

# Innovative Traction Systems



Transport solutions  
for tunnelling – on the floor  
and at the upper level.

**inTrak** GmbH



# Transport systems at the upper level

Tailored for every single application with gradients up to 40°

## Suspended Monorail-Systems

In tunneling projects systems solutions for material transport have to consider the special working conditions. This is what we do by offering our modular and variable monorail systems:

- Monorails for material and bulk transport
- Shunting trolleys
- Lifting beams with different lifting and slewing devices
- Transport solutions for special tasks

Our options of modules:

### Traction

- Friction wheel drive with different speeds for gradients up to 25° and carrying capacities up to 10 tons
- Rack and pinion drive for gradients up to 40° and carrying capacities up to 40 tons
- Combinations of both drive systems for changing gradients and long transport distances

### Driving Power

- Diesel-Hydraulic
- Elektro-Hydraulic
- Electric controlled (frequency control)
- Pneumatic

### Operation

- From an operator's cabin
- Radio remote control
- Automatic operation



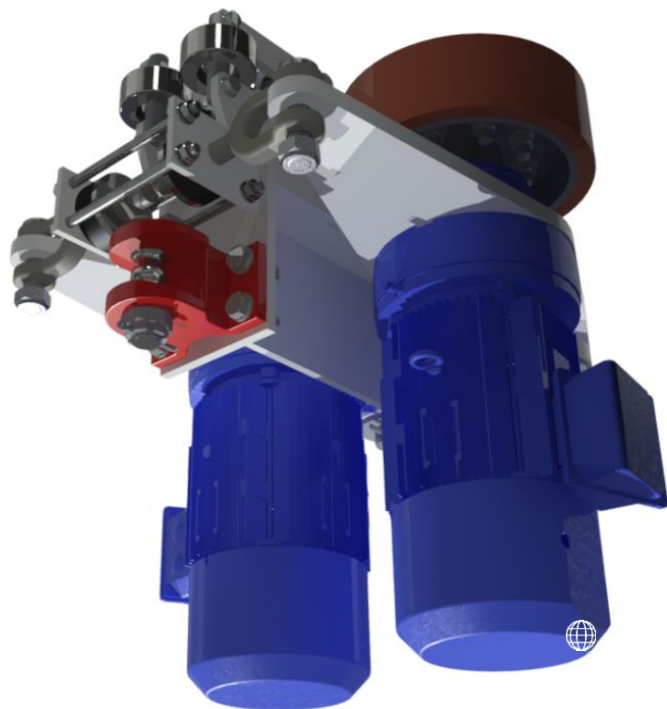
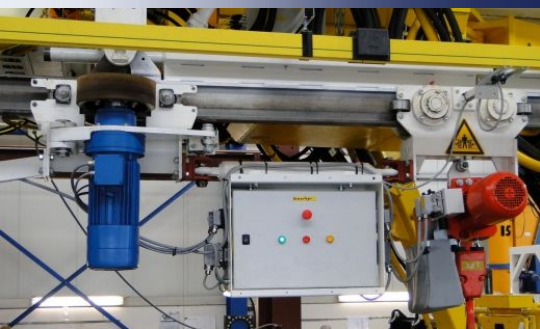


# Shunting Trolley - EMR

- Power supply by:
  - Trailing cable
  - Busbar
  - Battery
- Spring loaded traction system
- Multiple disk breaking system
- Railprofile I140E or I140V
- Symetric layout of the traction wheels
- Powered by frequency regulated asynchronous motors
- Wear-resistant steel rims
- Low-maintenance design

## Technical Data

Pulling force	7 kN
Braking force	16 kN
Diameter friction wheel	300 mm
Power	up to 2 × 4 kW
Weight	ap. 300 kg

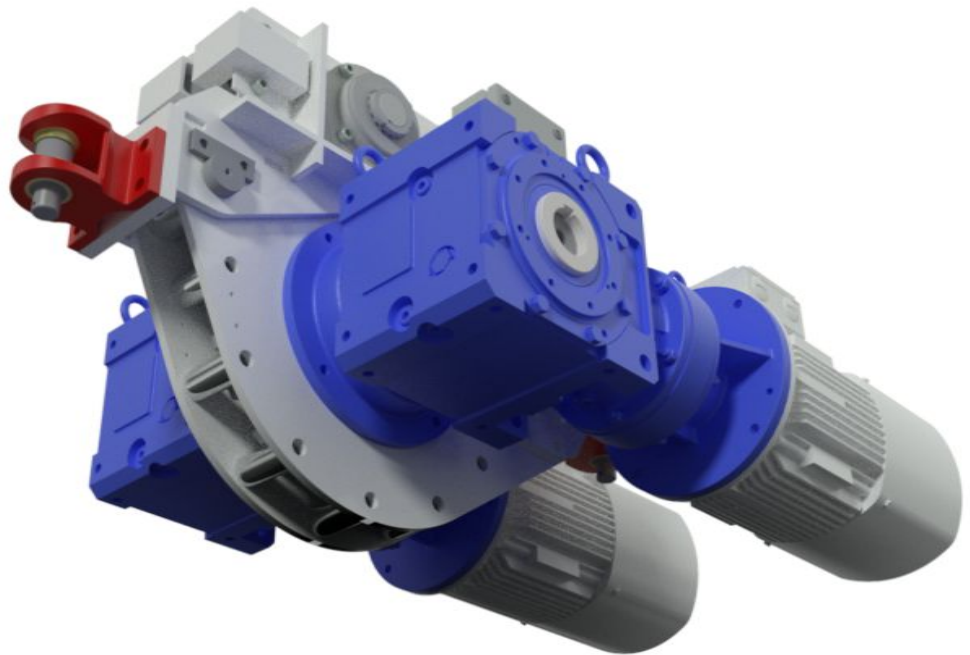


# Shunting Trolley - EMZ

- Power supply by:
  - Trailing cable
  - Busbar
  - Battery
- Form fit traction by rack & pinion
- No loss of traction due dirt and wetness
- Multiple disk breaking system
- Railprofile I140E with rack
- Powered by frequency regulated asynchronous motors
- Wear-resistant steel rims
- Compact design
- To be used even in extreme gradients

## Technical Data

Pulling force	30 kN
Braking force	60 kN
Pitch circle diameter	380 mm
Power	15 kW
Weight	ap. 550 kg



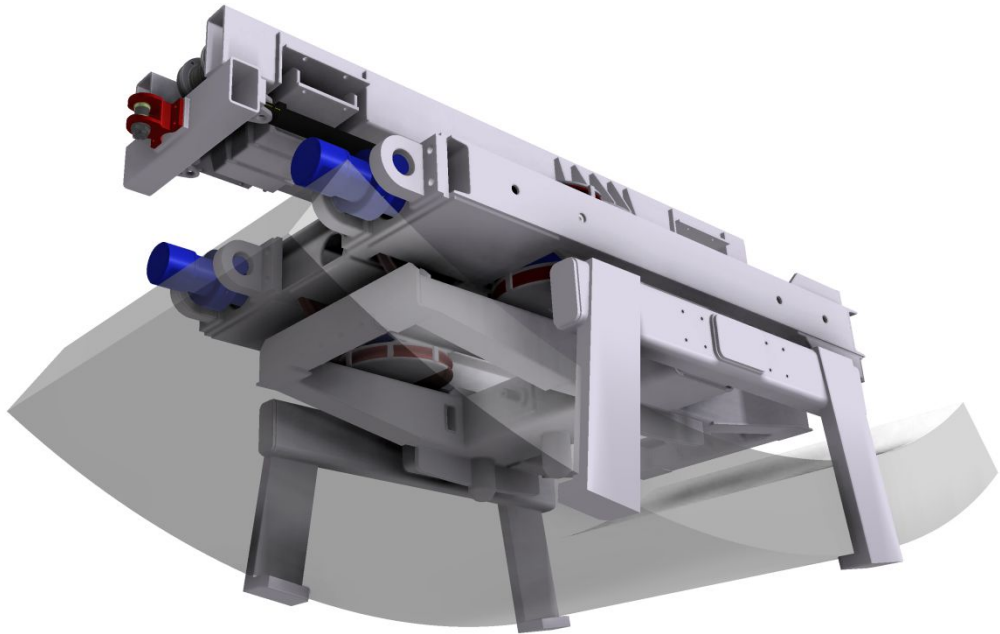


# Segment clamp

- Power supply by:
  - Trailing cable
  - Busbar
  - Battery
  - Hydraulic
- Railprofile I140E or I140V
- Wear-resistant steel rims
- Low-maintenance design
- Grapping device 90° swivable for perfect handling of tubings

## Technical Data

Pulling force	7 kN
Number of ropes	2 x
Lifting height max.	1.500 mm
Lifting speed	8,7 m/min
Lowering speed	6 m/min
Payload	4,2 t

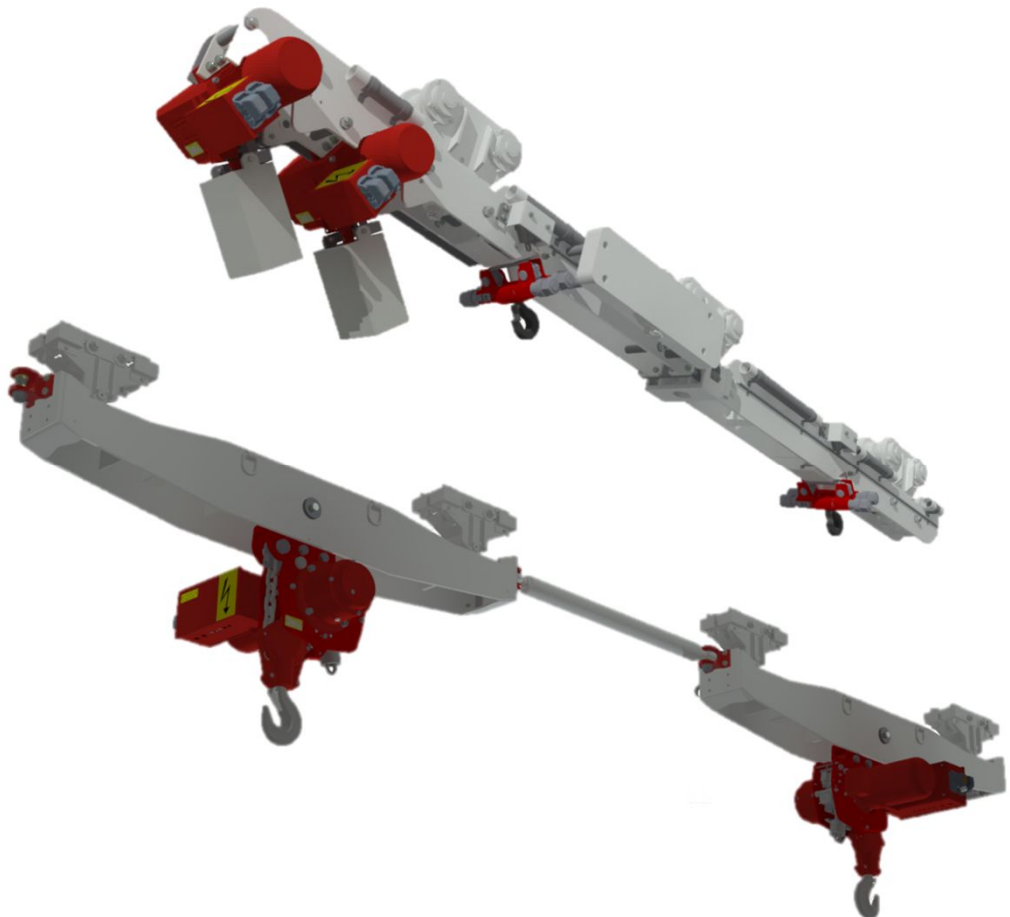
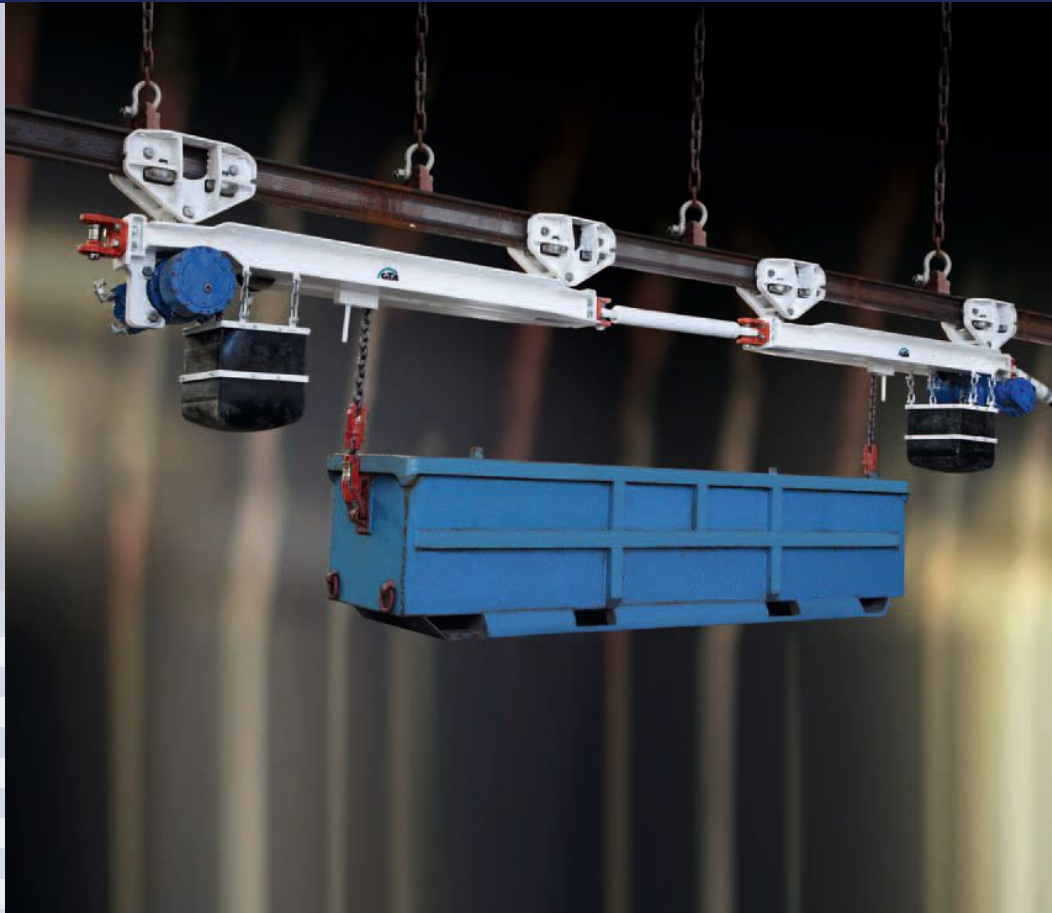


# Lifting beams

- Lifting beams, supplied by inTrak will perfectly fit to your needs. Whether it has to be very versatile, very maneuverable, has to be cheap, or has to fit into tight profiles.
- The lifting beams will be powered by pneumatic, hydraulic or electric. It depends on the supplying machine.

## Technical Data

Number of chain hoists	1 - 4
Payload	1 – 32 t
Rail profile	I140E, I140V, S250







## Floor bound transport systems

Approved Monorail technique transferred to the floor

### Climbing locomotive „Climber“ / Rack and pinion train RP 250

For transport of heavy loads in steep gradients two basic systems are available: friction wheel drives and rack and pinion drives. Both systems are proven under rough tunnelling conditions.

#### Traction

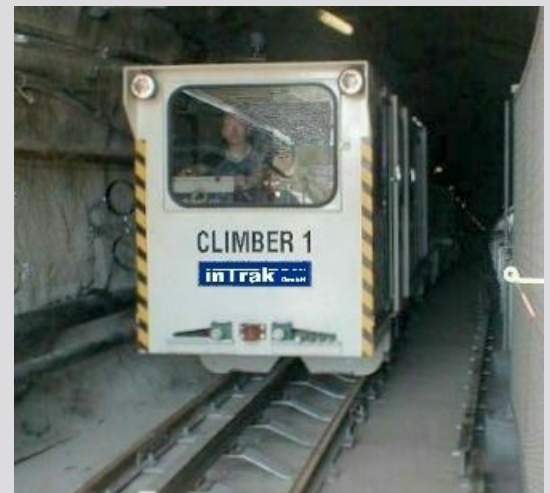
- Friction wheel drive for gradients up to 15° and carrying capacities up to 25 tons
- Rack and pinion drive for gradients up to 40° and carrying capacities up to 40 tons
- Combinations of both drive systems for changing gradients and long transport distances

#### Driving Power

- Diesel-Hydraulic drives with power ratings up to 360 kW

#### Operation

- From an operator's cabin
- Automatic operation







## inTrak – continuous growth in a good environment

inTrak is an affiliate of GTA Maschinensysteme GmbH. Our company is based in the town of Hamminkeln in the Lower Rhine region (North Rhine-Westphalia). Our employees enjoy living in a rural environment close to nature, offering a high quality of life. At the same time, the Ruhr metropolitan area and the Netherlands can be reached by the A3 motorway. Our national and international customers can reach us easily from the Airports in Düsseldorf, Dortmund, Münster, Cologne and Amsterdam or via the well developed motorway network.



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