



The new generation of Bicable ropeways, an economic link between Monocable and 3S

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The new generation of Bicable ropeways, an economic link between Monocable and 3S

SUMMARY

- The Evolution of ropeways
- Most used solutions today
- Bicable redesigned
- Best of both worlds:
 - Cabins and carriers
 - Line towers
 - Stations
 - Line profile
- The missing link



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The Evolution of ropeways

- First came the wheel...



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The Evolution of ropeways

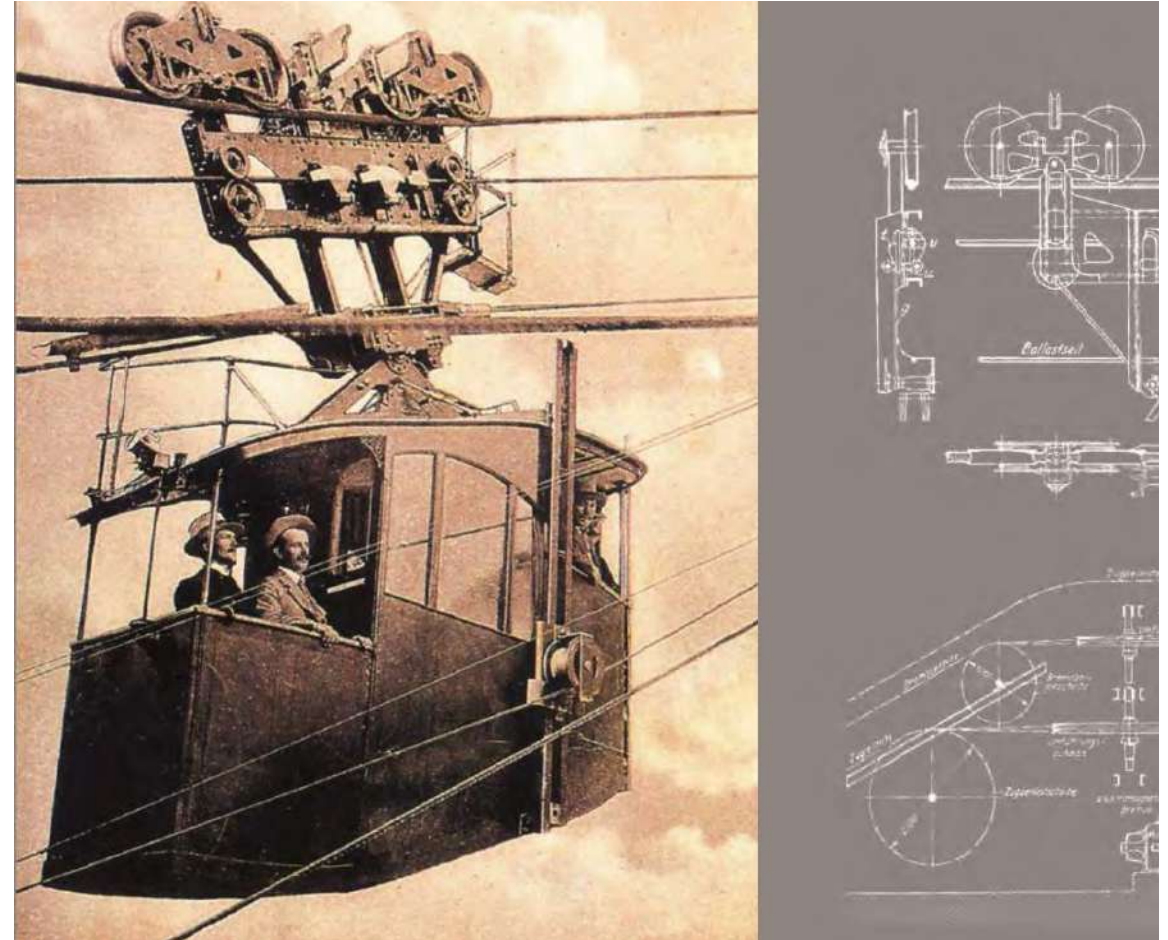
- First came the wheel...
- But trains could not overcome vertical rise, so man started to use cables to haul loads...and Funiculars were born,,



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The Evolution of ropeways

- First came the wheel, then man invented carriages, trains...
- But trains could not overcome vertical rise, so man started to use cables to haul loads...and Funiculars were born,
- Then rails were replaced by more cables, allowing to jump over difficulties...and „Ropeway“ was invented...



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Ropeway solutions – First steps

- Jig back was fine at first



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- Bigger vehicles were also good
 - More transport
 - More comfort



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- Further innovation in loading /unloading, replaced by „Detachable technology“



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- Unidirectionnal Monocables became the main Ropeways



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Ropeway solutions - New developments

- Capacity
 - More transport
 - More comfort
- Availability and reliability
 - Integrated Rescue System
 - Higher speed (up to 8.5 m/s – 30 km/h)
- Demanding line profiles
 - Long spans
 - High End vehicles (Light, Sound, Air Con, Stop&Go)



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Ropeway solutions – Nowadays

- Modern Monocables
 - High speed of transport (from 0 to 7 m/s)
 - Safe and comfortable loading/unloading
 - Bespoke vehicles
 - Easy integration in environment
 - Low CAPEX and OPEX costs



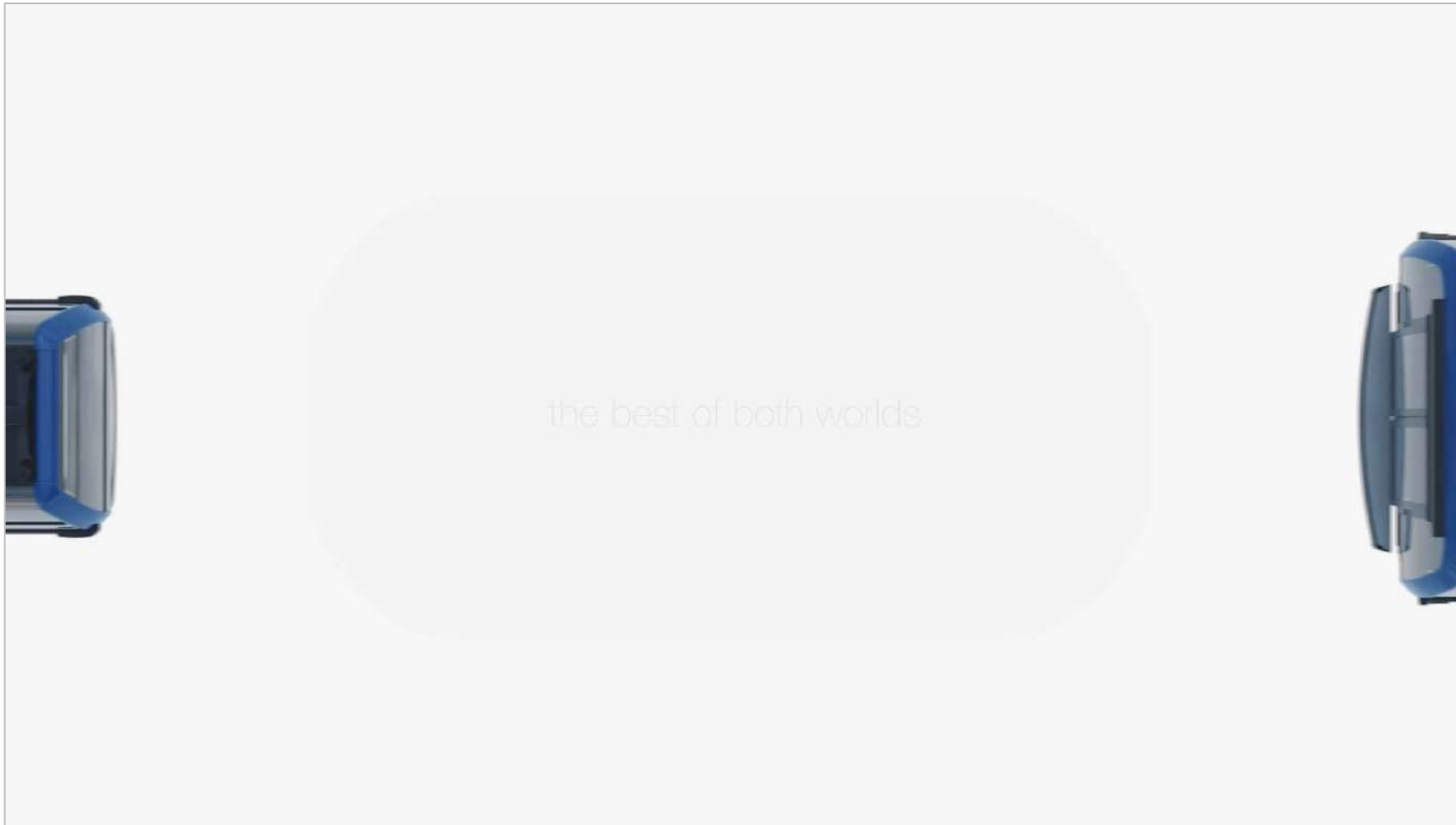
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Ropeway solutions – Nowadays

- Modern Monocables
 - High speed of transport (from 0 to 7 m/s)
 - Safe and comfortable loading/unloading
 - Bespoke vehicles
 - Easy integration in environment
 - Low CAPEX and OPEX costs
- Modern TriCables
 - Higher speed of transport (from 0 to 8.5 m/s)
 - Large and heavy vehicles
 - Long spans
 - Integrated Rescue System
 - Power generation along movement



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Bicable redesigned...

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Bicable redesigned...

**Smart carrier and
Comfortable cabins**

- High carrying capacity
 - (10 to 20 passengers)

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Bicable redesigned...

Smart carrier and Comfortable cabins

- High carrying capacity
 - (10 to 20 passengers)
- All types of configuration possible
 - Diamond, EVO, Conus, Symphony, Porsche Design
 - All Interior design possible
- Power generation along the movement
 - Electric sliding doors
 - Air conditioning
 - Light
 - Sound

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Bicable redesigned...

Smart carrier and Comfortable cabins

- Safe and reliable concept
- Agile in the stations
- Noiseless along the line
- No pressure points
- Low wear equipment

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Bicable redesigned...

Simple line towers

- Single track saddle
- Less haul rope rollers
- Small foundations
- Light structure
- Easier installation
- Low OPEX costs

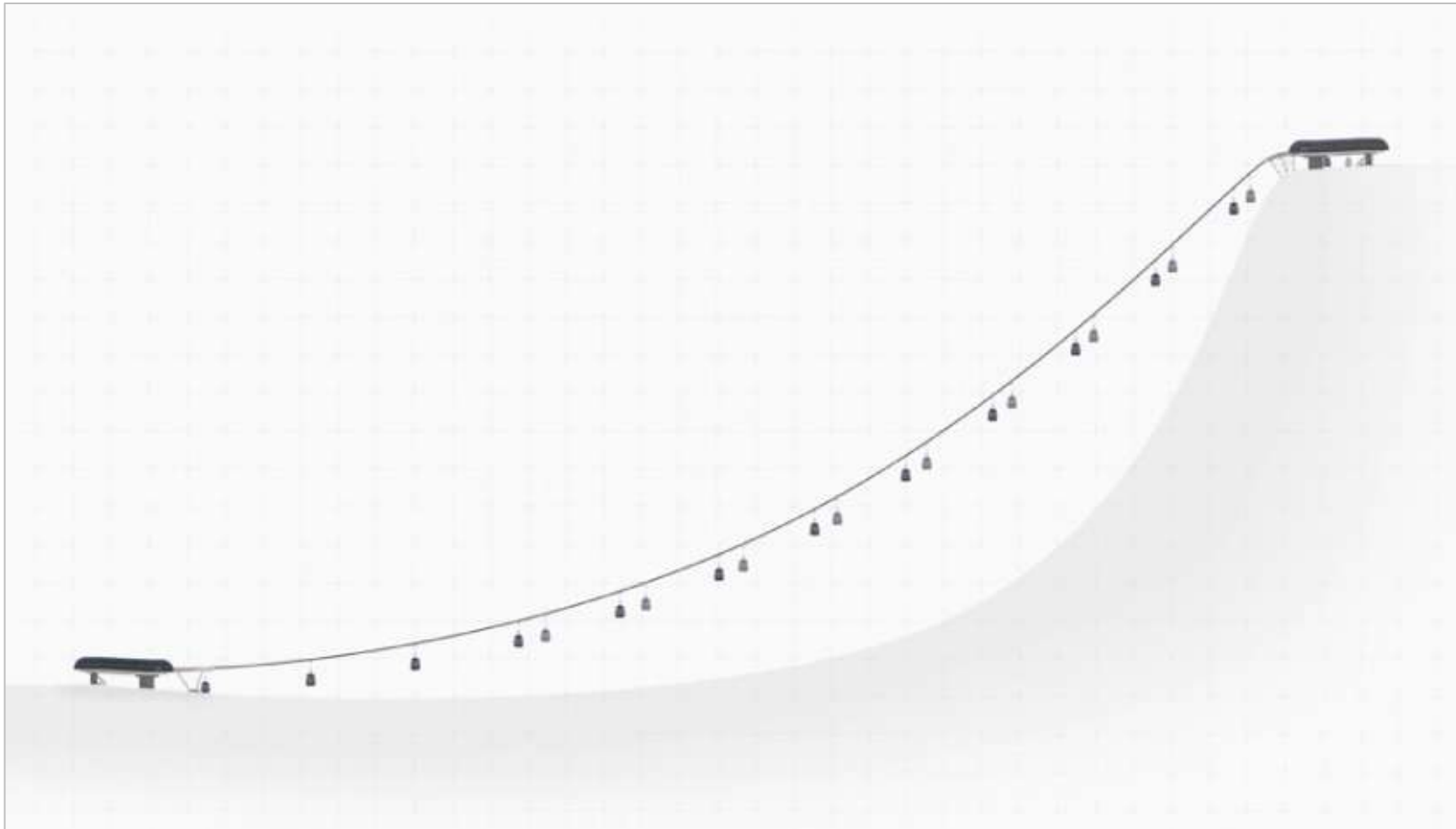
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Bicable redesigned... Easy-to-integrate stations

- Narrow line gauge
- Short stations (accel/decel beams)
- Sharp turn (small radius)
- 2 pillar foundations
- Standard monocable components
- Low wear / maintenance
- Easy tension recovery

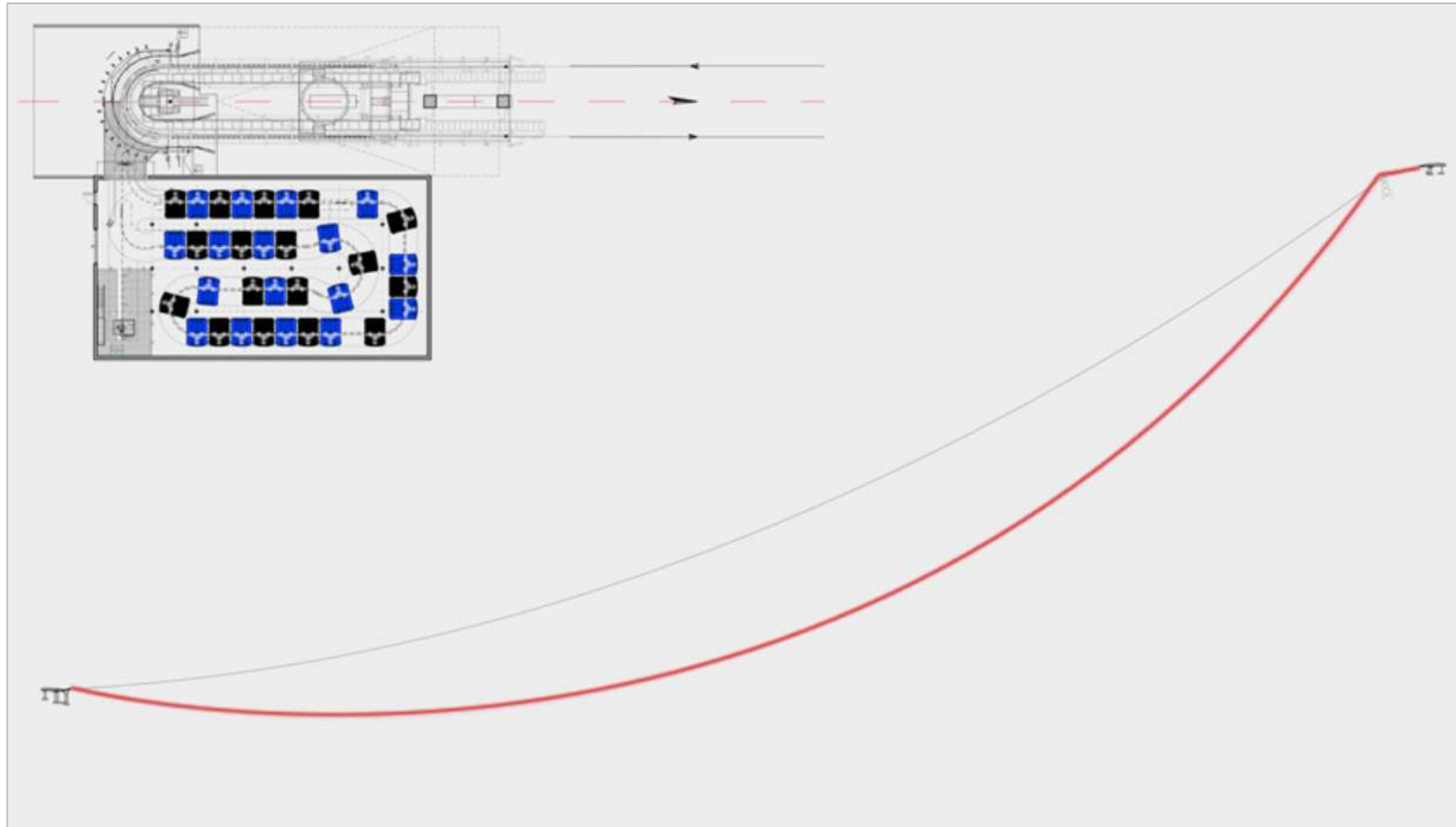
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Bicable redesigned... Optimized line profile

- Long spans
- Light design
- Wind stability

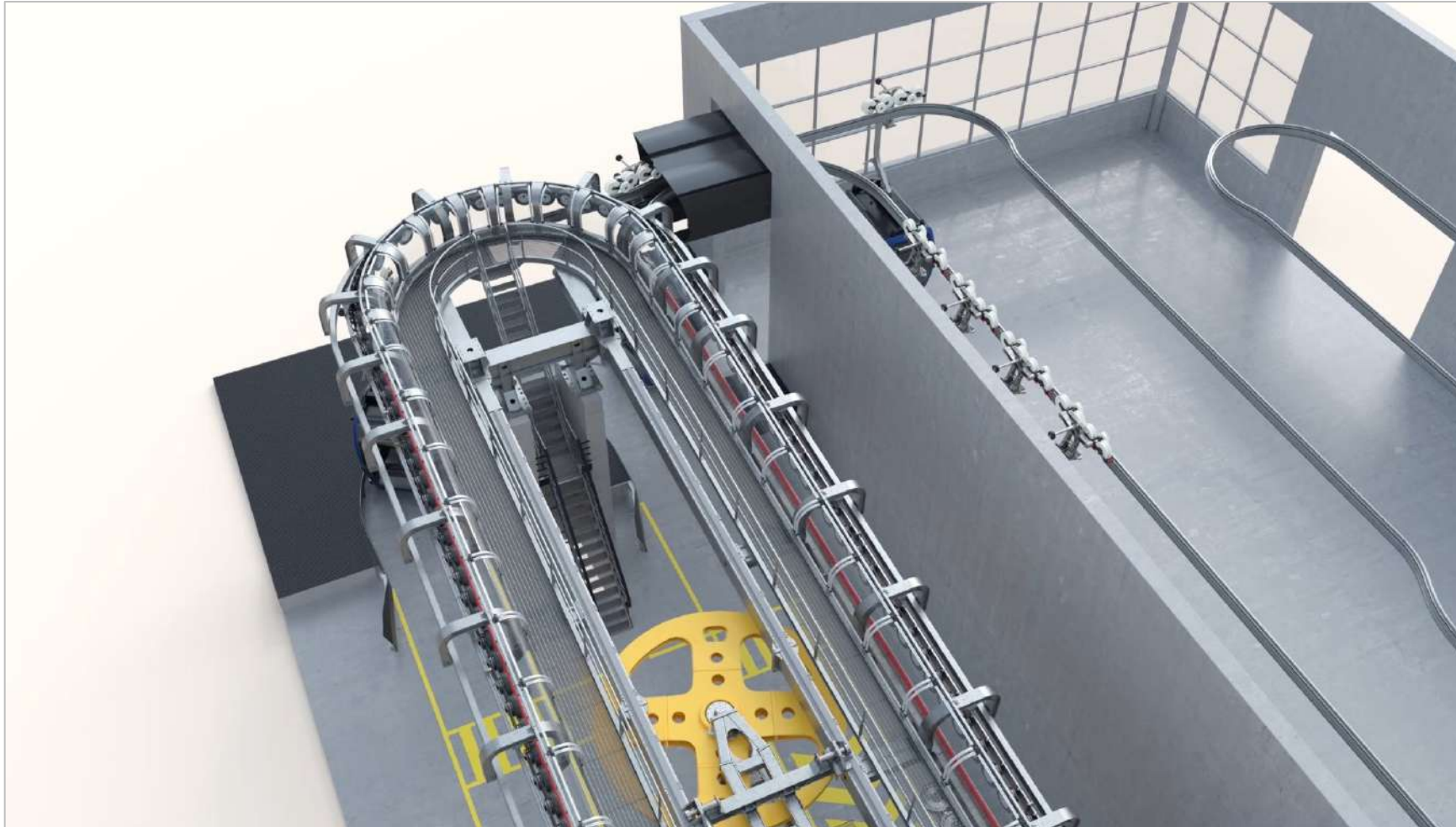
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Bicable redesigned... Optimized line profile

- Long spans
- Light design
- Wind stability
- Movable slack carriers

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Bicable redesigned... Optimized line profile

- Long spans
- Light design
- Wind stability
- Movable slack carriers
 - Automatic in place, no punctual wear of track cable.
 - Easy and simple, available as spare carriages.
 - Fully removable, daily workshop maintenance and rope displacement

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Bicable redesigned...

The economic solution?

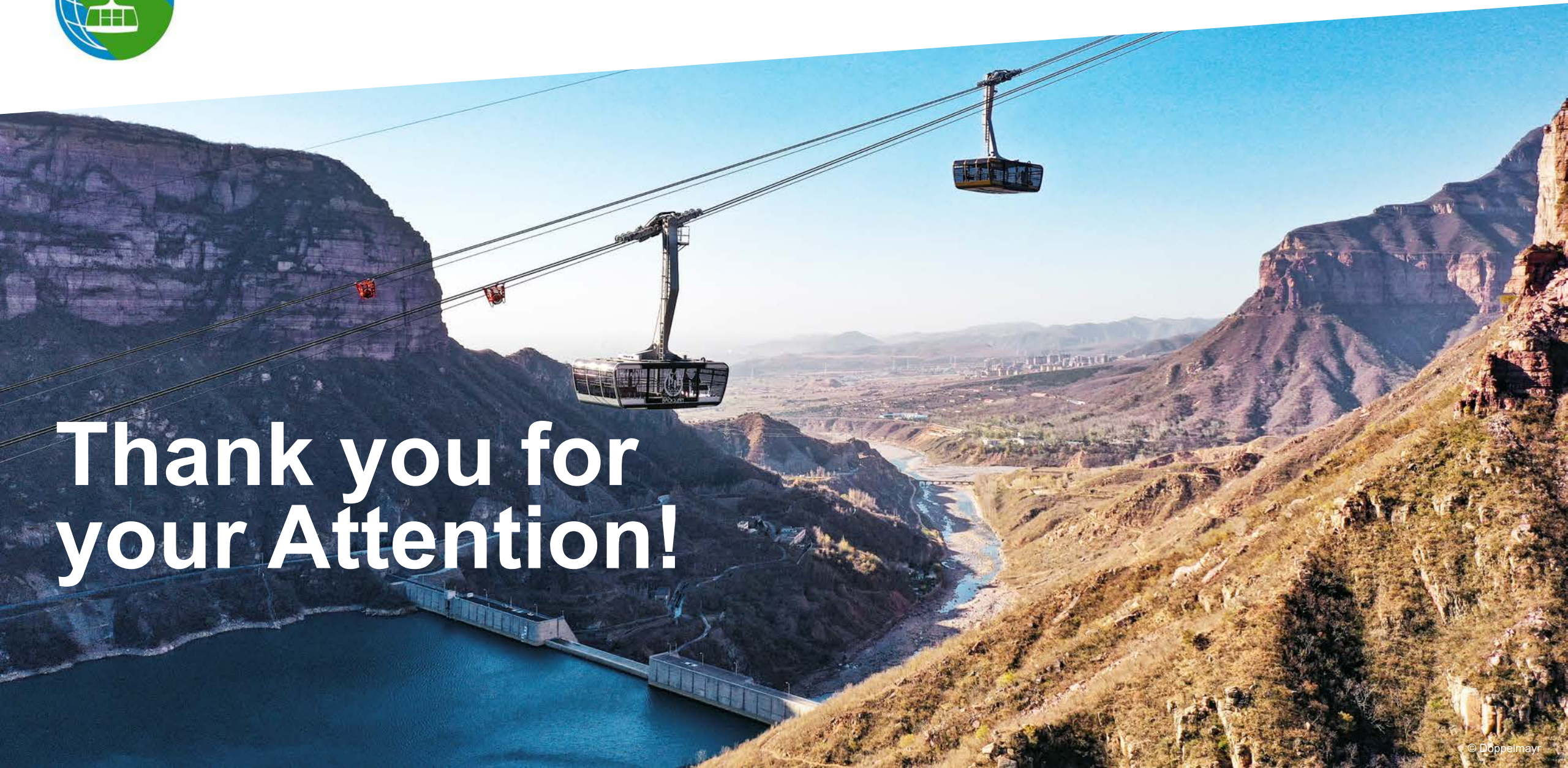
- 3S „downsized“
- Monocable „powered up“

The main advantages of new Bicable technology is... the Price

(60% of the value for a comparable 3S, for same transport capacity)

- Lower CAPEX (construction, equipment and installation costs)
- Lower OPEX (lesser wear and tear, reduced maintenance and „lean“ technology)

The new generation of Bicable ropeways, a real economic link between Monocable and 3S



**Thank you for
your Attention!**