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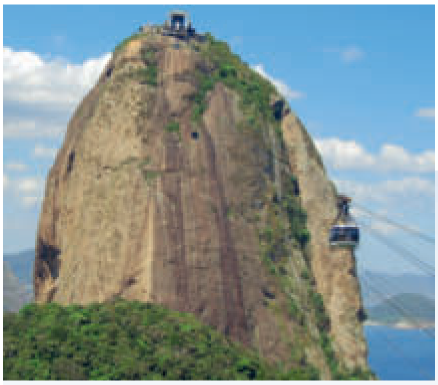
English Special

INTERNATIONAL ROPEWAY REVUE

EVENT

OITAF Congress in Rio



The 10th World OITAF Congress for Transportation by Rope was held in Rio de Janeiro on 24 - 27 October 2011. The working sessions and social program were both a big success.

Photos: C. Amtmann

Contrary to fears that the South American venue could have a negative effect on the turnout, some 250 attendees from all over the world converged on Rio and enjoyed a program comprising mainly first-class presentations and the special atmosphere of one of the most beautiful cities of South America.
For OITAF, the World Congress, which is held every six years, is the most important item on the calendar of events, where the big decisions are taken on the organization's ruling bodies and activities for the next six-year period. At the OITAF General Assembly held on October 24, the outgoing president Jean Charles Faraudo handed over to his successor Martin Leitner, and the long-serving Secretary General Heinrich Brugger was followed by Markus Pitscheider, who – like his predecessor – is head of the Ropeway Authority in Bolzano, Italy.
The main thrust of the 2011 OITAF Congress was to offer full coverage of the subject of ropeways in the urban environment. Not only were most of the presentations on the first day devoted to this topic; urban ropeways also played a part in several papers presented in the working sessions on "Transportation by Rope and Tourism", "Sustainability of Transportation by Rope, Environmental and Social Aspects, Economic Efficiency" and "Technology and Safety". That pattern had been anticipated by ISR in an OITAF Congress Special published in six languages, with a keynote article on urban ropeways by Professor Josef Nejez, in which the ISR's Technical Editor explained the relevant terminology and took a look at the ropeway systems deployed.
The excursion on the second day of the Congress was also directly connected with the topic of ropeways for urban applications, and the visit to Poma's Aerial Tramway in Rio de Janeiro was an impressive experience. With the construction of this high-capacity ropeway link in the favelas area of Complexo do Alemao, comprising five consecutive stages of a gondola system operating with 10-passenger cabins, Poma has produced a feat of rope-

Photos: C. Amtmann

Left to right: Michael Seeber (CEO Leitner Ropeways), Markus Pitscheider (new OITAF Secretary General) and Martin Leitner (new OITAF President)

Left to right: Ekkehard Assmann (Head of Marketing Doppelmayr), Jim Fletcher (E-S-G) with his wife and Christoph Hinteregger (Technical Director, Doppelmayr)

Left to right: Paulo Munoz Levasier (Leitner-Poma/Prinoth Chile), Francisco Sotomayor (Director Pro Andes) and Jean Souchal (CEO Poma)

Left to right: Matthias Stacher, Max Baumann (Sals Manager Fatzer) and Bruno Longatti (Technical Director Fatzer)

Achille Bonini, design engineer for the Sugarloaf Cable Car with his wife in front of the James Bond cabin

Ellen Brink (star translator at OITAF) and Regis-Antoine Decolasse (of the Johnson Controls establishment)

way engineering whose socio-economic impacts on a suburb that had previously had only poor public transport cannot be overstated. On the third and last day of the Congress, attendees were treated to presentations on a wide variety of subjects before it was time for the representatives of the two big ropeway manufacturing groups Leitner/Poma and Doppelmayr/Garaventa to make their final pitch, in which they presented the latest developments in ropeway engineering for the urban environment and their innovations for ski area operations.

The social highlight of the Rio Congress was the gala dinner at the end of the event, at which the outgoing president Jean Charles Faraudo and the newly elected Martin Leitner held their closing speeches. The buffet, good wine and an enchanting samba dance display combined to generate a great atmosphere and ensure that attendees would take home fond memories of the 2011 OITAF Congress.

Josef Nejez

OITAF under new management

In the framework of the 10th World OITAF Congress for Transportation by Rope in Rio de Janeiro, the organization also held its 21st General Assembly and elected its officers for the next six-year term up to 2017.

Photo: OITAF

Left to right: The new OITAF leadership Secretary General Markus Pitscheider and President Martin Leitner with former Secretary General Heinrich Brugger

Following the opening address by Jean Charles Faraudo and determination of a quorum, proceedings continued with approval of the minutes of the last General Assembly in Oslo and the finances, which included a proposal for a 10% increase in the membership fee. The assembly also approved an amendment to the statutes providing for a substitute for every member of the Management Committee. President Jean Charles Faraudo then presented a brief overview of the last few years' activities of OITAF and especially of the Work Committees and of the recommendations made by the Work Committees and implemented during his term of office. He expressed thanks for the trust that had been placed in him and for the excellent climate in which all the working sessions had been held. He expressed his special gratitude to the outgoing Secretary General Heinrich Brugger, who had run the OITAF secretariat to the satisfaction of one and all for no fewer than 27 years. Elections were then held for the seats on the Management Committee on the basis of a list of candidates submitted by the outgoing committee, and also for the auditors. At the subsequent meeting of the Management Committee, Martin Leitner was elected President of OITAF, with Jörg Schröttner and Laurent Reynaud as his two Vice-presidents. Martin Leitner expressed his thanks for the trust placed in him and stressed that he hoped to be able to further intensify the international orientation of OITAF. In this context the New President said he felt that the choice of Rio as the venue for the Congress was a symbolic step in that direction. In the election held for the Executive Committee, to which the President, his two Vice-presidents and the Secretary General belong ex officio, Francesc Cullerè was elected to represent the authorities, Sandro Lazzari the operators and Werner Inderbitzin the manufacturers. Following the election of the new members of the Executive Committee, Dr. Ing. Markus Pitscheider of the Ropeway Office of the Autonomous Province of Bolzano (I) was appointed as the new Secretary General, and Dr. Ing. Claudio Canessa, of the same organization, was confirmed in office as Treasurer.

For the members of the Management Committee and auditors of OITAF, see box on page 42.

Cableway oscillation problems

Oscillations in ropeways are a frequent cause of operating problems and sometimes damage. For this reason, ISR published a series of articles on the subject in its German-language editions 1/2010 to 3/2011. In response to the keen interest shown by our readers, we have now decided to provide the articles in English and French, too.

Photo: archive

Josef Nejez
Techn. Editor of ISR

Since dynamic problems encountered on ropeways require a much more complex response than static systems, ropeway engineers tend to restrict themselves to a quasi-static approach. In ropeway operations, however, the laws of physics cannot be ignored, and dynamic phenomena in the form of various types of oscillations are very much a reality.

Over the years,"oscillation problems in ropeways" have been a frequent topic of research at the relevant universities and institutes, starting with an initial paper on the subject written by Professor Otto Zweifel of what was then the Institute of Construction and Transport Engineering at the Swiss Federal Institute of Technology in Zurich and published in ISR in 1972. In the abstract to his article, he wrote, "The purpose of this introductory paper is to recall some of the basic facts of oscillation theory which engineers hear about in varying degrees of detail during their training but afterwards tend to forget, and then to address some specific oscillation phenomena as they affect ropeways."

In the context of this research focus at the Zurich institute – in the meantime renamed the Institute of Lightweight Structures and Ropeways – various oscillation processes encountered in ropeways were made the subject of scientific research by Professor Gabor Oplatka and his team (Reto Canale, Georg Kopanakis, Gabor Kovacs, Willi Müller and Thomas Richter) in the 1980s and 90s.

The subject of oscillations has lost none of its relevance for ropeway operations today, and Georg Kopanakis and Reto Canale kindly agreed to write a series of articles to familiarize the ISR readership with the basics of oscillations in ropeways in the spirit of the introduction to the subject provided by Professor Zweifel, and to indicate the solutions available for oscillation problems. The articles cover the main ropeway oscillation phenomena (rope oscillations, effects on towers and stations, and oscillations caused by wind, passage over the towers, system start-up and braking, and load shedding including ice release).

The basics of oscillation theory are so clearly stated in Professor Zweifel's initial article that we have decided to quote directly from his work here (source: O. Zweifel: "Schwingungsprobleme bei Seilbahnen", English and German, ISR 3/1972, p. 159).

Fundamentals

For oscillations to occur there must be an oscillation system. A pendulum, for example, constitutes a simple oscillation system, which is capable of oscillating in the gravitational field. Ropeway cabins and ropes can also perform oscillatory movements like a pendulum in the gravitational field. A spring-suspended mass is another form of a simple oscillation system. Like a spring-suspended mass, a ropeway cabin suspended from a track rope can oscillate up and down. The overall ropeway system, comprising a wide range of elastic members and mass bodies, is an extremely complex oscillation system that is capable of oscillating in innumerable ways.

The presence of an oscillation system, however, does not necessarily mean that oscillation will occur. That requires some form of excitation; oscillation energy must be introduced into the system. The excitation must also occur in a specific way for oscillation to be triggered. This can be demonstrated by the case of a mass suspended from a helical spring. If the upper end of the spring is moved up and down very rapidly, the mass remains immobile. If the end of the spring is raised and lowered extremely slowly, the mass follows the movement of the operator's hand but no oscillation occurs. But there is also a frequency – known as the natural or resonant frequency – at which the mass will oscillate of its own accord. If the excitation is delivered at this frequency, even small movements in the end of the spring will generate pronounced oscillations. This is resonance.

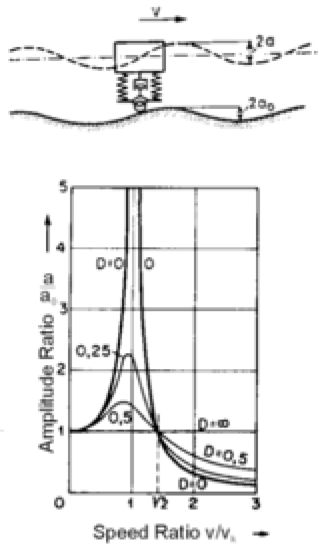


Fig. 1: Resonant oscillations in a vehicle passing over bumps in the ground. Where the bumps contact the wheels at the vehicle's natural frequency, the amplitude of the oscillation is very large.

In Fig. 1 this situation is illustrated with reference to a vehicle with a suspension system traveling over bumps in the ground with an amplitude a_0. The amplitude of vehicle oscillation is a and vehicle speed is v. In the graph, the amplitude ratio a/a_0 is plotted on the y-axis over the speed ratio v/v_k, where v_k is the critical speed at which the bumps in the ground contact the wheels of the vehicle at the vehicle's natural frequency. The graph shows that the amplitude for the resonance case ($v/v_k = 1$) is in fact very large. Curves are plotted for different degrees of damping (D = 0 no damping, D = ∞ infinite damping).

It is because of resonance phenomena that it is so important to be aware of the natural frequency of an oscillation system. In the case of ropeways, it is essential to know the natural frequencies of the ropes oscillating transversely and longitudinally with or without additionally oscillating masses. Account must also be taken of the natural frequencies of the towers, cabins, drives, tension weights, etc.

Josef Nejez

Oscillations in ropeways, part I

Fundamentals on the subject of oscillations and waves (recapitulation of the basics of oscillation theory for oscillation problems encountered on ropeways).

Photo: archive

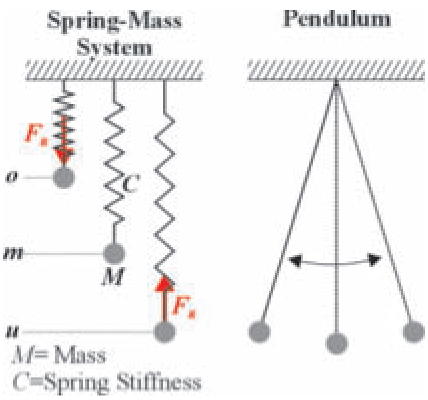
Dipl.-Ing. Georg A. Kopanakis

The world is constantly in motion. As a simplification, "movements" relating to the subject of oscillation can be divided into two categories depending on whether something moves back and forth relative to a fixed location or whether it travels from one point to another.

The first group comprises such movements as vibrations in a body, the movement of a pendulum, the oscillation of an electrical oscillator circuit and so on. In such cases we speak of "oscillations" and often, in the case of mechanical oscillations, of "vibrations". Movements in the latter category include such phenomena as the movement of the surface of the water in swell, the movement of a wave along a guitar string or a rope, and the propagation of sound, etc. Here we speak of "waves".

Oscillations and vibrations

A body will oscillate when it is disturbed from a position of stable equilibrium and "subsequently forced" to return to the initial position by "restoring force F_R"(Fig. 1).



Graphics: G. Kopanakis

Fig. 1: Spring-mass system and oscillating pendulum

The simplest types of oscillating systems are the "spring-mass system" and the "oscillating pendulum". Their movement processes can be described in simple mathematical terms; the resulting movement is called a simple harmonic oscillation. In the case of a "simple harmonic oscillation", the various positions of the body can be plotted over time as a sine wave (Fig. 2).

In the oscillation process, kinetic energy is continuously converted into potential energy and vice-versa. At the highest point of deflection "o" and the lowest point "u", velocity and momentary kinetic energy are zero, while potential energy is greatest in keeping with maximum spring extension and compression.
In the mid position "m" (equilibrium point), velocity and momentary kinetic energy in the system are at a maximum, while potential energy, in the presence of the unloaded spring, is zero. The "period" of time that elapses before the oscillating mass passes the same position in the same direction is the "time period" "T".

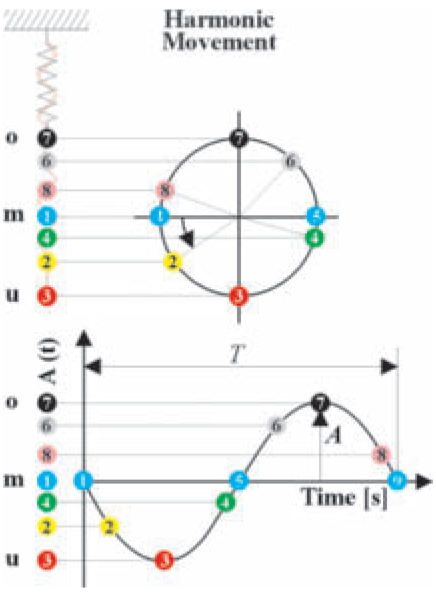


Fig. 2: Harmonic movement

The distance between equilibrium point "m" and maximum displacement points "o" and "u" is the amplitude "A" of the oscillation.

The number of time periods (wave cycles) that can occur in a unit of time is "frequency" "f". Frequency is the reciprocal value of the time period: f=1/T.

Waves

In a "medium" like water, the string of a guitar or a rope, waves are also triggered by a disturbance introduced at some point in the medium. In this case, however, we are not talking about the behavior of a complete body but about the behavior and interaction of the individual particles of which the medium is composed and which are involved in the formation and propagation of the wave.

It should be underscored that in the case of a propagating wave, each individual particle performs a harmonious movement around a fixed position (equilibrium point) as in the case of the oscillation of a spring-mass system. The perceived movement of the wave is merely a change in the shape of the medium; no mass flow takes place! (Fig. 3).

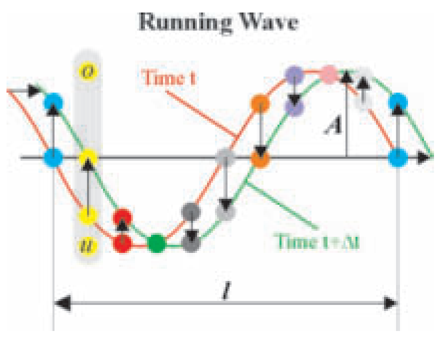


Fig. 3: Running wave: When the wave moves in the direction of propagation, each particle moves around its own equilibrium point. That is illustrated here by the "yellow particle", which performs a harmonious oscillation between the two maximum deflection points during wave propagation.

When the direction of movement of the individual particles is transverse to the direction of propagation of the wave, we speak of a "transverse wave"; when it is parallel to the direction of propagation, it is a "longitudinal wave" (Fig. 4).

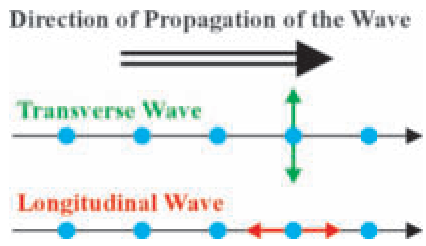


Fig. 4: Transverse and longitudinal waves

The wave produced in a guitar string or a rope following excitation (plucking) is an example of a transverse wave; sound waves are a typical example of longitudinal waves.

The distance between two successive particles with the same value on the y axis and the same direction of movement is "wavelength" "l". Time period "T" is the time required by the wave to travel a wavelength.

In the case of waves, too, the distance between the equilibrium position and the maximum displacement points of a particle is "amplitude" "A".

The number of wavelengths that pass a fixed point during a unit of time is again „frequency" „f".

When a wave travels along an infinitely long medium, e.g. the surface of the sea, we speak of a "running wave". The characteristic features of a running wave are the constant direction of travel and the infinite variety of possible wavelengths (Fig. 3).

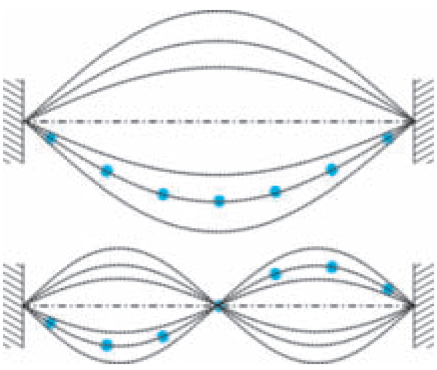


Fig. 5: Standing wave
(only certain wavelengths possible)

When a wave travels along a finite medium, it is reflected at the end of the medium, i.e. the direction of travel is reversed after every reflexion.. In this case, only certain wavelengths can occur depending on the length of the field line. Such waves are known as "standing waves" (Fig. 5).

Damping

Theoretically, i.e. in a frictionless environment, a body that has been caused to oscillate as a result of a single disturbance will continue to oscillate ad infinitum, as the abovementioned energy conversion will continue infinitely without energy loss. A real system, i.e. a system in an environment to which the laws of friction apply, on the other hand, eventually returns to a state of rest following a single disturbance because some of the energy is constantly dissipated in the form of frictional losses. This process, involving continuously declining amplitudes, is known as "damping". Real systems are always subject to damping; they differ only in the degree of damping (Fig. 6).

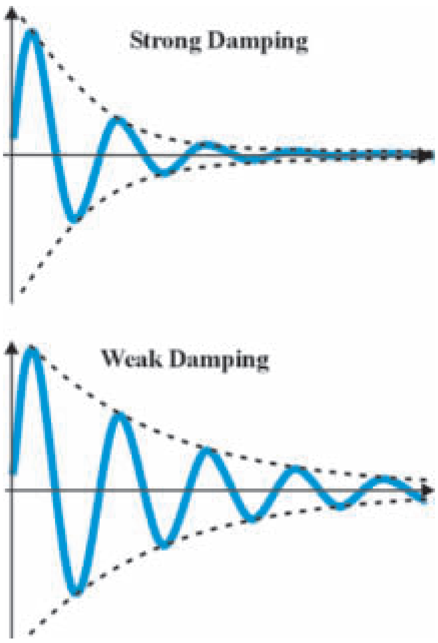


Fig. 6: Damping

Free and forced oscillations and natural frequency

A real system caused to oscillate by a single disturbance and nothing more performs a "free oscillation". As mentioned above, however, energy is constantly released to the environment so that the system returns to the equilibrium position after a certain length of time or number of cycles. The frequency of a freely oscillating system depends on the mass and stiffness of the system itself. This frequency is characteristic of the system and remains constant. It is known as the "natural frequency".

If a real system is to continue to oscillate, additional energy must be introduced from without. A repeated source of disturbance, known as the "exciter", keeps the system supplied with energy and the oscillation is maintained. In this case we speak of "forced oscillation" (Fig. 7). Most types of oscillation and wave phenomena in the field of ropeways that we will be looking at are forced oscillations.

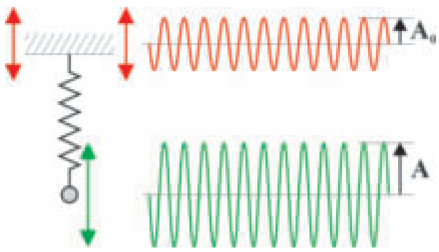


Fig. 7: Forced oscillation

Initiation and intensity of oscillations and types of exciter

Oscillations occur when we have both an "oscillatable system" and an "exciter" capable of supplying the system with energy on a one-off or continuous basis.

A system is considered to be oscillatable when it has both mass and elasticity. Since all real-life systems are neither without mass nor perfectly rigid, they can all be caused to oscillate in the presence of a suitable exciter.

- In the case of a single excitation, the amplitude of the oscillation diminishes at a rate that depends on the degree of damping (Fig. 6).
- A system can be subjected to multiple, but random excitation. In this case we speak, not of periodic but of stochastic (random) excitation.
- Finally, if the excitation is harmonious, the system will respond with a harmonious oscillation at a frequency corresponding to that of the excitement.

The most important point in the case of forced oscillation is the fact that the amplitude of the oscillator depends on the frequency of the exciter. If, in the case of an undamped oscillation, exciter frequency is identical with the natural frequency of the oscillator, its amplitude increases infinitely, a state that is known as "resonance". For a real system this means that, in the case of resonance, the system's amplitude – especially if there is little damping – can become very large and the system will be subjected to correspondingly greater loads (Fig. 8).

Solutions to oscillation problems

The first approach to tackling an oscillation problem is to "eliminate the cause", i.e. the exciter, regardless of whether one-off or periodic excitement is involved. As we shall see later, however, this is rarely possible. This means that alternatives normally have to be sought, and although they may not completely eliminate the oscillation, it will be possible to reduce the intensity of the oscillation to a level at which it no longer has any significant impacts (excessive loads on structural components, noise, reduced quality of the ride, etc).

Unfortunately, the following potential solutions are not effective in all cases or applicable to all oscillation phenomena and must be investigated separately in the individual case.

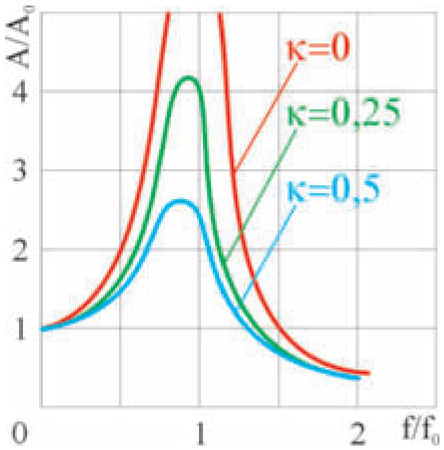


Fig. 8: Resonance: The graph shows the amplitude of the oscillator as a function of the frequency of the exciter. The x axis (frequency of the exciter) is "normalized" to the resonant frequency of the oscillator (f_0), i.e. the value "1" corresponds to the value for the resonant frequency of the oscillator. The y-axis (amplitude of the oscillator) is "normalized" to the amplitude of the exciter (A_0), i.e. the value "1" corresponds to the value for the amplitude of the exciter, and the oscillator performs exactly the movement determined by the exciter. The closer exciter frequency, starting from lower values, comes to the resonant frequency of the oscillator, the greater the amplitude of the oscillator. Once exciter frequency exceeds resonant frequency, the amplitude of the oscillator gradually declines again. When exciter frequency is high enough, the system will finally come to a stop. "κ" is the "amping constant".

- Changing exciter frequency or the natural frequency of the oscillator in order to mitigate the resonance effect is an effective solution, but it may involve operating restrictions or significant re-engineering.
- Damping the oscillations is only effective in the case of oscillations above a "certain amplitude".
- Isolating the exciter (i.e. interrupting the energy flow from the exciter to the oscillator) has the disadvantage that the stability and/or geometry of the system could be compromised.
- Superimposing a counter-oscillation, a method known as active oscillation damping, requires continuous intervention within the system.

In the next chapter we will be looking at the oscillations caused in the structural components of a ropeway installation by passage of the rope over the sheaves and bullwheels.

To close, I should like to express my sincere thanks to Dipl.-Ing. ETH Reto Canale (Director of the IKSS intercantonal authority) and Dipl.-Ing. ETH Istvan Szalai (CEO Garaventa AG) for their critical review of the manuscript and helpful suggestions.

Georg A. Kopanakis

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Technology that cares for snow

The Polish Supersnow company has again had a successful year, with systems installed not only in Poland and other European countries but also in Asia.

Photos: Supersnow

Impressive balance

Fully automatic snowmaking systems, several hundred snow guns sold, many thousands of meters of pipeline installed, and several different types of pumping station – that is the year's impressive record for the first and only Polish company with snowmaking know-how.

The company

Supersnow was established in 2000 in the Bialka Tatrzanska ski area in south Poland. In the early years, the company offered a snow gun repair and maintenance service. Simultaneously, work started on the development a proprietary snow gun, with the prototype based on the company's experience of running a ski resort, which became a test bench for Supersnow. Most of the components are made entirely in-house, which allows for effective quality controls at every stage of production. In 2004 the Supersnow snow gun was launched on the market, and the first complete snowmaking system was installed in 2006. Today Supersnow is the Polish leader in "technology that cares for snow" – from the planning stage to the turnkey installation.

The philosophy

The Supersnow team put all their heart into their work. The company prides itself on a work ethic based on mutual respect, honesty, sincerity and security for every employee. "There is always room for improvement" is the motto of a company in pursuit of the best possible solution and full customer satisfaction. That is supported by a policy of close cooperation with clients for customized solutions that make snowmaking the foundation of a successful skiing area operation.

Exemplary service

Since the beginning of its activities on the snowmaking market, the Supersnow company has placed a strong emphasis on professional and comprehensive service. Today the company is committed to providing not only the best quality snowmaking hardware and instrumentation but also a wide range of after-sales service. The result of this policy is trouble-free operation over a long service life with systems that are always capable of delivering their full potential.

Complete snowmaking systems

With its snowmaking systems, Supersnow offers a comprehensive package, starting with individual planning services targeted at the specific characteristics of the terrain and climate, installation of the system infrastructure plus the snow guns and necessary accessories, employee training on the use of the equipment, and a full service offering throughout the year.

For the love of snow

Supersnow already has an impressive portfolio of successful projects to show for its efforts, but the company is not resting on its laurels and has a strong commitment to ongoing development work. It also continues to expand is operations, for example with the establishment of Supersnow agents in such countries as Slovakia, Czech Republic, Hungary, Ukraine, Romania, Russia, China and South Korea. Fully automatic snowmaking systems, lifts and snow guns of the highest quality, and extensive snowmaking know-how – that is all the result of a love of snow engrained in every member of the Supersnow team.

Expo Andes 2011 in Santiago de Chile

Expo Andes 2011, the first International Mountain Professionals Summit of South America, was held at the Equestrian Club of Santiago on 19 - 21 October.

In the trade show, which was attended by over 50 exhibitors from 14 countries (with a strong presence from France, Switzerland, Austria and Canada) including Leitner-Poma, and Prinoth, Roger McCarthy (ex-President of Vail Resorts and Mont Trémblant), MDP Consulting and Groupe MND, visitors were shown the latest technologies and trends in such areas as transportation by rope, the management of natural hazards, and equipment for mountain resorts and businesses with similar problems.

The main actors from the South American world of snow and mountains were present in a total of 700 professional visitors, including the ski resorts of Chile and Argentina, mining companies, the Ministry of Public Works - Mountain Roads, Border Crossings and Mountain Armed Forces, mountain municipalities and others.

Expo Andes ended with a Mountain Development Symposium with panel discussions on international best practice and issues of relevance to the industry as a whole.

During the event, Mr. Raúl Torrealba (Mayor of Vitacura and President of the Association of Chilean Municipalities) and Felipe Guevara (Mayor of Lo Barnechea and President of the Chilean Association of Mountain Municipalities) signed a cooperation agreement between Chilean and French mayors, with the latter represented by Vice-President Jacques Guillot (Mayor of Chamrousse, Winter Olympic venue in 1968). The agreement is targeted at knowledge sharing for the development and promotion of mountain policies.

Expo Andes is to be held every two years as a focal point for professionals, companies and institutions in the Cordillera de Los Andes, thus strengthening its position on the international stage of mountain destinations.

"As a country with 83% of its territory in the mountains and the world's longest mountain range, Chile was a logical host for the meeting. That is confirmed by sales negotiations worth more than 4 million euros held during the show," says Francisco Sotomayor, President of Expo Andes.

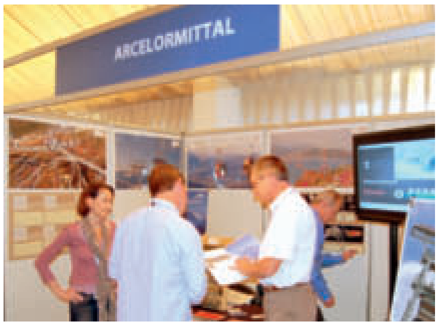
The SunKid success story also continues in Chile and Argentina.

IDM offers a wide range of ski area equipment.

Swiss ropeway engineering is in keen demand in South America, as Oliver Goyeneche from Bartholet reports.

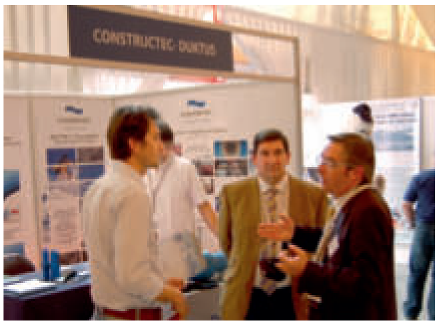
Snowmaking excellence courtesy of TechnoAlpin at Expo Andes in Santiago de Chile

With their Pistenbully groomers, Kässbohrer have long been at home on the South American market.



Arcelor Mittal is a partner of choice with quality ropes for a wide range of applications, from ropeways to offshore.

Poma has an impressive track record for exciting ropeway projects in South America – and Prinoth for perfectly groomed trails.


Andreas Moser (right) reports that pipes and fittings from Duktus are also a high-grade solution for delivering water to the mining industry.

Snow without chemical additives

VIPs at Expo Andes: Francisco Sotomayor, Director and CEO of Expo Andes, with Roger D. Mc Carthy, one of the most successful ski-area managers, and Jean Charles Faraudo, former President of OITAF.

Photos: C. Amtmann

Left to right: They guarantee successful ski area operations: Roger D. Mc Carthy with Paul and Linda Mathews from Ecosign.

With the IDE All Weather Snowmaker from Israel, it is now possible to make snow without chemical additives and without worrying about factors like temperature, humidity or wind speed.

IDE is the world market leader in the design and construction of seawater desalination plant and also supplies cooling systems for gold and diamond mines. For some years now, the Israeli company has been causing quite stir with an international first by the name of IDE All Weather Snowmaker for guaranteed snowmaking in above-zero temperatures.

"White gold" from Israel

Two years ago the IDE company found a bold investor in the Pitztal Glacier Resort management, who were quick to recognize the potential of the All Weather Snowmaker. "Over a number of years, we had been confronted by increasing periods in which the conditions on the Pitztal Glacier were not right for normal snowmaking," says Dr. Hans Rubatscher, Manager of Pitztal Glacier Resort. "The IDE All Weather Snowmaker was the perfect addition to our existing snowmaking facilities. We make careful use of it for our core business and have no intention of trying to create a summer snow spectacular. We are committed to the principle of sustainability in the management of this unique ski area." The temperature on the glacier is well above freezing and yet it has a perfectly groomed trail. This scenario, which had been considered impossible in the past, caused a sensation in 2009 among the tourism experts and journalists who had converged on the Pitztal Glacier from all over the world. At a temperature of plus 13°C at 2,840 m above sea-level, the "white gold" from Israel continues to be a big attraction as a forward-looking and environmentally friendly innovation.

Foto: B. Triendl-Schwetz

The All Weather Snowmaker manufactured by the Israeli IDE company has been in successful use on the Pitztal Glacier since 2009.

Lots of major projects

2011 has been a year of further momentum rather than consolidation.

Many major projects have been completed during the year, confirming Neveplast as a benchmark for operators looking to offer entertaining sports activities in ski resorts and other environments.
The company, which is located at the foot of the Alps in Bergamo near Milan, is increasingly diversifying into fields over and above mountain operations and especially including amusement parks. Operating in these new sectors has given the Italian company considerable experience in a variety of fields, which is very much to the benefit of clients. One new development, for example, is the Tubby Evolution 2011, which was launched at the Interalpin trade show in Innsbruck last spring. Fast and easy assembly has made the updated version a huge success. That is demonstrated by the two big facilities installed in Alytus (LT) and Kampung (INA), where eight slopes with an overall length of more than one kilometer were installed in just one week.

Neveplast's engineers do not just work on product improvements; they are also constantly looking for new ideas, especially in line with the principle of one product, multiple applications. Take the various Tubby Jump installations: this is the most exciting Tubby concept ever, with a straight Tubby Evolution slope provided with a kicker to launch the snow tubes into the air for a safe landing on an air mattress.

In addition to entertainment facilities, Neveplast's business also has a focus on developing new ski slopes and upgrading existing ones. As proof of the quality of the product, there is the slope built in Serravalle, in the Republic of San Marino, which is being used more and more to train ski instructors and is also popular with the general public, who use it for recreational skiing, training and fun.

As with natural snow installations in winter, the trend in the last year has been for ski resorts in Europe and America to install small terrain parks and build freestyle areas, where safe jumping is assured with the help of air mattresses.

Photos: Neveplast