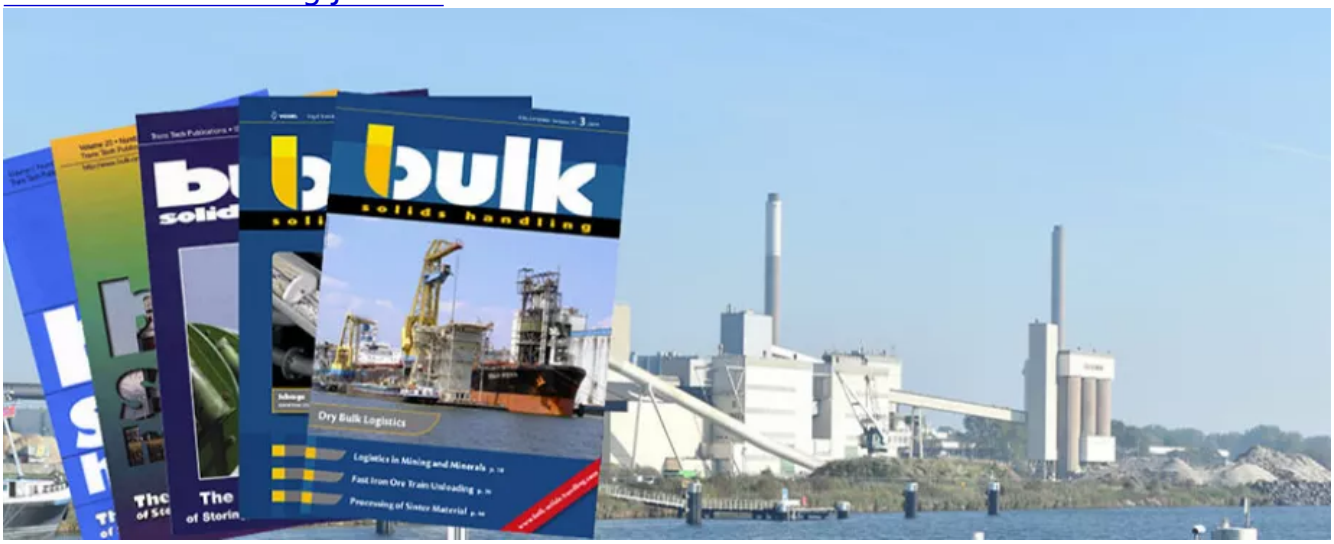
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Whitepaper

Modular Walking Draglines

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The development of walking drag lines is presented in the context of current operational requirements and the design and development philosophy of the new breed of modular walking drag lines is outlined in detail.

Quarry shovels and draglines were produced at Ransomes & Rapier Ltd. Ipswich from the early 1920s for mineral mining and the company soon began the manufacture of large electric stripping shovels to remove overburden for the excavation of iron ore. As industry expanded greater quantities of coal and iron were required and greater depths of overburden had to be removed to meet the increased demand.

This situation led to the manufacture of the first RAPIER walking dragline in 1939; the RAPIER W170 with 41.1 m boom and a 2.7 m^3 bucket. Other units quickly followed; the diesel/electric W80 and the highly successful RAPIER W90 and RAPIER W150. Introduced in the early 1940s these last two models were in production for 25 years and were exported to various parts of the world, being used in the open pit mining of clay coal, ironstone and even diamonds. Walking draglines were gradually increasing in capacity but were still a long way short of today's giant machines; even the W150 had a maximum boom length of 45.4 m and a maximum bucket capacity of 5.3 m^3.