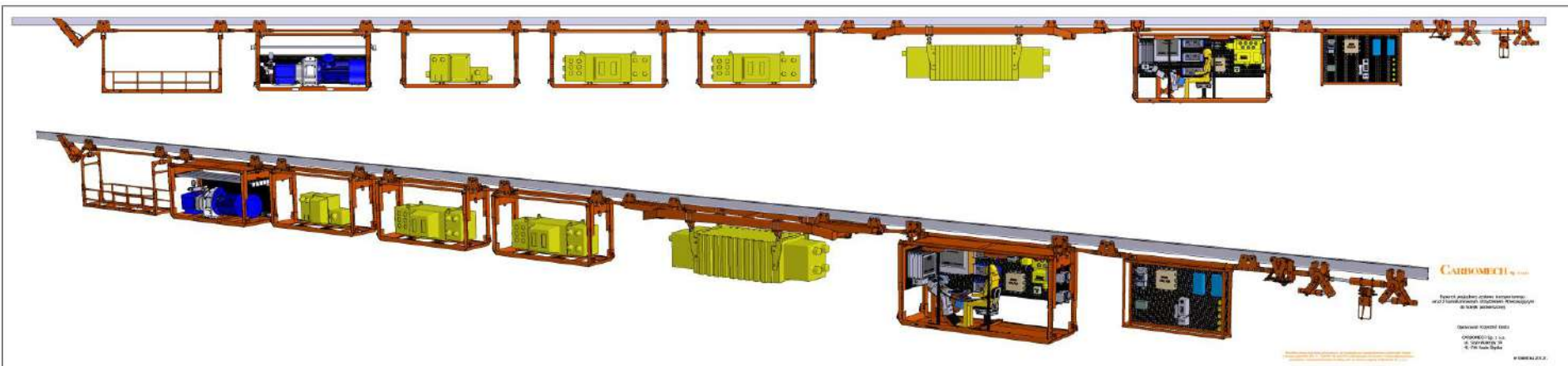


CARBOMECH

Company Presentation



Company Presentation

Carbomech Ltd. was established in 1993 by owners of German company B+N, which has seat near Dortmund.

Carbomech Ltd. has seat in Ruda Śląska, Poland.

Main activity

Main activity:

1. Transportation sets shifted on suspended rails.
2. Transportation sets shifted on floor rails.

Main activity

Main economic activity of Carbomech is designing and production of transportation sets for shifting equipment such as:

- electric equipment,
- dust removal devices,
- cooling equipment,
- other machines and devices which are part of longwall and heading systems.

Designing a transportation set

Main conditions and data in designing transportation set:

- geological terms,
- heading size,
- shifted equipment,
- transportation infrastructure.

**Electric
equipment**

Power switch

Mostly transported electric equipment:



Power switch on pallet type 1-488 (load capacity 1000kg)
in PG Silesia, Katowice.

Mostly transportated electric equipment:

**Electric
equipment**

**Compact
station**

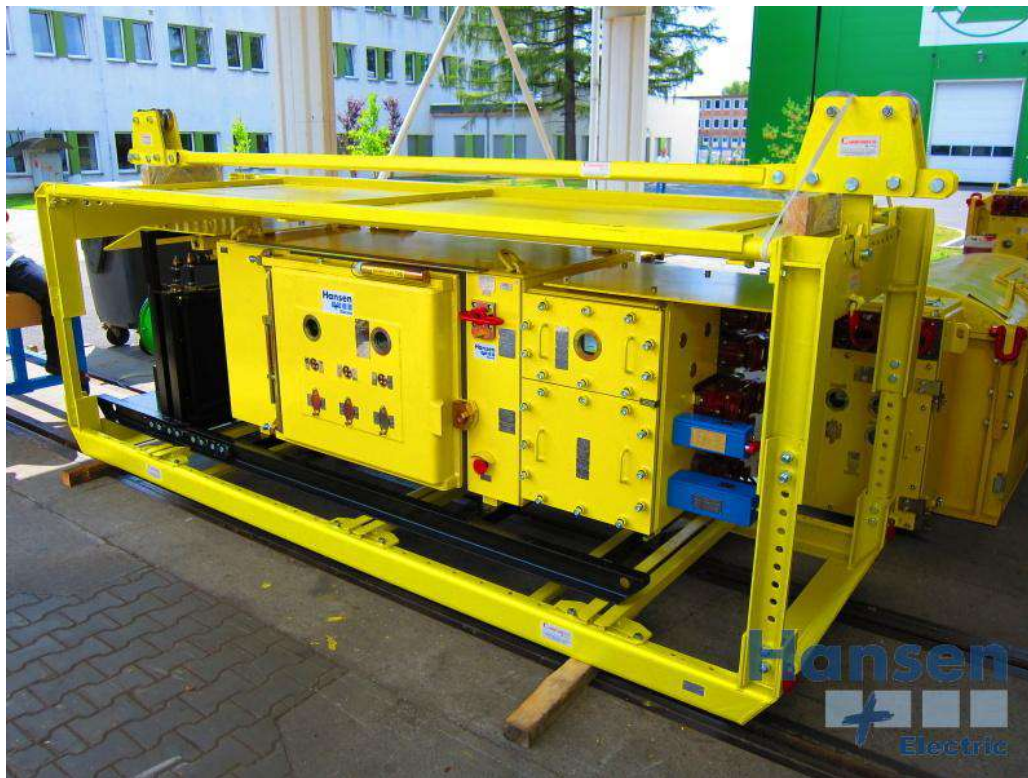


Compact station on pallet type 20-316 (load capacity 3000kg) in KWK Marcel-Marklowice, Radlin.

**Electric
equipment**

**Frequency
Inverter**

Mostly transportated electric equipment:



Frequency inverter on pallet type 20-316 (load capacity 3000kg).

**Electric
equipment**

Transformer

Mostly transportated electric equipment:



Transformer on double-carriage set type 20-60.4 (load capacity 11980kg) in KWK Zofiówka, Jastrzębie-Zdrój.

**Electric
equipment**

Transformer

Mostly transportated electric equipment:



Transformer on frame type 20-325 (load capacity 10600kg) in KWK Staszic, Katowice.

**Electric
equipment**

Transformer

Mostly transportated electric equipment:



Transformer on carriages with extension arm type 20-364
(load capacity 2x4000kg) in KWK Bobrek, Bytom.

Mostly transportated electric equipment:

**Electric
equipment**

**Steering and
visualization
Cabin**



Steering and visualization Cabin in KWK Zofiówka,
Jastrzębie-Zdrój.

**Other
equipment**

**Hydraulic
pumps**

Other equipment:



Hydraulic pump in Wichary Technologies, Pyrzowice.

Other equipment:



Hydraulic tank in Wichary Technologies, Pyrzowice.

**Other
equipment**

**Hydraulic
filters**

Other equipment:



Hydraulic filters in Wichary Technologies, Pyrzowice.

Other equipment:



Dust removal device on carriages with extension arm type 20-364 (load capacity 2x4000kg) in ZG Sobieski, Jaworzno.

Self-breaking shifting device



Self-breaking shifting device in KWK Zofiówka, Jastrzębie-Zdrój.

Self-breaking shifting device type 20-101

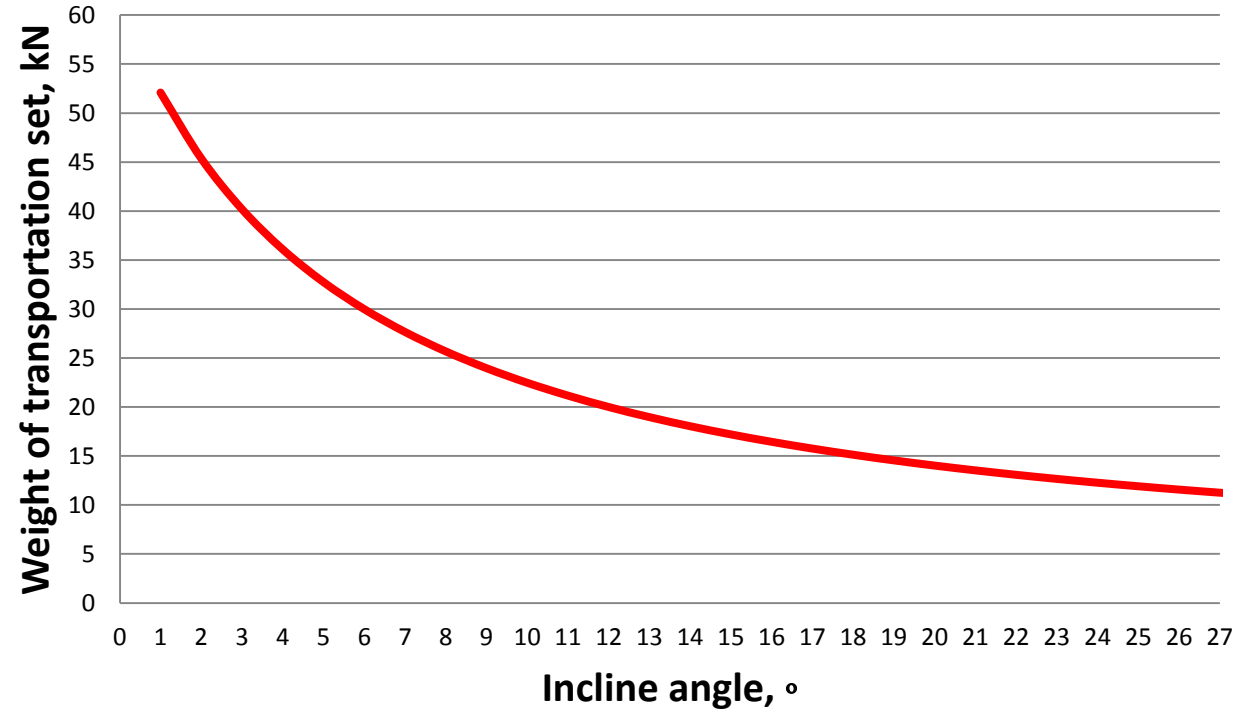


Chart 1 – weight of transportation set to heading incline angle ratio.

Self-breaking shifting device type 11-101

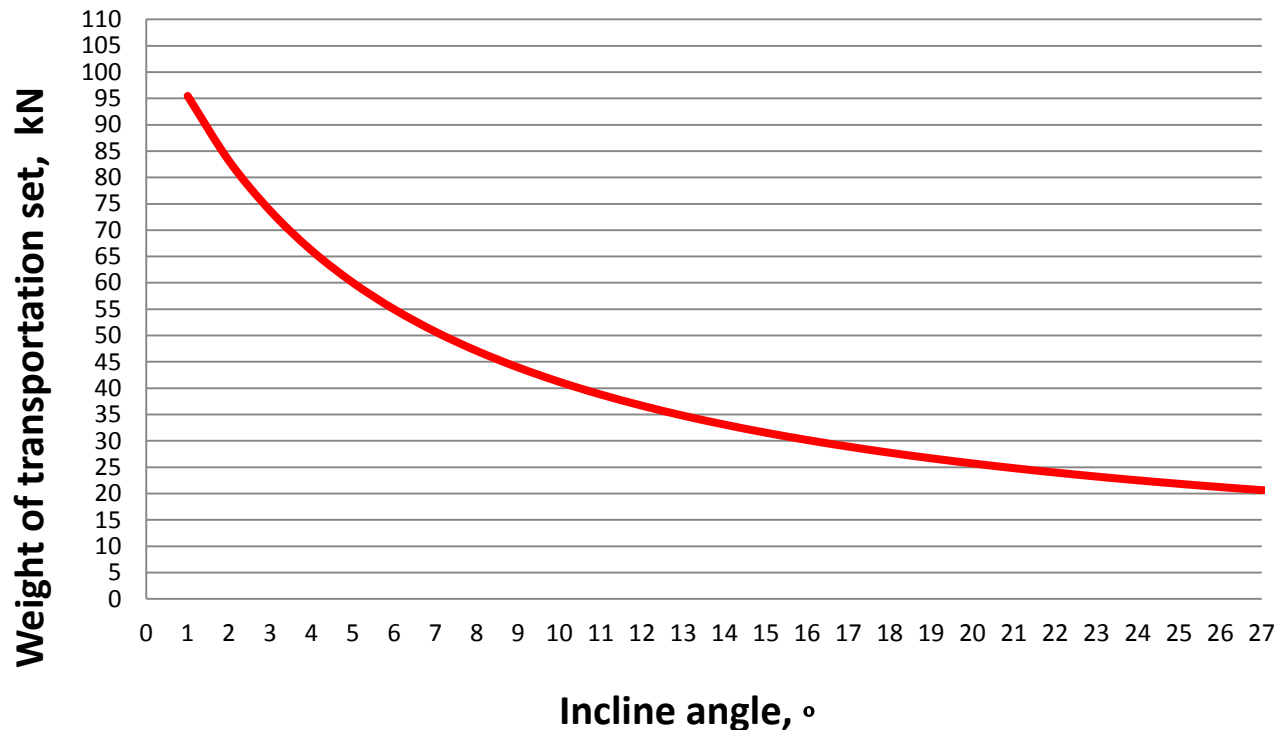
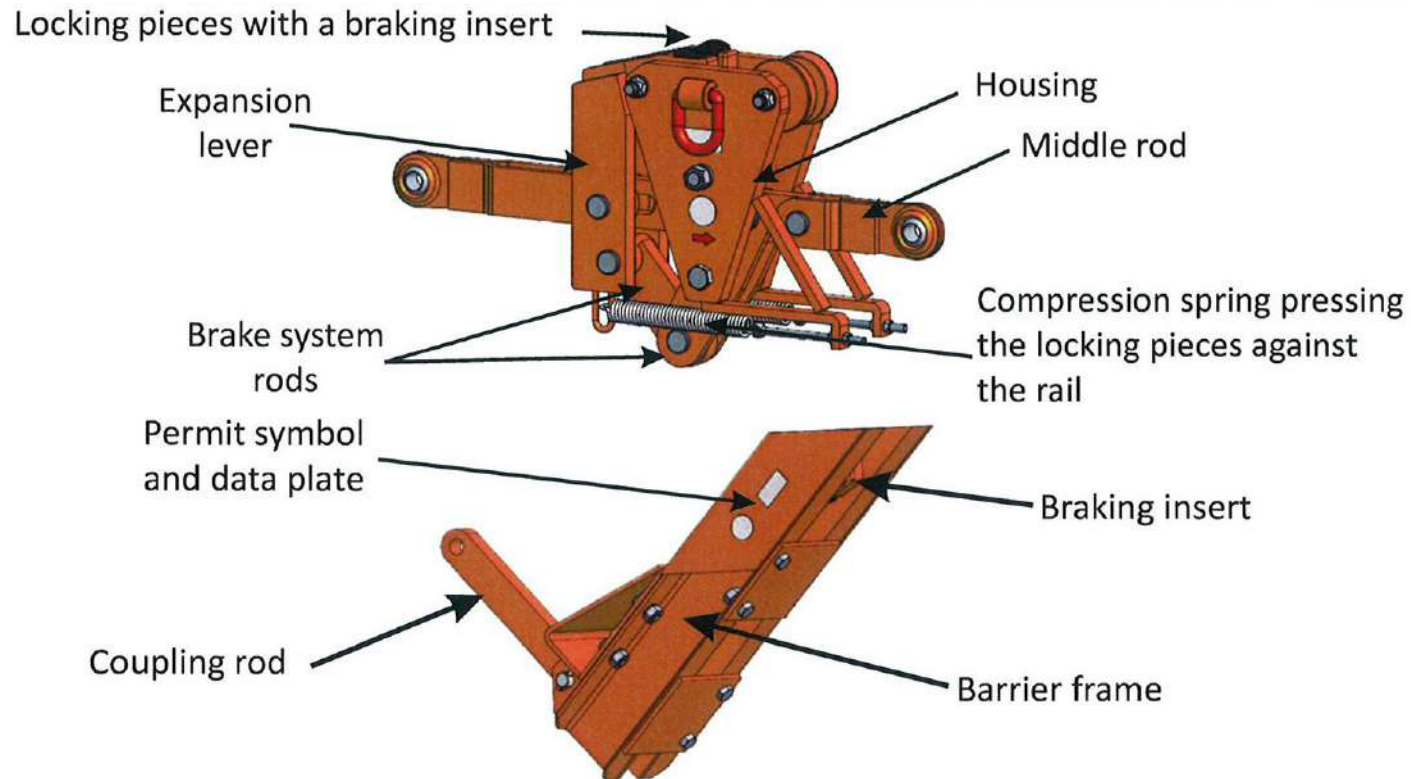


Chart 2 – weight of transportation set to heading incline angle ratio.

Barriers



Front and rear barrier.

**Shifting
transportation
set**

Front barrier

Front barrier



Front barrier installed in transporation set in KWK
Zofiówka, Jastrzębie-Zdrój.

**Shifting
transportation
set**

Rear barrier

Rear barrier



Rear barrier installed in transportation set in KWK Staszic,
Katowice.

**Additional
equipment**

**Equipment
suspension
gear**

Additional equipment



Equipment suspension gear.

**Additional
equipment**

Cabinet

Additional equipment



Cabinet.

Additional equipment

**Additional
equipment**

**Device for light
pipe
accumulation**



Pallet with device for light pipe accumulation.

The diagram illustrates a complex model railway layout, likely for a 1:12 scale. It features a long, winding track with various stations, buildings, and vehicles. The layout is divided into several sections, each with a specific function or theme. The top section shows a straight track with several buildings and vehicles. The middle section shows a curved track with a station and a building. The bottom section shows a straight track with a station and a building. The diagram is labeled with various components and their functions.

Top Section:

- Station (left)
- Station (middle)
- Station (right)
- Station (far right)

Middle Section:

- Station (left)
- Station (middle)
- Station (right)

Bottom Section:

- Station (left)
- Station (middle)
- Station (right)

Labels and Components:

- Station (left)
- Station (middle)
- Station (right)
- Station (far right)
- Station (left)
- Station (middle)
- Station (right)
- Station (left)
- Station (middle)
- Station (right)

Carbomech Logo:

Carbomech

Produktion und Vertrieb von Modellbahnen und Zubehör
 100% Made in Germany

Carbomech Logo:

Carbomech

Produktion und Vertrieb von Modellbahnen und Zubehör
 100% Made in Germany

Transportation set



Transportation set



Transportation set



Transportation set

Realizations

Kopex

Transportation set



Transportation set



Transportation set with conduit compensation



Transportation set with conduit compensation

**Transportation
set with conduit
compensation**

**Underslung
conduits**



Carriage with conduits holder which provide appropriate bend radius in KWK Zofiówka, Jastrzębie-Zdrój.

Transportation set with conduit compensation

**Transportation
set with conduit
compensation**

**Underslung
conduits**



Carriage with partial cable layer and bumpers which are preventing conduits from mechanical damage in KWK Zofiówka, Jastrzębie-Zdrój.

Transportation set with conduit compensation

**Transportation
set with conduit
compensation**

**Underslung
conduits**



Carriages with cable layer holders and cable layers which are preventing conduits from mechanical damage in KWK Zofiówka, Jastrzębie-Zdrój.

Transportation set with conduit compensation

**Transportation
set with conduit
compensation**

**Underslung
conduits**



Carriages with cable layer holders and cable layers which are preventing conduits from mechanical damage in KWK Zofiówka, Jastrzębie-Zdrój.

Transportation set with conduit compensation

**Transportation
set with conduit
compensation**

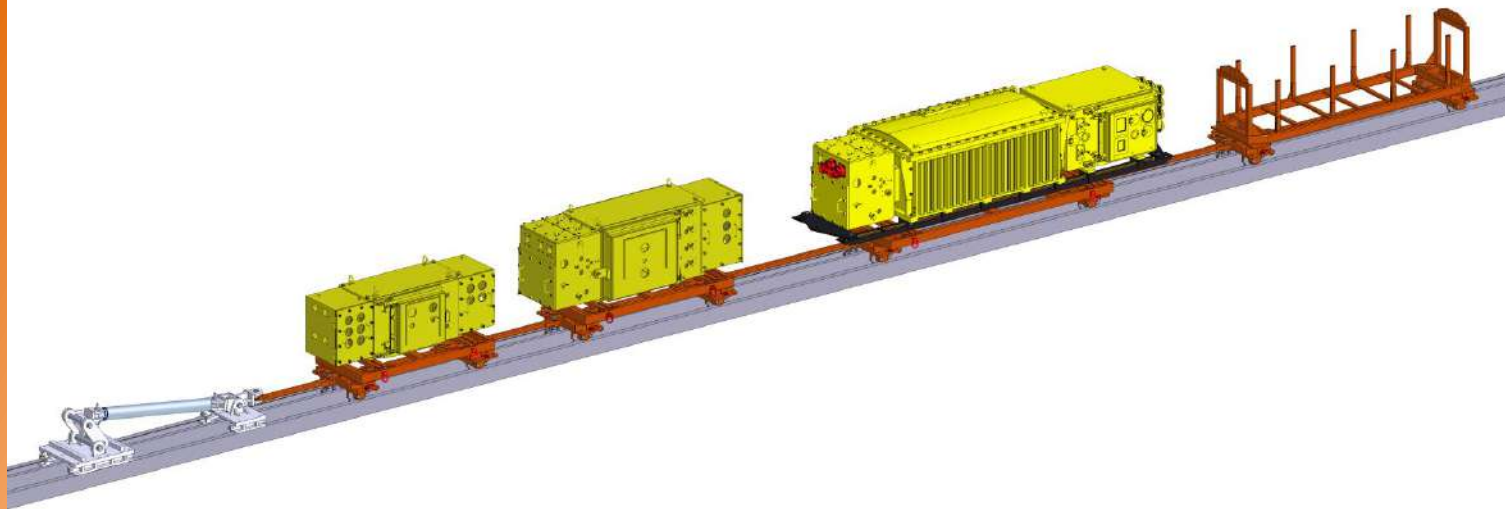
**Pallet for spare
cable**



Pallet type 1-488.1 for spare conduit in KWK Zofiówka,
Jastrzębie-Zdrój.

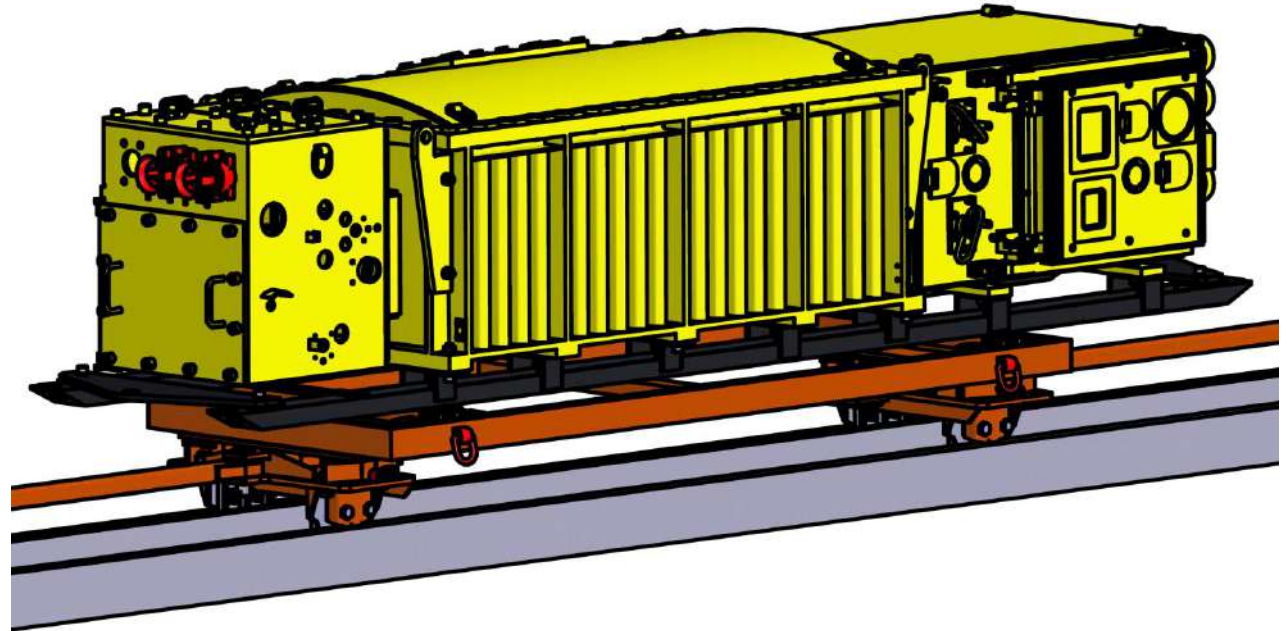
Transportation set shifted on floor rails

Transportation
set shifted on
floor rails



Transswitch shifted on floor rails

Transportation
set shifted on
floor rails



Electrical equipment on push-plate conveyor

Vibration isolation



gum insulator

Compact station on frame type in KWK Wieczorek, Katowice.

Suspended transportation sets produced by Carbomech occur in majority of Polish Coal Mines

Partners



Thank you.