PistenBully 600 Select – a worthwhile investment

Ski resort operators recognise the excellent price-performance ratio of the almost new PistenBully 600 Select. Bergbahnen Meran 2000 and Reuttener Seilbahnen report on their experiences.



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Eco-SnowDrive

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PistenBully biathlon center

Kässbohrer Geländefahrzeug AG
is supporting the center in
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At work in the heart of New York

PistenBully 100 prepares
for Winter Jam.
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Jens Rottmair, CEO Kässbohrer Geländefahrzeug AG

Thinking of tomorrow, today

While skiers and snowboarders may still be looking forward to the final days of skiing in the warm spring sunshine and to beautiful hard-packed pistes, it's time for you as a ski resort operator to start thinking about the forthcoming summer review. The necessary maintenance and service work on your PistenBully should be carried out in the next few weeks. We are more than happy to assist you and also offer appropriate training.

We have signed a partnership agreement with Schneestern OHG that includes joint handling of snow park business, as well as technical refinement of the ParkBully. Schneestern has been a professional supplier of snow parks, snow park equipment and events since 1999 and is market leader in this field. You will also find a sneak preview of some highlights to expect from our presentation at Mountain Planet (formerly SAM) in Grenoble.

From conviction we at PistenBully have always combined environmental aspects with economic advantages for our customer. As the logical next step, the GREENIQ environmental technology now becomes BLUEIQ, PistenBully's integrated corporate philosophy for a responsible future. Last winter in particular has shown us how important a commitment to economical resource management will be in ski resorts in the future – SNOWsat is our response to that.

We also share some feedback from Ehrwalder Almbahn, after we went along on a site visit with our partner Eco-SnowDrive.

We are hosting our 5th AfterWork-Party on 13th to 15th May 2014. We cannot wait to see you already. We are all in the thick of preparations for the coming season. Nevertheless, we wish you a relaxing summer break!

With kindest regards,

Your Jens Rottmair
Chief Executive Officer Kässbohrer Geländefahrzeug AG

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Technologies for the snow of tomorrow

PistenBully at Mountain Planet in Grenoble 



Kässbohrer Geländefahrzeug AG is presenting itself as pioneer of alternative drive technologies at France's most important trade fair for the winter technology industry. Intelligent technologies of tomorrow – available today as standard.

Technology leader with innovation potential

In addition to model highlights, Kässbohrer Geländefahrzeug AG is once again demonstrating its innovative potential in Grenoble as technology leader. With the PistenBully 600 E+, the world's only diesel-electric snow groomer in alpine use, the PistenBully 400 Park, the new PistenBully 600 SCR with winch and a PistenBully 600 Select, Kässbohrer is showcasing a broad range from its model portfolio.

The PistenBully 600 E+ with diesel-electric drive offers the best of two systems. This engine technology consumes up to 20 % less fuel and emits less CO₂. Alternative drive technologies – for the environment, power and cost-effectiveness.

Visitors to the trade fair can find out all about PistenBully 600 Select – nearly new PistenBully 600. PistenBully Select are young PistenBully 600 that are serviced in line with the strictest Kässbohrer quality standards and come with lots of attractive extra services. Read more on this in our detailed article on page 21.

From information to interaction

An individual workstation with the PistenBully 600's new iTerminal gives trade fair visitors a chance to get to know the new display and to see what they think of the terminal's intuitive controls. The new iTerminal displays the full operating status of the PistenBully on the start page: a 3D display of the vehicle uses symbols to show at a glance whether the tiller is on or not, for example. The iTerminal is currently installed as standard on the SCR vehicles PistenBully 600 and PistenBully 600 Polar.

SNOWsat – now also available for third-party vehicles

Kässbohrer Geländefahrzeug AG has also been offering SNOWsat for third-party vehicles from this season. This has given ski resort operators the chance to install the slope and fleet management system in all their fleet vehicles regardless of manufacturer. Networked snow grooming thanks to wireless communication technology provides effective support for the ski resort operators' economic decisions. For efficient and profitable fleet management! SNOWsat has been put to extremely successful use this season by Engelberg / Titlis and by Bergbahnen Flumserberg, and the system continues to set standards in terms of reliability, user-friendliness and technology. In addition to the two Swiss ski resorts, another customer who has chosen the innovative technology from Kässbohrer is the Bayerische Zugspitzbahn.

The partner of Kässbohrer Geländefahrzeug AG – Schneestern OHG – will also be represented on the Kässbohrer stand to talk about its fun park and event consulting services.

Award for sustainability in snow grooming

The Trophée de l'Eco-Damage will also be presented once again at Mountain Planet 2014. This trophy is awarded to significant initiatives that promote sustainability in snow grooming and is organised by Kässbohrer E.S.E. France in cooperation with the Mountain Riders Association.

Development of the SAM trade fair

The SAM trade fair has been held in Grenoble since 1974. Experts in development and technology in mountain regions, for summer and winter resorts, come together every two years. In honour of its 40th anniversary SAM is becoming MOUNTAIN PLANET. The new branding symbolises the new orientation of the trade fair: internationality plus the use of alpine technologies in summer and urban environments. Mountain Planet 2014 will take place from 23rd to 25th April in Grenoble. You will find us in aisle 5, Stand 501. For more info on the trade fair go to

www.mountain-planet.com



The leap into the park sector

Partnership between Kässbohrer
Geländefahrzeug AG
and Schneestern



Kässbohrer and Schneestern entered a partnership back in October 2013, the magnitude of which was wholly unprecedented within the snow park sector.

The partnership is intended to foster common values like creativity, professionalism and responsibility, but the aim above all is to make it easier to work in the snow. There will no longer be any limits on the ingenuity of both companies in the future thanks to joint development of new products and mutual support for projects of all sizes. This was clearly evident with the first joint project, the "Stubai Prime Park Sessions", in November 2013.

The prototype of the PistenBully 400 Park Pro had its debut on the Stubai Glacier shaping a Slopestyle course, which the world's best free skiers and snowboarders used to prepare for the Olympic Games in Sochi. As set-up can be customised to athletes' needs so quickly thanks to the new Park Pro functions, it's not just the athletes who have great fun and perfect training conditions, because the shapers can also let off steam to their heart's content.

"The Park Pro is simply cool and only requires a brief familiarisation process. You can steer so precisely especially with the joysticks that I can make every obstacle a work of art", reports Schneestern Headshaper Michael Sonnenberger with a broad grin on his face. "The new ParkBlade alone has so many new functions in addition to back blading that kickers almost seem to sharpen themselves. Then there's more power for dozing work and a mega sound system – so you hardly want to get out again!"

However, it's not just Schneestern staff and projects that benefit from Kässbohrer's support. Schneestern's strong identification with action sport and the know-how it has gained as a result now flow directly into product development for the PistenBully.

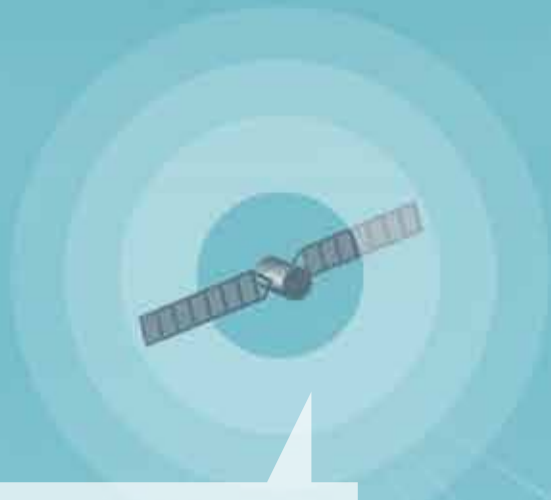
It will be exciting to see how the bundled innovative strength, professional expertise and creativity of both firms will have a positive impact on the further development of snow park products, and which projects will be realised in partnership in the future.



You will find further information at www.schneestern.com

snOWsat[®]

Professional slope and
fleet management



The position is determined using three satellites – in addition to the pure GPS measurement, the local SNOWsat base station, the optional SNOWsat repeater and the GLONASS satellite system (in future also GALILEO) are used as well.

The water supply for producing artificial snow has already been exhausted in the neighbouring ski resort, because the snow there is not produced on a needs-oriented basis.

A good feeling knowing that all vehicles can be retrofitted with SNOWsat at any time. The software too can be updated later wholly as needed.



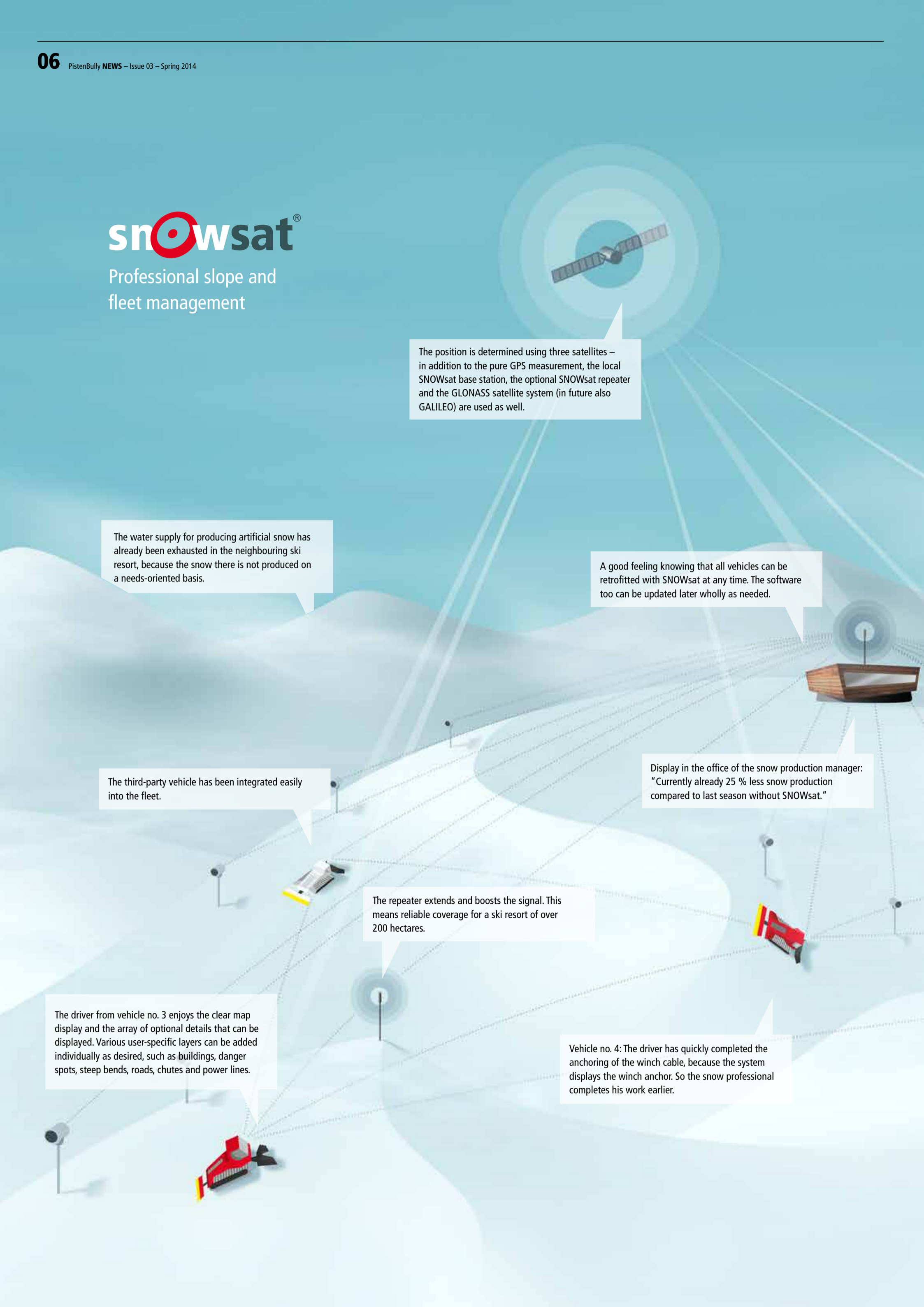
The third-party vehicle has been integrated easily into the fleet.

Display in the office of the snow production manager: "Currently already 25 % less snow production compared to last season without SNOWsat."

The repeater extends and boosts the signal. This means reliable coverage for a ski resort of over 200 hectares.

The driver from vehicle no. 3 enjoys the clear map display and the array of optional details that can be displayed. Various user-specific layers can be added individually as desired, such as buildings, danger spots, steep bends, roads, chutes and power lines.

Vehicle no. 4: The driver has quickly completed the anchoring of the winch cable, because the system displays the winch anchor. So the snow professional completes his work earlier.



Help from above!

Fit for the Future with SNOWsat

SNOWsat is the future-oriented system for professional snow and fleet management. It takes account of climate change, which has also required a change in thinking in the ski industry. Intelligent and environmentally sustainable solutions are the order of the hour, because the snow line is retreating ever higher. Many ski resorts already have to rely heavily on artificial snow production. For that reason it is no surprise that water and power consumption has become the number one cost driver.

Sustainable concepts have an astonishingly fast positive impact on the environment, however, and bring economic advantages for the ski resorts at the same time. SNOWsat combines intelligent snow depth measurement with snow grooming to ensure that exactly the right amount of snow is produced. The strategic coordination of all snow groomers also reduces the time needed for grooming and petrol consumption, while safety and the measurability of performance increase.

How does SNOWsat measure snow depth?

The current position of the snow groomer is continually plotted to an accuracy of two to three centimetres. The value that results after deducting the vehicle height is compared with the reference depth of a digital terrain model stored in the system. The displayed difference between these two values is the snow depth at the vehicle position in question.

Current measured depth
Upper snow edge
Reference height ground



Vehicle no. 12 reports: "No satellite signal detected behind the mountain!" No worries! The system from Trimble compensates for the missing positioning signals and, thus, facilitates coverage of over 98% even in topologically difficult terrain with narrow runs, wooded areas and along rock faces.

Vehicle no. 5 greets vehicle no. 1 in good spirits: "Good morning!"

The newly trained driver of vehicle no. 7 is pleased: "It is much easier to use than expected and is so intuitive to work out."

Snow gun reports: "The desired snow volume has been produced in the assigned sector; snow production has been stopped."

Vehicle no. 2 displays in the cockpit: "Warning, you are now leaving the slope markings!"

SNOWsat

Fit for the future!

The cutting-edge snow and fleet management system brings advantages for all



Operations managers

Profitability

- Operating costs reduced by approx. 20 %
- Longer season; skiing is possible with a snow covering of just 15 cm
- Operating data recorded for statistical evaluations, optimisation and cost accounting
- Costs reduced thanks to economical technology (water, energy, ...)
- Stable operating costs facilitate profitability

Fleet management

- Improved management also during staff changes and training
- Efficient fleet management thanks to user-friendly software

Service

- Proven PistenBully service in close proximity to customers
- Training and induction for staff aimed at different target groups
- Advice and support from planning and design through to commissioning
- Continual refinement of the system with the customer
- Can be expanded retrospectively, also with third-party vehicles



Workshop foremen

Fleet management

- Display and evaluation of all vehicle data
- Vehicles and material only used as needed, which means economical use of resources
- Fewer breakdowns, repairs and services
- Easy to retrofit, also in third-party vehicles
- Fewer operating hours



Drivers

Snow quality

- Grooming precisely to plan and as needed
- Live display in the cockpit of snow depths, groomed slopes, snow guns, anchor points, winch cable and slope boundaries
- Live display of the position of other vehicles and already groomed slopes
- Snow depth display, in real-time with accuracy of +/- 3 cm

Communication

- Reliable and fast data transfer between vehicle and control point
- Improved team management and driver support

Safety

- Live display of the position of other vehicles and the cables of winch vehicles
- Positioning of your own vehicle to an accuracy of one metre
- Easy orientation around the terrain in all weather and visibility conditions
- Display of obstacles and danger zones
- Warning in the vehicle if the connection to the base station is lost or the vehicle enters a danger zone
- Operating conditions can be reviewed, e.g. in the event of legal issues



Slope managers

Slope quality

- Reduction in snow production by up to 25 %
- Snow production and grooming only as needed
- Maintain a full snow covering thanks to snow depth information

Fleet management & profitability

- Evaluation of all information for snow production, vehicle fleet and snow grooming
- Integration of the snow guns in the system
- Basis for decision-making on the use of snow-making installations
- More efficient deployment of vehicle fleet
- Reduction in driving time of snow groomers

Communication

- Information transfer and communication with all participants in the ski resort
- Improved team management and driver support



Environment

Sustainability

- Substantial saving potential for water and power for the snow-making installations
- Reduction in fuel consumption and, thus, reduced pollutant emissions
- Avoidance of ground disturbance
- Environmentally responsible business as a USP for the customer



A responsible future

*based on customers' experience in the field and may vary depending on location of use.

Innovation award for SNOWsat



SNOWsat has been given an award in the category of "Industry & Services" for its management system for snow grooming and artificial snow deployment after taking part for the first time in the French innovation award Trophées Cap'Tronic. This nomination honours the "remarkable" innovation through the introduction of "electronic and software solutions" represented by the GPS solution integrated in the PistenBully.

Snow depth measurement – a powerful tool for optimising snow production

As a pioneer in GPS-guided snow groomers, SNOWsat has been developing management solutions for snow groomer fleets for more than ten years. These solutions not only enable operators to locate their snow groomers and analyse vehicle parameters (engine speed, idle time, winch use etc.), but also to display the status of the groomed and non-groomed slopes, or to view a general overview of all the data for the day/week etc. Furthermore, the SNOWsat flagship facilitates reliable and accurate measurement of changes in snow depth across an entire ski resort. The captured data are particularly useful for ski resort operators if they are interested in making savings, minimising environmental impact and conserving natural resources.

The data supplied by SNOWsat enable operators to produce an homogeneous snow covering at night and to adapt their snow production to actual need, i.e. to produce "exactly the right amount of snow" at "exactly the right place". This results not only in savings in terms of machine hours in the amount of 8 %, but also in much lower consumption of water and power.

Unique measuring accuracy

The system screen integrated in the cockpit displays a real-time cartographic picture of the slopes, which is created from position and depth data calculated using GPS with millimetre accuracy. The collated data are compared with the ski resort's reference cartographic picture. The snow depth under the vehicle is calculated in real time from the height difference. A powerful inertial navigation system corrects the projection of the GPS position, which deviates because of the steep incline and, thus, facilitates accuracy of 5 cm in measuring the depth of the snow covering.

A growth of 100 % over the next two years

As a subsidiary of Kässbohrer E.S.E., SNOWsat has installed over a hundred systems to date in 9 countries (Europe and USA). Sales are projected in an additional 25 ski resorts over the next two years.

The Cap'Tronic programme

The aim of the Cap'Tronic programme is to assist French companies to increase their competitive edge through electronic and software solutions. Out of more than 40 projects submitted for the seventh year of the Trophées Cap'Tronic, the jury members chose 12 from companies that have demonstrated particular innovation.

The Cap'Tronic programme has been run by the "JESSICA France" association since 1999, which was created with financial assistance from the Ministry for the Economy.

Reacting to growing demand The SNOWsat Team is growing



Stefan Lux, lead manager for SNOWsat worldwide

Successes require growth. That's why Kässbohrer Geländefahrzeug AG has expanded its SNOWsat team.

Overall responsibility for the SNOWsat system worldwide has been in the hands of Stefan Lux at the headquarters in Laupheim since 2014-04-01s. He is supported by Sabrina Nusser, who coordinates the organisational processes. A highly qualified team were employed in the Development department in Laupheim to create the vehicle system and the ski resort infrastructure. To do this, the Development team in Laupheim work hand-in-hand with the 8 staff members of the Kässbohrer subsidiary in France, who are responsible for software development and service.

Mazzetta & Menegon Partner AG from the Swiss town of Untervaz, which is responsible for service in Switzerland with its 11 members of staff, has been an integral part of the team since the start of 2013.

As a further reinforcement for the SNOWsat team, engineer Christian Paar switched from Service in the Austrian subsidiary to SNOWsat and is responsible for Sales and Service for Austria and South Tyrol.

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Ski resorts who are using SNOWsat



SNOWsat in practice

Interview: Three managers in the snow

They defy icy temperatures and pursue their work with passion: Michel Frison-Roche, Director of the Régie des Saisies ski resort near Albertville, Christian Reverbel, Deputy Director of the SATA tourism company (Alpe d'Huez) and Stephan Schelbli, Operations Manager of Titlis Bergbahnen. Nobody knows more about the mountain hares and the snow groomers than these three. So PistenBully News has asked them about their initial experience with SNOWsat.

PistenBully News: Thank you for taking this time to talk to us. Let's turn our thoughts straight to the Alps: What are the particular challenges that you are currently facing in your ski resorts?



La Régie des Saisies, Operations Manager Michel Frison-Roche

Michel Frison-Roche: In contrast to many other French ski resorts we can count ourselves lucky: we are even expanding! This year we've added around 7 km of slopes. Our snow-making systems have had to be expanded continually as a result, so that we can guarantee the consistent quality of the slopes. That's the only way to equip ourselves as best we can for extreme situations caused by the climate.

PistenBully News: Climate change plays a central role in all planning then?

Christian Reverbel: Naturally it is a major concern for us that there is less snow every year. For our staff this means an increasing challenge to maintain the snow covering and to achieve the slope quality that our guests have come to expect.

Stephan Schelbli: Lower-lying ski resorts are disappearing just as the glaciers are. We cannot escape climate change unfortunately. That's why we're investing 10 million euros over the next 5 years in upgrading snow production. I believe it is worth it: skier days with us at Titlis are actually increasing.

PistenBully News: Is this huge investment really necessary to continue meeting the demands of skiers?

Christian Reverbel: For me our figures confirm it: guests only come back when we can offer them good snow quality every day, regardless of what the weather's doing. For this reason, we have focussed on a system that delivers seamless reporting on the work of our snow groomers and snow-making installations.

PistenBully News: That goes some way to answering our next question: Why did you decide to invest in SNOWsat?

Michel Frison-Roche: Our fleet is made up 100 % of PistenBully. When Kässbohrer took over SNOWsat and developed new software, it was logical for us to stay with this supplier.

Stephan Schelbli: For us it was our snow management partner Mazzetta & Menegon, who emphatically recommended SNOWsat.

Christian Reverbel: Because of the possibility of optimising artificial snow production. We were also impressed by the bonus of safety in bad weather conditions and everything to do with the winch cables and the fleet management with all its advantages.

Michel Frison-Roche: The finely-tuned snow management was also an argument for me as a director. I also felt the reduction in water and power costs to produce artificial snow was urgently needed.

PistenBully News: The environment should also profit from such economic considerations.

Michel Frison-Roche: Definitely, because all in all it's about using resources economically. When SNOWsat reduces fuel consumption, for example, that improves the ski resort's carbon footprint.

Christian Reverbel: For us there were also a few other things: the networking and analysis tools were expected to make fleet management more efficient. We also wanted to offer our drivers increased safety in conditions of poor visibility.

Michel Frison-Roche: Yes, SNOWsat's mapping of the whole terrain is really useful. That was also a criterion in our decision in Les Saisies.

PistenBully News: You all now have your first season with SNOWsat behind you. What has the system meant for your ski resorts specifically?

Stephan Schelbli: We have been able to plan more precisely and work more efficiently as a result. That applies to the snow-making installations just as much as to terrain corrections. Now we have optimum snow production and the snow always lies where it is supposed to lie.

Michel Frison-Roche: In this regard we have been very pleased with the evaluation of operating data: thanks to SNOWsat, we can foresee the abrasion zones on the slopes and tackle these promptly with artificial snow. Precise snow grooming plans have increased the efficiency of snow management overall. Apart from that, we are pleased that we can now guarantee sufficient snow depth throughout the whole season.

Christian Reverbel: We have had very similar experiences. I have already mentioned the difficulty of snow grooming in poor visibility. Now we have been able to hit two snow grouse with one stone so to speak (laughs) thanks to the display of slope boundaries and the position of the other vehicles: the drivers are working more safely and grooming is more needs-oriented.

PistenBully News: Which brings us to profitability. Do you already have exact figures for the savings you have made with SNOWsat?

Michel Frison-Roche: No, we are still missing some crucial feedback for reliable figures. It's definitely true that we have seen an optimisation effect on several levels, but for precise measurement data I'll have to ask that you come back to me in two to three seasons.

PistenBully News: We will take you at your word! And how is the saving effect looking in Switzerland?

Stephan Schelbli: At Titlis we have put a few figures together already. Fuel consumption for the fleet has fallen by 15 percent, and driving time for snow grooming has fallen from 8 to 7 hours per night.



SATA, Operations Manager Christian Reverbel

Christian Reverbel: That is a really good sign! Unfortunately though, I have to agree with Mr Frison-Roche for the moment: we don't have proper figures yet. However, we expect a clear optimisation in snow production from the V3 system, once the data connections are set up between SNOWsat and the control point for the snow-making installations.

PistenBully News: How has it been for the people working directly with the system? Has anything changed for your drivers because of SNOWsat?

Michel Frison-Roche: Well, SNOWsat was a touchy subject initially, because the drivers were worried that they were primarily being monitored. But they quickly realised the value of this system in the fog.

Christian Reverbel: Interesting that it was just the same for you! Our drivers also mistrusted the GPS in the beginning. They are now using it gladly though to plot their routes or to detect the position of other snow groomers. Of course a seamless communication network is a form of monitoring; but above all it means safety for the slope team.

Stephan Schelbli: With regard to safety: our drivers found that they could find anchor points during snow grooming much more quickly with SNOWsat.

Press reviews

Schwäbische Zeitung, Seilbahn International and Mountainmanager report on the advantages of SNOWsat

Schwäbische Zeitung, 2014-03-06

Snow is gold – Kässbohrer develops snow depth measuring system

Kässbohrer is expanding snow depth measurement as a strong line of business – Ski resorts can make huge savings on their operating costs

Garmisch-Classic relies on the SNOWsat system from Kässbohrer Geländefahrzeug AG in Laupheim.

... Formerly, the men in the ski resort of Garmisch-Classic would feed long drills into the snow to determine where the snow covering was deep and where it was shallow. That was laborious and imprecise. Today they switch on a GPS device. It informs the drivers how deep the snow is beneath the tracks of the snow groomer with an accuracy of one centimetre. "That is definitely a major help", says snow groomer driver Christian Edenhofer. Thanks to the data produced, drivers now know exactly how much snow they must shift from one place – where there is a lot of snow – to another place – where there is little snow.

That is called snow management and saves on time for the drivers, fuel for the snow groomers, exhaust gases for the environment, and a lot of money for the ski resorts... Snow guns are only used where there is little snow. And also only for as long as needed.

Anton Ostler, who has been responsible for snow production in Garmisch since 1990, tested SNOWsat during the 2012/2013 season. He was immediately convinced of its benefits. "I can already see that I need to deploy snow before the dirt appears", says Ostler. Conversely, we no longer leave any piles of snow unused either. Previously he would often only notice where large piles of snow were located in the spring when the slopes thawed. "Once gone, you won't find the snow again for the whole winter", says the snow manager. That's hard cash melting away under your nose.

In warm winters like these snow managers need strong nerves: without replenishment it is all the harder to distribute snow effectively... Systems like SNOWsat are becoming almost indispensable for ski resorts. "The system has saved us this year", believes Edenhofer. "We are still skiing on the base layer of snow here." Now he can also improve the slopes with less snow. Skiers would always expect optimum conditions.

"Snow management is not the only thing that SNOWsat can deliver, however", says engineer Christian Paar, who is responsible for the sale and installation of the system in Austria. The system can transmit far more data to the central control point as needed, such as current location. This enables managers to deploy their fleet more effectively. In addition, the system provides information on vehicle data like engine speed, the tensile force of the winch or alarms.

Business is booming. Kässbohrer has tapped into another market with SNOWsat, and with excellent prospects. "In five years a system like SNOWsat will be available in almost every ski resort", says Paar. Ski resorts can no longer cope without snow management... SNOWsat can boast of being the only one to offer snow management in real-time so to speak. "The others estimate where the snow lies. We know where it is", says Paar. Kässbohrer already has offices all over the world.

Si – Seilbahnen International, 2014-02

Kässbohrer: Snow depth measurement now also available for third-party vehicles

SNOWsat – One for all

Kässbohrer Geländefahrzeug AG is now also offering SNOWsat for third-party vehicles, giving ski resort operators the chance to install the slope and fleet management system in all their fleet vehicles regardless of manufacturer.

SNOWsat has been put to extremely successful use this season by Engelberg / Titlis and by Bergbahnen Flumserberg, and the system continues to set standards in terms of reliability, user-friendliness and technology. Thanks to the winter's poor snowfall, SNOWsat has already become indispensable for skiers in these areas, ensuring the slopes are optimally groomed with the scarce resources available.

... with efficient snow management it will be possible to calculate how much snow a resort will need for the whole season.

I.e. naturally not too little, but not too much either – just enough in fact as is needed; wildly producing snow out of a "fear" of having too little will be a thing of the past.

MOUNTAIN MANAGER, 2014-02

Optimum snow management at Titlis

The unusual weather conditions this winter have clearly shown how important accurate snow/slope management is for smooth ski operations. In the Engelberg/Titlis ski resort they rely on the SNOWsat system from Kässbohrer

To attract guests and to remain attractive even in bad weather conditions, Bergbahnen Titlis has invested in the SNOWsat system from Kässbohrer Geländefahrzeug AG. This system has now been installed over a hundred times in 9 different countries and delivers precise snow grooming and effective fleet management.

Latest technology

The SNOWsat system, which has been continually refined and optimized since its market launch in 2012, is based on the latest technology. This means it can meet future requirements and be upgraded without having to be replaced.

PistenBully News: Is there any feedback from your workshop foremen?

Michel Frison-Roche: The increased safety was also apparent there: the regular display checks help us with preventative maintenance and improve service planning.



Titlis Bergbahnen, Operations Manager Stephan Schelbli

Stephan Schelbli: Exactly, prevention is the key word that I keep hearing from our workshop foremen.

PistenBully News: Let's finish by considering the guests themselves. Do skiers and snowboarders generally appreciate the improvement in snow quality coupled with resource conservation?

Michel Frison-Roche: No, our guests don't really consider the work that has to go on behind the scenes. But we do incorporate information on environmental protection into our communication – such as the fact that we are certified in accordance with ISO 14000 – but it does not seem to be a major concern for our visitors.

PistenBully News: There seems to be a gap here between professed environmental awareness and everyday behaviour. That is a social problem and one for which we must all look to ourselves. Thank you for talking to us.

SNOW BULLY

We look for the challenge – extreme conditions in the valley is our passion. With the PistenBully for every job to ensure a reliable solution.



PistenBully Paana

The small and manoeuvrable for cross-country tracks and hiking trails

PistenBully 400

The specialist for slope and snowpark preparation

PistenBully 600 W Polar SCR

The premium vehicle for maximum ground coverage

BUSINESS

Extreme work on the mountain and
PistenBully fleet we have the perfect tool
reliable solution to every task.



PistenBully 600 SCR

The powerhouse for maximum
ground coverage

PistenBully 100 SCR

The multi-talent for cross-country,
slope and indoor preparation

FROM GREEN

BLUEIQ builds on the GREENIQ environmental technology and, thus, marks the evolution of Kässbohrer Geländefahrzeug AG's corporate philosophy.

We at Kässbohrer have always combined environmental aspects with economic advantages for the customer – namely from conviction. Profitability, energy efficiency, resource conservation and safety are the key factors in meaningful innovation. This approach has shaped our entire vehicle and product development, the technologies used and production processes, as well as our understanding of service, the availability of spare parts and training. We consider an integrated approach to be an investment that pays off for everyone.

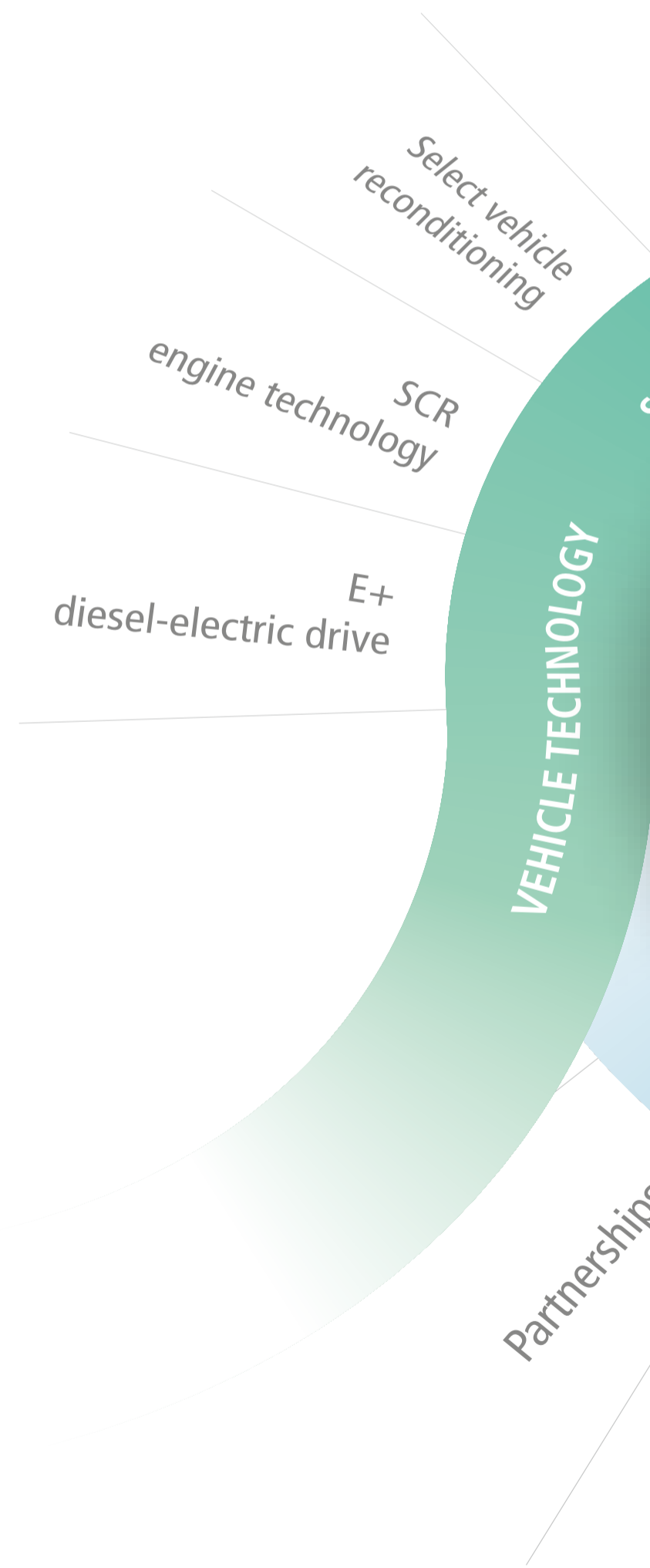
It is winter sport itself that reminds us of our duty. Climate change is forcing a change in thinking in favour of intelligent and sustainable solutions, because the snow lines are inevitably retreating ever higher. For many ski resorts man-made snow has already become indispensable. The water and energy requirement for snow production has become one of the biggest cost drivers in the ski resort. It is clear, however, that good concepts are having a positive impact on the environment in the short to medium-term and are creating clear cost advantages for the ski resorts.

Superfluous snow production has been a thing of the past since the development of intelligent snow depth management for snow grooming. Ground damage has almost completely disappeared as a result as well. Other advantages come from the strategically optimized deployment of the entire grooming fleet in terms of grooming duration, fuel consumption, safety and measurability of performance. However, we also care deeply about encouraging young talent, developing and establishing new types of winter sports and the appeal of winter sports in itself. In this regard we are pulling together with customers, associations and government.

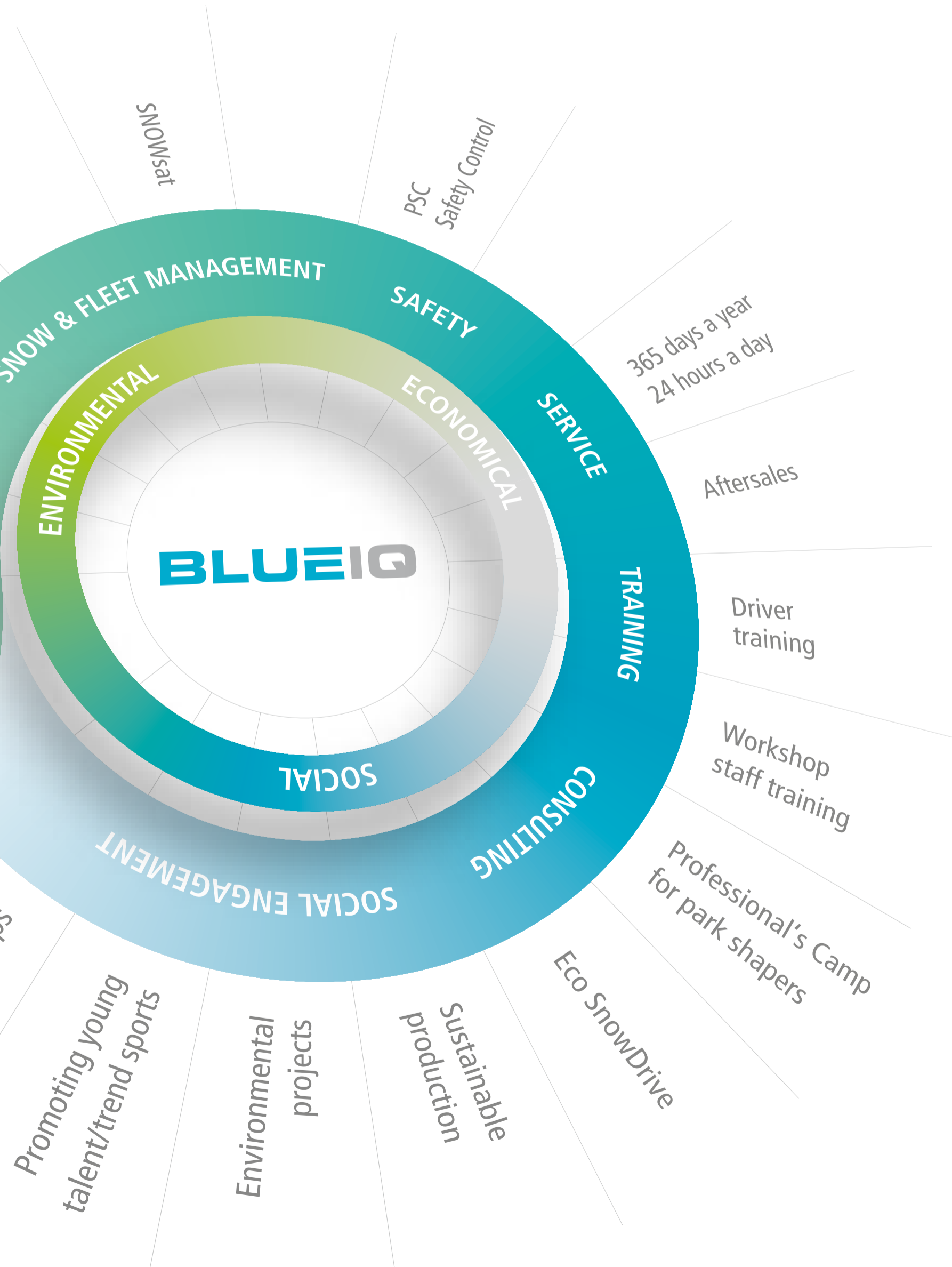
**We are tackling the challenges of the future.
With passion, creativity and innovative strength.**



A responsible future



GREEN TO BLUE



FROM GREEN TO

BLUEIQ is a corporate philosophy of action

BLUEIQ encompasses our corporate strategy of a responsible approach to the future. As the world market leaders, we at Kässbohrer Geländefahrzeug AG are convinced that technological innovations have to be part of integrated concepts if they are to be fair to future generations. That's why we link the economic, environmental and social aspects of winter sports. This results in a portfolio of intelligently coordinated products. For our customers this means more benefits and greater profitability, for us all a better environment.



PistenBully 600 E+ diesel-electric drive

With the diesel-electric PistenBully 600 E+ we have laid a milestone in vehicle development. The 600 E+ reduces the emission of CO₂, NO_x and fuel by 20% in each case. This means high efficiency. Additionally, the energy produced on the downrides is stored to power the snow tiller. Drivers benefit from the high thrust from the start, from a unique ride and quieter engine noise.



SCR engine technology

The SCR technology reduces nitrogen oxide in the exhaust gases and the emission of fine dust particles. This is thanks to the AdBlue®, an ammonia solution in a separate tank, which is mixed with the exhaust gas after combustion. A chemical reaction converts the ammonia and nitrogen oxide into harmless nitrogen and water. This process also substantially reduces the emission of fine dust particles.



Select vehicle reconditioning

With the Select vehicle reconditioning programme we extend the service life of the product and, in so doing, facilitate substantial savings in terms of resources and energy. As a customer you benefit from a high-quality product at an attractive price.



SNOWsat

SNOWsat dramatically increases the profitability of ski resorts and equips them for the future. Thanks to satellite-controlled snow depth measurement, transmission of real-time data to the central control point and the snow groomers, as well as optional integration of snow guns, resorts can reduce snow production, operating times and the fuel consumption of the snow groomers. This reduces operating costs overall and protects the environment. Snow is only produced in line with precise need and is distributed perfectly. The central storage of all operating data creates the basis for continual improvement and greater efficiency. Moreover, the SNOWsat system promotes active and passive safety, by displaying the location of other snow groomers, obstacles and the cables of winch vehicles.



PistenBully Safety Control

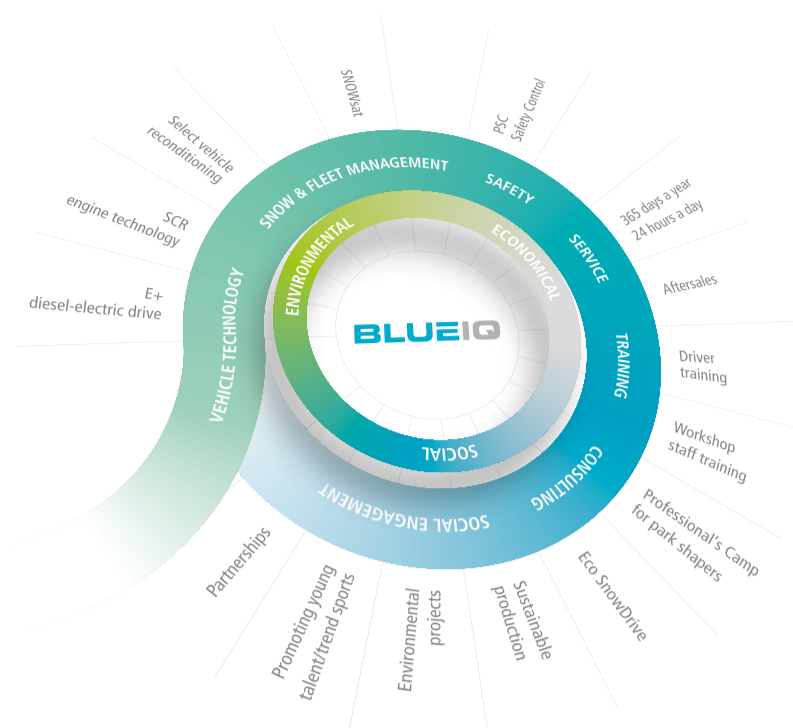
PSC creates greater safety during snow grooming and minimizes the risk of accidents for drivers, skiers, snow boarders and resort operators. Snow groomers are often deployed during fog, falling snow or at night; poor visibility increases the risk of accidents. That's precisely what PistenBully Safety Control addresses: 4 thermal cameras constantly assess the area around the vehicle and warn of any dangers in good time. The system differentiates between objects and people, as well as the direction they are moving in. The driver receives three different alerts and then the system takes over the vehicle controls.



24/7/365 Service and Aftersales

We know what the breakdown of a snow groomer means to a ski resort. That's why Kässbohrer Geländefahrzeug AG has been investing for decades in a sophisticated global service network with fast response times. Service engineers and original spare parts are guaranteed to be there within 24 hours. We also operate 130 service stations and offices around the world, which means that we guarantee a personal contact local to you. Thanks to close relationships with our customers, we can react quickly and appropriately to their needs. We insist on the highest quality for spare parts, because savings on materials frequently lead to breakdowns and, thus, high secondary costs.

BLUE



Training drivers and workshop personnel

We are training for the future with our extensive training programme for drivers and workshop personnel. The operations team learn how to work professionally with the vehicles and the latest technology Resort operators profit from greater efficiency, an extended service life from their vehicles, improved snow quality and higher safety in the vehicle and on the slopes. Thanks to their training, ski resort employees are able to perform a number of repairs themselves and get immobilised vehicles working again quickly and cost effectively.



Professional's Camp for park shapers

Kässbohrer's international Professional's Camp is the place for experts from all over the world to exchange their experiences. New products are presented and tested in their natural habitat here, while drivers can expand and exchange their expert knowledge – a true source of inspiration for the participants, and for Kässbohrer also an opportunity to cement international friendships among professionals. The knowledge the company gains flows into product optimisation and, thus, is a significant driver in the development of new products.



Eco-SnowDrive – local snow management

Eco SnowDrive is a training programme specifically aimed at snow groomer drivers. The drivers are encouraged to take a more responsible approach to their driving through theoretical and practical lessons. New drivers quickly develop a feeling for the machine and the slopes thanks to this training. The vehicles are subject to reduced wear and tear as a result; fuel consumption and CO₂ emissions are reduced at the same time.



Sustainable production and environmental projects

Valuing people and nature is our highest priority. For this reason we have committed ourselves to use resources economically and to act sustainably. To guarantee environmentally-friendly development in the long-term, Kässbohrer Geländefahrzeug AG has introduced comprehensive environmental management for all business processes; the company is certified in accordance with the international environmental management standard ISO 14001:2004. The measures include energy recovery in the test facilities, heat recovery in the paint shop, an electrostatic painting process that is kinder to the environment, and a switch from pneumatic screw drivers to electric screw drivers in track production. Kässbohrer has also invested in its own combined heat and power plant, which produces energy precisely where it is needed.



Promoting young talents and trend sports

Winter sport depends on the next generation and on the development of new activities. Supporting this growth process is one of the company's particular concerns. For this reason, Kässbohrer supports talented young athletes, such as ski crosser Daniel Bohnacker and others, and sponsors diverse events. In addition, Kässbohrer is supporting the biathlon center at Dornstadt (Germany) and is working hand in hand with Camp Woodward (USA), which is dedicated to providing professional training to the next generation of talented athletes.



Partnerships

Together we are stronger. That's why we are looking to collaborate with people who share our passion and vision. For many years, we have been maintaining friendships and partnerships with countless associations, companies and event organisers. PistenBully is also the official partner of the German Ski Association (DSV). Specifically in relation to snow park, Kässbohrer maintains its own partnerships with Schneestern OHG (Germany), the supplier of the biggest fun parks in Europe, and with Camp Woodward (USA). We further the development of winter fun sports as part of a strong team.

Eco-SnowDrive – save while driving

Snow management on-site



Christian Zimmermann with driver Christian Schennach

Christian Zimmermann and Franz Dengg Jr discuss the terrain



Use modern technology efficiently and exploit the driver's potential to the full. A few tips and tricks not only reduce costs – you can also increase the quality of the snow grooming too. Fuel consumption and pollutant emissions are reduced: partly down to the driving, but thanks simply to optimized runs as well. Crucial for all cable car firms that want to improve both their economic and ecological balance.

Kässbohrer Geländefahrzeug AG supports Eco-SnowDrive as part of its BlueIQ strategy for sustainable snow grooming. Christian Zimmermann, owner of Eco-SnowDrive, comes from a rope way family and perfected his awareness of economical, environmentally-friendly and high-quality snow grooming at his own ski lift area. Many rope way companies already have an Eco-SnowDrive – they have done the training and have been positively surprised by the potential offered by optimized driving. Skiliftgesellschaft Jungholz (A), Bergbahnen Rosshütte in Seefeld, Sessel- und Skilifte Pontresina Alp Languard AG (CH) and Fellhorn Bahn GmbH (D)/Kleinwalsertaler Bergbahn AG are just a few of the convinced customers.

On 5th / 6th February 2014, Christian Zimmermann gave a talk at the Ehrwalder Almbahn. The team from PistenBully-News spoke to Franz Dengg Jr about the content.

PistenBully-News Team: Did the advice about Eco-SnowDrive meet your expectations?

Franz Dengg Jr: Mr Zimmermann went through the Eco-SnowDrive training with the whole driver team. It was mainly focussed on economical driving and adjusting the tiller. Our drivers were really pleased with the advice. Mr Zimmermann's amiable manner really impressed our staff.

PistenBully-News Team: Which themes did you find particularly interesting?

Franz Dengg Jr: We were always really pleased with the quality of the slopes. Gentle and economical snow grooming was at the heart of this. Mr Zimmermann also brought a few new ideas to the table. His neutral, outside perspective on our usual processes raised issues that you simply don't see yourself any more. This means that improvements or savings can be made through small, simple measures.

PistenBully-News Team: What practical advantages do you expect on a daily basis?

Franz Dengg Jr: We expect a reduction in costs due to proper operation of the snow groomer. Mr Zimmermann also succeeded in making the drivers aware that purchasing, operating and maintaining a PistenBully is a big investment, and that money can be saved when they're driven in the right way.

PistenBully-News Team: Why is Eco-SnowDrive training a good idea?

Christian Zimmermann: Your drivers are made aware of economically and ecologically responsible driving. We expose time waste during snow grooming and also show where runs can be saved and distribution can be optimized, but also where intensive grooming is required perhaps due to heavy use.

We train your drivers on their own PistenBully and, thus, explain a driving style tailored to their specific vehicle type, plus ideal use of the winch if applicable. Where are the ideal anchoring points to reduce costs and wear and to increase effectiveness? Where do I position the snow guns so they do not detract from grooming? Where are the best places to turn the PistenBully without damaging the slope? But the Eco-SnowDrive training also covers man-made snow, in particular how best to incorporate this into the natural snow covering. And we also include themes like more communication between drivers. This ultimately results in lower fuel consumption, reduced wear costs and less environmental impact.

Are you interested in Eco-SnowDrive training in your resort?

Then just get in touch with Christian Zimmermann on +49 (0)171 994 00 71 eco-snowdrive@web.de www.eco-snowdrive.com



Eco-SnowDrive

BLUEIQ

A responsible future



From left to right Horst Biechl, Area Sales Manager Kässbohrer Geländefahrzeug AG; Andrä Rupprechter, Environment Minister; Jens Rottmair, CEO Kässbohrer Geländefahrzeug AG; Peter Soukal, Branch Manager Austria for Kässbohrer Geländefahrzeug AG; seated: Peter Hausberger, Managing Director Bergbahnen Alpbach

600 E+: choosing sustainable technology

PistenBully 600 E+ also in Alpbach, Courchevel and on the Kleine Scheidegg from this season

In France the resorts of Courchevel/Val Thorens have chosen the environmentally-friendly vehicle technology from Germany. The PistenBully 600 E+ began its work in time for Christmas.

Courchevel is in the department of Savoy in the French Alps. Along with Méribel, Les Menuires and Val Thorens, it forms the Trois Vallées ski area. The geographical position is unusual: with 85 % of the resort above 1,800 m and more than 2,000 artificial snow systems (which cover 45 % of the ski area), the 3 Vallées guarantee a top-quality snow covering from the start of December to the end of April. 3 Vallées is home to a total of 311 slopes.

Courchevel focusses on appealing to beginners of every age. In the so-called ZEN zones (novice evolution zones), beginners – children and adults alike – can take their time to get a feel for the skis beneath their feet without worrying about being disturbed by more practised skiers.

By purchasing a PistenBully 600 E+, the Trois Vallées company, operator of the Courchevel ski station, has once again chosen innovative and environmentally-friendly technology as part of its commitment to a lower energy balance.

Environmentally-friendly and economical

The PistenBully 600 E+ impresses thanks to its performance figures, its profitability and its low environmental impact. 20% less fuel consumption, reduced maintenance costs and high thrust at low engine speeds are a few other highlights of the PistenBully 600 E+, and let's not forget 99 % less particles, a 20% reduction in both NO_x and CO₂ emissions, and the vastly reduced noise emissions.

The low fuel consumption is achieved through three factors: energy saved on the downrides is used to drive the snow tiller, the diesel engine operates permanently in the optimum speed range, and the electric power transmission is more effective than a hydraulic system. The electric drive is not only highly effective, but also guarantees a consistently high torque. Thus, the power is immediate and can also be accessed at low engine speeds, which gives the PistenBully 600 E+ a completely new driving feel with unbelievable thrust from a standing start. Highest power development at low engine speed!

Jean Bourcet, CEO of Setam: "The initial extra costs of the new vehicle have paid off by the third season thanks to the greater coverage and lower fuel consumption."

First PistenBully 600 E+ in Austria grooming in the Alpbachtal.

In the presence of Environment Minister Andrä Rupprechter, the CEO of Kässbohrer Geländefahrzeug AG Jens Rottmair officially handed over the first PistenBully with diesel-electric drive in Austria to Alpbacher Bergbahnen at the start of March. The motives behind the new purchase are clear for Peter Hausberger, Managing Director of Alpbacher Bergbahnen: "The PistenBully 600 E+ is a milestone for our ski resort. It impresses through its high efficiency, profitability and low environmental impact."

The PistenBully 600 E+ has also been working in the ski resort of Kleine Scheidegg since the end of January 2014.

Despite the higher purchase costs, Jungfraubahnen has been working with snow groomers with additional soot particle filters since 2010 and, thanks to this investment, exceeded the exhaust emission regulations that were in effect up to 2013. The acquisition of the new PistenBully underlines Jungfraubahnen's commitment to the environment.



Handover of the first PistenBully E+ in France to Courchevel.



Costs have been lowered thanks to the new Pistenbully 600 E+, which is hard at work on the Kleine Scheidegg.

In winter and summer

PistenBully keep airports open



© Sergiy Serdyuk, Fotolia.com

Leipzig Airport



Leipzig Airport



Munich Airport



PistenBully shift enormous amounts of snow – reliably at down to minus 50 degrees.

Sub-zero temperatures in the double digits and every amount of snow – those are realistic conditions in winter at many airports. Yet airports can only stay open when they have clear take-off and landing strips. And that is a substantial cost factor for airports all over the world.

Anyone who has to keep all landing strips clear around the clock during the winter months knows what that means in terms of shifting snow. The PistenBully 300 Airport moves huge volumes of snow quickly. Thanks to its enormous thrust and gradability, it can handle quick and efficient removal of large volumes of snow on a site. Airports like Frankfurt, Munich, Leipzig or Baltimore are already using PistenBully to great success.

Leipzig-Halle Airport is able to guarantee air operations around the clock, 365 days a year thanks to the work of its PistenBully 300 Airport. As a result, the Airport has never had to close in the past because of snowfall.

Maintains order outside

Even without snow, a PistenBully knows hardly any limits. With the according additional equipment, it also mows or mulches marsh areas or slopes and so helps to maintain all green areas of the airport territory. So it fulfills the requirements of almost any type of terrain.



PistenBully 600 Select – a worthwhile investment

A torrent of enthusiasm ensured a sell-out last season

Ski resort operators are impressed by the nearly new PistenBully. Due to the increased demand Kässbohrer Geländefahrzeug AG is drastically increasing the number available for next season.

It is no surprise to see PistenBully 600 Select hard at work in the ski resorts of Austria, Switzerland, France and Italy. Yet they can also be found working away in countries like Iceland, Scotland, Israel or Chile. One of the first ski resorts to bring a PistenBully 600 Select into its fleet was Bergbahnen Meran 2000 for the 2011/12 season.

After 3 years of use, Thomas Lanthaler, Director of Bergbahnen Meran 2000, is very pleased: “We – Meran 2000 Bergbahnen AG – have only positive things to report about our PistenBully 600 Select. The machine is now working its 3rd winter season and has proved to be both efficient and reliable. Our decision back then to buy a PistenBully 600 Select because of the price-performance ratio has turned out to be a good and right choice. Our staff likewise praise the

reliability and convenience of the machine, which is just as good as a new one. Kässbohrer Geländefahrzeug AG has also turned out to be a good and reliable partner in terms of service.”

Norbert Müller, Operations Manager at Reuttener Seilbahnen, is impressed by the two PistenBully 600 Select that the firm has been using for several seasons: “We were convinced by the price-performance ratio combined with the 2-year warranty on both machines. We were always very pleased with our PistenBully and like the high-quality and clean preparation. Following the general overhaul in Laupheim, the 600 Select machines are restored to mint condition with new tracks, new tillers and reconditioned chassis. The staff are extremely competent and work to find the best possible solution. Thanks to excellent cooperation with engineers and consultant Andreas Rudigier, plus the range of training available and the build and maintenance of the machines, we never fall behind in technical terms.”

All the trust in the world and the most brilliant innovative mindset are not worth much if the quality of the product ultimately disappoints. Every PistenBully 600 Select meets the highest Kässbohrer quality standards. In technology and service alike. PistenBully 600 are equipped with xenon lights, fixed running wheels for greater endurance and an Alpine or a ParkFlexTiller. Almost new, with a full new vehicle warranty, comprehensive service and many other benefits, PistenBully 600 Select are really profitable. Anyone who chooses a PistenBully 600 Select gets everything that makes a PistenBully!



A responsible future



Singhammer Skilifte made the decision to buy this PistenBully 600W Select at the InterAlpin. Handed over to Singhammer Skilifte in Lenggries at the start of November. The photo shows from left to right: Wolfgang Lutz, Area Sales Manager; Mr Singhammer Snr, Anton Willibald, Operations Manager.



Distribution Sonnenbichl – from left to right: Wolfgang Rebensburg, Technical Manager; Wolfgang Lutz, Area Sales Manager Kässbohrer Geländefahrzeug AG; Sepp Bartl, Slope Manager



The team from Glencoe Mountain, Scotland are pleased with their new member: a PistenBully 600 W Select. From left to right: Bobby Munro; driver, Charlie Munro, Wolfgang Lutz; Area Sales Manager Kässbohrer Geländefahrzeug AG and Andy McIdrum; Mountain Manager

PistenBully biathlon center

Support for the center in Dornstadt-Ulm



Encouraging and finding the next generation – the Dornstadt-Ulm training center will become the PistenBully Biathlonzentrum Dornstadt Ulm from 1st May 2014.

The ski division of the German Alpine Club (DAV) in Dornstadt has had biathlon facilities since June 2005. What has been achieved since the center was opened can truly be hailed a success story – around 40 children and young people regularly train at the site, there have been competitions with up to 120 athletes, and the DAV Ulm has achieved recognition across Germany thanks to a host of outstanding results. However, what is particularly praiseworthy is that the focus has not just been confined to serious and competitive sport, because active partnerships and projects have also been pursued with Ulm's schools. Kässbohrer Geländefahrzeug AG wants to ensure that this success story can continue and that lots of children and young people will continue to be inspired by the fantastic,

technically challenging and above all exciting world of biathlon sport. The training center has been expanded in two stages over the last two years. The first stage included expansion of the air rifle shooting range to 15 lanes, as well as creation of a large asphalt area, which is ideal for technical and coordination training on foot, and also for inline skating. The second stage involved construction of a reservoir and expansion of the roller ski track. Thus, the center now offers the best training facilities.

There would be no biathlon center at all without the head of the Ulm biathlon division, Werner Rösch. He supports young biathletes from youth to junior competitions and was recently honoured as "Trainer of the Year 2013" for his life's work by the Landessportverband (regional sports association). He is dedicated to ensuring that young world class athletes will continue to develop and follow in the footsteps of our successful DSV biathlon stars.

"Grüne Band" for Ulmer biathletes

A letter from the German Olympic Sports Confederation (DOSB) and an email from the German Ski Association (DSV) were the cause of great joy at the DAV Ulm last year: the biathletes from the Alpine Club division received the "Grüne Band". This award honours 50 particularly dedicated clubs each year for their exemplary work in encouraging new talent. "A wonderful validation of our work. I was really happy", says Werner Rösch, the head of Ulm biathlon, with delight. "It is great that a club without grants has done it this time, one that has brought athletes from right at the bottom to the C-squad and that has filled 30 percent of the state squad."



People who work hard, ought to party too

Kässbohrer Geländefahrzeug AG is hosting its already legendary After-Work Party for the 5th time. PistenBully customers from all over the world will gather at the firm's headquarters in Laupheim to compete in the huge PistenBully biathlon. The main prize once again is of course a PistenBully for 4 weeks.

Fun is also guaranteed: the party will go on well into the night with a fantastic, friendly atmosphere and some great music. That's how we celebrate the end of the season with you!

The entire PistenBully Team is looking forward to seeing you! Please register with Silke Held, silke.held@pistenbully.com

Handover of PistenBully 100 in Dubai

The snow dome in Dubai is part of the Mall of the Emirates, one of the largest shopping centers in the Middle East. There are five different runs covering an area of 22,500 m² with varying levels of difficulty, height and steepness. Ski Dubai has been a customer of Kässbohrer Geländefahrzeug AG since opening and has now expanded its fleet with a PistenBully 100 with a special exhaust and particle filter system for indoor use.



From left to right: Wolfgang Lutz, Area Sales Manager Kässbohrer Geländefahrzeug AG; Tom Scheffer, Head of Operations; Nicolas Saez, Dalkia Middle East; Jack Nesgos, Deputy Operations Manager



At work in the heart of New York

PistenBully 100 prepares for Winter Jam

Central Park lies in the middle of Manhattan. Created as a landscaped park in 1859, New York's green heart covers some 4 % of Manhattan. Around 25 million people visit the urban park each year. Up to 85 % of the funding for maintenance of the park comes from private donations.

Every winter Central Park plays host to Winter Jam. Over 16,000 residents of NYC showed up to participate in this free event. They were able to try their hand at cross-country skiing, snowshoeing, sledding, tubing, and learn to ski and snowboard activities. For the past years a group of ski areas from New York State and New York City Parks and Recreation have joined together to put on this one day event to promote winter activity and tourism.

Ted Blazer, president of New York State Olympic Reg. Development Authority (ORDA) is in charge of organizing and preparing the snow area for Winter Jam. Crews from Gore Mountain Ski Area brought down snowmaking guns and hoses and made large piles of snow.

Kässbohrer's dealer for New York, Mohawk Industrial Works, was happy to donate a new PistenBully 100 along with operator to prepare the site. The versatility of the PistenBully 100 made it ideal for this project.

With its powerful drive it made easy work of spreading out the piles of man-made snow, building the tubing hill and pushing up the slopes for the learn to ski and snowboard area. Setting track for a cross country loop was no problem. The compact size of the PistenBully 100 enables it to maneuver handily in tight corners.

Getting people excited about winter sports is important to Kässbohrer Geländefahrzeug AG. City dwellers in particular should have the opportunity to discover their love of winter sports – including in New York City.



Tips for drivers

Impact on grooming results

Adjustments to AlpineFlexTiller



A lasting slope that is great to ski is much safer and this depends on lots of factors outside our control like temperature, altitude and snow composition. That's why the AlpineFlexTiller has a wealth of individual settings that drivers can save individually by snow type, e.g. new snow, wet snow, hard snow. Drivers who like to make things easy can simply use the default settings.

	Tiller speed	Tiller depth	Snow flap	Impact pressure
factory settings	7	50	100	750
M1 new snow	7	30	100	500
M2 wet snow	6	40	100	750
M3 hard snow	9	30	50	1,000

The machine's zero calibration, which must be performed as stipulated in the manual, is also a significant factor for great grooming results with the PistenBully 600. The so-called "zero position" has to be right and not just for brand-new groomers, in order to ensure optimum work with the tiller. Zero calibration of the equipment carrier must also be performed following an adjustment to the running gear, or a change in weight, e.g. due to a cabin or winch being added or removed.

Accepted practice has been to use a tiller depth of 0 – just finishers – for grooming on new snow. However, scientific investigations have shown that tillers are actually required on new snow as well: the snow crystals have to be reduced and the air has to be removed from the snow to achieve a greater compaction.

Timing is also important for grooming so that the snow can sinter and a higher stability is achieved. This process takes time though: the snow needs a sintering time of around 8 hours to ensure a slope can withstand the demands of snow enthusiasts for at least one day. The right timing for snow grooming depends on the composition of the snow, the amount of rain expected and the temperatures during the night.

The Institute for Snow and Avalanche Research in Davos has been tackling snow-specific issues for over 13 years, including snow grooming and meteorology, the production of man-made snow and much more. It has also produced a handbook on slope grooming and maintenance, which offers interesting basic and background info for those involved in the field.

From the PistenBully Shop

Our latest fan shop merchandise



€ 24.90*

PistenBully wallet

The wallet has two sections for notes, one for coins, ten card slots, three open pockets and one mesh pocket. PistenBully photo print design on the outside.

Size: 11 x 13 cm (closed)

Material: calf leather

Colour: black



€ 79.90*

PistenBully Soft Shell SCHÖFFEL Jacket

This jacket is elastic, breathable, hard-wearing, wind-proof, water and dirt-resistant. Features: a breast pocket, two side pockets, dividable spiral zip (centre front).

Lettering: PistenBully lettering on the left breast and rear collar.

Size: S, M, L, XL, XXL, XXXL (size XXXL is currently out of stock.)

Material: 89 % polyester, 11 % elastane

Material properties: VENTURI membrane

Colour: black; **Zip:** grey

*Price incl. 19% VAT excl. shipping costs

News

All the latest important and interesting info at a glance

Kässbohrer sponsors 9th International Danube Festival Ulm/Neu-Ulm



10 Countries – 10 Days – 1 Festival. The International Danube Festival is held in Ulm/Neu-Ulm every two years. In 2014 both banks of the Danube will be full of hustle and bustle for ten whole days from 4th – 13th July, when international artists and guests will gather there from countries all along the Danube. The international cultural programme offers a fascinating mix of different artistic styles. The Danube countries will be showcased by their cultural ambassadors. The focus of the Festival is the idea of cultural cooperation in Europe and strengthening cohesion throughout the Danube region.



Tobias Kirsamer

Reinforcement for Technical Service

Full operational readiness from your PistenBully is our top service philosophy. Making this a daily reality falls under the function of Tobias Kirsamer, trained car mechanic and automotive engineering graduate (Dipl.-Ing. FH), who has been with Kässbohrer

Geländefahrzeug AG since 2013-01-01, strengthening the Technical Service team. He provides expert and reliable support to the Italian market on all technical issues that arise and is the first point of call for Kässbohrer's Italian branch in Bolzano.



Florian Fina

New in the Austrian Service team: Florian Fina

Florian Fina took over from Christian Paar in Service at Kässbohrer Geländefahrzeug AG's Austrian branch in October 2013. The native of Carinthia grew up in the border triangle of Austria, Italy and Slovenia, and studied

mechanical engineering in Klagenfurt. He moved to the snow groomer industry after gaining his first professional experience as a design engineer in steel construction

Summer promotion 2014 – save on original spare parts from 1st April to 15th September



Take advantage of our top spare part offers. We have collated a comprehensive range of parts that are subject to service and wear. Everything from track belts, filters, starter batteries, tyres and drive wheels to winch cables. With PistenBully original parts you can be sure of OEM quality, safety testing

and high reliability. They are extremely cost-effective because they last such a long time and have an excellent price-performance ratio. Start the summer review! To ensure your PistenBully is well-equipped for the coming season.

Dates

PistenBully 2014



April 2014

Apr. 23 to Apr. 25, 2014, SAM / Mountain Planet

International trade fair for mountain and winter technologies
Grenoble, France

Apr. 30 to May 03, 2014, NSAA

Savannah (Georgia), USA

May 2014

May 13 to May 15, 2014, AfterWork-Party

5th AfterWork-Party at Kässbohrer
Laupheim, Germany

PistenBully training 2014

The new training dates are already online.



Make your preparations for the coming season. Here at PistenBully we have made it our mission to support you to the best of our ability.

The new training dates are already online. Our tried-and-tested modular approach means you can choose the training courses you want. A particularly efficient concept of training, advice and exchanging experiences offers services that, most of all, will make you independent.

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€ 177,000
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