

Snow



NEWS

WINTER 2016-2017



Editorial

The SMI Team continues our relentless positive quest for improvement to our products, people and services.

Snowmaking investments remain a top priority for resorts across the globe. Leading mountain resorts continue to invest wisely in snow surface enhancements in an effort to Weatherproof™ for shorter and more marginal snowmaking windows.

significant resources into operating and parts manuals and communication as well.

SMI's full range of lowE stick, fan, automation and engineering solutions keeps us in a global leadership position. We encourage you to reach out to us at snowmakers.com, via local representatives or direct to our corporate headquarters in Michigan.

Thanks for helping SMI remain successful

Thanks for helping SMI remain successful and an industry leader. Our commitment to continuous improvement is stronger than ever, and we will keep working hard to earn your business.

New in the past year for SMI is a new company formed in Innsbruck, Austria. Also new is our office and parts room expansions at the Michigan facility. We have invested

and an industry leader. Our commitment to continuous improvement is stronger than ever, and we will keep working hard to earn your business.



Joe VanderKelen
President, Snow Machines, Inc.

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OFF THE HILL

Puma Themed Cake

SMI's rep in Sweden, Henrik Skoglund, surprised the manager at Bruksvallarna for his birthday with a special Puma themed cake.



SMI 2015-16 Photo Contest

Eric Haapala showing off the SMI custom Snowboard that went to Chase Melvin Shaw, the 2016 1st place photo contest winner.



US Army and National Guard Train with SMI PoleCat

SMI's rep John Parker taught US Army and National Guard how to be snowmakers for a day. With a little help from the SMI Pole-Cat, their ice wall training was a success!



2016-2017 SNOW MAKING SUCCESSES

THAIWOO CHINA

Adding 25 Full Auto Super PoleCat and Super Puma tower and swing arms to the current fleet of 40 mobile Auto Super PoleCats. Expanding pumping by over 1000 gpm (3780 lpm).

CASCADE, WI

Adding 8 new slopes and 2 lifts along with 25 Kid, Standard and Super PoleCat Full Auto snowguns. Also adding over 2000 gpm pumping capacity.

WILMOT, WI

New Vail resort doing complete snowmaking overhaul and adding 38 Super and Standard PoleCats to the fleet.

2015-16 SMI International Rep Meeting - working hard for you.



SNOWMAKING THE FORGOTTEN VARIABLES

Snowmaking is a dynamic and constantly changing challenge due to so many variables impacting snow production. Our team sees many resorts not planning nor reacting appropriately to the often over looked factors of wind, humidity and barometric pressure.

Wind



A strong wind will dominate and win every time in determining snow quality and landing / deposition zone. Wind speed and wind direction are important consideration

factors.

As more resorts go with fixed position snow-guns on one side of the slope, ask yourself:

- 1) What happens when the wind blows up, down or into the snowguns, instead of behind?
- 2) Does nucleation still work?
- 3) Does snow land on the slopes as frozen adequately?
- 4) Is it worth running?
- 5) Does this gun fight the wind? Fans generally do fight the wind, while lowE sticks do not.
- 6) When trialing or demonstrating a new lowE or "more efficient" snow gun, does it work when conditions get tough?
- 7) Does it make sense to own it and use it if it only "works well" 75% of the time?

SMI customers have seen cleaner wind and air with tower mounts at least 15' above the trail surface. So elevating the gun can be helpful, but don't go too high. The key is getting the snow to land on the slope.

Wind gusts can impact quality so be thinking about wind consistency as well.

Does your opening strategy think about cold winds from the direction not typically seen?

Humidity and Wet Bulb



Wet bulb is the lowest temperature that can be obtained by evaporating water into the air at constant pressure. The name comes from the technique of putting a wet

cloth over the bulb of a mercury thermometer and then blowing air over the cloth until the water evaporates. Since evaporation takes up heat, the thermometer will cool to a lower temperature than a thermometer with dry bulb at the same place and time. Wet bulb temperature can be used along with the dry bulb temperature to calculate dew point or relative humidity.

Low humidity wet bulb conditions tend to promote more effective freezing as compared to high humidity wet bulb conditions. So be sure to consider and track humidity, it is a huge factor in determining snowmaking success and efficiency.

Barometric Pressure



Due to gravity, our atmosphere has weight. About a ton of air is pressing down on you all the time, but you don't

feel it. That's because the same air pressure surrounds and supports you. Air pressure is measured with a barometer. When air is cold and dry, it weighs more (high pressure), so the barometer is higher in fair weather. When air is wet it actually weighs less (low pressure), so the barometer is lower when it is raining. Changing barometric readings indicate a change in weather. A falling barometer indicates a precipitation is rising. A rising barometer means clear skies are on the way. In snowmaking, generally a clear cold night creates the best conditions for optimal production on high pressure nights.

SMI has great fast acting weather devices you can use. Call us for more details.

Solar Weather Stations



On-Board Weather Stations



TAHOE DONNER'S SILENT SOLUTION

What are the big items that you consider when choosing a snowmaking system? Energy efficiency, sustainability, technology, operating costs and quality are some to think about. What about noise?

For Tahoe Donner Downhill ski area, owned by one of America's largest homeowner's associations, all of these items were major concerns for the Board and neighbors of the association.

Following their mission statement of "providing well-maintained facilities, events, programs and leading customer service to its members, guests and the public, all while maintaining accessible and healthy natural surroundings" led them to SMI for snow-making. The equipment was familiar to many of their skiers as state-of-the-art systems are located nearby in the Lake Tahoe area.

When choosing equipment, Tahoe Donner's focus on energy efficiency, first-class technology, manageable operating costs, top quality and noise control made choosing the SMI Silent PoleCat a no-brainer. This machine's excellent snow production and

dampened noise levels provided a perfect fit for the association. The Silent PoleCat has 50 dBA noise levels at 150 ft away - similar to the noise of your coffee machine - while maintaining the reliability and operational simplicity of our Standard PoleCat.

The Board agreed, and Tahoe Donner decided to install seven Full Auto Silent PoleCats with SmartSnow software for their

Snowbird lift and learning areas. The system provides sufficient snow levels where needed as well as future insurance for low snow years.

The SMI Silent PoleCat is a simple nozzle fan snowmaker with dampened noise levels yet still delivers excellent snow production for a range of weather conditions expected from the PoleCat technology.



THE CHINESE COMMITMENT

Skiing, or traveling over snow on skis, has a history of at least five millennia. Hieroglyphics from roughly 10,000 years ago display Chinese people using skiing techniques in the Altay Range in Xiangjian, China.

Little is known about the beginnings of skiing in China apart from ancient rock carvings and hieroglyphics found in local caves showing skiing used for transport and hunting. However, skiing in China as a recreational sport is starting to catch up with most of its American, Asian, and European counterparts. China has been closely watching the best international ski resort management, safety and operational techniques while innovating and developing its own custom snowmaking tools hand and hand with SMI's help and expertise.

FIRST SMI SNOWMAKING SYSTEM: STARTING A NEW REALITY

Modern skiing in China is something relatively new. The country does not have many regions with excessive natural snow cover like Japan or Russia. Its cold winters in the north do not bring a lot of moisture or snow precipitation, and in the south its higher peaks provide marginal cold temps with extremely high humidity, making it a challenge to make snow countrywide.

SMI started its research in this market back in 1988 with their first visit to the country. Yabuli Ski Resort acquired the very first SMI snowmaking machines ever in China, 2 Standard Polecats back in 1995. Then in



Harbin Snow Ice World using SMI Wizzards for first time (Photo MWI China)

1997, Harbin Snow Ice World got its first 8 SMI Wizzards which were revolutionary for the time.

Less than a decade after, in 2006, Beidahu Ski Resort installed the first semi-automatic turn key project with over 29 Super PoleCats



Hieroglyphics found in China show skiing would have been popular for transport and hunting as far as 10,000 years ago. (Photo: Nat Geo)



Thai-woo Ski Resort (opened 2016) relies 100% on its SMI Automatic Snowmaking System.

for its Winter Games. At the same time, Yabuli Ski Resort was on their way with a similar system. This changed China skiing forever, allowing resorts to think about new frontiers and locations. These resorts continued to trust and rely on SMI equipment, upgrading and over time evolving their snowmaking master plan and equipment.

Thai-woo Ski Resort was able to open 100% of its slopes using just 45 auto Super PoleCats while offering a great consistent snow product.

AUTOMATIC SYSTEMS

The Chinese market has quickly realized that automation is not just about the cost of labor but the equation of snowmaking quality and efficiency. Maximizing snowmaking hours and having the right automatic equipment will make the difference between an excellent snowmaking year with all slopes open to public and a year with not enough snow to be competitive. In this growing market every single centimeter counts a lot.

Big players like the recently opened Thaiwoo Ski Resort were able to open 100% of its slopes using just 45 auto Super PoleCats while offering a quality and consistent snow product. All of the equipment and pumps are linked with fiber and wireless radio communications for better portability. This communication also allows for the ability to control snow production and water pumping systems from a single control room. The system also provides the ability to later expand to new snowmaking locations with zero to minimal additional infrastructural

upgrades. Proof of its success can be seen as this winter Thaiwoo is adding 25 more automatic SMI Puma and PoleCat fixed and swing arm SMI products.

Luneng is the newest SMI customer opening in China for 2016. Located in the Northeast of the country less than a hundred kilometers from the North Korean

and Russian borders, this resort has the potential to also be in the big leagues. It's already one step ahead of its competitors by having a fully automated powerful system that can produce the snow needed in a fraction of the time.

As of this article, China is counting over 100 ski resorts currently operating SMI equipment. From Beida Lake, which purchased their first batch of 10 Super PoleCat machines, to the latest SMI projects at Thaiwoo Ski Resort (2015 and 2016) or Luneng Ski Resort opening in the winter of 2017, China has taken huge steps towards taking the lead in skiing developments worldwide.



To comment or make article suggestions, please contact snow@snowmakers.com



Baltazar Sanchez
International Commercial Director

ERIC HAAPALA

INSIDE SALES & PARTS

Eric Haapala has been with SMI for over 20 years. I recently sat down with Eric and asked him about his work at SMI.

Q: When and how did you get started?

A: In the Spring of 1995, I was hanging out with a friend who was working at SMI and whose father was an SMI engineer. They told me SMI needed some help at the shop - the rest is history.

I started out driving a truck around the state picking up materials for the equipment and working at the shop at night. After a few years as a part time employee, I was hired full time on January 1, 1998, when Joe offered me a job in production.

Q: 20 years is a long time! Why have you stayed with SMI?



A: I like the industry that we're in, the people I work for, and the people I work with. I like working in a smaller family owned culture with not a lot of human resource type rules - a place where I have the ability and latitude to be involved in multi facets of the business. I'm getting older and growing as the company does the same.

Q: How many roles have you had in the company?

A: Man, I've been in machining, fab work, worked production floor, testing, managed the water department, then took over test-

ing, then took over parts and service. During that time, I've traveled for the company, fixed equipment and trained people.

Q: How did you get involved with parts and service?

A: Years ago, during the fall overflow, they threw me in the mix. I started taking calls, processing the orders and then shipping them. That was also when I was testing and taking care of the BOM so I knew a lot of the parts and part numbers. When you do something well around here you own it and take it over.

Q: What are you most proud of?

A: I've improved processes along the way and passed the torches to other people that are doing well. I set some benchmarks for quality and testing too. I've expanded and improved parts and service and basically took over where my predecessors took off.

Many of my mentors have all retired so now I'm becoming the old guy. I believe in cross training and developing knowledgeable workers and if I can help develop others, then I'm proud to do that: help somebody else...treat somebody how you'd want to be treated.

I stress that I work with an awesome team that makes me successful. It's the people that I work with.

Q: What are you most proud of SMI for?

A: I'm proud that we are an American made product, we stand behind everything we do, we genuinely admit when we make a mistake and we take care of it.

Q: What's your mark on SMI?

A: Customer satisfaction plus general psychology for whoever needs it, including myself.

"I work with an awesome team that makes me successful. It's the people I work with."

Q: Do you ski or snowboard?

A: Ski, I'm not a great skier but a fun one.

Q: Do you have a work nickname?

A: Back in the day, Tom Fillmore dubbed me as "school boy" at the shop because I was going to college while working.

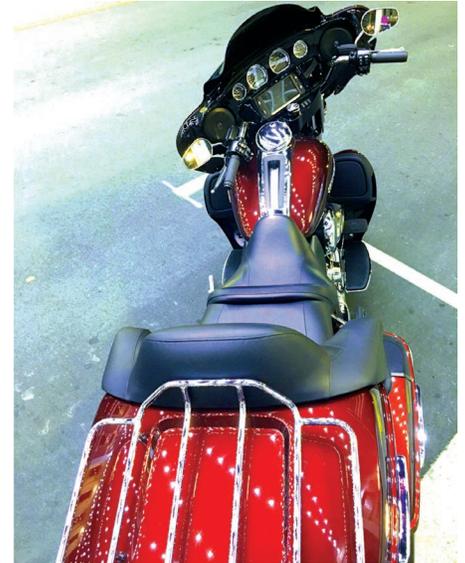
The guys in the back always wanted to hear my stories in the morning when I came in because I was always into (or up to) something.

Q: Where can we find you on a Friday night?

A: A foam tent party with glow paint on.

Q: What will you be doing 20 years from now?

A: I'll still be working - just hopefully not as intensely. Hopefully I won't need the time. I'll donate my time and work for free for SMI (we're holding him to this!). I'll also be outdoors as much as possible: I love sports, fishing, hunting, golfing, motorcycling, recreating, socializing, camaraderie give and take. I like to party with fun people.



**I can find a hundred men
to tell me
an idea won't work... what I want
are men who
will make it
work.**

"He rarely criticized failure of a man who showed energy, diligence, and intelligence in his efforts, but rather made light of the failure and turned attention to further efforts with helpful advice. He believed a man who had tried and failed was a better man than one who had never tried."

ROKYTNICE SKI RESORT

In the middle of the Kranokos Mountains, on the border between Poland and the Czech Republic, lies the ski resort of Rokytnice.

SMI has worked hard with Rokytnice to finalize and guarantee a quick snow-making startup on the main trails of the slopes. After a few tests, and a long collaboration with SMI, the board of directors decided to invest in a two-year project in the summer of 2015. This project retrofits all of the pumping stations and adds a new fleet of snow machines and sticks.

The installation includes a new communication network with a 4.5 km hardwire link, 42 new vaults to serve the new stick trail, and substantially enhanced snowmaking control from SMI Smart Snow 6.0 software. The software covers all of the parameters of the pump houses (fiber optic network), and the 50 new machines.

In the fall of 2015, SMI delivered 35 Automatic Viking V2s with pneumatic valves on the pit, and four Puma 6 meter towers.

During the Summer of 2016, another nine Automatic Viking V2s, one Silent PoleCat, one Puma carriage, and one Super Wizzard were added.

Although Rokytnice has been able to invest in new equipment, they are still running a small fleet of PoleCats that are dated back to 1996.

The project was deemed a success when Rokytnice faced an extremely warm

winter earlier this year. The resort was able to open half of their trails during the week of New Years due to the performance of the machines and the hard work done by the local crew.



Paolo Bonelli
Tech Support & Service Europe

The result has been a customized system that fits perfectly with this beautiful part of the world.



SNOWNEWS TURNS 40



FALL 1977

SnowNews

- a timely newsletter for owners and operators of snowmaking equipment here and abroad.



WHAT'S HAPPENING

Enthusiasm for skiing continues to grow!! Summer sales at ski shops have been zingers with many shops going into the fall sold out of most hard goods. All areas that have started selling season tickets report sales well ahead of last year.

The skiers are coming!! Will you be ready with your lodge cleaned, rentals ready, lifts checked out and personnel in place. And will you have snow? Or will you be going to church, consulting meteorologists, apologizing to your potential customers, and drinking more than usual, while you wait for SNOW?

In our view, any ski area without snowmaking, or enough snowmaking, has owners and managers that are real risk takers. To take a chance on whether it will be a good year or a disaster waiting for precipitation (the temperature is always there) qualifies as one of the biggest business gambles going. Why trust to luck when snowmaking can eliminate the gamble?

It seems to us, fewer areas are willing to take this gamble because sales at SMI are well ahead of last year. Our

production is on schedule and our customers have been most kind in their compliments on SMI equipment (see back cover).

The SnowStream 320 is still our best seller even though the Boyne Snowmaker is almost sold out (fewer units are being built). The Boyne Snowmaker is the quietest snowmaking gun available today, as well as a real zinger at high temperatures (40 gpm at 28°F with only 30 hp total). It has been well received. On the other hand, the SnowStream 320 is still the most inexpensive snowmaker to install, the most simple to operate, the most maintenance-free and in second

place only to the Boyne as the quietest snowmaker available today.

Just a reminder: SnowNews is your paper. The only newsletter devoted exclusively to snowmaking. Send in your thoughts and ideas; we want to share snowmaking successes!!

Our best wishes for a great season.





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