



## Efficiency and ergonomics – the PistenBully 100 4F **The most powerful and comfortable in its class**

It has the right stuff to inspire drivers all over the world: the new PistenBully 100 4F has been thoroughly overhauled in line with customers' wishes and is the first representative of the new vehicle generation. Ergonomic, comfortable and intuitive to operate.

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### **SNOWsat: Ever more ski resorts are upgrading**

There's no getting away from efficient snow and fleet management nowadays: SNOWsat is now in its 3<sup>rd</sup> generation and is impressing ski resorts all over the world.



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### **The new PRO ACADEMY: Top-level snow management**

It's all happening in April: Florian Profanter kicks things off at the PRO ACADEMY. He is combining theoretical training and practical instruction in five different modules.



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### **PistenBully service: Global reliability**

There when you need us: that is the simple philosophy behind our sophisticated service network. With 130 service stations worldwide, we are there for whatever our customers need.



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Jens Rottmair, CEO Kässbohrer Geländefahrzeug AG

## Editorial

After this winter season, we all have to re-acknowledge how important efficient slope and snow management really is. We have expanded our range over the last few years: with SNOWsat we are tackling the change in snowfall and facilitating the best possible effectiveness and profitability at your ski resort. With significant success, as you will be reminded in this issue!

For some time now, it has been a major concern of everyone at Kässbohrer Geländefahrzeug AG that the firm integrate as much sustainability as possible across its entire business. Naturally, this applies especially to the technology of our products, but is also the common thread running through the whole company. In this context we're also really thrilled that Florian Profanter – a pro of intelligent and sustainable snow management – has been part of the PistenBully family since April, and will bring his skills to his role as head of the new PRO ACADEMY.

In 2016 we will also be making a splash with our latest product, the track-driven PowerBully, which is used with enormous dimensions and high payloads on extreme terrain – soon to be on show at the bauma in Munich.

Maintaining and boosting the appeal of winter sports is also a matter very close to our hearts. That's why we are wholly committed to encouraging the next generation of talent, such as in the PistenBully Biathlon Centre in Ulm and through other winter sport initiatives, e.g. "Your winter. Your sport."

From 10<sup>th</sup> – 12<sup>th</sup> May 2016, it's time for our 6<sup>th</sup> AfterWorkParty – this time with a new concept. Be surprised! We cannot wait to see you already.

Kind regards,

Your Jens Rottmair  
Chief Executive Officer Kässbohrer Geländefahrzeug AG

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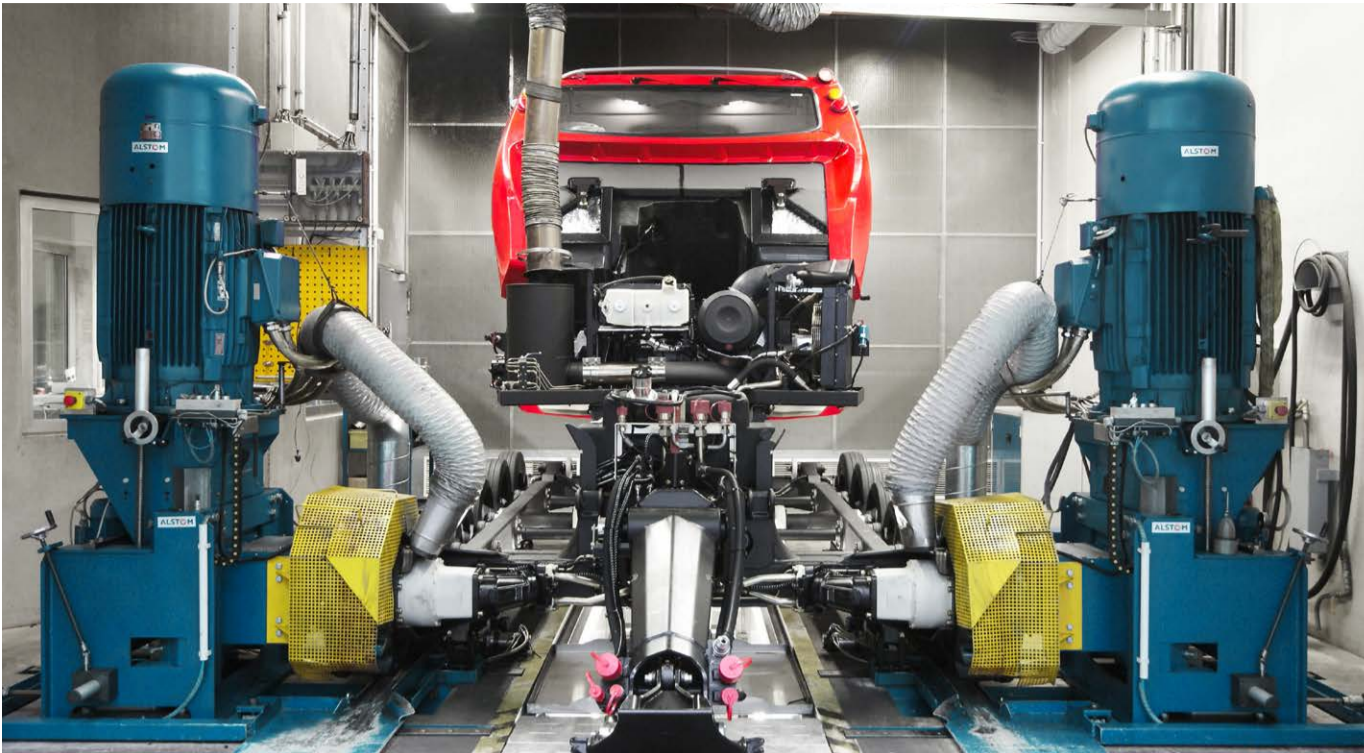
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Testing: superfluous energy is put to good use.



Top: PistenBully 600 E+: savings on fuel and exhaust emissions.

Below: Professional snow and fleet management reduces superfluous snow production and helps with economical and eco-friendly deployment of vehicles.

## Efficient snow grooming and eco-friendly business

# Sustainably successful

**Eco-friendly business is essential on the slopes nowadays. Winter sports tourism and standard resort practice has and continues to be looked upon critically by environmentalists. As a result, efficient and high-quality snow grooming has to go hand-in-hand with environmental protection. Kässbohrer Geländefahrzeug AG has been tackling the challenge of reconciling these two aspects with great passion for many years.**

For Jens Rottmair, CEO of Kässbohrer Geländefahrzeug AG, this commitment is a matter of responsibility: "It is winter sport itself that reminds us of our duty. Perfectly groomed slopes are simply part of a great ski day. Thus, as a firm with key expertise in snow grooming and management we are required to give our customers, the ski resorts, the best tools available to facilitate cost-effective work of the highest quality. Our entire approach has essentially been shaped by environmental thinking for years though", says Jens Rottmair. "Profitability, energy efficiency, resource conservation and safety are the key factors in meaningful innovation."

### Blue IQ – corporate philosophy of action

At Kässbohrer Geländefahrzeug AG all aspects of corporate strategy for a responsible approach to the future come together under the umbrella of BlueIQ. Michael Kuhn, Head of Development at the firm, explains this idea: "As the world market leader we are convinced that technical innovations must be incorporated into integrated concepts. This is the only way you can do justice to future generations. This thinking 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. That's why we bring together economic, ecological and social factors in all areas of our firm." This results in a portfolio of intelligently coordinated products and applications: including the very successful SNOWsat snow and fleet management system, the PistenBully 600 E+ with diesel-electric drive, or the SCR engine technology that substantially lowers the volume of nitrogen oxide (NO<sub>x</sub>) in exhaust gases and dramatically reduces the emission of fine dust particles. The potential for remote maintenance (telemetry) is also noteworthy: The first stage is online error analysis. Only then does the service technician head off to the customer. This reduces unnecessary trips. We are deeply committed to encouraging the next generation of talent, and to developing and establishing new forms of winter sport and the appeal of winter sports. "This means more benefits and greater profitability for our customers. And a better environment for all of us", adds Jens Rottmair.

### PistenBully 600 E+ with diesel-electric drive:

#### Good for nature, good for your image

The PistenBully 600 E+ offers the best of two systems. As the world's first and only snow groomer with a diesel-electric drive, it impresses thanks to

its performance figures, its cost-effectiveness and its low environmental impact. The high efficiency reduces fuel consumption and emissions of NO<sub>x</sub> and CO<sub>2</sub> by 20% in each case. In addition, 99% fewer sooty particles are released into the environment. Accompanying all of the technical advantages, according to Jens Rottmair: "Our customers are always highlighting how quiet the PistenBully 600 E+ is. They can now work grooming the slopes later at night closer to inhabited areas. Moreover, with the PistenBully 600 E+ our customers are taking a definitive pro-environment stance – visible to every skier. The E+ is the right vehicle for ski resorts that make a deliberate choice of sustainability and also want to market themselves in that way." And that applies to ever more ski resorts. There are now over 30 PistenBully 600 E+ at work around the world.

### SNOWsat snow and fleet management: convincing environmental technology

Producing machine-made snow has long been essential for many ski resorts. The resultant water and energy requirement has become one of the biggest cost drivers for the ski resort. Thanks to SNOWsat, superfluous snow production is finally a thing of the past. Ground damage has almost completely disappeared as well. Ultimately this is bound to save costs in the long-term. Michael Kuhn is especially proud of this: "SNOWsat is built on our experience from the last 45 years. We have succeeded in creating an all-round well-developed and future-oriented system, which both helps customers with their eco-friendly business and dramatically reduces costs. SNOWsat is also extremely popular in North America, having now emerged as one of the highlights." And: "It is a great feeling when you're talking to clients and can sense their enthusiasm when the conversation turns to SNOWsat. We're getting positive feedback about the savings and the fact that vehicles with SNOWsat are far more in demand among drivers. It was the same for us too the first time we had sat nav in a car..." Both are in agreement on this.

### Energy efficiency not just on the snow, but also at our headquarters

The best quality services and environmentally-oriented business are in no way mutually exclusive. Sustainability has long been a major focus at all Kässbohrer locations: "Environmental certification in accordance with ISO 14001:2004, a daylight-dependent, energy-saving lighting concept throughout the factory, paper-reducing document management in administration." Michael Kuhn lists a few of the initiatives. "We are particularly proud of our combined heat and power plant which is run on natural gas. We use most of the electricity produced ourselves. Any surplus is fed into the grid. The generated heat is used for heating and water heating in our factory in Laupheim. Superfluous energy generated during testing is also put to good use. Together with the combined heat and power plant, this means we produce 40% of our own energy."

### Research project for pioneering tourism in the Alps

In partnership with selected firms, Kässbohrer Geländefahrzeug AG is involved in a very interesting environmental project Mount++ in Alpbach: with scientific support from the alp-S GmbH, Innsbruck, Alpbach is currently the research focus for pioneering tourism in the Alps. In addition to eco-friendly use of the ski resort, the goal is to find intelligent and practical solutions for energy and resource savings in the local area and the region.

Kässbohrer Geländefahrzeug AG will continue to be involved in projects like this. "It's a matter of course for us to keep pursuing this environmental orientation in the future as well – in light of our commitment to a responsible approach to the future", confirms Jens Rottmair.



Jens Rottmair, CEO Kässbohrer Geländefahrzeug AG

Michael Kuhn, Head of Development Kässbohrer Geländefahrzeug AG



The PistenBully 100 4F track setters have been consistently designed to meet the high demands of skaters and cross-country skiers. Whether for the competition or leisure sector – the result is a perfectly prepared track.

# Intuitively better

The new vehicle and operating concept of the PistenBully 100 4F

**The new PistenBully 100 4F brings you a new vehicle generation. It has the most powerful engine in its class, has a patented, intuitive operating concept and features a wealth of ergonomic and technical details. The PistenBully 100 4F is a true multi-talent. The requirements were defined in multiple workshops with customers from all over the world, and PistenBully's engineers have listened to customer requests and have applied them to the development of the new vehicle concept. The PistenBully 100 4F paves the way for all future models.**

**Most powerful engine in its class**

With a R6 engine and 253 hp (186 kW) the new PistenBully 100 4F is the most powerful in its class. Power development across the whole rev range is also market leading: the engine achieves torque of 990 Nm at 1,500 rpm. Thanks to the Tier 4F exhaust gas technology, it is extremely eco-friendly and even comes ready for EU Stage 5. The vehicle can be driven at the same speed with lower revs – by 200 to 300 rpm to be precise. This saves fuel and lessens the impact on the environment. Nice for the driver: the PistenBully 100 4F is really quiet.

It is the only one in its vehicle class that can be fitted with a diesel particle filter. This means it is also ideal for indoor use. With its 4 axles, the new semi-axle technology and powerful engine, it also performs extremely well in the alpine environment. As we said: a multi-talent.



**Top ergonomics**

Many drivers work for many hours a day with their machine – the PistenBully. That's why we have given you, our customers, lots of changes, both big and small, in the driver's cab, to make sure your work is always a piece of cake. The intuitive joystick lets you move the blade in all directions proportionally with one hand. You could also call it one-hand steering: lift, lower, change the blade angle, tilt and swivel with one touch, in one movement. Of course we have patented it. The next patent in the PistenBully 100 4F relates to the workspace. The ergonomic, fully redesigned air-sprung seat with integrated armrest shows what the workplace of the future should look like. The complete unit of seat, steering wheel and armrest with joystick can be adjusted individually and, thus, perfectly to any body size and arm length. The joystick is connected to the seat. This means you always have a firm and secure hand on the stick even when the going gets rough.

**Everything at a glance and to hand**

The vehicle is "child's play" to control using the large touchscreen display. Active vehicle parts are highlighted, giving the driver perfect control of the vehicle at a glance.



**We've focused on comfort**

To mention just the most important points: the new cab design has more head and shoulder room. The larger front and rear windows ensure perfect all-round visibility. The side windows are heated and even when they're open, they provide a new, delightful feeling of space. The exterior mirrors are electrically adjustable, and the ramp mirror gives the driver a direct view of the tracks. We have also optimized the frame and the chassis. The new axle technology makes the PistenBully 100 4F more stable and, above all, more comfortable. The vehicle now has improved springs and damping.

**The next tiller generation for increased efficiency**

Efficient work: the new tiller has broader shafts, increasing its working width. This can be extended to almost 5 meters using the hydraulically operated folding finisher.

In addition, drivers can now set tiller depth independently of the track setters for the first time. The contact pressure of the tiller and the track setters can also be set independently of each other. For you this means: efficient and economical work taking the terrain and snow into account. And not just for nordic, but also for alpine use. It is clear that the PistenBully 100 4F is not just a new PistenBully, but is in fact the pioneer for the next generation. With an unparalleled vehicle and operating concept that will shape the future. Climb in.



The ergonomic workstation: the intuitive joystick, the large touchscreen and the generous cockpit size make the driver's work easier.



## Tips on cross-country track grooming

# The perfect trail

Oberstdorf is a famous address in cross-country skiing. Erich Dressel from the Sportstätten Oberstdorf grooms the tracks in and around Oberstdorf, which has been awarded 4 stars by the ADAC. The entire network of tracks was modernized before the Nordic Ski World Championship 2005: ten kilometres at the heart of the championship course are covered by snow-making facilities. These keep the network of around 68 km of tracks in good condition throughout the winter takes many working hours – 3 machines work to groom the tracks in Oberstdorf for 5 to 10 hours per driver per day depending on the weather conditions. Erich Dressel shares some tips from his extensive experience with the PistenBully-News Team.

**PistenBully News:** Erich, above all it's about creating a durable cross-country track. How is that achieved?

**Erich Dressel:** The durability of a track depends on different weather conditions, on many factors that we cannot control, such as temperature, altitude and snow composition, as well as on the time of grooming. When you have good, clear weather, with negative degree temperatures you groom in the evenings and at night. This allows the classic track or skating trails to freeze and harden for the next day. If there is a lot of new snow with temperatures around freezing, then you see so-called marble snow, which compresses very heavily during grooming and holds the track very well. With snowfall we groom from 7am and during cross-country operation. After rain or with wet snow and temperatures above freezing we groom in the evenings from 7pm and at night. The wet snow needs a longer rest period to harden up.



**PistenBully News:** What difference does it make when you groom on new, wet and hard snow on hard or very icy ground?

**Erich Dressel:** It's really easy to groom the tracks with new and wet snow: you can move fast with less milling performance, i.e. with lower shaft speed and a lower depth setting. This is coupled with low fuel consumption. Hard or icy ground demands slow driving and high tiller performance. Here the hard or icy snow is milled much deeper to ensure the track setter can get deep enough, creating a sealed smooth track.

**PistenBully News:** What snow depth is required to groom the tracks?

**Erich Dressel:** We have fitted a PistenBully 100 with the X-track chain and are able to groom with a compacted snow covering of 10 cm.

**PistenBully News:** What preparations are already being made in Autumn?

**Erich Dressel:** Our work includes opening lanes for property owners, cutting and marking the cross-country tracks, clearing and mulching unmanaged areas, renovating and rebuilding track bridges, preparing the snow-making equipment and setting up the PistenBully, to name just a few of the most important tasks. Our machines spend the summer jacked up in the garage with no tracks or attachments.

**PistenBully News:** Ten kilometres at the heart of the championship network covered by snow production. What are the advantages?

**Erich Dressel:** Those parts of the tracks are integrated in the tourist track network and the cross-country stadium is also used as the starting point for other valley sections. You see the ski schools here with beginners. There are training courses, ranging from the Oberstdorf Ski Club with its many talented youngsters, to the top squad racers of the DSV. Snow production is an important component and has become essential.

**PistenBully News:** You have been grooming the cross-country tracks in Oberstdorf for 36 years. How has grooming changed in this time?

**Erich Dressel:** Back then there was only the classic track. Now a smooth slope is required for skating alongside the classic track. The machines have also been modernized and improved over the years to keep up with the changing requirements.

**PistenBully News:** Is there a special experience relating to cross-country tracks that has stayed in your mind?

**Erich Dressel:** The period of the Nordic Ski World Cup 2004 (before World Championships) and the Nordic Ski World Championship 2005, for which I was Slope Manager. Everything just worked out that time, the weather, the snow, there was a great atmosphere!

**PistenBully News:** Many thanks, Erich, for sharing your experiences with our readers!



The first PistenBully 600 E+ in Finland working in Levi.



There was a very special atmosphere as the shaman invoked success for the venture.

## First PistenBully 600 E+ in Finland

# Triumph in Scandinavia

The handover of the first PistenBully 600 E+ in Finland was celebrated in the unique atmospheric winter twilight at the Scandinavian resort of Levi.

There certainly is enough snow in Levi. This World Cup ski resort lies some 170 kilometers north of the Arctic Circle – in the midst of the wild nature of Lapland. Although the season didn't start very well this year, in Levi it normally lasts from November to the start of May, depending on weather conditions.

Levi meets international standards and is the biggest and best-known winter sports centre in Finland, having been voted the best Finnish ski resort four times.

For Alpine regions it may seem surprising that the Levi fell with its "proud" 531 metres is the only peak to be seen and is the ski resort. But it is well-served by lifts from all sides. 27 different transport options mean everyone can find one to suit. There are almost

40 kilometres of well-groomed and signed slopes for both families and advanced skiers, including a World Cup run for slalom. The resort also has a snow park, halfpipe, superpipe and 2 "Streets" for boarders and freestylers. In December and January, the days are very short wherever you are in Finland. Hence the 15 floodlit runs! From mid-April onwards, things are rather different: then the sun shines for up to 16 hours a day. It's wonderful to enjoy hours of winter sport activities under the shining sun!

28 of the 230 kilometres of cross-country tracks, which are laid out for the classic and skate skiing style, are also floodlit. There are additionally 18 kilometers of snow-shoe hiking trails – and almost 900 kilometres of snowmobile routes around Levi. There's definitely enough work for the snow groomers. Levi has relied on the red fleet for decades: the resort now has 7 groomers and 6 track-setters from PistenBully, creating the best conditions on the slopes, cross-country tracks and all the trails.

Now the first PistenBully 600 E+ has joined them for the start of the season. As sustainability and protecting the environment are also important issues for Levi, the environmentally-friendly PistenBully 600 E+ with diesel-electric drive was the obvious model of choice. Jouni Palosaari, CEO of the Levi ski resort, emphasises this commitment, giving an enthusiastic report of the handover: "We are very proud to be using the first 600 E+ in Finland. This eco-friendly PistenBully underlines Levi's environmental dedication and strengthens our position all the more."

This statement is supported by SNOWsat: the PistenBully E+ is now the third vehicle in the Levi fleet to be equipped with the SNOWsat system for snow depth measurement. This enables the snow experts to distribute their natural snow perfectly, which means they only need to make use of machine-made snow precisely where it's needed. This saves up to 15% of water and energy, while also reducing fuel consumption.

The keys to this special PistenBully were presented to the Levi ski resort in an unusual ceremony by Jens Rottmair, CEO of Kässbohrer Geländefahrzeug AG, and Peter Söderholm, the Managing Director of the Finnish PistenBully agency Kessu Oy. And for the icing on the cake, a shaman then drove out evil spirits and invoked success for the venture. So nothing can go wrong now!

## Reasons to buy the PistenBully 600 E+ in Alta, Utah

# Good for people, the environment and profits



In Alta the PistenBully 600 E+ is making its mark with impressive fuel savings of 46%.

Alta Ski Area is the gem of the Wasatch mountain range in the State of Utah, USA. Known for having some of the lightest, driest powder snow on earth, this ski area is a favorite of Salt Lake City locals as well as skiers and riders from all over the world. Now in its 78th ski season, the resort offers 2,200 skiable acres (890 hectares) and 11 chairlifts including surface tows. Now the environmentally conscious ski resort has decided for a PistenBully 600 E+.

Alta's General Manager Onno Wieringa has been at the helm for nearly 30 years. During that time he has seen the population of Salt Lake City and the Wasatch Front grow at a fast pace. The end result is more and more pressure on the environment. Mr. Wieringa was recently featured in the November 2015 issue of Powder Magazine. The article is careful to note: "Through all the complex transportation and land issues, preserving the watershed and forest health is paramount to Wieringa while offering an exceptional ski experience. Wieringa looks at people, the environment, and profit as a "triple bottom line" equation. If all three don't pencil, he won't do it."

Building on Alta Ski Area's 77-year heritage of conservation, the Alta Environmental Center was created in 2008 to improve internal sustainability practices; support research and collaboration with external partners; and communicate progress. The Alta Environmental Center embraces the science of ecology and uses a system approach to sustainability.

Alta's system approach to sustainability was a key driver in the addition of the 600 E+ to their fleet of PistenBully. The eco-friendliness of the diesel electric drive with its 20 percent reduction in carbon footprint, 20% reduction in NO<sub>x</sub> emissions and 20 percent fuel savings was a strong argument when it came time for Mr. Wieringa to make his purchase decision.

According to Alta Ski Area public relations and marketing director Connie Marshall: "Replacing the old hydrostatic drive, which has been the industry standard for many years, is a new electric drive. The drivetrain now consists of two electric generators powered by the diesel and two electric motors to power the tracks and one for the tiller. What makes this so efficient is that there is very little power loss when converting the mechanical diesel energy to electricity, allowing the engine to achieve the same results as a hydrostatic

drive without the wasted energy. The cat has just as much power as a regular snowcat, but the engine is able to run at a lower RPM and load resulting in a more efficient cat."

PistenBully knows from experience that Alta Ski Area is very disciplined and accurate when tracking data. So when they talk about fuel consumption we listen. The results to date for the 600 E+ are encouraging. One operator was able to generate fuel savings of 46% over his standard 600 during a period of 10 workshifts.

PistenBully will be coupling with the Alta Earth Day on April 17, 2015. This event encourages environmental stewardship, responsible recreation and awareness of the relationship between climate change and the future of the ski industry in Little Cottonwood Canyon and beyond. Alta's 600 E+ will be on proud display and staffed by PistenBully representatives to answer questions from the public.




Hands-on discussion in the vehicle...



...and plenty of operating time in the ParkPro.



PistenBully 400 ParkPro – market launch in Europe 

## The revolution in the park world

The European launch of the PistenBully 400 ParkPro took place against the amazing backdrop of the Stubai Prime Park Sessions. The ParkPro makes park work easier, more creative and much more efficient. The event included lectures about parks, a practical demonstration and ample opportunity of course to test out the ParkPros with their extraordinary features. The Park sector covers quite a lot: not just the professional sector, but also everything from "Kids Land" through "Funslopes" to "Freeride Cross" – other exciting categories have now emerged.

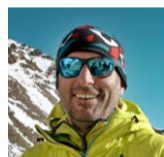
More than 70 customers from over 30 ski resorts in Austria, Switzerland, Italy, the Czech Republic and Germany, wanted to find out what the new PistenBully 400 ParkPro has to offer. After this day on the Stubai Glacier the customers agreed: The park sector is the future – not just for professionals, but over a wide spectrum for everyone looking for more variety from skiing. And the 400 ParkPro is the perfect tool for the job.



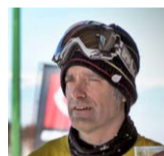
"Funslopes and Family Parks are the best thing out there. Children get a taste of the fun of the park on a small scale and grow up with the different park variations. For me the ParkPro is the revolution in the park world. Its functionality will definitely make work easier", says **Stefan Buchs, Head of Technology and Operations at Schönried-Saanenmöser in Gstaad.**



**Toni Pfyl, Managing Director of the Mythenregion** is enthusiastic too: "It was a fantastic and informative event. The ParkPro really offers something that not only makes work easier in the park, but definitely makes it more efficient as well".



**Dominik Kalbermatten, Head of Ski Patrol at Saas-Fee,** counters this with a grin: "When we got our first ParkPro last winter, some of our drivers were pleased with the new joystick. It quickly changed though It offers a simply unbelievable amount of possibilities. And makes work easier. None of our park professionals want to be without the new joystick now."



**Gianluca Garberoglio, PRATO NEVOSO SKI S.P.A.:** "No question – there are a couple of noticeable improvements in the ParkPro – especially with the tiller and blade. The increased tilt angle and the other new developments on the tiller are confirmation of the close collaboration with end users, namely snow park drivers, during the development phase. It all seems very well-thought-out and functional to me. The engine power is considerable and the thrust also seems higher than before to me. And the hospitality and professionalism of Kässbohrer Italia GmbH was unbeatable as always!"

**PistenBully 400 ParkPro – improvements all along the line**

Park construction used to involve a lot of manual labor for all the different shaped kickers. Now the ParkPro handles the majority of it. The new SwitchBlade<sup>2</sup> creates razor-sharp and right-angled side walls for jumps – with no need for lots of finishing with the shape tool. Reverse creation has also got far easier. Laborious and exhausting manual labour is a thing of the past, opening up a whole world of new and more creative features in the park.

The focus for the specially developed joystick was on intuitive operation, practical functions, plus perfectly optimized ergonomics for drivers. With its special equipment and premium seat with swivel function, sound system with subwoofer and top heating, the cockpit becomes the driver's second home – a workstation that leaves nothing to be desired.

### Driver statements

What do you think makes the ParkPro stand out in practice?


**Max Kaiser, Project Manager Air & Style**  
"It's fantastic that the machine is built not just for covering area, but also especially for creating three-dimensional shapes of every kind."

What are the stand-out innovations/improvements?

**Janis Jansons, Team Leader Nine Knights**  
"The entire operating concept supports fast changes in direction, precise steering and fast and delicate modelling. Long hydraulic systems and the new equipment rack also facilitate the tightest turning circles."

**Nejc Kralj, Head Shaper Stubai Zoo**  
"Thrust, manoeuvrability and blade size all help with pin-point accuracy in snow transport. And the blade features like sidecutting and back-blading to reduce manual follow-up work."

## The first PistenBully 400 ParkPro 4F in Italy

Funivie Madonna di Campiglio once again setting standards 



The world's first snow groomer with the latest TIER 4F exhaust gas technology is working in Switzerland. But in Italy too the first TIER 4F is a PistenBully: a 400 ParkPro 4F started work at Funivie Madonna di Campiglio S.p.A. this winter.

At the official handover ceremony on 18<sup>th</sup> December 2016, Francesco Bosco, CEO of Madonna di Campiglio S.p.A. was presented with this first Italian PistenBully 400 ParkPro 4F by Valter Tura, CEO of Kässbohrer Italia S.r.l. – along with a symbolic key as an emblem of the resort entering a new era in environmental technology.

Funivie Madonna di Campiglio S.p.A. has long been committed to the goals of sustainability and environmental protection and is continually implementing new innovative and exemplary projects in the area of environmental protection. Accordingly, it was inevitable that Campiglio would lead the field as soon as the ultimate clean engine technology came on the market.

Investment in the innovative low-emission engine technology from PistenBully emphasizes this commitment on the slopes. The ski resorts have been relying 100% on vehicles from Laupheim for many years. And in turn, Funivie Madonna di Campiglio S.p.A. ranks among the very top of Italy's best ski resorts.

The resort's entire fleet of 18 PistenBully were fitted with the satellite-based snow and fleet management system from SNOWsat last winter season. Naturally, the latest member of the family is also equipped with SNOWsat.



Iris Zehrer, Head of Market Research & Business Intelligence, Manova GmbH, Vienna

## Snowparks

Big expense – but also big return?

More and more ski resorts are focusing on fun on the mountain and on entertainment options beyond pure skiing. They are investing a great deal of money in snow parks and the like. How necessary is that ultimately? Are snow parks a futile labor of love that cost too much or are they genuinely appealing to customers, delivering a valuable competitive advantage?

We reach approx. 35,000 winter sport fans per winter season with our customer satisfaction monitor SAMON, covering diverse ski resorts. The questions include the role snow parks play in the decision-making process when choosing a ski resort.

The fact is that only a very small group (around 5 %) are specifically choosing a destination because of the snow park. The rest may well surprise you though – snow parks naturally appeal to a specific target group and are not the attraction for the vast majority of visitors. Yet the numbers are not actually that small. It would also be a fallacy to say that “only” day guests are involved, as around the same proportion of overnight guests to Austria’s ski resorts are there because of the park. Of course snow parks are a question of target group: it’s less surprising that this sector is younger – with an average age of around 29 – by ten years compared to the rest of winter sport visitors.

One thing is very clear from the data, however: guests that choose a ski resort because of the snow park are very active guests, whose visits to the resort are above-average per season and who undertake many different types of winter sport when they visit. And not only that – they are also very attached to the ski resort. The SAMON Love-Score, which measures emotional attachment to a ski resort, is much higher, while the likelihood of a return visit and recommendation are also well above-average.

Snow parks do increase customer loyalty to a ski resort, but not only that: this group would like to take part in alpine winter sports much more often in future. As many as 40 % – thus, much more than other winter sport visitors – say that they would like to hit the slopes more often in future. Snow parks then are especially successful at conveying emotion and enthusiasm for alpine winter sports! Not relevant for everyone, but for this target group it means offering good parks to create passion for alpine winter sports and the ski resort!



More fun for young and old.



# Funslopes are conquering the Alps

The true domain of the PistenBully 400 ParkPro

**One thing is at the top of the list for guests to any modern winter sports destination: entertainment! If you want to impress today’s winter sport fans you need a bit more than cleanly groomed slopes and a comfortable trip in an 8-person chairlift with heated seats. First it was the snow parks. Then 4 years ago, the firm Young Mountain sparked a true revolution with funslopes, defining a mainstream experience slope. With the construction and support of elements like shafts, steep turns, tunnels and snails, which are often reminiscent of obstacles on a mini golf course, the requirements for mechanical support have also crucially altered. Precision is the name of the game when it comes to sizing and clearing different parts of the slope. The best tool for constructing and maintaining such features is undoubtedly the PistenBully 400 ParkPro.**

Young Mountain is the European market leader when it comes to design, construction, daily support, but also marketing of fun offers in winter sport resorts. The Austrian firm recognized this trend and the demand that goes with it early on and has specialized above all in entertainment for young guests. The firm now operates more than 70 facilities in 6 countries.

Active rejuvenation of guests and inspiring the clientèle of tomorrow are the declared goals of the Graz firm. The first professionally constructed and maintained snow parks were created 13 years ago with the brand “QParks” (Quality Snowparks) under the motto “The Young Mountain is a Fun Mountain”. The appeal of these snow parks is not limited to people who already practice their tricks over jumps, rails and boxes at a high level, but also extends to freestyle beginners.

### Innovations don’t just stop with funslopes

Funslopes, however, have become even more relevant in the world of modern winter sport entertainment. This type of installation was created four years ago by Young Mountain and is protected by copyright. Guests are offered a varied course over shafts, boxes, steep turns or even a snail in a restricted area. Special elements, such as the High Five, ensure interaction. You need neither special skills nor a lot of courage to have fun here in your own way. Constantly striving for innovation, funslopes will be equipped with sound elements for the first time this winter. You hear applause if you make the High Five, the Speedboost makes an accelerating

sound as you go over it, and the newly created mascot “Slopy” lets no skier go by without a friendly greeting – pure entertainment.

Pirates and other fairytale dwellers have also now found their way onto the mountains. In collaboration with Pronatour, Young Mountain is creating the so-called Kidslope, aimed at little ones who are still doing their pizza slices across the slopes. With funny characters, which can be fully adapted to the ski resorts’ themes, the pros at Pronatour create colourful worlds of adventure to excite the children.

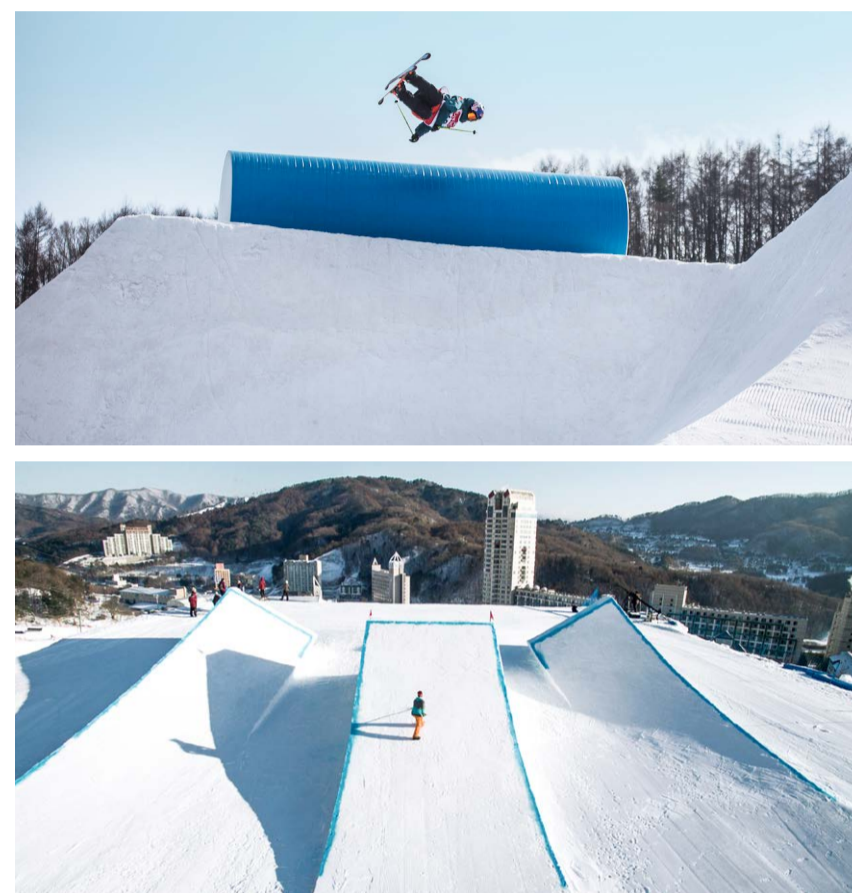
### Park designers are impressed by PistenBully 400 ParkPro

With the new demands on design for winter fun, the equipment that maintains the new features had to step up as well. Just as skiers and snowboarders are no longer content simply to carve down the slopes in bends, cleanly groomed surfaces are not enough in features like a funslope or a snow park. Quite the contrary – requirements have radically altered. The PistenBully 400 ParkPro was developed specifically for maintenance of fun installations. Because it delivers what it promises, it is also the first choice of the specialists from Young Mountain when it comes to funslopes. Steff Morocutti is one of them. The experienced park and funslope designer explains why the machine stands out: “The Pistenbully 400 ParkPro has a couple of features that were developed for the park and the funslope. The lever control, for example. You don’t have a steering wheel anymore, but control it using two sticks. So it’s no longer the case that I set off and then steer, but rather that my engine is on continuously and I deal directly with the tracks with my levers. This means I can work extremely intuitively in 3D, creating steep turns, for example.”



# The first step on the road to South Korea

The Slopestyle World Cup 2016 was built by Schneestern and PistenBully 



Building the ambitious course of the Slopestyle World Cup 2016 in Pyeongchang, Schneestern gave impressive proof of their visions and professionalism.

Picture a 70 % gradient, 150,000 m<sup>3</sup> snow, the winch cable disappearing far above behind the snow-capped peak and a PistenBully tirelessly making its way upwards. A long and laborious process, grooming the landing for a gigantic kicker. A process that symbolizes the developments in freestyle winter sports. The era of a couple of "ramps" being groomed amateurishly by hand are long over. Nowadays freestyle projects easily stand on par with established major events, such as the Four Hills Tournament. Halfpipe, Slopestyle, Big Air, Ski Cross and Snowboard Cross have now become Olympic disciplines, and the preparations for them are just as painstaking as those for the Alpine Ski or Ski Jump world cups. We want to take you on a journey to demonstrate the magnitude of the preparations for a freestyle event at the top level of winter sports. A journey that began months ago: the joint road of our partners Schneestern and PistenBully to PyeongChang, South Korea.

## New winter sport challenge: Slopestyle

Each winter sport discipline is a unique experience, regardless of the sport involved. Slopestyle has to be one of the most spectacular disciplines though. Gigantic features, with snowboarders and freeskiers spinning and flipping more than 20 meters above them. It's easy to see why such a competition set-up doesn't just get "stamped out". Based on experiences in Sochi, PyeongChang will be the first time an external specialist has been brought in. Accordingly, the FIS decided to issue an international tender for the creative design, planning and construction of the Slopestyle World Cup 2016.

## PyeongChang calls, Schneestern and PistenBully answer

This is precisely where our partner Schneestern comes into play. Nine firms, including Schneestern, were asked to express their interest in this challenge. Each crew had to outline their previous projects and references to show that they were in a position to deliver such a high-end project. Following the first round of interviews, the number of candidates was reduced to five. These companies then went onto the next round, and the elite of the snow park design world were then invited to South Korea in September 2015 for a site visit. The vision and professionalism of our partner impressed the committee, and Schneestern won the contract in October 2015 to plan and construct the official test event, the Slopestyle World Cup 2016 in PyeongChang. The next round, the actual preparations for the World Cup 2016, followed swiftly after successful conclusion of the

tender process. A total of 13 special obstacles were produced and then shipped to Korea. Boxes and rails were by no means the only things that the snow park designers needed on-site though, in order to realise the Slopestyle course. Their most important tools, PistenBully with Park features and SNOWsat support, stood ready to shift around 150,000 m<sup>3</sup> snow and model it into precise forms.

## SNOWsat means every snow crystal is exactly where it should be

With everything in place, work could commence: cutting landings, inruns and tables for the various lines, grooming features and installing the rails and boxes "Made in Germany". A course that began as a vision in September 2015 and was made into the exact image of its design in 14 days in February 2016. This was certainly down to the extensive experience of park designer Dirk Scheumann and his seven-strong shaping crew, but also relied on the support of SNOWsat, which enabled the PistenBully to put each individual snow crystal in exactly the right place. A digital terrain and park model created especially for the event was used to ensure that snow positioning was as eco-friendly and economical as possible, and will also facilitate precise reproduction for future events. On the PistenBully-YouTube-Channel you see details of the work and final results (Slopestyle@PyeongChang).

## Setup and competition on a world class level by now

The result is a perfectly conceived Slopestyle course, ideally tailored to the requirements of an event at the world class level and with the right flow for the athletes, who come from the world elite of freestylers. With a field that includes superstars Joss Christensen, Jesper Tjäder, Nicholas Goepper, Josiah Wells, Henrik Harlaut, Lisa Zimmermann, Silje Norendal, Billy Morgan, Logan Devin, Jamie Anderson and some more, it was clear that "riders" at this level would need a set-up that meets their requirements to the full. From 16th to 21st February, the athletes have had five days to put the course thoroughly to the test. An extremely stylish "stress test", which, considering the overwhelmingly positive feedback, was passed more than successfully. Already a few days before the World Cup, when athletes, coaches, photographers and media published the first pictures of the course, especially in the social media, the reactions were all enthusiasm and praise. With creativity, professionalism and the understanding of what athletes in the modern slope style need, Schneestern has set higher standards for future contests. The slope style course of Pyeongchang may

also be referred to as a "game changer", as it has shaped the picture of professional slope style contests. This result would not have been possible without the reliable "tools" of the Kässbohrer Geländefahrzeug AG and an interlocked cooperation with the FIS.

Good job! To be continued.



An "Open Driver's Door Day" was held in Masserberg in Thuringia for the next generation of track setters: people could find out everything they wanted to know – in theory and practice.

## SNOWsat conquers the Rennsteig

As a tourism brand, the Rennsteig – Germany's oldest and most popular hiking trail – is one of the most iconic of Thuringia. It is the most significant revenue driver for the Thuringian Forest. To meet guests' expectations, quality initiatives have to be implemented for the biggest target groups – for hikers and nature-loving cyclists in the summer and especially for fans of Nordic winter sports in the winter – perfectly tailored to each group.

As a non-profit subsidiary of the Thuringian Forest Regional Association (RVTW), the Infrastrukturgesellschaft Rennsteig mbH has invested in snow groomers and track setters from Kässbohrer Geländefahrzeug AG several times in the past. Together with its member communities it has worked to satisfy its claim to be the "Nordic Active Region Thuringian Forest", certified by the German Ski Association, and to meet the quality standards of that association.

The Thuringians decided to install our satellite-based fleet management system SNOWsat just in time for the start of the winter season. A total of 19 snow groomers, including some from other manufacturers, from 16 communities were linked up. The challenge for the SNOWsat experts was to link the large area of 842 kilometres of ski trails and 806 kilometres of cross-country tracks with the many communities centrally on one server, so they could be managed. Guests can, for example, find out which tracks are open and groomed etc. from a central body using the "Snow Telephone".



Christin Löffel

The advantages of the SNOWsat fleet management system are obvious: Optimized workflows reduce machine time and working hours. The quality of the cross-country tracks is improved thanks to more attentive driving coupled with more economical use of the snow groomers and track setters. This leads to lower fuel consumption and, thus, lower pollutant emissions. It is now really simple to calculate the track work between the two communities.

Christin Löffel from the RVTW Snow Team adds: "Delimiting the work has often been really difficult, as the vehicles are also working in neighboring communities because of the geography. Now this is all much easier to keep track of. This not only simplifies accounting, but also operational planning. We're excited now to see what comes after the first season."

We're staying with it and will report back next winter!

Since 2010, approx. 220 individual initiatives have been conceived and implemented in around 60 communities under the stewardship of the Infrastrukturgesellschaft Rennsteig mbH for the Rennsteig Year-round Concept, with the goal of creating a modern, target-group-oriented and region-specific infrastructure, supported by the Free State of Thuringia. The "DSV Nordic Active Region Thuringian Forest" with the 142-kilometre-long Rennsteig ski trail, not only offers the longest cross-country track in Central Europe, but also eight DSV Nordic Active Centres, five DSV Nordic Active Cross-Country Centres, 655 kilometres of certified cross-country tracks and 910 kilometers of ski trails.



In Villars-sur-Ollon they expected a lot of snow depth measurement

## SNOWsat impresses in Villars-sur-Ollon

The ski resort of Villars-sur-Ollon in Switzerland has been using a fleet management system for many years. The desire for a snow depth measurement system has also grown recently. Which is why the ski resort decided to equip its two new PistenBully with SNOWsat this winter.

There were two aims behind this: on the one hand, they wanted to optimise ski resort management, but above all to try out the possibilities of snow depth measurement. "This tool has a great development behind it. It offers exactly what we need", says Pierre Besson. In addition to improved snow production and distribution of snow volumes, the ski resort manager also points to improved effectiveness when working in the snow. "Drivers now feel safer because they know precisely what they have under the tracks and no longer need to use probes in the snow." Pierre Besson is impressed by the technology: "If you want to groom perfect slopes it is an advantage to know the actual terrain. I believe in combining our drivers' years of experience with the technology for snow depth measurement."

In Villars-sur-Ollon they are now thinking very seriously about converting the entire fleet to SNOWsat, because ultimately the systems for snow depth measurement and snow and fleet management need to be compatible as well. Thus, the plan now is to switch completely to SNOWsat in stages.

## Business Unit SNOWsat

Stefan Lux is heading up this new business division



Stefan Lux

SNOWsat has recorded impressive results over the last few years. Worldwide growth has now led to the restructuring and expansion of this product sector: since 1<sup>st</sup> March 2016, SNOWsat now has its own business division within Kässbohrer Geländefahrzeug AG, bundling all development resources together. Stefan Lux, the former Product Manager of SNOWsat, is heading up this new business division. There are now around 20 SNOWsat experts working all over the world. At the same time, SNOWsat SARL is now a 100-% subsidiary of Kässbohrer Geländefahrzeug AG.

We wish the whole team every success and good fortune in all the decisions they make!



Thomas Lingg, pioneer from Steibis in the Allgäu: "SNOWsat meets our expectations 100% – and guarantees higher revenues and lower costs."

SNOWsat upgrade for Imbergbahn in Steibis, Allgäu 

# A win for the environment and the balance sheet!

Kässbohrer Geländefahrzeug AG brings together economic, ecological and social factors within its corporate strategy, BLUEIQ. For our customers this means more benefits and greater profitability, for us all, a better environment.

Once again taking the lead: at the end of 2012, Thomas Lingg, Managing Director Imbergbahn became the second customer in the world to add an eco-friendly PistenBully E+ to his fleet. In doing so, he underlined the significance of sustainability and especially the necessary protection of valuable natural resources. The snow and fleet management system, SNOWsat has also been used for several years now in Steibis. Imbergbahn in Steibis has now upgraded its SNOWsat system to the latest generation V3. The decision has already been made to upgrade SNOWsat for the Hündlebahn next season. We talked to him about the upgrade, his expectations and the advantages for the ski resort.

**PistenBully News:** Mr Lingg, you were one of the first in Germany to buy SNOWsat. What were the key arguments that persuaded you to buy the snow depth measurement system from Kässbohrer in the first place?

**Thomas Lingg:** As a ski resort at a medium altitude, we of course have to deal with mild temperatures, as this winter has clearly demonstrated once again. Efficient snow management is becoming increasingly important and equals real money. We also tested a competing product back when the original decision was made. The key argument for SNOWsat was the reliability of the display on the one hand and, on the other, that we were getting a product from Kässbohrer and there wouldn't be any problems with interfaces as a result.

**PistenBully News:** What made you decide to upgrade the system to the latest generation of SNOWsat?

**Thomas Lingg:** Looking back at last winter with SNOWsat showed us that we had to produce a lot less snow. We move snow to the slopes from outside practically down to the topsoil and can also be confident that we're not causing any ground damage. The system has been refined now: great features in the new generation of SNOWsat include the second high-resolution display, simultaneous display of machine data and snow/overview map, as well as the fleet and cost centre management.

**PistenBully News:** Do you have exact figures for the savings you have made with SNOWsat?

**Thomas Lingg:** We have been able to keep the valley downhill open for much longer. This means a six-figure income boost for us. We have also modified terrain using the information from SNOWsat – drastically reducing the time needed for grooming as a result. The system has already paid for itself this year. We have invested our money really well here!

**PistenBully News:** Does this mean your expectations have been met?

**Thomas Lingg:** It now corresponds 100% to our original expectations and completely fulfils all our requirements.

**PistenBully News:** Do your customers appreciate the improvement in snow quality coupled with resource conservation?

**Thomas Lingg:** Customers now always have a full snow covering. Brown patches are a thing of the past. And they certainly appreciated the valley downhill being open longer.

**PistenBully News:** Do your drivers accept the system? How are they managing with it?

**Thomas Lingg:** That was the big challenge. But SNOWsat has convinced them very quickly. Even the most critical driver wouldn't want to be without it now. And those who haven't got it yet can hardly wait. The handling is also really driver-friendly though.

**PistenBully News:** Four of five machines have already just been fitted with SNOWsat V3. The fifth will follow in the summer. Did everything go smoothly with the installation?

**Thomas Lingg:** The installation and the entire coordination went wonderfully. Everything was really simple.

**PistenBully News:** How satisfied are you with the support you got from Kässbohrer Geländefahrzeug AG?

**Thomas Lingg:** The cooperation was brilliant. It was an excellent experience. In short: the chemistry – a factor that shouldn't be underestimated – was just right.

**PistenBully News:** Mr Lingg, thank you so much for talking to us!

## SNOWsat across the whole fleet

Our drivers love it! 



Michel Frison-Roche

The ski resort of Les Saisies has been equipped with the SNOWsat fleet management system for several years. One vehicle was also fitted with snow depth measurement for the season before last. The experience was very revealing: the added value and benefits of this solution led the resort operator to take the plunge and equip the whole fleet with SNOWsat's system for snow depth measurement this winter.

The resort in France's Savoy region has been modernizing its snow grooming processes for the last 15 years using technical tools. They experimented early on with GPS on-board the snow groomers. They were even involved in the refinement of this early system, but soon turned to SNOWsat. "SNOWsat fulfils all our expectations now. The system is reliable and our drivers love it", says Michel Frison-Roche,

resort Manager. Benoît Schroo, in charge of snow groomers, confirms this. "The winters are getting ever more difficult, which makes machine-made snow ever more important to us. SNOWsat saved us this winter at the start of the season, which saw little snow production and little natural snow. Thanks to efficient management of the snow covering, we were ultimately able to offer good conditions for skiing. In some areas of the resort we were able to reduce snow gun production by 20%."

The resort of Les Saisies is involved in the European Sustainable Energy Action Plan and would now like to use SNOWsat to further this path. "There are two aspects motivating us here", emphasises Michel Frison-Roche. "Our first goal is to enable all our drivers to use the results of their colleagues' work in real-time. This prevents duplicate work and

unnecessary controls. The second goal is to align the SNOWsat software with the snow-making software, so that everyone involved is informed about the status of all slopes on a daily basis."

# The Italian market continues to trust in SNOWsat



Dr. Andrea Varallo, Grandi Funivie Alta Badia S.p.A

The theme of snow management is becoming ever more significant as people look to save resources – both from an environmental perspective and for economic reasons. Many Italian ski resorts have already recognized this and have installed SNOWsat.

Snow management is developing into a very important factor for all lift facility operators with regard to the climate change we are experiencing. A responsible approach to resources truly saves money. SNOWsat is an extremely useful tool in achieving this. Alongside the economic aspects, SNOWsat also delivers valuable support with regard to safety-related questions and helps to improve training and organization of staff. The snow depth figures for the slopes, the usage data for the snow groomers and the detailed understanding of the snow-making system – everything comes back to one common solution – true to the motto: “Ready for the Future”.

### Italy is a significant SNOWsat market

Back at its global market launch in 2010, the satellite-guided snow and fleet management system impressed ski resort operator Mottolino S.p.A. so much that the firm became the first customer in Italy, equipping its entire fleet with what was then known as “Package 1”. The number of customers relying on SNOWsat in the Italian Alps has grown steadily ever since. Some are content with management of their vehicle fleet, while others find great benefit in the real-time snow depth display right in the cockpit for optimum use of resources.

### SNOWsat in well-known ski resorts

60 snow groomers equipped with SNOWsat in seven Italian ski resorts is a very good sign: Funivie Madonna di Campiglio S.p.A., S.I.T.C. Canazei S.p.A., Impianti Colfosco S.p.A., Grandi Funivie Alta Badia S.p.A., Carosello 3000 S.p.A. and Funivie e Ghiacciai Senales S.p.A. as well, rely on optimized snow management, on economical use of resources and above all on safety at work.

### Customer Dr. Andrea Varallo

.....  
“The giant and parallel slaloms in Val Badia were both a great success. Conditions on the Gran Risa were perfect. This year as a major innovation we used the SNOWsat technology for the first time to model the slopes, which we were able to do thanks to map data and which allowed us to distribute the snow completely evenly on the slopes with the PistenBullys.”

## Tyler Fairbank, Jiminy Peak CEO Talks SNOWsat

# We can't imagine living without it!



The Jiminy Peak ski resort places a lot of emphasis on sustainability – now also with SNOWsat.

It comes as no surprise that Jiminy Peak Mountain Resort is the first ski area in the East to implement SNOWsat into its grooming fleet. Leading the ski industry in sustainability and environmental awareness is nothing new to the Massachusetts resort. Currently, a staggering 90 % of the resort's electrical power comes from local renewable sources. Installed in 2007, Jiminy Peak's 1.5 megawatt wind turbine provides approximately 66 % of the resort's electrical demands annually. More recently, Jiminy Peak became a part of the largest community solar installation in the Northeast. The 2.3 megawatt solar project covers 12 acres near the base of the resort and provides solar power to Jiminy Peak as well as over 100 local community solar subscribers. A cogeneration system which is more environmentally friendly than traditional power plants produces 400,000 kWh per year and is the heating source for Jiminy Peak's Country Inn and amenities. Additional energy savings and efficiency are performed on a daily basis using new LPX snowmaking technology in conjunction with decades of careful water and land planning. Jiminy Peak's decision to purchase SNOWsat in 2015 was just one more logical step forward on a path to a further enhanced financially and environmentally sustainable future.

Tyler Fairbank, CEO of Jiminy Peak Resort, MA, responded to a few of our questions about how the SNOWsat system has thus far impacted the resort. Jiminy Peak is currently home to 2 SNOWsat systems and 4 PistenBully 600s.

**PistenBully News:** What was the primary incentive for Jiminy Peak to purchase SNOWsat?

**Tyler Fairbank:** We want to be as smart as possible when it comes to balancing the costs of making and moving snow while providing our guests an outstanding on snow experience. We felt SNOWsat would give us the information we needed to be able to do that in a way we have never been able to before. We were right. Having SNOWsat this year has been invaluable.

**PistenBully News:** With a slow start to the season for the entire East Coast, can you say that SNOWsat has lessened the financial impact of warm temperatures and little early natural snow fall? Please elaborate.

**Tyler Fairbank:** We were able to have detailed views of the trails that allowed us to see factually where we had moveable snow and where we had thin coverage. It takes the guesswork out of it for the groomers. They do not necessarily know what the underlying terrain looks like. They were able to “spread the butter” much more effectively. We also had a fact based understanding of exactly how much snow we had on each trail and altered our snowmaking plans accordingly. That saved us a lot of money. That was huge.

**PistenBully News:** How have your operators reacted to the system?

**Tyler Fairbank:** They love using it. Even the guys who have been around forever that I was concerned wouldn't like it thought it was fantastic.



Tyler Fairbank on SNOWsat: “I would highly recommend it.”

**PistenBully News:** What is your favorite feature of SNOWsat and why?

**Tyler Fairbank:** I am not an operator so I can't speak to the features on board the machine, but being able to factually see what the coverage on the mountain is and make fact based decisions about where to make snow and where to move snow to is saving us a lot of money. It's one of the first things I look at every morning now.

**PistenBully News:** How was the support that KATV provided to your resort from the SNOWsat installation to the technical support up to this point in the season?

**Tyler Fairbank:** Terrific. Outstanding support.

**PistenBully News:** At this point in time, can you say that SNOWsat has been a good investment for your resort? Would you recommend the technology to other resorts?

**Tyler Fairbank:** Absolutely it was a good investment and I would highly recommend it.

**PistenBully News:** Do you have any additional comments or concerns about SNOWsat?

**Tyler Fairbank:** It's one of those tools that once you have it, you can't imagine living without it.



Despite difficult weather conditions, excellent slopes were produced thanks to SNOWsat.



An excellent investment with absolutely convincing results.

# SNOWsat – guarantor of success for the Skicross World Cup

Excellent snow surface produced in Val Thorens despite lack of snow 

Thanks to SNOWsat, Val Thorens was able to host the Skicross competition in December 2015 with outstanding slope conditions, despite an acute lack of snow and difficult weather conditions. The system enabled the resort to collect the existing snow from all over, groom the circuits and spread machine-made snow as needed – and in record time.

Skicross is a spectacular discipline. The mix of alpine and freestyle is performed on a specially prepared slope with tight bends and a variety of jump elements constructed from snow, with four skiers taking part at a time. Excitement, action and daredevil maneuvers make this sensational sport a highlight for spectators.

Grooming the slopes in Val Thorens proved to be extremely difficult, as the temperatures were too high to produce the snow needed to create the slopes.

The weather gods would have won, if it were not for the snow groomers, which had recently been equipped with the SNOWsat system for snow depth measurement.

“The machines went all over the resort, even detecting places with the slightest amount of snow, where despite everything it was still possible to collect a little snow, while still leaving the necessary amount in place”, explains Thomas Girlando, the driver, whom the FIS had entrusted with creating the jump elements. Huge time savings were also achieved with this system: Instead of having to keep getting in and out of the vehicle to measure the snow depth with a probe, we were able to perform this work directly from the cockpit.”

He explains: “While the main goal was initially to ensure perfect grooming of the courses, it was also important with such a media-effective competition as the World Cup, to be able to cover the areas next to the slopes and even the entire terrain with machine-made snow. This created an even covering of snow, despite it being only a few centimeters thick.” This achievement was also down to the SNOWsat system.”

Accordingly, the World Cup was hosted successfully on 11<sup>th</sup> and 12<sup>th</sup> December last year. The icing on the cake for the organizers and spectators was watching Jean-Frédéric Chapuis achieve his first World Cup victory.

**Interview with Denis Chapuis – Deputy Technical Manager and Head of Purchasing at SETAM, the operator of the Val Thorens resort.**

**PistenBully News:** Why have you invested in a system with snow depth measurement?

**Denis Chapuis:** We are using 14 snow groomers in Val Thorens, which are all already equipped with the SNOWsat system for fleet management. This winter we have installed the additional “snow depth measurement” feature in four of them. The goal was to optimize the snow covering and to achieve savings in terms of the working hours of the vehicles and snow production. The system has now been used for the first time during the World Cup, and the verdict was unanimous: total satisfaction! It was an excellent investment, and the results are absolutely convincing: the working hours of the machines were shorter, which means fuel consumption was lower – and less snow was needed, which meant savings in terms of water and power.

**PistenBully News:** How are the four machines currently fitted with the system working out?

**Denis Chapuis:** The SNOWsat system for snow depth measurements is fitted in 4 PistenBully. The vehicles work in 2 shifts, with each working between 1,000 and 1,500 hours per season. The two PistenBully 400 Park are allocated to the Snow Park, which is relatively important in our ski resort. The park consists of two parts: one area is intended for beginners with an easy, green-marked course, while more confident skiers can follow the blue course. Then we have the area for specialists. Here there is a course with red markings for really tough skiers and then the black course after that. This is the most difficult and is used for competitions. Both vehicles also work on the skicross slope and on the new funslope, which was created this winter. With its bridges, tunnels, spirals, tight bends etc., it is ideal for families and children. The other two vehicles are used across the rest of the alpine ski area.

**PistenBully News:** Do you intend to equip the other machines with the snow depth measurement system as well?

**Denis Chapuis:** Definitely. We are working towards it and will equip the ten remaining machines with this system soon. Once our drivers have worked with the snow depth measurement system, they don’t want to get back in a snow groomer that works without it. They basically feel as though something is missing! That is the price of success!



Big picture: In some places the salt ponds shine pink in the sun. A sign that a certain microalgae lives in the water here / picture left: Snow-white mountains of salt / picture centre: The floor of the ponds must be finished with minute precision. Picture right: Daily cleaning with fresh water is essential for this type of work.

# Salt on their skin

Two PistenBully under the hot Namibian sun 

Two PistenBully 300 Polar GreenTech are a long way from home in Namibia. Walvis Bay is around 30 kilometers south of Swakopmund on a lagoon surrounded by the Atlantic Ocean and the golden sands of the Namib Desert. This is Namibia's most important deep-sea harbor. There is a large salt production plant to the south of the city. You can see the snow-white mountains of salt soaring into the sky from a long way off. The 3,500-hectare Salt Works site produces 400,000 tons of salt a year.

Namibia Construction – predominantly active in building construction and civil engineering – has won the contract to build new ponds for sea salt extraction on the Salt Works site. The current stage of the project covers approx. 120 hectares; 6 ponds of 20 hectares each are being built in this area. The ponds are ringed by 1.5-meter-high and 4-meter-wide walls of sand and earth. The floor of the ponds must be finished with minute precision. The ponds will later be filled at set intervals with approx.

10 cm of water. After two to three years, the salt layer grows to 0.5 m. The biggest problem during construction of such salt pans is that conventional wheel loaders and bulldozers sink and get stuck in the very wet ground.

Hans-Peter Schulz, co-owner of Namibia Construction, was already aware of Kässbohrer Geländefahrzeug AG and so he wondered whether PistenBully would be able to work with the construction site. The crucial factor in his choice of PistenBully was first and foremost the uniquely low ground pressure and the extreme thrust of the machines. Once the first PistenBully 300 Polar GreenTech had proved itself, a second vehicle followed with the same configuration. What could be better proof of the high satisfaction with the vehicles in practical use?

Salt, sand, water and brine are some of the toughest challenges for any vehicle. Naturally, the PistenBully were optimized for this job. The guide unit and the star wheels are made from wear-resistant steel.

The PistenBully were also prepared with sea wax before setting off on their long journey. Thorough cleaning is essential for this special job, especially in the motor pumps and running gear, which is performed daily with fresh water.

Obviously, the PistenBullys are also equipped with air conditioning. Equipping the PistenBully GreenTech machines with rear equipment racks and tillers is, however, unusual. The intention is to mill the salt layer, which was previously loosened with a scarifying track. Accordingly, a lot more material could be loaded and transported thanks to the lower volume. This would be a clear saving in terms of time and cost.

The customer also wanted the PistenBully GreenTech to be fitted with a GPS blade control, as the ponds need to be completely even. The blade is controlled automatically via the hydraulics.



Gerhard Ummenhofer, head of the working group Development Hydraulics, explaining the hydraulic components in the PistenBully.

# Hydraulics you can touch

Students from FH Ulm visit Kässbohrer Geländefahrzeug AG

Manufacturers of hydraulic components and drive systems are very well-represented in southern German and especially in the Ulm area. All of our products – whether working on snow, the land or the beach – are predominantly hydraulically run and also have to work smoothly under extreme conditions. That's something you can rely on from the innovation leader. A qualified next generation is more important for the future than ever – especially in our region. With the goal of facilitating practical research and better training and education in the region, several companies and the Ulm Chamber of Commerce collaborated with the FH Ulm back in 2012, founding the "Hydraulics Centre of Expertise" there. Naturally, Kässbohrer Geländefahrzeug AG is also part of this project.

The costs for the endowed chair are shared by the Chamber of Commerce and the companies, while the university provides offices and labs. Excursions to the participating companies are a major part of study. In mid-December, 18 students visited Kässbohrer Geländefahrzeug AG with their professors. Logically, the focus was on PistenBully technology and particularly the hydraulics, presented first in a theoretical lecture and then followed by a practical tour with explanations in production. The students were enthusiastic: an extraordinary product with innovative technology – hydraulics you can touch at Kässbohrer Geländefahrzeug AG.



Florian Profanter passes his precious experiences in theoretical and practical trainings to the participants of the PRO ACADEMY.

## Resource-saving and efficient operating

New: the PRO ACADEMY with Florian Profanter

**Sustainability and efficiency in grooming are playing an ever greater role at ski resorts. That's why Kässbohrer Geländefahrzeug AG always links technological innovations with ecological and economic aspects within the framework of the corporate strategy Blue IQ. The new PRO ACADEMY will be part of this strategy starting in April. The PRO ACADEMY is headed by Florian Profanter from South Tyrol. Florian Profanter has a lot of experience: for many years, he has been advising ski resorts on taking an economical, sustainable approach to snow as a resource, and within the new PRO ACADEMY is now offering – on a manufacturer-independent basis – 5 different modules for intelligent snow management.**

### Module 1: Entry training for snow groomer drivers

This theoretical course offers beginners valuable knowledge relating to drivers, vehicles and slopes. The course content ranges from technical functions and controls of the snow groomers of various manufacturers to the basics of snow grooming. There is a focus on a smooth and economical driving style and how to use the vehicle safely. This course is based on the participant's level of knowledge and on the requirements facing the future drivers. Before you let new drivers loose on the slopes, send them to us!

### Module 2: Advanced snow grooming

This theoretical and practical training, also manufacturer-independent, is aimed at people with experience, i.e. drivers and fleet managers. Themes include basic configuration, daily grooming, working with spring snow, and storing the vehicles in summer. The expense pays off. Saving potentials are identified together with the team. This can really reduce the variable costs of snow grooming. And optimized slope quality gives your resort a direct image boost.

### Module 3: Snow management

More and more often, machine-made snow is proving to be the foundation of a successful season. In theoretical and practical training for machine

operators and snow managers, we cover everything from initial and secondary snow production to storing the machines in the summer. Learn how to make efficient use of the time and weather and avoid overproduction and waste. Naturally, we also provide a lot of information about SNOWsat in this course. Clear and intelligible and immediately applicable. This reduces the production costs for machine-made snow without lowering the quality of the slopes. On the contrary. Skiers will love your slopes.

### Module 4: Competition snow grooming

As an organizer, you are faced with very specific requirements when it comes to grooming competition runs. The organizing committees of the major international competitions expect the highest quality. To help you meet these standards, we offer a special course dealing with precisely these aspects and also offering helpful tips for disciplined and efficient fulfilment of these standards. It's all about professionalism.

### Module 5: Individual consultation – learn how to save costs

Identifying saving potentials means recognizing waste, in order to permanently reduce the variable costs that arise in snow grooming and snow production. An important factor, for example, is correct positioning of snow guns in autumn, so that snow can be built up at strategically important points. Moving volumes of snow later on takes a lot of time, energy and cash. An even snow covering means you can avoid superfluous snow production. Non-existent turning points or too much overlapping of the individual routes result in certain sections of slope being groomed twice. Other factors that devour time include long trips to refuel, poorly positioned winch anchor points and, of course, follow-up work to create passages between routes, ice plates etc. This is where Florian Profanter comes in: he inspects the resort with the key players, identifies the optimisation potential and develops a fully customised plan for practical implementation of his recommendations. The resulting intelligent snow management enables the customer to achieve optimum snow conditions, while minimizing the variable costs.

### Theory is good, practice is important!

He offers the ski resort an all-round service thanks to his years of experience. Well-trained staff are undoubtedly the most significant factor for successful implementation of the findings. Ultimately, they are the ones sitting alone in the vehicle with responsibility for whether the big plan works or not. That's why Florian Profanter places such a high value on intensive training for all a ski resort's staff. The successful formula is a clear theory that can also be explained and tested out intensively in practice. This results in an inspiring and very productive exchange of knowledge, from which everyone benefits.

### Other reasons for PRO ACADEMY:

- Bespoke training and consultation service for your ski resort
- Manufacturer-independence
- Many years' experience in snow grooming, snow management and snow production
- Mastery of slopes of every difficulty level
- International know-how
- Proven in practice at the Olympics, World Cup and Europa Cup competitions

### Contact:

florian.profanter@pistenbully.com  
Telephone: +39 331 4926778

## That's what the participants say

### Wilhelm Berkold, slope manager of the Fellhorn- /Kanzelwandbahn

"In the past two years, Florian Profanter has carried out theoretical and practical trainings for ski slope preparation, snow grooming machines and artificial snow making with us. He communicates his wide knowledge in a calm and understandable way and he convincingly explains the different tactics of ski slope preparation. In the theoretical trainings, he already discusses part of the annually due instructions to the drivers, which means a great relief for the people in

charge. New drivers learn in advance, what is important for building a slope and our experienced drivers are most often reassured in their expert knowledge. The drivers are trained to drive damage-preventing and fuel saving and put this advice into practice immediately. With us, this training had a noticeable and positive influence on the water consumption during the basic snow making and also on the quality of the snow during the main snow making."

### Mauro Maffei, slope manager of the Funivie Madonna di Campiglio

"Last summer, we sent 6 young drivers to Florian who gave them a decent basic knowledge during a theoretical training. Later he came to our ski resort in order to train each driver individually, operating the snow groomer. Florian's training was really intensive. He brings the topics across in a very professional way and actively includes the new drivers, just like a real teacher would. Now the drivers come back after work and talk to each other about which of Florian's

tips they were able to put into practice. They discuss how they can optimize their own work and how the other drivers can make use of these strategies and drive as economically and sustainably as possible. And the "old hands" listen with interest, add their experiences to the discussions and so all of them always learn something new and useful!"



Close to the customer – personal on-site-support by our service

## PistenBully Service: We are here.

What does good service mean? Studies reveal that customers are primarily looking for reliability, high quality and short waiting times, when it comes to this question. Such findings are no surprise to our After-Sales Service, but do confirm what our customer service staff, mechanics and training consultants are doing for our customers on a daily basis – all we ever want is just for you to be impressed by our service!

### Personal support, open and honest advice

We know what the breakdown of a snow groomer means to a ski resort. That's why we invest a lot of time, money and effort into a sophisticated, fast-response and globally available service network. That's why we guarantee service engineers and original spare parts on site within 24 hours. That's why we have over 130 service stations and agencies in over 70 countries. That's why we're there when it counts. And that's why we really listen to make sure we get that little bit better each and every day.

### Technical Service

- Technical support
- Evaluation of telemetry data
- Advice and care
- Problem-solving
- Project support for direct integration of customer requests

### Repairs

- Overhauling used vehicles
- Technical support
- External customer support – from the North Pole to the Antarctic
- Select and GreenTech production

### Spare Parts

- Sale of > 25,000 original spare parts
- Individual customer support
- Service hotline: 24 hours a day, 7 days a week
- Digital and up-to-date spare parts catalogue incl. order function
- > 16,000 Orders with > 141,000 items
- Express delivery across Europe: overnight
- Express delivery worldwide: max. 3 days
- 24-hour "self-collection boxes"

### Customer-oriented Quality Centre

- Monitoring of DIN/ISO 9001 quality- & 14001 environmental certification
- Testing & release of initial samples and series parts
- Continual monitoring and controls in production
- Test facility
- Final release
- Product and supplier audits

### Technical Documentation

- Creating and maintaining the spare parts catalogue
- Creating and updating operating manuals
- Creating technical documents
- Internal training for technical staff (12 courses / 170 participants)
- In-house customer training (22 courses / 280 participants)
- Customer training locally for our customers
- Specialist lectures at universities

### Service-Hotline

Phone: +49 (0)171 712 40 96



800 kilometres over the eternal ice – PistenBully delivers the annual supplies to the Kohnen Station.

## No road too long

Emergency response Christmas



**We deliver our spare parts extremely quickly even to the remotest corners of the Earth. And we do it 24 hours a day and 365 days a year.**

Christmas Day, the goose is in the oven, the table is set. Christof Heim, Head of Spare Part Sales, Shipping and Customs, hears his

mobile ring. He is on call for the emergency service over the holidays. "My colleagues all have children, so I'm the one who works the holidays!" On 25th December 2015, he got a special message at lunchtime – via WhatsApp from the Antarctic. Our Service Engineer Ralf Krams had been looking after the PistenBully there at the Neumayer III station since November. He should have been on his way just before Christmas – on a trip that takes several weeks to the Kohnen Station, an outpost 800 kilometres away. The station is supplied once a year with provisions, fuel, medical and scientific equipment using 6 PistenBully and attached sleds.

Christof Heim called straight back. A fuel pump had to be replaced before departure. The timing was really tight, but that's no problem to our Spare Parts department – the pump and other materials were dispatched the next day via DHL on their way to Cape Town to catch the connecting flight to Sylvester. We were able to handle the customs declaration directly thanks to the simplified customs procedures for our firm. Further proof of our professionalism and trustworthiness. And a guarantee of punctuality!

In Cape Town the package was accepted directly by Russian airline ALCI, which flies from the South African city to the Neumayer station five times during the perpetual ice. Ralf Krams installed it immediately, ensuring that things could continue as planned from our side.

More on this in the next issue!

### Unten: Ordered late. Delivered early.

Day after day, we are working to make PistenBully even better. And that applies to service too: we deliver spare parts as quickly as possible to every part of the globe. And accept orders until 5pm throughout the winter.

Håkan Sjögren and Seth Johansson from our Swedish agency Winn Marketing AB regularly make use of this service. We get an order from them at around 4.45 pm at least three times a week. They are picked and packed immediately and despatched by 6.30 pm at the latest using a special transport service, which runs daily for PistenBully to the DHL logistics centre near Laupheim. This means that Håkan and Seth receive the goods in Umeå, 650 kilometres north of Stockholm by the next morning by 10 am at the latest and can send them on their way.

It really doesn't get any faster than that!





Heart and soul for his customers: Christoph Huber

Christoph Huber, PistenBully Service Engineer, responsible for the entire Allgäu

## A man for all occasions

If a snow groomer does break down, the situation can become problematic rather quickly. We all know what it means for a ski resort. That's why Kässbohrer Geländefahrzeug AG has been investing for decades in a sophisticated, fast-response and globally available service network, which guarantees the rapid availability of service engineers and original spare parts – by overnight express within Europe and worldwide in a maximum of 3 days. There are 130 service stations and local agencies spread across the whole continent. One of these men for all occasions is Christoph Huber, a service engineer from Bad Hindelang. Responsible for the entire Allgäu, from Pfänder to Tegelberg, from Ulm to the Kleinwalsertal, he knows all his customers – and they know and trust him.

**PistenBully News:** Your workplace is the mountains – do you actually have an office?

**Christoph Huber:** My large kitchen table – that's my office! I have a large workshop and a well-equipped warehouse with a large stock of all common parts. Ultimately, that's the prerequisite for fast assistance, making my work easier and saving the customer time and money.

**PistenBully News:** You always imagine a PistenBully engineer with white mountains in the background. What does a serviceman actually do in the summer?

**Christoph Huber:** Well – you might assume that I spend the whole summer lying around on my terrace. But in the summer months we have the summer review – customer service and maintenance of individual vehicles. In practice this means that I painstakingly check over the vehicles with the men on the ground, finding out what needs to be done to ensure the PistenBully runs like clockwork in the winter. Often I'm showing them the best way to change something. I work hand-in-hand with the guys.

So the summer overhaul is also a training opportunity for the workshop employees. This means they always have the latest knowledge. This optimum preparation dramatically reduces downtime in the winter. Then the guys are often able to repair something themselves, without me having to return. Looking back at the last few years, I really have to say that far fewer service errors are being made, at least in my area of responsibility – because there has been truly intensive vehicle training over the summer.

**PistenBully News:** Is that not also an additional financial burden on the customer?

**Christoph Huber:** Initially yes, they are also incurring costs in the summer, but that quickly pays off in the winter – because the well-prepared vehicles run reliably without long downtimes. Incidentally, it is much nicer to work on the vehicle in or outside the workshop in summer, than having to do it in winter somewhere on the mountain at minus 20.

**PistenBully News:** What does a typical customer service job look like?

**Christoph Huber:** The customer calls, explains the problem and I try to make a diagnosis first of all over the phone. It's usually clear to me at that point what the problem is and so I pack the necessary parts and repair the defect quickly on site.

**PistenBully News:** Do you have all parts in your warehouse then?

**Christoph Huber:** No – that really would be too many... but due to the proximity to Laupheim, customers in the Allgäu have an advantage. If we don't have a part in stock, I make a quick call to Laupheim and they send me the part with a colleague straight to the Allgäu. In the meantime, I take out the old part – and within a couple of hours everything is up and running again.

**PistenBully News:** On average, how many jobs do you go on during the season?

**Christoph Huber:** For the around 300 vehicles I'm responsible for, it's always enough! My days in winter are always fairly well booked out with local visits. But part of that too is that I'm building and later dismantling demo vehicles, for example. On top of that I do get around 80 calls a day. These often relate to tips on upgrades or fitting. Or spare part orders, as my customers also like to get their parts directly from me.

**PistenBully News:** What was your most unusual call-out?

**Christoph Huber:** There have been so many – call-outs in winter in the mountains are always unusual. Once I battled for 2 hours in a snowstorm up a mountain to repair a PistenBully in a snowed-in hut. Later an enthusiastic tour hiker came by and thanked me for the great trail...

**PistenBully News:** You are really dedicated. More a vocation than just work. Do you have a secret formula for your job?

**Christoph Huber:** I don't have a secret formula – but it is no secret that any job that is fun, is much easier to do. And here it's not just a job but much more. There is a wonderful family atmosphere. Both among our colleagues and including the customers as well. I don't just know the vehicle, but also the family history of many of our customers. Then you're really pleased when you get to visit them again in the ski resort.






## Customer training

Training dates spring 2016

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. Take part in, e. g., our basic course: Summer overhaul / basic course for all PistenBully types.

Purpose:

- Carrying out of daily and weekly checks
- Maintenance and servicing according to the maintenance check list
- Professional conservation of the PistenBully for the summer months

	<b>When</b> CW 16 (19 – 20 April 2016) CW 17 (26 – 27 April 2016)		<b>Duration</b> 1.5 days <b>Begins</b> at 09:30 o'clock <b>Ends</b> at approx. 13:00 o'clock
	<b>Where</b> Kässbohrer Geländefahrzeug AG, Laupheim, Germany		<b>Charges</b> 210,00 €
	<b>Please bring with you</b> Laptop with Adobe Reader installed		

You can also register for courses easily online:  
[www.pistenbully.com/training](http://www.pistenbully.com/training)

## Spring Special

PistenBully Original Parts  
Spare parts at favorable prices

Just in time for the end of the season, we have assembled an extensive assortment of maintenance and wear parts for you. Take advantage of our top offers for original PistenBully parts. From track belts to filters and batteries, from tires and drive sprockets to winch ropes, our PistenBully Original Parts assure OEM quality, tested performance and high reliability. Over the summer, you and your PistenBully get a short breather from the miles and miles of slope and trail grooming during the winter. Take this opportunity to fully prepare and maintain your PistenBully for the upcoming season.

You will find more information in our summer catalogues or at:  
[www.pistenbully.com](http://www.pistenbully.com)





Signal for the PistenBully Cup: 150 children from two primary schools had tremendous fun and completed the "Biathlon Course" in classes in the sports hall. The PistenBully certificate went down well in any case. And no doubt: if such an event takes place again next winter, the children's fun factor will also rise!

## PistenBully goes to school

PistenBully is starting a new initiative in collaboration with the Ski Associations of Baden Württemberg (SBW) and the PistenBully Biathlon-Zentrum (PBB) under the motto "Step away from the PC – and onto the snow". The goal is to introduce primary school children to exercise and snow sports and to get them having fun exercising outdoors.

### PistenBully Cup for snow-hungry kids

The joint initiative with the SBW included primary schools all around the region served by the SBW invited to take part in the PistenBully Cup. As part of the winter sport day, or during their regular sport classes at school, the children complete a skills course and specific tasks, which build their coordination for different types of winter sports. The fastest four (two girls, two boys) will then represent their school at the big PistenBully Cup final.

All the pupils and teachers of the participating schools, and of course the parents, have been invited to the final round. The overall winner will be decided there and rewarded with a challenge cup. "We want to play an active part in getting children to enjoy exercise and above all to have fun with winter sports. The PistenBully Cup is our contribution", says Jens Rottmair.

### First steps towards biathlon

A concept was developed in the PistenBully Biathlon-Zentrum Dornstadt-Ulm, likewise with the support of PistenBully, to make things easier for children and teachers alike. "That's why we're going into the schools – and in summer no less", explains Werner Rösch, the head of the PBB. The mobile laser system means we can hold the preliminary rounds in the schools. The best school teams are then invited to the PistenBully Biathlon-Zentrum in Dornstadt for the regional final. "We are hoping for a great event", says Rösch. Things will continue for the teams once the first snow comes. "Our athletes, many of whom have trained as school mentors, will each take on a school as a patron, staying in touch and sharing their own enthusiasm for winter sports", adds Rösch. The state final will then be held next winter.

## We'll be there!

The initiative "Your winter. Your sport." aims to develop winter sport with a fair balance between economic and ecological requirements. Posters have been developed with the DSV for this purpose, which are hanging in 228 DSV Nordic Centres across Germany.



Over 60 children train at the Biathlon Centre Ulm, who have also been enjoying a lot of competition success.

Encouraging young people, looking after the environment

## PistenBully makes it possible

Biathlon in the lowlands? Some have been astonished over the years that there is a biathlon centre in Dornstadt near Ulm, which offers training aimed at both top athletes and the wider public. The PistenBully Biathlon-Zentrum has been up and running for ten years with functional buildings, an asphalt trail and shooting stands for laser and air rifles, which are used by the youngest visitors, and a shooting range for small-bore rifles for the older ones. Around 60 children and young people are now actively using the facility. Marina Sauter recently proved what a good foundation the centre



Jugendweltmeisterin Marina Sauter

lays. She is part of the German national squad and took home the world championship title in the Individual and bronze in the Pursuit at the 2016 Youth World Championships. The centre has produced an additional eleven national squad athletes on the youth and children's teams and two prospective squad athletes, who now train some of the time

at higher centres of excellence (Ski-Internat in Furtwangen and Stams). Seven qualified trainers working for department head Werner Rösch and a dedicated team of supportive parents are responsible for the excellent conditions at the centre.

approach. Aside from the fact that trips to snow-safe regions in the Alps for regular training sessions several times a week take too long, the cost is way too high in terms of petrol and environmental impact. "With 50 children and young people we were travelling to each training session in six minibuses", explains Werner Rösch. The cost to power the snow guns and fuel the snow groomers for track preparation looks almost modest in comparison. It also means we can train in the evenings on the illuminated course when the children and young people have time after school or studying.

The ecological assessment is thoroughly positive, especially as the Ulm biathletes are not impacting the environment thanks to the machine-made snow, but are just creating a thick layer of snow around the shooting stands and grooming the asphalt track as a cross-country trail. The experience of the last few years has shown: if there is too little or even no snow around the centre, the athletes can still enjoy excellent training conditions for many weeks thanks to the machine-made snow.

A lot of emphasis was placed on sustainability even in the building of the PistenBully Biathlon-Zentrum in Dornstadt. A 1,000-m<sup>3</sup> cistern sits beneath the facility, collecting surface water throughout the summer, which is used to create safe training conditions for Ulm's biathletes in winter by means of snow guns. When the thaw comes, most of the melted water from the facility and the trail returns to the cistern. This means it can be used again for snow production. Werner Rösch is happy in any case that he is able to offer high-level biathlon training in the lowlands: "We could not achieve any of this here without the support of PistenBully."

Machine-made snow is frequently criticised – but often unjustly. Austrian ropeway firms recently collated some interesting facts:

### Facts about machine-made snow from Austria:

- ⊕ approx. 23,000 ha slopes (around 65 %) are covered by snow guns
- ⊕ approx. 420 reservoirs available for economical snow production
- ⊕ 85 % of the energy needed comes from renewable energy sources
- ⊕ Energy consumption reduced to just 3–1 kWh per m<sup>3</sup> snow
- ⊕ Energy consumption of approx. 15,000 kWh per hectare and year

### In comparison:

- ⊕ Energy consumption per skier and day only 4.2 kWh! A car would only get 6 kilometres on that!
- ⊕ A flight to the Caribbean with 200 people consumes around 1,500,000 kWh – that equates to 100 hectares of slopes or 7,500 kWh/person

(Source: Austrian ropeway firms, 2015)



Linda Stricker, widow of Italian ski racer Erwin Stricker and Managing Director of the Sportservice Erwin Stricker, presented the "Lifetime Achievement Award" to Erwin Wieland, who has successfully steered the history of Kässbohrer Geländefahrzeug AG for decades, earning worldwide recognition in the process.

## What a life's work!

Erwin Wieland remains an acknowledged major player across the whole snow and winter sports scene. And that's 16 years after withdrawing from active professional life.

Together with Walter Haug, the former Head of Design, he is one of the pioneers of mechanical snow grooming and has been crucial in the impressive success story that is PistenBully. For many years, he also served as spokesman for the supply industry on the board of the VDS (Association of German Ropeways Firms).

Initially as sales manager, he played a major role in promoting the PistenBully product range at Kässbohrer Fahrzeugwerke GmbH. He made his mark far beyond the firm thanks to the manner in which he led the now independent Kässbohrer Geländefahrzeug GmbH through stormy times and then led the AG as CEO, after the firm's successful listing on the stock market in 1998.

This extraordinary dedication has earned him a great deal of recognition at home and abroad. Last year, for example, he was given a "Lifetime Achievement Award", which is always presented by the international Skiareatest to worthy individuals from the winter sports sector, in the presence of representatives of Europe's major ski resorts during the largest European trade fair, the Interpin in Innsbruck.

Rightly so, we believe! Congratulations once again, Mr Wieland!



PistenBully man from the very beginning: Walter Sautter

## Total passion for PistenBully In Walter Sautter we are losing a true veteran

The people who work for a company and the spirit with which they do so are a valuable asset. Walter Sautter has been here since the very beginning, our master in PistenBully production. He has played a crucial role in the success of PistenBully: Walter Sautter has delivered outstanding efforts for "his" PistenBully.

In 1968 Walter Sautter was still an apprentice, when he was ordered into a wooden hut. This was the testing area of Karl Kässbohrer Fahrzeugwerke. And everything that occurred in this garage was subject to the strictest secrecy. "The fact that the vehicle being developed would radically shape my working life for the next four decades, was never something I thought possible at the time", remembers Walter Sautter. He has been the master of production since 1986. No-one else knows the vehicles as well as him – ultimately, he has been there for every PistenBully generation, from the PistenBully 145 right up to the brand-new PistenBully 100 4F!

"We can't" has never been in his vocabulary – he even makes the impossible possible. At the demonstrations we had to show what we could do in direct comparison with the other competitors. "I have never voluntarily given away a race – without concern for losses", reveals Sautter.

In February, "our Walter" left us for retirement. And with him almost 5 decades of experience! The entire PistenBully team is indebted to Walter Sautter for his outstanding work and his extraordinary commitment, and we wish him good health above all for the future! And perhaps we will see him from time to time back in the seat of a PistenBully, when he's grooming tracks in the Black Forest...

## Reader Survey PistenBully News 2015

# Thanks for taking part!

We were thrilled that so many of you took the time to respond to our Reader Survey. The keen participation shows us how important PistenBully is to you and the commitment you feel. There was much praise (which is always nice of course) and a lot of suggestions (some of which we've responded to in this issue). Here are a few of your words to represent the many positive messages: "Great magazine, I'm always pleased when I get mail ;-)" and "THANKS for all the info, pictures, perfect Bullys and slopes!"

Of course, we would like to respond to all questions that you asked directly or indirectly in your comments. Due to the constraints of space, we would at least like to tackle some of the repeated remarks.

### "What is missing or should be emphasised more?"

You would like more practical tips and reports on driving and real-life usage. We've taken this on board in the article "The perfect trail – tips on cross-country track grooming" on page 5, offering you tips from practical experience in line with the motto expert know-how from drivers for drivers.

### "You mustn't leave out the poster from the middle pages"

We have always had that in the past and will happily do so in the future – depending on the motif and the available space – whenever we can!

### "I would happily read the PistenBully News monthly too!!! ... A great magazine!"

Naturally we were thrilled with that! However, it's always a question of consideration: because we know how much effort goes into an issue of PistenBully News. Ultimately, before anything gets written it all has to be researched and coordinated internally. We are not able to publish more often at the moment unfortunately – but you can always take a look at [pistenbully.com](http://pistenbully.com) or our pages on Facebook and YouTube. You'll find up-to-date information there to keep you going!

We'd also like to take this opportunity to say that we look forward to hearing from you again in the future and are always happy to receive your suggestions.

## From the PistenBully Shop Our latest fan shop merchandise

### PistenBully Leather Belt



Black leather belt incl. metal buckle with 2D embossment in PistenBully design.  
**Belt:** 120 cm x 4 cm **Buckle:** 90 mm x 60 mm x 4.5 mm  
**Colour:** black **Material:** zinc alloy

€ 59,90\*

### PistenBully Wallet




The wallet features two compartments for bank notes, six credit card slots, two slip-in pockets and a mesh-covered compartment on the inside. Zippered compartment for coins and a transparent slip-in pocket on the outside.  
**Dimensions:** approx. 14 cm x 9,5 cm (closed) **Farbe:** black  
**Material:** Nylon/Polyester

€ 13,90\*



# FIS Ski World Cup Finals in St. Moritz

Highlight of the alpine ski season 2015/16 

As a highlight at the end of the World Cup season 2015/16, the men's and women's finals of the FIS Ski World Cup were held from 16th to 20th March 2016 in St. Moritz. The venue of the World Cup final always hosts the World Championships the following year, which means the FIS Alpine Ski World Championships St. Moritz 2017 actually began in March 2016. The World Cup final is the major rehearsal for the Ski World Championships 2017, during which all the slopes, infrastructure and procedures are tested for the World Championships. PistenBully was at the heart of things, guaranteeing eco-friendly and efficient snow grooming at World Championship level with its products the 600 E+ and SNOWsat.

### Good for nature, good for your image

The World Championships next year will be groomed with an additional 6 new PistenBully alongside the existing fleet of 19 vehicles. Three of the "newbies" in their unusual World Championship design are already hard at work. One PistenBully 600 W SCR to create the perfect conditions on the challenging steep slopes. The two others are diesel-electric PistenBully 600 E+, which impress thanks to high energy-efficiency and the enormous fuel saving of up to 20%. Another 600 E+, incidentally the first E+ ever sold, has already been at the resort since 2012. A typical move by St. Moritz at the time: the philosophy of consistent sustainability for people and the environment and being as economical as possible with energy reserves.

### Eco-friendly even for world-class sport

Obviously the vehicles are equipped with SNOWsat – guaranteeing snow production and grooming at the highest quality level and a very economical approach to snow as a resource in any event. This package of eco-friendly technologies serves to emphasize the green approach of Engadin St. Moritz Mountains AG. Something that has already made the World Cup finals a particularly sustainable major event.



Adrian Jordan

For Adrian Jordan, Head of Technology COO at Engadin St. Moritz Mountains AG, SNOWsat and the E+ are making things much easier: "Generally, it's the thrust and the quiet operation of the machines that particularly impresses. SNOWsat offers major advantages when it comes to grooming racing slopes: knowing precisely where the slope is and what the current snow depth is, makes the work vastly simpler. In

addition, we also have clear reference points for the slope structures. The shaping and terrain work are much easier to manage. As soon as a slope is rated good, it is fed into SNOWsat and is then there as a reference for all drivers for minute accuracy. Finding anchor points and snow-making wells is also much easier. My people are impressed with the solution and would not give it up now."

For Adrian Jordan reliability and trust are very important for events like these: "PistenBully has been our partner for many years now. With the good experience we've had, it was obvious that we would master the 2017 World Championships together too. And do so calmly! Major events like this set the bar high. With 9 World Cup races in 5 days, you have to be able to rely on the equipment 100-percent. With PistenBully we can be confident of getting the best from our slopes."

## Dates

### PistenBully 2016

**AFTER  
WORK  
PARTY**

**May 2016**  
**10 – 12 May 2016,**  
**AfterWorkParty**  
Laupheim, Germany

**BIG  
DEAL  
DAYS**

**September 2016**  
**21 – 23 September 2016,**  
**BigDealDays**  
Laupheim, Germany

**D-A-CH  
SEILBAHNWIRTSCHAFT**

**October 2016**  
**12 – 14 October 2016,**  
**D-A-CH Seilbahntagung**  
Innsbruck, Austria

**bauma 2016**

**11 – 17 April 2016**  
**Bauma**  
München, Germany

European launch of the PowerBully on the Bergmann open-air stand FGN.N 914/1.

**MOUNTAIN PLANET**

**13 – 15 April 2016**  
**Mountain Planet**  
Grenoble, France

Meet our new arrival, the PistenBully 100 4F. The first PistenBully of the new vehicle generation. Stand A1, aisle A

## The BIG DEAL in April



Every month, a used PistenBully is offered at pistenbully.com at a spectacularly low price. In April, the Kässbohrer Geländefahrzeug AG offers a PistenBully 400, built 2007, approx. 5,900 operating hours. **Order number 700.82410005**

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