

## 3S Gondola Lifts





## A long list of superlatives

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Taking the long view, identifying trends, creating innovations – these are the strengths you can count on as a Doppelmayr/Garaventa customer. With cutting-edge ropeway technology, we set the benchmark for transport systems geared to the future. Your trust in our capabilities and products motivates us to provide you with top performance every time. As your partner we take pride in our reliability.

Our proven tricable gondola detachable (TGD) ropeways combine the benefits of gondola lift and reversible aerial tramway. The result is technical perfection. This 3S system has two fixed, fully locked track ropes on

which the carrier travels and a circulating haul rope which is clamped to the carriages. This detachable continuous movement system offers top performance and reliability. It has a total transport capacity of up to 5,500 PPH and cabins for up to 38 passengers. 3S ropeways are characterized by very high wind stability, low energy consumption and the capability to cope with very long rope spans. Infinitely adjustable travel speeds of up to 8.5 m/s are possible.

 We set the benchmark  
for ropeway technology geared to the future



# The pinnacle of technology, performance and reliability

The 3S lifts in Sölden and Koblenz were the first to incorporate the Doppelmayr/Garaventa recovery concept, which allows passengers to stay in the cabins in the event of a lift malfunction. The Penken and Fansipan Legend lifts also incorporate this safety system.

The recovery concept centers on the technical and organizational means to ensure that all cabins can always be safely returned to the nearest station in an evacuation scenario. This approach provides maximum safety plus the utmost in comfort. The key to this solution is 'redundancy'.

All functionally relevant parts and equipment are duplicated and independent of one another. Thanks to this concept, it is now possible to realize ropeway projects which previously could not be considered as non-acceptable evacuation option was available.

 World premiere  
for an innovative recovery system



## References

- 30-TGD Alpin Express 1+2, Saas Fee, Switzerland
- 30-TGD L'Olympique, Val d'Isère, France
- 30-TGD 3S, Kitzbühel, Austria
- 28-TGD Peak 2 Peak, Whistler, Canada
- 35-TGD Koblenz Cable Car, Koblenz, Germany
- 30-TGD Gaislachkogel 2, Sölden, Austria
- 30-TGD Psekhako, Krasnaya Polyana, Sochi, Russia
- 30-TGD Olympic Village, Section 1, Krasnaya Polyana, Sochi, Russia
- 30-TGD Olympic Village, Section 2, Krasnaya Polyana, Sochi, Russia
- 28-TGD Pardatschgrat, Ischgl, Austria
- 30-TGD Penkenbahn, Mayrhofen, Austria
- 30-TGD Fansipan Legend, Sapa, Vietnam
- 30-TGD Hon Thom, Phu Choc, Vietnam
- 30-TGD 3S Lushan, Jiangxi Province, P.R. China
- 26-TGD 3S Tianmushan Ropeway, Hunan Province, P.R. China
- 32-TGD 3K K-connection, Kaprun, Austria
- 26-TGD Eiger Express, Grindelwald, Switzerland



PRÄDIKAT WELTCUPGEPRÜFT

ÖTZ TALE GÖLDEN

GAISLACHKOGL

## Technical perfection

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As in the case of reversible aerial ropeways, the track ropes are guided over towers and track rope saddles. The haul rope runs in haul rope support sheaves on the towers. In the case of the tricable gondola lift, the haul rope can also be supported by slack carriers on the track ropes in the spans between the towers. Extremely long rope spans are only possible with this system.

**3S carriage assembly:** The 8-wheel bogie carriages consist of two 4-wheel bogies, one on the uphill and one on the downhill side. Large lined carriage wheels ensure smooth running to provide passengers with optimal ride comfort. Doppelmayr developed the carriage wheel generator to supply power to the cabins during the trip. Energy is produced by the movement of the carriage wheels, providing the electricity required for cozy seat heating as well as lighting inside the cabin. Each cabin is attached to the haul rope by means of two independent, automatic detachable grips.

**3S cabin:** The CWA models ATRIA, Zeta and Taris offer room for 20 to 38 passengers and the optimal aerodynamic design ensures excellent behavior in windy conditions. In addition, special transport carriers developed by Doppelmayr enable the straight-forward transport of automobiles. The 3S lift Olympic Village in Rosa Khutor (RUS) features this innovation.

The latest 3S cabin, ATRIA, offers numerous possibilities for integrating electrical components for connection with the control system Doppelmayr Connect. Examples include different lighting options or one- and two-way communications in the cabin, which can then be controlled directly with Doppelmayr Connect.

**3S tower:** Winter 2015 saw a world first go into service on the Penken 3S lift. One of the towers has an axis curve of 6.5°. Thanks to this innovative tower construction, the special rope guidance and the suitably adapted carriages, it is now also possible for tricable gondola lifts to travel along a curve.



## Key features at a glance

- Speed up to 8.5 m/s
- Transport capacity up to 5,500 PPH
- The ropeway solution to meet extreme requirements
- Very large rope spans possible (depending on topography)
- Utmost availability
- Readily adaptable to customer requirements
- Top comfort and safety for passengers
- All parts and equipment comply with EU directives (CEN)
- Very high wind stability
- Low energy consumption
- Top ride comfort
- Modularity: Integration of numerous cabin functions possible (seat heating, lighting, one- and two-way communications, Wi-Fi, etc.)
- Carriage wheel generator: produces energy during the trip
- Dedicated carrier for automobile transport possible
- Barrier-free
- Innovative recovery concept





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