

DECEMBER
2018



A CONNECTION WE SHARE

► **POMA STORY**
**Gudauri,
New Horizons
for Georgia**

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WORLD PREMIERE:
THREE INTERCONNECTED
TRI-CABLE DETACHABLE
AERIAL TRAMWAYS

P.8 ►

**POMA ADVANCED
VALLEY LIFTS:**
THE WAY
OF THE FUTURE

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The Pioneering SPIRIT



EDITORIAL

The year is coming to an end, and we are on the brink of a new winter season. We hope it will be even more beautiful for users and even more serene for operators.

Once again this year, **we were very happy to innovate for you—meeting the scheduling, technical, and aesthetic challenges you set for us.** And our satisfaction is seeing how you continue to place your trust in our products, skills and, vision—project after project. The relevance of our industrial tool is also verified every day: our production sites in France, our international partnerships, and subsidiaries all over the world serve the international supply chain to support the most complex and ambitious projects.

As you know, at POMA, we have chosen to provide more than just support to our clients. Every day, we actively and enthusiastically help you stay one step ahead. **Our success can be seen through the numerous projects carried out in 2018 in 17 different countries.** And it will continue to show with those planned for 2019.

Because we are at your side, we focus on not only understanding your expectations today, but also anticipating the challenges that will be yours tomorrow.

This Pomalink is an overview of our approach that places you at its core, whether you are in France, China, Russia, Colombia, Korea or anywhere else in the world.

To all of you, I wish you all the best in your endeavours and much satisfaction for your teams. Thank you for your trust.

Jean Souchal, POMA chairman of the board



 **Arkhyz** NORTHERN CAUCASUS RESORTS
TAKING THE NEXT STEP

IN OTHER WORDS

Going further TOGETHER

POMA has always been in the heart of our customers' ecosystems, playing a role in their transformation, wherever they are in the world. This is illustrated by the joint venture with JSC Northern Caucasus Resorts, who is responsible for installing ropeways in Russia and the CIS.

From left to right: KHASAN TIMIZHEV (CEO OF NCR), ALEXANDER KHLOPONIN (DEPUTY PRIME MINISTER OF THE RUSSIAN FEDERATION), FABIEN FELLI AND JEAN SOUCHAL (POMA)

► **Eight years ago, POMA was the first to build a ropeway in this Caucasian resort.**

After the developments on the south face, a new 10-passenger Diamond gondola lift with three sections will connect the north face to the center of the resort.



ALPE D'HUEZ is setting a course for exemplary peri-urban transport

80
cabins10
passengers
per cabin3 min
20 s

► RESORTS ARE UNDERGOING PROFOUND TRANSFORMATIONS, AND THE PACE IS ACCELERATING. THEY ARE SPEARHEADING MORE AND MORE INITIATIVES WITH INNOVATIVE SOLUTIONS.

Characteristic of the resorts of the future, Alpe d'Huez does not hesitate to think outside of the box for their customers' well-being and continues to reaffirm its position as a pioneering and inspiring site.

Alpe d'Huez and POMA: Siblings at Birth? The history of the resort and that of the company have been linked for more than 80 years—through innovations, partnerships, and shared values. Once again, POMA is alongside Alpe d'Huez in building a much-needed, on-site public transport system: a 2 km gondola lift that—in connecting the village of Huez to the resort—will also eliminate the need for shuttles.

Equipped with the DirectDrive solution, this unique peri-urban transport system will have 80 ten-passenger cabins and will connect the village at 1,450 m in altitude to the resort at 1,860 m in altitude within 3 minutes and 20 seconds. It will be equipped with the **Cable Position System**, a high-level safety device incorporating embedded technology, and will be the very first peri-urban Operator Free Operation (OFO) ropeway in France. This ropeway meets Alpe d'Huez's sustainable development goals and reinforces the resort's attractiveness as an all-season excursion destination.

IN YOUR WORDS

« Intra-resort mobility, particularly to access the ski area, is often hardest to solve successfully because the various hotels and residences do not always have the same needs! In Huez, the first gondola lift section which will connect Huez Village to the ski slopes, will be inaugurated in January 2019! We are always happy to meet the needs of our residents and guests thanks to the installations that POMA manufactures specifically for us! »

Jean-Yves Noyrey,
mayor of Huez and president of SATA

Alpe d'Huez
DOMAINE SKIABLE

52

Edose

SKI AREA DEVELOPMENT: PROOF, FIVE TIMES OVER

► **UNDERSTANDING TODAY'S CHALLENGES TO MEET TOMORROW'S: LEADING THROUGH EXAMPLE WITH SIMULTANEOUS OPERATIONS**

Compagnie des Alpes has chosen POMA to renew major ropeways at flagship stations: Val d'Isère, Tignes, Méribel, La Plagne, and Serre Chevalier.

To make its resorts more attractive and to better meet its customers' expectations, Compagnie des Alpes has entrusted POMA with the simultaneous production of five state-of-the-art ropeways for the Val d'Isère, Tignes, Méribel, La Plagne, and Serre Chevalier ski areas in France.



Val d'Isère

Val d'Isère welcomes the brand new 10-seater PREMIUM SYMPHONY cabin in France, at Daille, replacing the first gondola lift built 50 years earlier by POMA. Equipped with heated, leather seats and large bay windows, it multiplies the old installation's transport capacity threefold. The Women's *Critérium de la Première Neige* can now take advantage of this state-of-the-art lift flying over the famous Oreiller-Killy slope.




TIGNES

Tignes is optimizing its infrastructure by connecting the village of Les Brévières to the Les Boisses site, thus allowing for a complete overhaul of the snow front. The originality of this new gondola lift will lie in its ability to be operated between 5pm and midnight without an operating agent in the bottom station, thanks to a specific and adapted configuration.



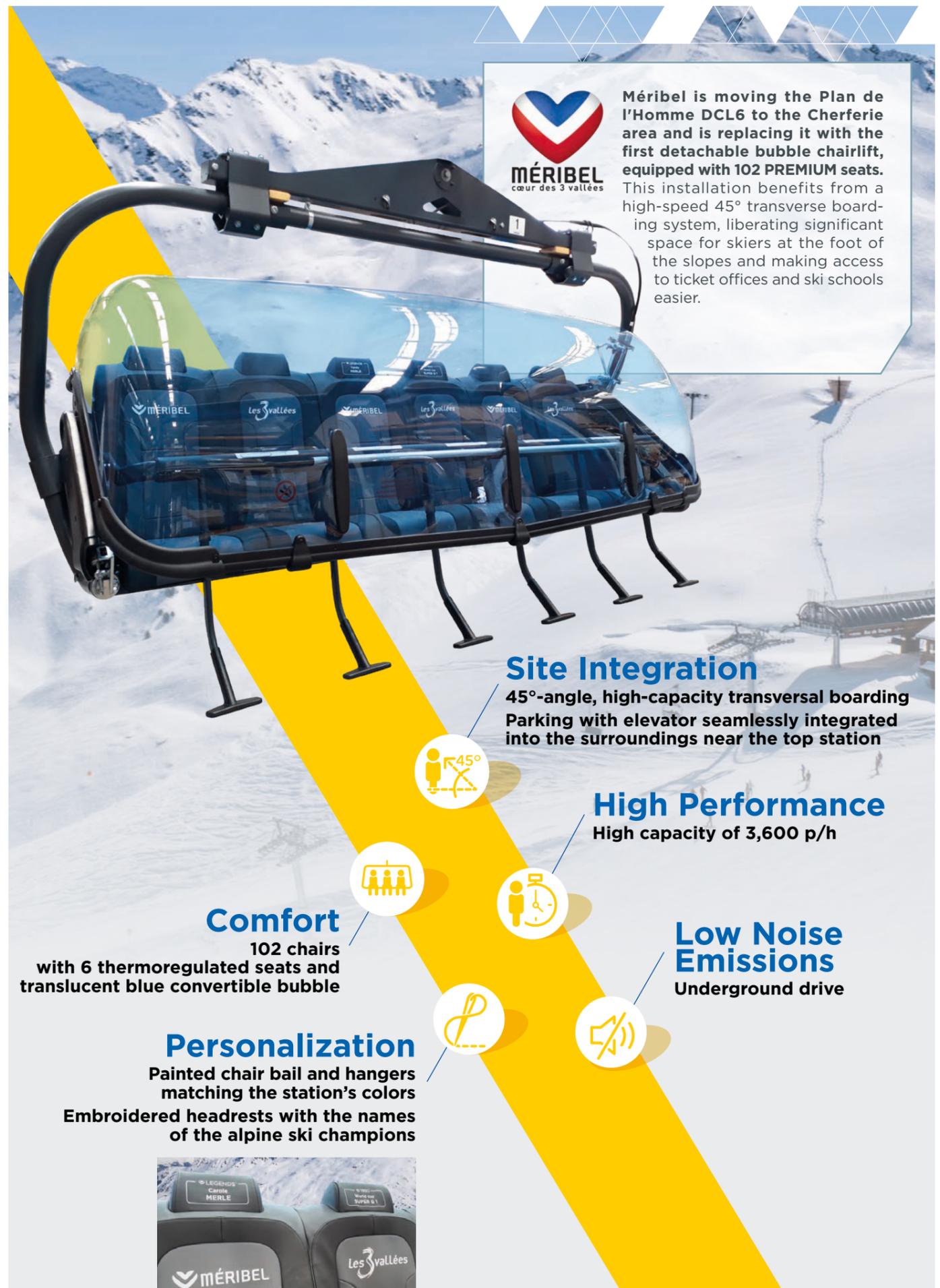



In La Plagne and Serre Chevalier, two detachable grip chairlifts with DirectDrive motorization showcase the environmental commitment these two resorts have made by reducing energy consumption by 5% and acoustic emissions by 15 decibels.

In La Plagne, the new installation replaces the 4-seater fixed grip Inversens chairlift built in 1987, reducing the number of towers by 40%.

Similarly, in Serre Chevalier a surface lift and the Côte Chevalier fixed-grip chairlift were replaced to create a connection between two sectors of the ski area.

For skiers, these new achievements bring more comfort, fluidity, and safety.



MÉRIBEL
cœur des 3 vallées

Méribel is moving the Plan de l'Homme DCL6 to the Cherferie area and is replacing it with the first detachable bubble chairlift, equipped with 102 PREMIUM seats. This installation benefits from a high-speed 45° transverse boarding system, liberating significant space for skiers at the foot of the slopes and making access to ticket offices and ski schools easier.

Site Integration

45°-angle, high-capacity transversal boarding
Parking with elevator seamlessly integrated into the surroundings near the top station

High Performance

High capacity of 3,600 p/h

Comfort

102 chairs with 6 thermoregulated seats and translucent blue convertible bubble

Low Noise Emissions

Underground drive

Personalization

Painted chair bail and hangers matching the station's colors
Embroidered headrests with the names of the alpine ski champions





AT CHIMELONG OCEAN KINGDOM, simultaneous construction of three tri-cable detachable aerial tramways

An exceptional trip with a bird's eye view of Macao.

► WORLD PREMIERE FOR AN EXTRAORDINARY PROJECT

Chimelong Group operates theme parks and hotels located in Guangzhou and Zhuhai in China's Guangdong Province. In 2017, the Safari Park—one of the largest zoos in Asia—installed **three connected gondola lifts forming a triangle**, which have since become the park's flagship attraction.

Satisfied with the results, Chimelong Group will be **installing a new ropeway** running between two new business

areas and Ocean Kingdom—a park that is home to the largest aquarium in the world and **visited by 8.5 million people per year**. For this impressive site, the solution needed to be just as impressive: that's why the connection will be provided by **three tri-cable detachable aerial tramways forming a triangle**.

The group wanted to focus on **innovation and technology**—two key development strategies that are illustrated with the station design and the choice of the tri-cable technology—guaranteeing significant **wind stability** (up to 90 km/h) and a maximum transport capacity of 5,700 pers/h with **long opening hours**. Carrier design is

also strategic for the 6th largest entertainment group and the **Symphony 32** cabins designed by Pininfarina were the obvious choice.

The cabins are very comfortable and equipped with a large bay windows to fully appreciate the bird's eye view of Macao Bay. In addition, they are also equipped with a **LED lighting system** that will light up the sky at dusk.

In order to illustrate our commitment to carrying out this gigantic project, POMA stood out by providing extensive assistance based on our **capacity to globally control the value chain** and ensuring extremely short delivery times.





CONTINUE BROADENING Horizons

A new chapter has started for Gudauri. After its opening 30 years ago, the resort now also caters to all-season operation.

► **GEORGIA IS INTENSIFYING ITS EFFORTS TO BECOME A MUST-SEE DESTINATION.**

Georgia's highest ski area, a flagship snow destination for freeride and heliskiing enthusiasts, Gudauri is also popular in summer for its surroundings and mountains. Its proximity to the Georgian capital, Tbilisi, and the Russian border makes it a major crossing point via the Jvari Pass. This pass was frequently blocked in winter, in turn cutting the resort and the entire Kazbegi region off from the rest of Georgia. But this year that has changed!

A valley lift now connects Gudauri to the city of Kobi. This infrastructure will also make snow-covered areas accessible even in June. There were many challenges to overcome! Teams from POMA and PERI, the Georgian company in charge of construction, joined forces and involved about one hundred workers to build the installation.

VALLEY LIFTS: THE WAY OF THE FUTURE



BOURG-SAINT-AURICE, FRENCH ALPS

► **POMA IS COMMITTED TO MEETING THE CHALLENGES OF THE 21ST CENTURY RESORT.**

Stations innovate to create virtuous ecosystems, to benefit both users and the environment and to imagine the mountains of tomorrow.

Mountain ranges are changing by moving towards multi-season, high-altitude tourism and improving their attractiveness while investing to meet the challenges of sustainable development. The valley lift is a fundamental lever for the new generation of mountain sites, blending tourist operation with smooth mobility.

After 30 years of operation, it has become an icon—providing thousands of users with a daily, 7-minute connection from the valley to Les Arcs resort. The trip will be made in an exceptional funicular railway, equipped with a fully glazed roof and a unique driving station in the centre of the car that liber-

ates the panoramic spaces at the front and rear. Comfortable and innovative, the cars meet everyone's needs, from passengers carrying all-season equipment to spots for PRMs. **Eco-responsible and 100% electric, this funicular railway will be equipped with the latest POMA innovations** and will be seamlessly integrated into its environment, with an elegant and open design. Finally, it will also be equipped with LED lighting, creating a cosy atmosphere.

In the Pyrenees Mountains, POMA is installing a gondola lift between Loudenvielle and Peyragudes, the Louron Valley. Operating 7 days a week, with a planned transport capacity of 2,000 p/h, this all-season lift will make Peyragudes—the youngest winter sports resort in the Hautes-Pyrénées—both an altitude resort and a village resort as early as 2019.

In the Alps, things are also accelerating with, in particular, the renovation of one of the first valley lifts in France: **the Bourg-Saint-Maurice funicular railway,** the epitome of multimodal travel with its direct connection to the railway network.



PEYRAGUDES, PYRÉNÉES MOUNTAINS

2 INNOVATIONS UNDER POMA'S EYE

As part of the dynamic to promote continuous improvement in customer experience, POMA is embracing an open innovation approach to create even more value on all its expertise.

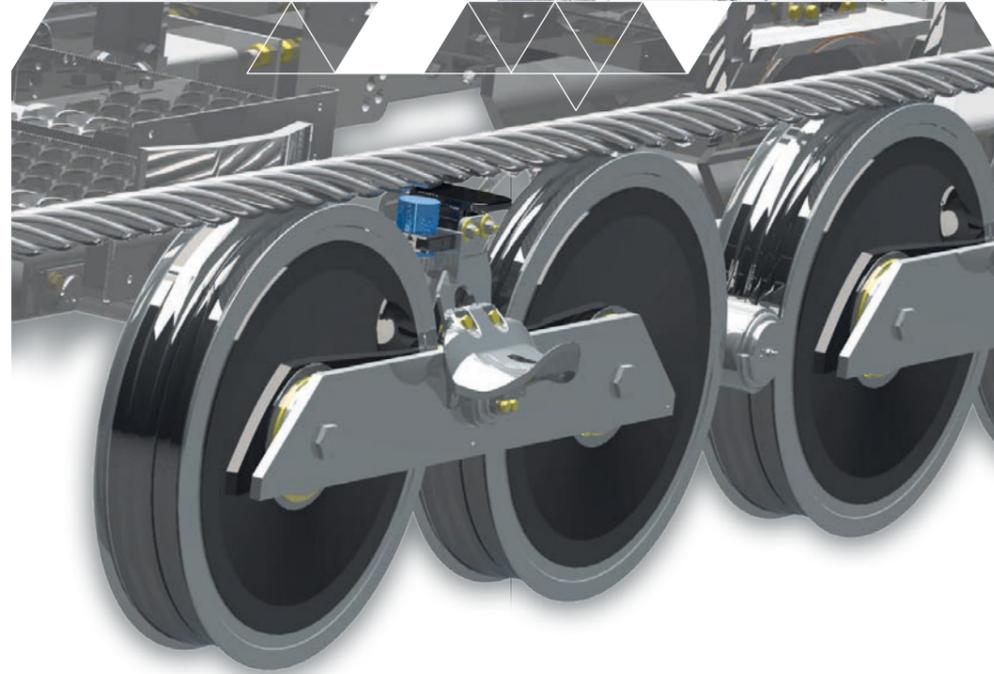
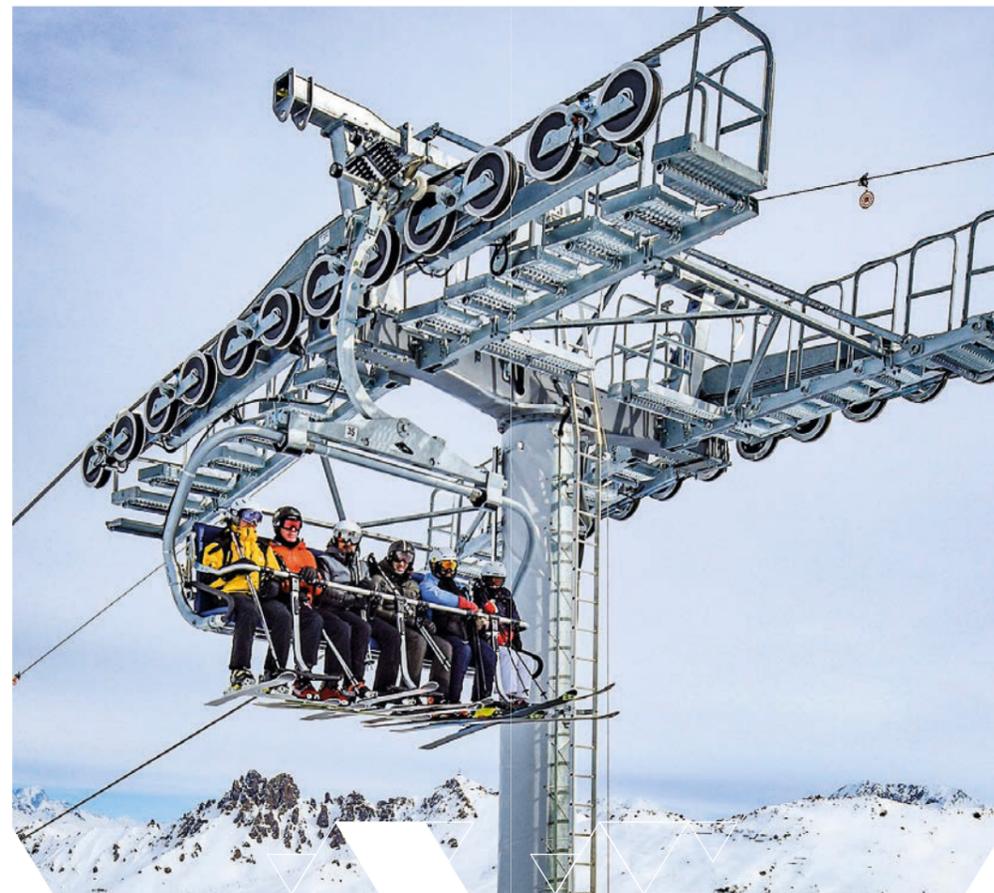
1 VAUJANY IS PAYING ATTENTION TO THEIR IMAGE AND THEIR SKIERS.

The iconically designed Montfrais gondola lift was renovated and **75 brand new cabins** were installed. In addition to meeting specific operational needs and constraints, there was one major obstacle: “lower” cabins with exterior ski racks had to be replaced by “higher” cabins with interior ski racks.

The 71 SP77 gondola lift cabins built in 1987 were replaced by spacious **6-seater Diamond** cabins, providing more fun to the passenger experience. The cabins' panoramic windows offer a remarkable view of the valley during the trip up to the foot of the slopes. Boarding is easier because the cabin is set at a higher level and the doors open wider. Interior ski racks are installed, and even mountain bikes can be secured in summer. State-of-the-art grips and hangers that are lighter and reduce

maintenance operations were also installed. Major changes were made to ensure optimal comfort for passengers, but the installation's high transport capacity has remained the same because no modifications were made on the structures or on the weight.

This successful renovation will extend this backbone installation's service life while bringing a touch of modernity to the resort.



2 SAFETY RAISED TO ITS HIGHEST LEVEL

POMA also innovates to anticipate our customers' future challenges. Because of our ongoing commitment we have for our customers, POMA integrated organizational, operational, technical, and regulatory needs to develop the **Cable Position System**—a certified device that guarantees the position of the rope and ensures maximum

installation availability while reliably identifying and localizing any unusual movement. This is to better anticipate maintenance operations.

Using the **Safety-Bus system** optimizes the cabling between stations and towers.

INSIDE POMA

Change of governance for POMA Beijing, a showcase of French excellence in Asia



Franckie Tamisier hands over governance to Zhu Jie, an ENSTA engineer who has spent most of his professional career in the company. Franckie Tamisier is now the POMA Group's industrial director and SIGMA president.

This change in governance marks the full maturity of a subsidiary that generates €80 million in revenue, employs more than 100 people, and has built more than 80 tramway, gondola-lift, and funicular-railway sections in tourist sites, ski resorts, and cities such as Shenzhen, Tianchi, Enshi, Jing Gang Shan, Ming Yueshan, Beijing, Chang Bai Shan, Yang Jia Jie, Tian Men Shan, etc.

It is true that POMA started off with a first successful installation in 1989: the construction of a 6-seater detachable gondola lift and a pulsed

gondola lift on the Great Wall of China. Thirty years and 80 installation sections later, the company has achieved another milestone by installing three interconnected, tri-cable detachable aerial tramways in Zhuhai.

There are many examples of excellence among the installations in operation. They all testify to POMA's ability to enter and invest in new territories. In China, POMA was able to work in a network by developing an industrial unit dedicated to assembly operations, choosing to rely on local skills and resources, creating consortia assigned to each issue, and training teams, especially in maintenance and operation assistance. This work process has enabled POMA Beijing to act as an entryway to the Asian market. Now, there are more and more projects in South Korea, Japan, Vietnam, etc.





CHÂTEL

New, Unique SENSATIONS

► COMBINING
STATE-OF-THE-ART TECHNOLOGY
WITH PURE COMFORT

Châtel and Les Diablerets remain at the forefront with new generation ropeways that will appeal to both skiers and operators alike.

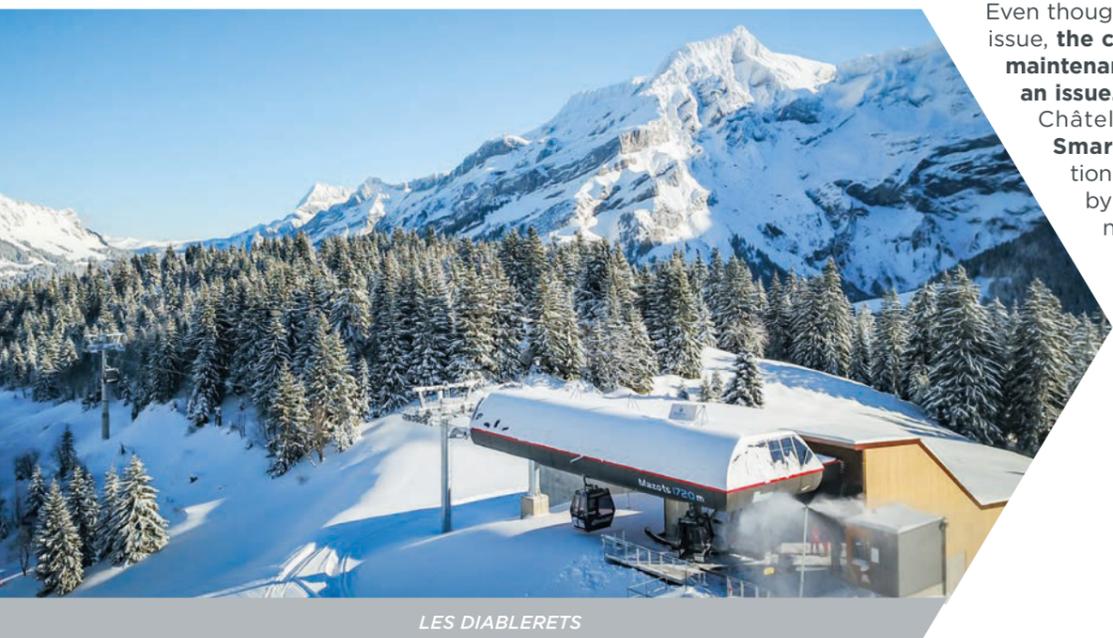
Châtel, in the heart of Portes du Soleil resort in the French Alps, and Les Diablerets in Switzerland are two very different resorts but with similar challenges.

They share the same standard for performance that has resulted in innovative technological solutions, with priority given to user comfort. Châtel chose **COSY LIFT** chairs for its new DCL6 at Pierre-Longue, the ski area's main hub. In Switzerland, Les Diablerets resort wanted to set the tone with the Diablerets Express, a **10-seater gondola lift** with the highest capacity ever built for a gondola lift in the Vaud Alps.

Following in Châtel's footsteps, the Swiss resort is the first resort in French-speaking Switzerland to chose the innovative **DirectDrive** technology. Both are convinced by the system's performance, high availability rate and energy efficiency.

These two installations promote both resorts' environmental policies. By choosing POMA alongside local civil engineering and assembly companies, these technical solutions respect the environment: station structures were pre-assembled and the bottom station's concrete foundations pre-fabricated. In Châtel, the top station was completely erected in only two operations.

Even though user comfort is a major issue, **the comfort of operation and maintenance teams is just as much an issue.** Both Les Diablerets and Châtel are equipped with the **SmartBOARD**, a new generation control station developed by SEMER, offering an ergonomic and user-friendly HMI for improved operations and optimized control room space.



LES DIABLERETS



SMARTBOARD



Hear from...

Valérie Paul

DETACHABLE CHAIRLIFT
OPERATOR IN FRANCE,
UPILOT® TRAINER,
COMPAGNIE DU MONT BLANC

How do you use UPILOT®?

UPILOT® complements our regular on-site training. It consists of a digital e-learning platform and a simulated 3D ropeway: implementing a design that makes it relevant and attractive, both for initial training and for refresher courses. In addition to establishing a knowledge base, this training—provided within the company—helps lift operators prepare for the Professional Qualification Certificate in Ropeway Operation delivered by the French Ski Areas Association.

What feedback have your teams given?

It's been really positive! First of all, everyone loves how they can use it according to their schedules. On-site training is more restrictive, requiring equipment downtime and organization that is much more tedious. With UPILOT®, the time slots are more flexible and teams feel more comfortable. And when bad weather would have prevented working, we can now spend time training. Professionals also enjoy learning in a less stressful environment, where they can progress at their own pace. In addition, everyone emphasizes the quality of the modules, both in terms of educational engineering and how easy it is to learn.

What about your feedback as a trainer?

This is a perfect example of what digital technology can provide to operational strategy: learning, serenity, and autonomy.



Hear from...

Abdenour Acheli

TRAINER AT THE ALGERIAN
ROPEWAY TRANSPORTATION
COMPANY, ETAC

UPILOT® is a tool that ETAC knows well, right?

Indeed, a year ago I started using it in my training processes for operational teams. We use the e-learning and the immersive parts as well as virtual intervention techniques.

Do you have to have a specific profile to use UPILOT®?

Absolutely not! It's so easy to use that even those who are not digital natives find it easy! The modules are so rich that they cover all aspects of the trade. We have already trained 80 people with UPILOT® and they all have different profiles—from operating agents to conductors, including maintenance technicians and operations managers.

What feedback have your teams given?

New recruits like how immersive it is, making it easier for them to get started once they are in the field. The most experienced people appreciate being able to deepen their skills independently. They all say that these training sessions are a way to exchange and meet—opportunities that did not exist before!



POMA'S WORLD

WINTER 2018

An urban gondola lift in Bab-el-Oued, Algeria

Built for the Algiers metro, the new line in the center of the capital is connected to the public transport network and connects two densely populated districts in less than four minutes.



1ST REPOWERING PROJECT

In Souleilla-Corbières (France), RES chooses POMA

POMA will supply the first multimegawatt wind turbines to be assembled in France. The RES fleet will increase from 20.8 MW to 24 MW of installed capacity.



4.37 KM LONG

A record for the Galala gondola lift in Egypt

The tourist gondola lift in the new town of Galala City connects the urban area to the luxury seaside resort and runs along the longest section in the Middle East. Its glass floor cabins offer a panoramic view over the Red Sea.

FEBRUARY 2019

Fly over the forests in Jammu and Kashmir, India

Patnitop resort is expanding its offer to tourists with one of the highest gondola lifts in Asia—flying over the forests and reaching a high altitude restaurant at the peak.



SPRING 2019

Sublime flight from Mokpo to Gohado Island, South Korea

The glass cabins will fly over the ocean for 1.2 km, an unprecedented span between two towers. The towers will reach a height of 155 m, the highest cement towers ever built.



20,000 FEWER TRUCKS

Replacement of the Luzenac material ropeway, France

Thanks to the construction of a 5-km long ropeway to lower the talc extracted from the quarry at 1,600 m in altitude and bring it to the Imerys Talc plant in Luzenac, 20,000 trucks will no longer drive on the roads—a more sustainable and safe solution.



5 YEARS

POMA Colombia

POMA Colombia celebrates its 5th anniversary. Already five years have passed since POMA installed the world's first urban ropeway for mass passenger transport in Medellín. Since then, 13 ropeways have been installed, and 150 employees have joined the POMA team to cover Latin America.

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POMALINK POMA'S NEWSLETTER

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Translation: InFact Global

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