

Interactive Ride - Monorail Solutions

Szabo Software Engineering Ltd
Bringing your entertainment vision to life.

Szabo—Interactive Ride Monorail Solutions

From historical events to fantasy scenes. From drama to fairy -tales. If you can create the vision, we can place your visitors inside the reality.

This unique concept is delivered “key ready”:

- Identify the location
- We help with the overall design
 - Buildings, Plant, Security, Safety etc.
- We design the system and deliver it “key ready”
- Your business case becomes reality

Couples, families or groups of friends all benefit from a highly interactive ride system. Each cabin is independently controlled—making sure that your visitors have a unique VIP style experience.

Safety systems are to international standards. Down-time is minimal and maintenance protocols are flexible.

At a glance:

- VIP Experience
 - Each trolley delivers a private tour
- Audience interaction
 - Scenery
 - Multimedia systems
- High passenger throughput without crowding
 - Compelling business case



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Delivery of key-ready monorail systems—giving your visitors the opportunity for private interaction with your scenic vision. Design, Installation, Commissioning and Maintenance. Movement in 3 dimensions bringing your visitors a unique multimedia experience.

Safety

- International standards
- Central safety controller
- Multiple emergency stop points
- Full safety risk analysis included in design phase
- Emphasis on interaction—not speed and thrills!

Maintenance

- Maximise up-time
- Minimise disruption
- Plan maintenance activities
- Minimise maintenance cost
- Condition based maintenance option—extend operational life

Delivering the Business Case

- Family fun
- Interactive operation—keep everybody interested
- Maximise traffic
- Straightforward ROI model
- Proven industrial technology
- Low construction risk

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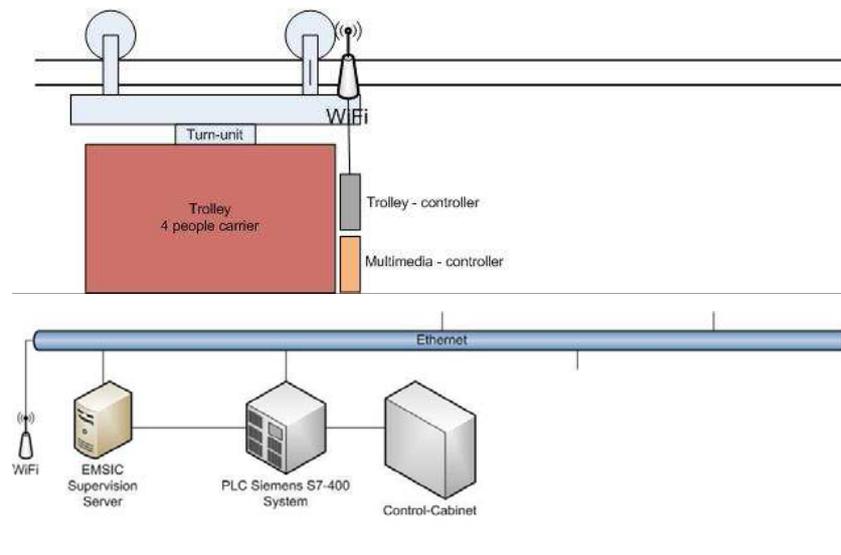
Concept

Each trolley is independently controlled. An absolute coding system along the track ensures precise location information to be used in scenery operation.

Each scene is associated with precise locations and each has a maximum and minimum time assigned. Each trolley has an on-board controller—controlling the movements and the timing of the trolley. Movement is possible in multiple directions and in 3 dimensions—driving, lifting and rotation. Optical sensors in each trolley trigger effect sequences at exactly the right time.

Each cabin is fitted with a multimedia system—which forms the heart of the interactive potential—limited only by our imagination.

A central supervision system controls and reports the full operational status of each system element. It is possible to modify the movement of trolleys remotely via the supervision system—making adaptive entertainment sequences feasible.



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Safety

Safety is a primary requirement which is never compromised. Safety standards are internationally accepted with overall system responsibility for safety assigned to a central safety controller, emergency stop points placed throughout the system and control point inputs provided for external safety related inputs—such as fire alarm systems. With an emphasis on interaction rather than speed and thrills, Interactive Ride Monorail Systems can be delivered with safety assured.

Maintenance

Design concepts include comprehensive maintenance schedules to prevent operational disruption. Planned replacements and inspections can be conducted in scheduled down-time. Scope exists to remove individual trolleys from service when required for maintenance and repairs. Optionally, condition based maintenance practices can be included in the design concept.

Delivering the Business Case

With an emphasis on the entire family, and a capacity of up to 3000 people per day, return on investment calculations are simple and easy to justify. The technology used has an excellent track record in industrial applications—reducing the implementation risks substantially.

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Interaction

Equipping each cabin with a multimedia system and engineering in interaction between cabins (and hence visitors) with active scenes in the background scenery makes each visit a unique experience.

Experience

With careful synchronisation made possible by the precise location tracking of each cabin, each sequence is triggered at exactly the right moment. Visitors see everything at the perfect time—and as we all know, timing is the key to enjoyment.

Unique Attractions

The control systems used and the flexibility of operation enabled by the concepts that become possible, ensure that each attraction is truly unique. Operating at multiple levels and in many directions, it becomes possible to design an experience that is really gripping whilst still remaining suitable for all ages. Fun for children from 2 to 92!

Interaction

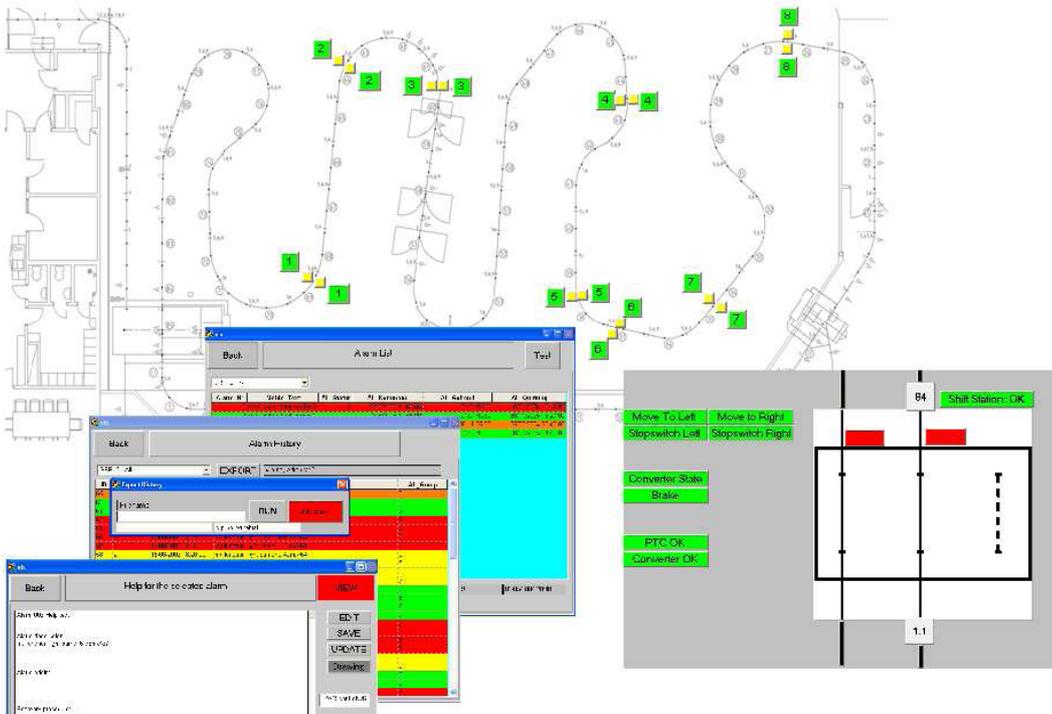
- Visitor interaction with scenery
- Multimedia capability to keep things lively
- Cabin controlled scenery phasing—making sure that every visitor sees every sequence—perfectly timed

Experience

- Precise location tracking
- Synchronised effects
- Perfect timing—every time

Unique Attractions

- Multiple levels, precise control
- Unique combination of powerful control algorithms and holistic systems
- Fun for children from 2 to 92



Case Study—Junibacken – Storybook Museum— Stockholm

Here, a fantasy world of storybook characters is brought to life with visitors travelling from scene to scene—changing their perspective as they go.



With a requirement for high availability, flexible programming and a safety environment suitable for children of all ages, the Szabo Software team were able to deliver an experience that brings the Astrid Lindgren characters to life. Pippi Longstocking, Emil, and Karlson guide their visitors in a uniquely personal tour over many levels and perspectives.



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Central Control System

- The central control system consists of a central PLC and a supervision system - EMSIC. The PLC controls the safety system, the power supply and could control the scenery effects.
- The supervision system visualises the system graphically. It is responsible for collecting and distributing alarm messages.
- The supervision system talks via WIFI or over the bus bars to each of the trolleys for gathering data or updating scenery information.

System Elements

Element	Specification
Control System	Central PLC and EMSIC supervision system including graphic system visualisation and alarm collation.
Communications	Via WIFI or over Bus Bars to each trolley to gather data and update scenery information.
Track	Norm KHB-5 double T aluminium track—routing over complex angles and radii is possible subject to trolley design. Support for incline and decline.
Location coding	Absolute coding system throughout entire track length—enables trolleys to detect location.
Trolley Control	Onboard controller responsible for trolley movement and timing—including driving, lifting and turning.
Trolley Sensors	Optical sensors signal stationary scenes to enable effect synchronisation with trolley arrival.

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