

Intermodal in Bremerhaven

Big lift in Baffin Bay



Loading called for precise work to ensure that the plant was lowered into exactly the right place.

Canada has a long tradition of mining raw materials, and iron ore on Baffin Island is no exception. The companies BigLift, BLG, Roll-Lift and ALE teamed up recently in this context to transport a Thyssen-Krupp conveyor system from Bremerhaven across the oceans.

The first tasks for a special order from Thyssen-Krupp Industrial Solutions began in the port of Bremerhaven in spring 2018. Components from every corner of the world were shipped to the German gateway by ship and truck over many months; there they were deposited in a closed-off area designed for the very heaviest of loads. Almost 150 people were then needed to assemble the two huge three-dimensional puzzles, which took around a year to complete.

Many players, one transport task

In mid-2019 the two heaviest components of an iron-ore handling facility were assembled and subjected to final tests. Then the *BigLift Barentsz* moored at the quay of the peninsula designed for heavy-lift consignments. ALE's team had assembled several Scheuerle K25 axle lines into four long units a few days earlier. 36 axles come from the BLG Logistics Group in Bremerhaven, another 50 from Roll-Lift and ALE.

The loading process initially began on 13 July. Harold Gammenga started the self-propelled engines and carefully lifted the plant, which was the size of a building. The experts checked that the load was secured properly and the axle lines were in place. It took a while; even heavy-lift specialists don't move 1,800 t every day.

The journey began with a 45° turn. The many pairs of wheel were not yet aligned

correctly for direct loading, so the driver carefully moved the plant, 34 m high, into place. Four ramps were ready to transfer the shipment to the *BigLift Barentsz*, a sister ship of the *BigLift Baffin* in BigLift's fleet. As the 30 m wide unit rolled onto the ramps, Rien Daane's work began.

Captain Daane had to keep the 172 m long and 43 m wide heavy-lift vessel in balance by pumping the right amount of water into the ballast tanks. The 1,800 t consignment moved onto the huge loading area in very slow motion. Even though the ship can carry up to 22,000 t of cargo, it took some time to balance out the unit and to place the cargo on the ship.

From assembly site to heavy-lift vessel

Two days later a second plant was loaded. This crushing unit was 'only' 33 m high, but covered an almost identical area. This time the four self-propelled vehicles had to shift 1,470 t. 86 axles were in use for loading; 72 of them were also taken on the trip to Canada, where they were deployed in unloading. Before this could be executed, however, the units also had to move from the site where they were assembled to the heavy-lift vessel. In consultation with captain Daane the second massive unit rolled onto the large loading area. The journey from the assembly site to the parking position took about two hours.



A multi-wagon unloading station that had reached Bremerhaven by ship was also loaded onto the *BigLift Barentsz* over the subsequent days. The heaviest consignment alone weighed approximately 920 t.

Mining ore on Baffin Island

The crossing to Canada's Baffin Island started on 23 July. The five large shipments and other parts, including conveyor belts and the like, weighed in at another 5,500 t. In addition, 72 axle lines for unloading at the destination were taken on the journey. Moving the consignments back onto land from the vessels was not carried out in an existing port. A ramp had already been set up on Baffin Island during the ongoing loading process in Bremerhaven; the modules reached the shore via this ramp.

There are an estimated 365 million t of ore deposits on the island. With an iron content of 65% it is one of the most promising deposits worldwide. Since the island in the Arctic region belongs to an area subject to permafrost, the plant could not be assembled on site. A huge shiploader is also scheduled to be transferred to the island next year; it will be able to load a Cape class ship, measuring 200x32 m and capable of carrying 30,000 grt, in one day.

Loading is only possible during the few ice-free months; the rest of the time the raw materials are filled into interim storage facilities. The complete commissioning of the facility for year-round operations will not take place until 2021. *Jens Hadel*