

MAMMOET MAIL 1

House magazine of Mammoet Transport B.V.
August 1985, no. 1



5 Lifting the 110 ft. tower from the barge.

8 The tower is being moved to the construction site.

MAMMOET MAIL 4

House magazine of Mammoet Transport B.V.
May 1985, no. 4



International bijzonder transport
International special transport
Internationale Spezialtransport

MAMMOET MAIL 7

House magazine of Mammoet Transport B.V.
August 1986, no. 7



2 Transporting special equipment to the offshore industry.

11 The first test run of the offshore industry.

16 Transporting special equipment to the offshore industry.

MAMMOET MAIL 2

House magazine of Mammoet Transport B.V.
May 1985, no. 2




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3 Lifting the 110 ft. tower from the barge.

10 Transporting special equipment to the offshore industry.

MAMMOET MAIL 5

House magazine of Mammoet Transport B.V.
December 1985, no. 5




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6 Lifting the 110 ft. tower from the barge.

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MAMMOET MAIL 8

House magazine of Mammoet Transport B.V.
May 1986, no. 8



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MAMMOET MAIL 3

House magazine of Mammoet Transport B.V.
November 1985, no. 3



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MAMMOET MAIL 6

House magazine of Mammoet Transport B.V.
November 1985, no. 6



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MAMMOET MAIL 9

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JUNE/JULY 1986



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25 Years Integrated Heavy Transport 1971-1996



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A pledge and a promise



'71

Taking over the torch from a man like Jan IJmker imposes quite some obligations on his successor. Being the man who has received the torch and accepted to succeed an almost legendary figure in the heavy transport business, I would like to have a minute of your time to introduce both myself and this special issue of Mammoet Mail.

After 20 years in heavy transport in the Middle East, first in Big Lift and later in Mammoet, I had the opportunity to get involved in the development of what later proved to be one of the most successful heavy transport ventures in the Mammoet organisation. I'm talking about the take-over of Walter Wright in 1986, which was then the premier crane company in South East Asia. For me, it has been a challenge and a privilege to see Walter Wright Mammoet expand to be able to provide the fully integrated package of Mammoet's heavy lift services as it is now.

Thanks to the trust of our clients, we were able to open up new markets and to introduce new heavy lift technology. For example a completely new type of ringer crane, the Manitowoc M1200R, which has found its position in the full range of Demag, Liebherr and Gottwald cranes now available in the Mammoet fleet of cranes which has been expanded through the Mammoet Decalift International joint venture. Another recent move by which Mammoet is now one of the most comprehensive crane operators in the world. Another recent development is the founding of the Mammoet Kew multi-axle/heavy lift division in South Africa. It will provide an entrance for Mammoet activities in a whole new Continent and enhance the world-wide logistics of specialized transportation in our organisation.

To further improve on the quality of our services to you, the clients who have made us what we are today, front runners like Walter Wright Mammoet and Mammoet Stoof are both accredited with the ISO 9002 certification.

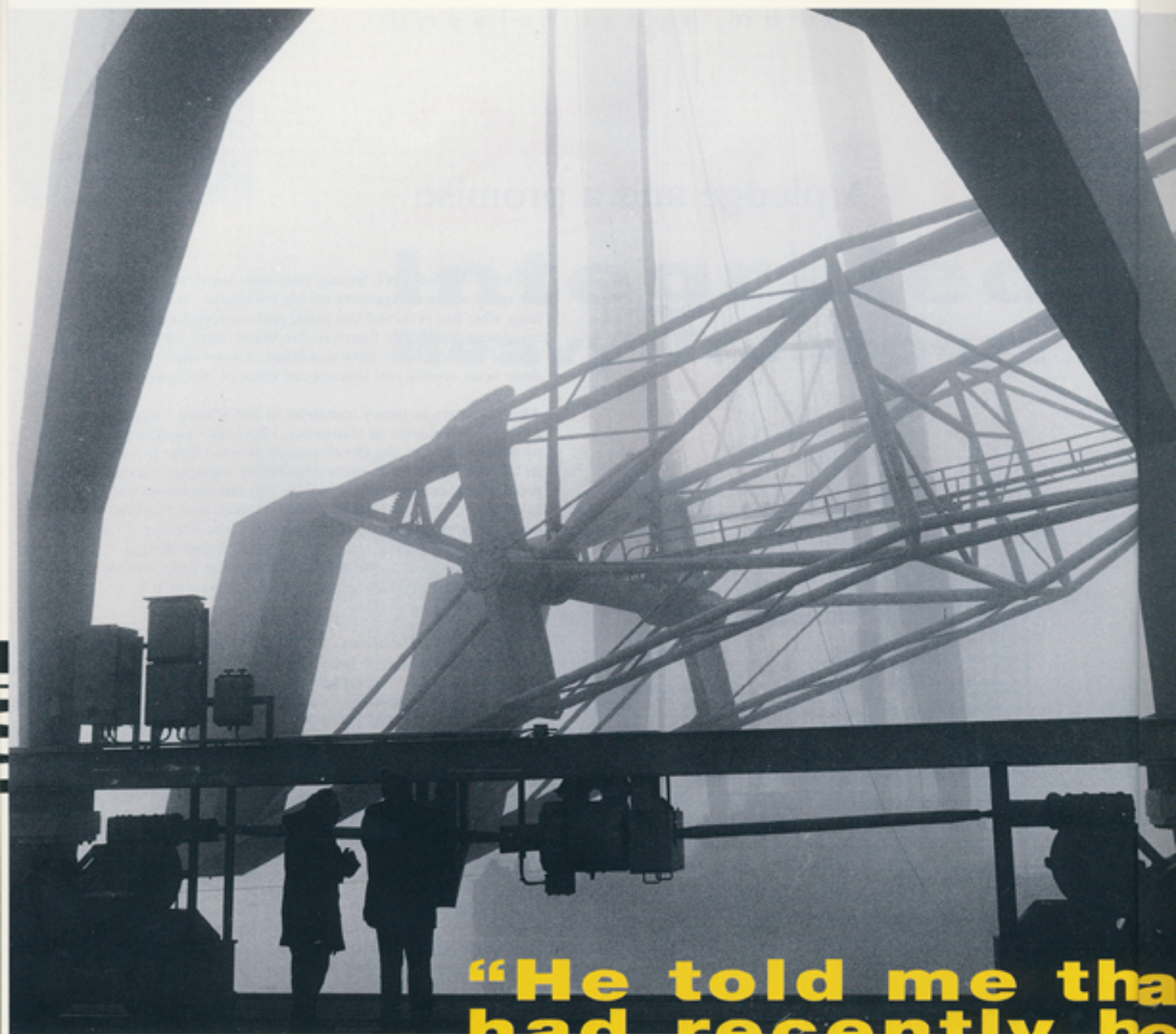
As we work towards the future, I would like to pledge for myself and my 984 colleagues that we will continue to strive for excellence in everything we do to the entire satisfaction of our clients.

You can count on us, as you have done for the past quarter of a century.

Rolf de Ruijter de Wildt

'96

2



**"He told me that
had recently been
of a new company**

1971

Project - Relocation of two port cranes from Amsterdam to Rotterdam by floating sheerlegs, barges and tugs.



Interview with Gerard Verwoert
-Retired foreman Mammoet Goedkoop-
and Aad van Leeuwen
-P.R. Manager Mammoet Transport-



hat Goedkoop
become part
pany..."



"I was assistant forwarder with Pakhoed in Rotterdam and once in a while I made pictures for the staff-magazine 'Langsij' ('Alongside'). When the day came that two port cranes had to be shipped from Pakhoed in Amsterdam to Rotterdam, the editor of the magazine asked me to join the transport and photograph it." These words come from Aad van Leeuwen, P.R. manager of Mammoet Transport and in that occupation responsible for the recently implemented change in house-style colours for the Mammoet land organisation. Van Leeuwen: "I had never heard the name Mammoet Transport before and I never imagined then that I was present at the birth of a company that would employ me five years later as P.R. manager."

The first leg of the transport operation took place in a thick fog which lay over the port of Amsterdam as a grey blanket. "I knew the Rotterdam harbour intimately, but Amsterdam port in the mist was a mystery to me and when I finally found the location, I did not know what came over me. A loose crane boom floated around in the mist over the crane cabin and only when I looked again, I saw that the cause of this phenomenon was a floating crane with the apt name 'Amsterdam'. Rugged men were busy with cables and shackles and I must say I was suitably impressed with what was slowly disclosed in the dissolving fog."

Foreman Gerard Verwoert of Mammoet Goedkoop — retired since 1984 — was responsible for the execution of the job. He explains, "For this shipment we had coupled together two barges which had been used for the construction of the IJ-tunnel. They had been used to submerge the tunnel segments and later on they had been rebuilt as transportation barges. The 'Schermer' and the 'Wormer' were linked length-wise so that there was ample space to place both crane arms side by side. Thereafter, a lower portal was positioned on each barge."

Van Leeuwen, "I had made sure I knew what route the barges would take to Rotterdam and so it came about that I met Gerard Verwoert in the middle of the night when he passed with the cranes through the belt-canal near Schiphol East. He told me that Hijs- and Transport Maatschappij (H.T.M.) Goedkoop had recently become part of a new company by the name Mammoet Transport."

The idea to integrate land and water transportation came from Jan Goedkoop who then worked with the tug service and salvage company of the same name. As founding father he recognised the possibilities to keep a total package of heavy lift activities in one hand and after a quarter century that philosophy has lost nothing of its validity.

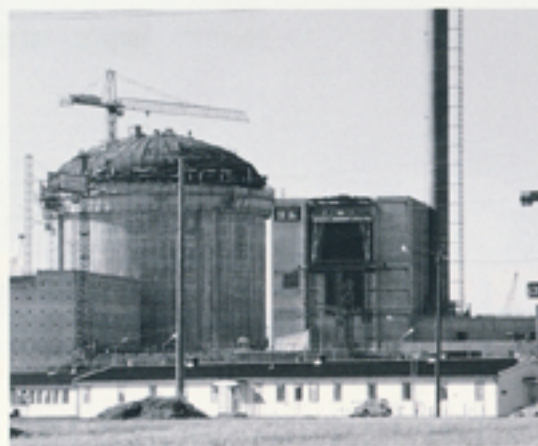
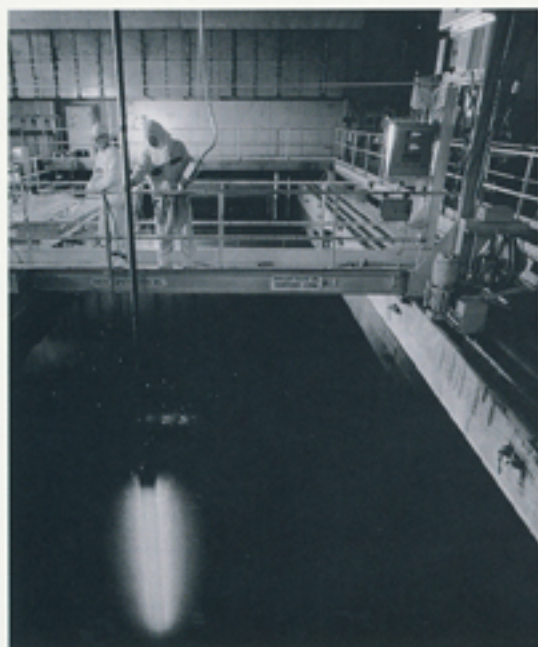


**“Mammoet taking
the family business
some commotion**

1 9 7 2

Project – Erection, lifting and positioning of a nuclear reactor vessel at the Ringhals power station in Sweden.

Interview with Jan Gommers -Business Development Manager-



king over
business led to
tion..."

"It was the first major project abroad for Stoof, Breda. I worked for the engineering company A.A.M. Snellen and was responsible for the calculations of the gantry construction. The Stoof family put out transport engineering to a subcontractor as they did not have the specific knowledge available. What they were good at, though, was heavy cranes and heavy transport with Draize platform trailers. But this kind of work with special installations and gantries was also the first time for Stoof." Jan Gommers, Business Development Manager in the Mammoet Transport organisation does the talking. "During the preparations of the project Stoof was not yet part of Mammoet and during the execution of the project, which involved a crowd of some twenty people, we learned that Mammoet Transport had taken over the family business. This news led to some commotion among the staff."

Mammoet or no, the project went ahead and for both the people of Stoof and for Jan Gommers it was a worthwhile experience. Gommers, "The order had come in from the fabricator of the vessel, RDM in Rotterdam. In the construction of the first Swedish nuclear power station, RDM was also responsible for the installation of the vessel and that is how Stoof became involved. Now we would not consider the vessel very heavy, but in those days six hundred tonnes were quite a weight."

The reactor vessel was shipped from Rotterdam to Ringhals and brought under the gantry with a rolling system. "An American Hoist exclusively shipped in from the Netherlands had to assemble the lifting construction and all in all it took us some six weeks to build it all up and test the structure. Lifting and taking the vessel in-doors went somewhat faster: we needed one day for lifting and the second day — the vessel was left hanging in the air for a night — the whole contraption was taken inside and positioned."

Jan Gommers explains that this system with heavy winches was the predecessor of the Hydra-Jack lifting system: "They were the first specialised materials that had been acquired specifically to perform this heavy lifting. At the time we chose to use heavy winches from Germany with a pulling strength of over 27 tons. They still serve us at Mammoet Stoof, for instance to keep barges in position during load-out operations."

About safety then and now: "In Breda the whole lifting arrangement had been tested with an extra weight of 10 to 15%. That was the only safety measure that counted in those days and on the site we had to wear safety helmets and shoes. I also remember that we had progression meetings every morning — now a standard procedure but then extraordinary."

Ringhals 1 was succeeded by Ringhals 2 and again Mammoet was present for the heavy transport. The nuclear power station was in the news at the time of the Chernobyl disaster when the station's technicians were the first to measure increased radio activity; not within the station but outside....



**"I needed Mam
back-up"**

1 9 7 3

Project – Shipment, transport and lifting of a 281 tonne crude tower for the construction of a grass root refinery for Total at Flushing, the Netherlands.



Interview with Max van Winsen
-Retired Marketing Manager-



"In 1973 I worked for Van Driesse, which was then a crane company. They took care of the transportation and crane work for this project. Badger, the engineers, wanted to give the complete transportation of the crude tower and the assembling of the over-head pipelines in one hand. Competitors of Van Driesse at that time were Mammoet Stoof and Big Lift. We were the last three left to offer, whereby Big Lift dropped off the list first."

Van Winsen relates that the first plan was to lift the crude tower with two Manitowocs 4000/4100 ringer in tandem lift. But since these cranes were occupied to build a steel factory in the South of France, some other means had to be provided. This was a 400 ton Gottwald of Van Driesse with Mammoet Stoof's Gottwald as second crane. "I needed Mammoet as back-up and I was in contact about this with the Stoof family who were the management then. However, they thought they would be chosen for the job, but I knew that Van Driesse would be the main contractor. A draughtsman of Van Driesse had been working on the crude tower for a month and I knew that if this worked out all right, I would get the remainder of the lifting work for the refinery."

On a Tuesday the two Stoof directors resigned. That same day Van Winsen called Mammoet Transport in Amsterdam. "I had been in contact with Jan Ujker for years and I told him I knew about the resignation of the Breda management. I also told him that Van Driesse had received the contract but that I needed back up from Mammoet. He asked what was in it for Mammoet and when I told him the amount and the scope of work the whole transaction was finalised that day. It concerned roll-on in Belgium, a barge and a tug from Eerland, roll-off in Flushing, placing steel plates for the two Gottwalds, building two cranes and taking them down again, including the assisting crane."

Max van Winsen supervised the crane-work himself. "Technically, it was rather complex. The column had quite a large diameter and because of the dome at the bottom it had to pass over a rather high pedestal as well. It was all just within the margins of the capacities and also on the border of available space. The crane masts were 2.8 x 2.8 metre and while turning the corners could easily become stuck. For the lifting points we had trunnions made, a lifting pipe through the vessel, well greased, so that it turned of its own and plates at the end. In that season, the weather was an uncertain factor. We could not use too much wind, but when we lifted that Saturday the weather was sunny with little wind."

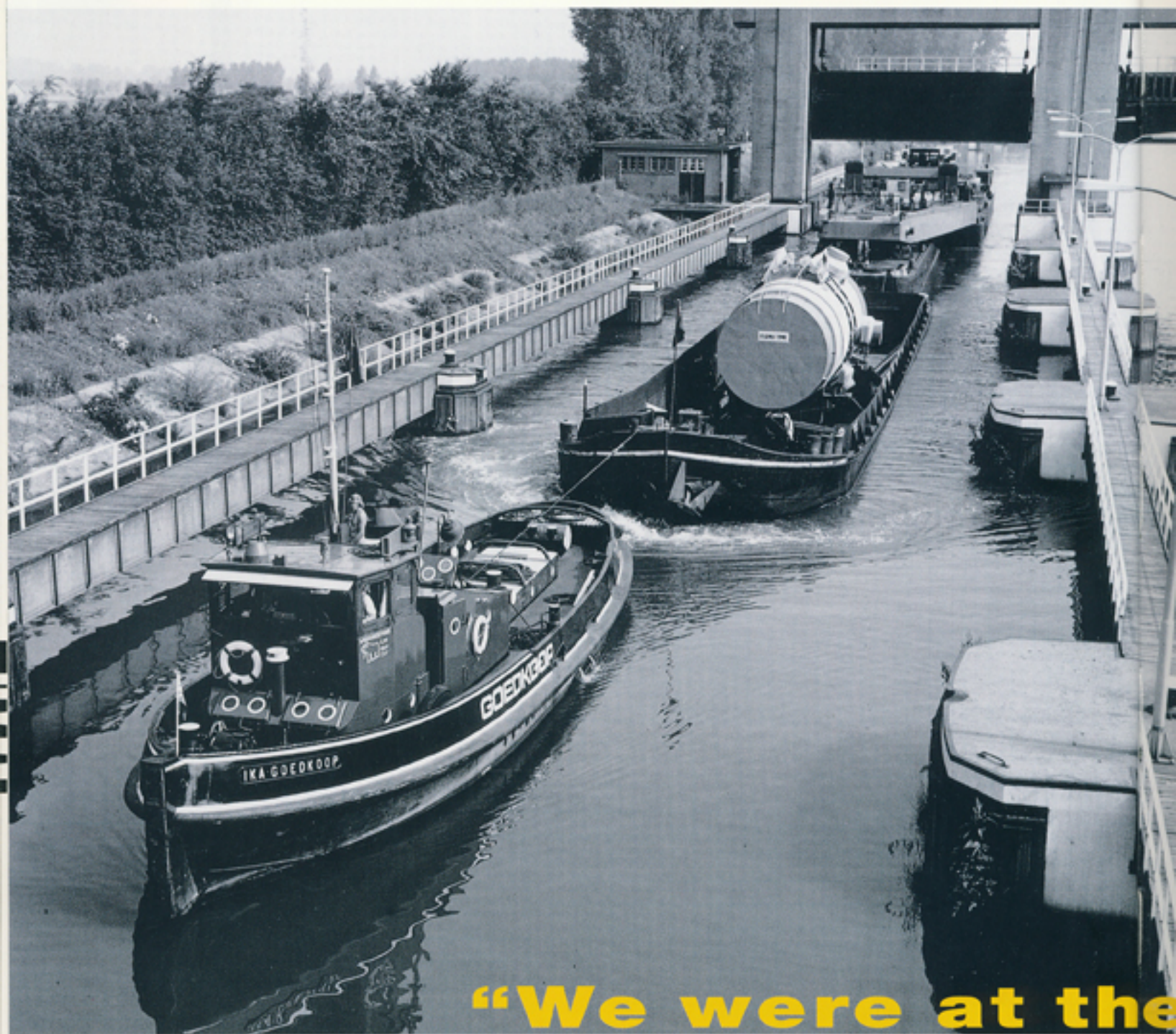
With the present lifting capacities within the Mammoet organisation this vessel could have been raised with a single crane. Van Winsen, "A Manitowoc 4600 ringer could have done this job comfortably on its own, to say nothing of the possibilities of the M1200 R."

Max van Winsen became marketing manager with Mammoet Transport in 1976 and in that capacity he promoted Mammoet's interests until his retirement in 1990.



mammoet's





**“We were at the
our lifting capa**

1974

Project – Transportation of a 330 tonne reactor vessel
for a power station, from Amsterdam to Tihange, Belgium.



Interview with Kees Verwoert
-Retired Captain of Floating Crane "Amsterdam"-



"The 'Amsterdam' worked throughout North-West Europe in all kinds of jobs," explains Kees Verwoert. "We more than once went to England, Germany and Belgium. Most of the work, however, was done in the Netherlands and specially in Amsterdam and vicinity. We then, for instance, lifted ship's parts at yards, placed underwater pipes and above all did much installation work for bridges."

"In 1974 we became involved in a very special job. This was a 330 tonne steel reactor vessel, which had been brought from France to the Netherlands in a coaster. In Amsterdam, we had to lift this reactor from the hold of the coaster and place it in the hold of transport barge 'Olifant'. To be able to lift that enormous weight, the 'Amsterdam' had to be specially adapted. As it stood, the crane had a lifting capacity of 300 tonnes, but to be able to lift the vessel, this was not enough. By removing the top of the crane, the lifting capacity could be increased to 330 ton. This would be exactly right to lift the 11 meter high reactor. However, we were at the limits of our lifting capacity, so it was quite exciting. Fortunately, everything had been well-calculated and discussed in advance, so that the whole affair went smoothly."

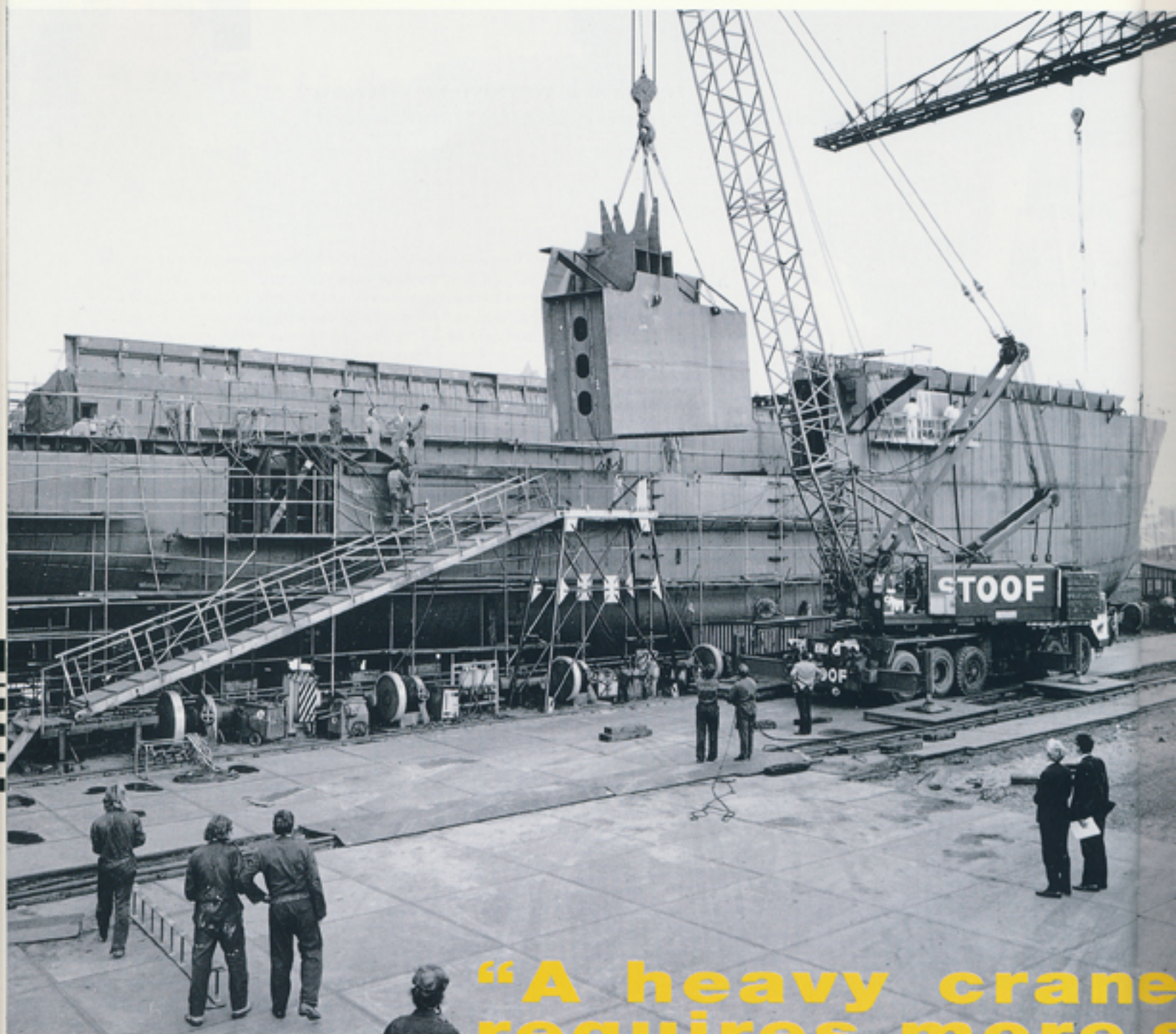
"After the vessel had been lifted in to the transport vessel, we arranged an attractive procession. Our lifting boom was laid down horizontally and both our side barges were attached in front of the crane barge. Then we coupled the 'Amsterdam' to the transport barge 'Olifant'. This 126 metre long float was then attached to tugboat 'Ika Goedkoop' and towed to Tihange over Dutch and Belgian waterways. During the tour we always drew quite a crowd. But we also feared that action groups would slow us down as the vessel was for a nuclear power station. Only once, in Liege, were we halted for a while by protesters, but otherwise we did not encounter much trouble."

"The trip over Dutch and Belgian inland waterways took five days. We only moved by daylight. At night we moored. Usually just outside the towns in order not to draw too much attention. En route we also had to pass sixteen locks. Fortunately, Captain Wouter Baardemans with his tug and ourselves formed a well-oiled team, so that we could take all barriers without much difficulty. On arrival in Tihange, we lifted the vessel from the 'Olifant' and lowered it on to the platform trailers of Mammoet Transport Belgium. They took care of the last kilometers to the power station. I remember that the Belgian project manager was so pleased that we had delivered his reactor vessel safely that he was absolutely delighted. For him too the floating transportation had apparently been a very taxing business," finishes Captain Verwoert, who retired seven years ago. Looking back on his career with Mammoet Transport he must admit that the transportation of the reactor vessel must have been one of the most exciting and extraordinary transports, which he would not have missed for the world."



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capacity..."



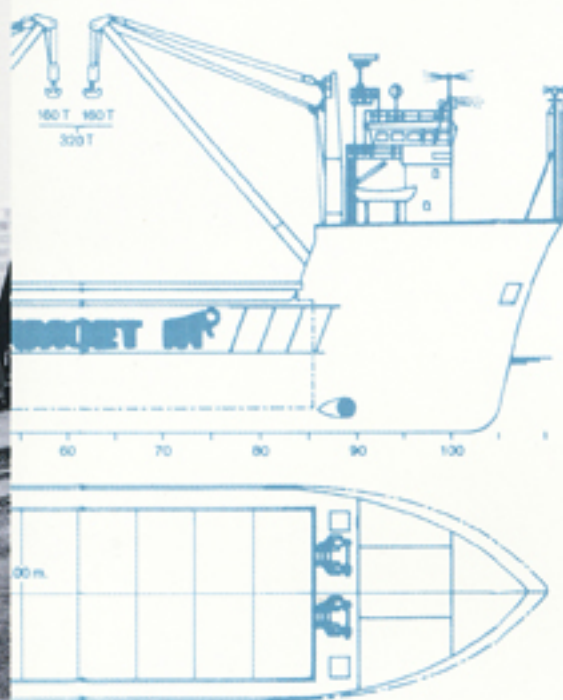


**“A heavy crane
requires more s
the ship’s side t**

1975

Project – Lifting activities for the newbuilding of m.s. “Happy Rider” and m.s. “Happy Pioneer”, carrying the first set pressure vessels from Kudamatsu in Japan to Richard’s Bay, South Africa for the Sasol project.

Interview with Herman Dekkers
-Managing Director Trans Global Projects-



ne in the side
e strength in
e tank"



"I remember that this shipment was destined for a coal-to-gasoline project for the production of synthetic fuels in South Africa. During the road transportation the first vessel rolled off the transporter at a fly-over. Our superintendent had the presence of mind to remove the Mammoet stickers from the vessel. Meanwhile, the "Happy Pioneer" was on her way back to Japan to collect the second shipment and had been at sea for a week. When we learned that an accident had happened and that the client was in a hurry to return the vessel to Japan for repairs, we took a gamble and directed the vessel back to Richard's Bay."

On the box is Captain Herman Dekkers who became involved in 1973 with the development of the company's sea-going branch Mammoet Shipping and he qualifies this project as magnificent. "Land transportation in South Africa was taken care of by the railways; they arranged rail transportation as well as specialised road transport. It took those people some ten days with a cargo like that to reach Secunda, near Johannesburg, a distance of over a thousand kilometers."

Dekkers goes on by telling that Mammoet Shipping's first vessel, "Happy Pioneer" had originally been built as sludge carrier from the English estuaries to the North Sea under the beautiful name "Sir Joseph Rawlinson". Early 1973 the vessel was bought by the combination Mammoet Shipping/KNSM. Dekkers, "I supervised the majority of the reconstruction work, as for instance the positioning of the heavy derrick and renewing the aft decks. When that was ready, in September 1973, the vessel started on her first voyage".

The main problem was that Mammoet had no reputation as yet in the field of heavy lift shipping. Dekkers, "With the help of experience you can try and take customers with you, but even then it is important to get the first one leaping over the ditch. And that worked out quite well. Remarkably, although we preliminary planned to use the vessel around Europe, the "Happy Pioneer" sailed from Manchester to Korea with a cargo for a nuclear power station within a year. That was beyond everyone's expectation and so we sailed her on the long routes pretty quickly".

So, especially the lucrative long voyages made it essential to order newbuildings. Dekkers, "One just cannot continue converting existing tonnage, for that is by definition more expensive. The "Happy Pioneer" was literally a pioneer and a test vessel, on which we were the first to position the lifting gear on starboard. The new vessels "Happy Rider" and the "Happy Runner" were also built with heavy lift gear at starboard and the concept spread over the world like an oil stain."

In 1976 both the "Happy Rider" and the "Happy Runner" were delivered, so that Mammoet Shipping then availed over a 'fleet' of three heavy-lift vessels. Both ships had been built at the Arnhemse Scheepsbouw Maatschappij. Dekkers, "The main problem of a heavy crane on the side of the ship is that it requires the more strength in the ship's side tank. Heavier plates and scantlings were used and with regard to these constructions Huisman, the Rotterdam crane builder, gave us tremendous support. In the area of strength-calculation we co-operated smoothly which was of crucial importance for the development in heavy lift shipping."



**I thought "Gosh
Muscat!..... Oberhausen"**

1976

Project - Integrated transport of a water desalination plant consisting of three boilers, 110 tonnes each, from Oberhausen, Germany to Muscat in the Middle East.



Interview with Onno Klok -Branch Manager-



Twenty years ago Onno Klok was assigned with the transportation of three boilers for the then five years old Mammoet Transport organisation. "After my training period with Mammoet I was given my first project. I started to leaf through the file and found that it concerned three gigantic steam boilers which had to be brought to Muscat from Oberhausen. I thought: Gosh! ... Muscat! ... Oberhausen! I went back to Breda and asked, 'what is the picture in Oberhausen and how do we ship it to Muscat.' The answer was: 'get yourself a car and book a flight for Muscat. Go and have a look and ask no more.'"

Klok had never been to the Middle East. Muscat impressed him immensely. The Sultanate had just opened its doors for foreigners and prepared for a completely new era. "There was a new port, 'Mina Qaboos', but otherwise an ancient infrastructure, straight from the Middle Ages. New tarmac roads going nowhere and ending up in the sand. What struck me were the multi-coloured triumphal arches that had been erected everywhere and a lot of power cables over the road. Then there was the steep hill that had to be negotiated."

Klok remembers that the new Scheuerle trailers arrived together with the boilers aboard the "Happy Rider" and that the trucks were driven down from Dubai. Mammoth Gulf had been operational there since 1973. About the brand-new Scheuerle platform trailers, "It was these trailers' first job and as there was a lot of work for them in Europe, they were afterwards flown back in a C44 swing tail."

About the vessel on her maiden trip; "We waited and waited until finally the yellow canary appeared at the horizon. Communications were not tremendous in those days and Gulf Agencies, the agent, could only give 'tomorrow' each day. In fact it boiled down to my driving to the port every day to stay informed."

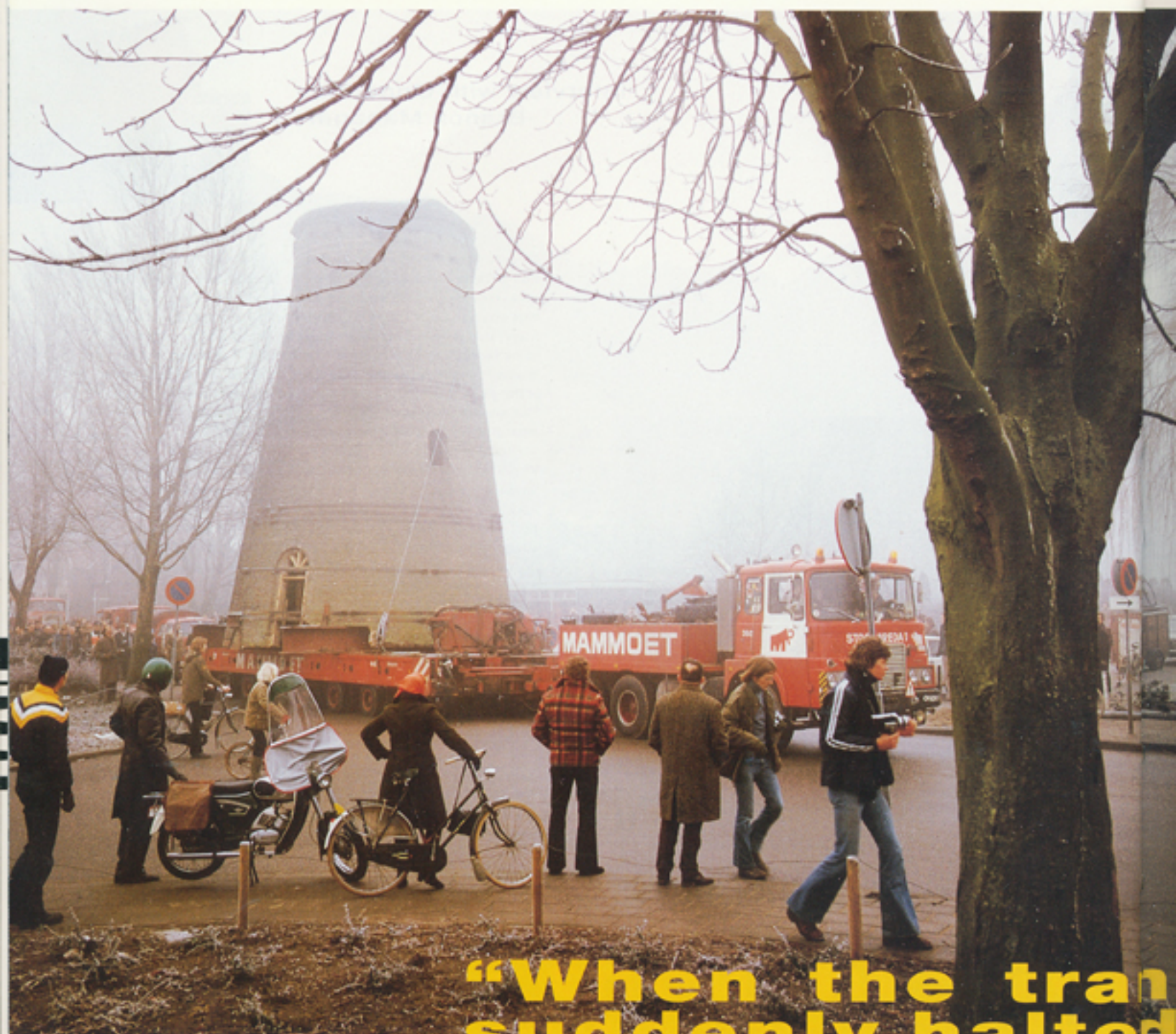
Once the "Happy Rider" berthed the project started to roll. Klok: "While unloading one of the boilers we suddenly were hit by a Shamahl (a sudden gust of wind). High winds, big waves, lots of swell; to save the day we landed the boiler, that hung in the heavy derrick, on the ship's railing. Hours later when the swell died down, we continued the discharge operation."

The road transports to site took place in the night and where the triumphal arches could not be removed we had to by-pass them. The power cables were another problem, neutralising and lifting them. "We were on the road all night, while in the daytime the boilers were jacked down. Because of their construction the boilers had to be supported on nine stacks of timber provided by Mammoth Gulf in Dubai. Imagine, three large boilers, not enough timber to set off more than one boiler, a truck getting stuck in the mud, blowing up its starter motor and a very tight time schedule imposed upon us by the port authorities and traffic police. It was a hectic situation."

As always, history repeats itself: twenty years on Mammoth Gulf arranges the transportation and positioning of heavy pieces for Gubrah III, an new extension to the water desalination plant in the completely changed Sultanate.



sh
berhausen!"



"When the transport suddenly halted, the bridge everybody would go wrong."

1977

Project - Relocation of a 121 year old windmill in Hoofddorp, the Netherlands.



Interview with Dick Prins -City miller of Hoofddorp-



For almost twenty years now, miller Dick Prins can be found in windmill "De Eersteling" ("The First") in Hoofddorp, the Netherlands. Working the mill is his life. Because of his dedication the 1856 mill is still in prime condition. A special feature is the fact that "De Eersteling" is still grinding wheat for local bakeries, the work she was originally built for. "Per week the mill supplies 500 to 700 kg flour", says Dick Prins. "Next to the milling work, the mill has now also an educational function. I regularly show the working of the mill to visiting school children. Besides, tourists from all parts of the world visit us. You can easily say that for the Council of Haarlemmermeer, who own the mill officially, it is not only a valuable monument but also a tourist attraction. A special object that we can enjoy for a long time yet."

"It is partly due to Mammoet Stooft that "De Eersteling" has been restored to her former glory. The mill was originally constructed in quite a different spot. Erected in Hoofddorp in 1856, she was the first in a series of five that were built in this polder. This also explains the name "De Eersteling". After a hundred years loyal service as a grinding mill, however, she fell in arrears. Where she stood in Hoofddorp she became completely encased by houses and buildings so that the vanes could no longer catch the wind and the grinding could no longer be carried out. At a certain moment the owner sold the mill for the amount of one guilder to the Haarlemmermeer Council, on condition that "De Eersteling" would be moved to a suitable location and restored."

This actually happened and Mammoet Stooft was selected to move the towering stone building right through the city to a new location on an artificial hill. That was the first time that something like that happened in our country. The 110 tonne mill was jacked up and positioned on to a 50 tonne platform trailer with 96 wheels. Hereafter followed the transport through the town for which a number of light poles and trees had to be removed. The police were very busy keeping the thousands of spectators at a safe distance. Breathless and in awe they watched Mammoet Stooft's activities.

The transport became really exciting when it had to pass a small, old bridge which had in fact already been declared unfit for ordinary traffic. Previously, Mammoet Stooft had reinforced the bridge but when the transport suddenly halted on it, everybody thought that it would go wrong. However, the stop only was made to jack up the mill a couple of inches as it threatened to touch the parapet. A sigh of relief went through the crowd when the transport continued. A next exciting moment came when the transport had to negotiate up the hill. But by using an extra truck this hurdle was also taken. "De Eersteling" arrived at her new location without so much as a scratch.

Every one agreed that Mammoet had achieved something remarkable. Media in the country and abroad paid much attention to the transport. A paper in San Francisco for instance printed, "Windmill on the move — in search of new breezes". In February 1978 the restoration had been completed and "De Eersteling" started her new future.

transported on the body thought wrong"





“All in all quite complicated operation”

1 9 7 8

Project – Inland water transport, lifting and positioning of a ship's engine for the NDSM shipyard at Amsterdam.



Interview with Arie Peterse -Managing Director Mammoet Shipping-



Peterse started his career at Mammoet's engineering department in Amsterdam. Mammoet Transport, Mammoet Shipping and Mammoet Goedkoop were all housed in one office at the Westerdoksdijk and this one-man department arranged the transport engineering for the 'wet' Mammoet activities. Shipyard NDSM, one of Mammoet Goedkoop's clients, had progressed rather far with building the "Incotrans Spirit" but because of delayed delivery the ship's engine had not yet been placed. "The vessel had already been launched and the NDSM came to us with the problem of having to place an engine in a nearly finished ship. Their original idea was to hire a floating crane of Smit Tak from Rotterdam," Peterse explains. Mobilising a floating crane from Rotterdam, however, turned out to be an expensive business and Mammoet brainstormed to find another solution.

That solution was found in the Hydra-Jack system, a revolutionary lifting technique introduced by Mammoet in the mid-seventies. Peterse, "I knew the capabilities of the Hydra-Jack system for I had been working some nine months in Breda at Mammoet Stoof. Because of the narrow entrance to the engine room, the engine had been divided in two parts, a piece with four and a piece with three cylinders. We found the solution by putting across the ship's deck, in front of the engine room, two large beams which stuck out ten metres at one side. On these beams we installed a gantry with the Hydra-Jack on top. Thus we could lift the engine sections outside the ship, skid them over the hatch opening and lower them on to skids in the hold, whereafter they were brought over the foundation through an opening in the engine room bulkhead."

The Sulzer engine had been licence built at "De Schelde Shipyard" in Flushing and Mammoet was also involved in its transportation to Amsterdam. To this end ro/ro barge "Europa I" was used. Peterse, "All in all quite a complicated operation. In Flushing the engine sections were rolled on board the "Europa I" and we set sail with the barge in tow to the Verolme yard in Rozenburg. With the yard's large gantry crane, the engine parts were lifted and the platform trailers were removed from underneath so that the cargo was as low as possible for the passage of the Amsterdam bridges. Furthermore, the sections were placed on the barge's sides so that they could be reached with the Hydra-Jack."

Peterse explains that when lifting with the Hydra-Jack it is essential that the lifting segments go through the cylinder exactly vertical, which is not easy on a floating object. "Once you start lifting some 500 tonnes over portside, the ship must be counter ballasted. Luckily, the new vessel already had working ballast pumps installed in her engine room, so that this could be kept in hand very accurately. What the pumps could not correct was the ship's trim. You can see it in the picture; the vessel lies a bit deeper at the stern. Once we had lifted the first part on board and skidded it in to the engine room, the vessel trimmed even more. In short, between lifting the first and the second piece, we had to lengthen the legs of the system a bit or make the sledges somewhat higher — I do not exactly recall how we took care of that — but anyway, it required quite some calculations to adjust these few centimeters of trim in the right way. Nevertheless, it all went rather smoothly with this very special use of the Hydra-Jack system."



ite a
operation"



**“Only a late p
stopped to loo
fussing”**

1979

Project – Roll-on/roll-off transportation in the Netherlands of a transformer from Nijmegen to Geertruidenberg.



Interview with Gerard Mertens -Retired Traffic Manager Smit Transformatoren-



"In the early sixties, when I was recently employed with Smit Transformatorenfabriek in Nijmegen", Mertens says, "transformer sizes just started to increase. We supplied tailor-made transformers world-wide both for power stations and large companies who generate their own power. Until then we built transformers up to 100 tonnes. Those were usually skidded to the port. A transport like that took several days. Sometimes it lasted eight days to move two to three kilometers. Later on the trailers came. We handled our first ro-ro transport in 1968. So, we had some experience when in 1979 we had to move the largest transformer Smit had ever built. This one weighed all of 540 tonnes and was made for the power station of the N.V. Provinciale Noordbrabantse Electriciteits Maatschappij (PNEM). The transformer's transportation height was 10.5 metres and its width was 6 metres."

"This transport had some hurdles to cross. For instance, we were only allowed to pass the railway in Nijmegen in the night from Sunday to Monday. There would then be just enough time to remove the high-voltage cables. The next obstacle was the rather steep slope to the harbour. Sometimes I worried when the descent had to be set in, but this was really quite unnecessary as the transport was always in capable hands with Mammoet. They had in fact a team of people, led by Toon Roovers, who was specialised in the transportation of large transformers. They had been in our factory so often for skidding and moving that it seemed as if they were employed by us. In fact they possessed a wealth of experience and the right equipment to cope with the work fast and efficient. That made us, but also our clients, feel comfortable."

"Yet, it was always a tense moment when the trailer with the transformer moved on to the barge. We had a special quay available in the harbour of Nijmegen. In Geertruidenberg, the destination of this transformer, this was not the case. There the quay had to be built specially for this transport. Once the convoy had arrived here we also had to use extra pulling power to haul the transformer up a fair slope. Usually this could be done by two trucks. Now we had to mobilize three in front and one at the back. That was also an exciting moment; to see how that enormous quantity of horsepower pulled two lengthwise linked trailers, of 40 tonnes each, with the transformer on top, up the hill. Despite all these impediments, the transport was carried out successfully. By the way, it was the first transport jointly carried out by Mammoet and Big Lift. Mammoet had just taken over Big Lift."

"It was striking that more of a song and dance wasn't made about this huge transport project. Times had obviously changed since we took out our first roll-on/roll-off transport. I think that we were more or less the first to start operating that way. The streets were swarming with people and the papers could not stop writing about it. At the Geertruidenberg transport only a late pub-dweller stopped to look at our fussing", says Mertens, who has been enjoying his well-earned pension for quite some years now. Mammoet Transport still carries out the transformer transports for Smit Nijmegen, whereby sometimes Mammoet Shipping also has a part to play."



pub-dweller
look at our



**“We saw it coming
we did not know
who would be our
partner...”**

1980

Project – Shipping, transportation and craning of totally 440 pylons for the construction of the Haj terminal at the new Jeddah airport.



Interview with Abdullah Alatas -director Alatas Mammoet Co. Ltd-



In 1979 Alatas was director of Alatas Big Lift, a joint venture with Big Lift of the Netherlands. In that year the parent company of Big Lift, HAL (Holland Amerika Lijn), sold its interest in the land activities of Big Lift to Mammoet Transport of Amsterdam. Alatas: "Even in the beginning of the joint venture with Big Lift we were aware that HAL was more interested in cruise vessels and we knew that they were thinking of selling this heavy lift activity. We saw it coming, but we did not know who would be our future partner in a new combination."

Many projects were going on: "Alatas Big Lift was involved in the installation and transportation of heavy vessels for the master gas-gathering plan and we had long term contracts for Aramco at Yanbu and in the Eastern Province. Before that time, gas had been flared as a by-product of oil production. By then the Government decided to harness the gas to use as feedstock for the planned petrochemical projects. Meanwhile, Mammoth Saudi was involved in the construction of Jeddah IV, a huge water-desalination plant and the building of the Haj terminal at the new Jeddah airport, King Abdulaziz International Airport."

As Mammoet Transport B.V., shareholder in Mammoth Saudi, had purchased Big Lift B.V., it also became shareholder in Alatas Big Lift. It turned out that Mammoth Saudi had some management difficulties at that time caused by the fast expansion of the company. Simultaneously, Mammoet Transport requested S.H. Alatas & Co. to purchase the shares of the Saudi partners in Mammoth Saudi. It was only a matter of time that Alatas Big Lift, later Alatas Mammoet, took over the management of the heavy transport operations, including the Haj terminal project. Alatas: "I noticed things in the Mammoth Saudi organisation which puzzled me. For example, their equipment was being serviced in the port prior to and during arrival of the barge with pylons. Another example was customs clearance. They thought it was only possible to clear cargo until six p.m. We knew that customs were open 24 hours a day. And then there was the question of unloading directly on to the trailers. They never informed the port authorities that they were receiving cargoes directly on to dollies and therefore failed to get a 50% discount of the stevedoring rates. Later it was obtained through our efforts."

The old Jeddah airport was located in the city, while the new one under construction was 35 kilometers away. "The pylons were transported to the airport on dollies. The convoy left the port at one o'clock in the morning and at a certain stage we had to move right through the middle of town. In the daytime Jeddah was already heavily congested, so that we only could move between midnight and three in the morning. It was very impressive to watch ten to twelve 47 metre long pylons move slowly through the dark streets of Jeddah in a convoy. The erection of the pylons at the airport, which was quite an elaborate job as well, was realised with a Liebherr crane type LG 1280."

The Haj terminal is one of the biggest man-made tents and is only used for about three months each year. Alatas: "But when you look at it, three months is already a high grade of utilisation compared to the other Haj facilities. Some facilities are only used for some two weeks, as the pilgrimage at Mecca lasts four days. The Saudi Government has always tried to facilitate the Pilgrimage by ensuring that all necessary infrastructures are constructed without regard to costs. This involves a huge sum of money. I think approximately more than a billion dollars each year."



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“Occasional and exceptional are paid for as its

1981

Project – Integrated transport of a 476 tonne vacuum tower from Roermond in the Netherlands to Fawley in the United Kingdom.



Interview with Aart van Dijk -Director Eerland Sleepdiensten-



Van Dijk is managing director of Eerland Sleepdiensten and has a striking office location in office vessel ADML, which lies moored in one of Rotterdam's harbours. "At the end of the seventies we were all doing well, we had plenty of work and for Mammoet Stof in Breda our company was favourably situated." Van Dijk relates of his contacts with Mammoet Stof, which date from long before the Mammoet period, and of the fact that when Stof Breda became part of Mammoet this never stood in the way of co-operation. On the contrary, Eerland and Mammoet had a co-operation agreement in a separate limited liability company in which an extraordinary barge was operated — the "Europa I". The barge had been designed for heavy transports, specifically for rivers spanned with low bridges. It could be closed up completely, but it was also possible to roll cargo in to it and then open it up like a landing craft.

In its function as heavy cargo barge the "Europa I" never quite flourished, but for the transportation of the vacuum tower to England in 1981 the barge played the leading role. This started at the loading point in Roermond, at the constructor's yard. Van Dijk, "The first leg went over the river Maas and everything went smoothly. But the bottleneck came in the passage under a couple of bridges spanning the Maas-Waalkanaal. There was a bridge which left us with too little space. We could not go any deeper or we would have struck bottom. So, we just moved underneath it with the utmost care and it turned out that it all just worked out. The Department of Public Works was very helpful and I seem to remember that the channel was closed for all traffic one Sunday."

In Rotterdam some preparations had to be made. Firstly the vacuum tower had to be lifted with a floating crane to allow a heavy cargo trailer combination underneath it. On it the cargo would be rolled off the barge in England without delay. Van Dijk, "The barge could not cross the North Sea by itself. Therefore, Mammoet had chartered a semi-submersible vessel — the "Condock I". The barge with the tower on the trailer was pulled in to the vessel and the crossing to England could begin. I remember well that the ro/ro ramp of the vessel did just not close. The owner of the ship worried somewhat about it, but the relevant calculations showed it could be done."

On arrival in England the "Europa I" was floated out of the mother ship and with the assistance of tugs it was beached at high tide. Hereafter mats were laid down so that the heavy cargo trailer could drive off and proceed to the refinery.

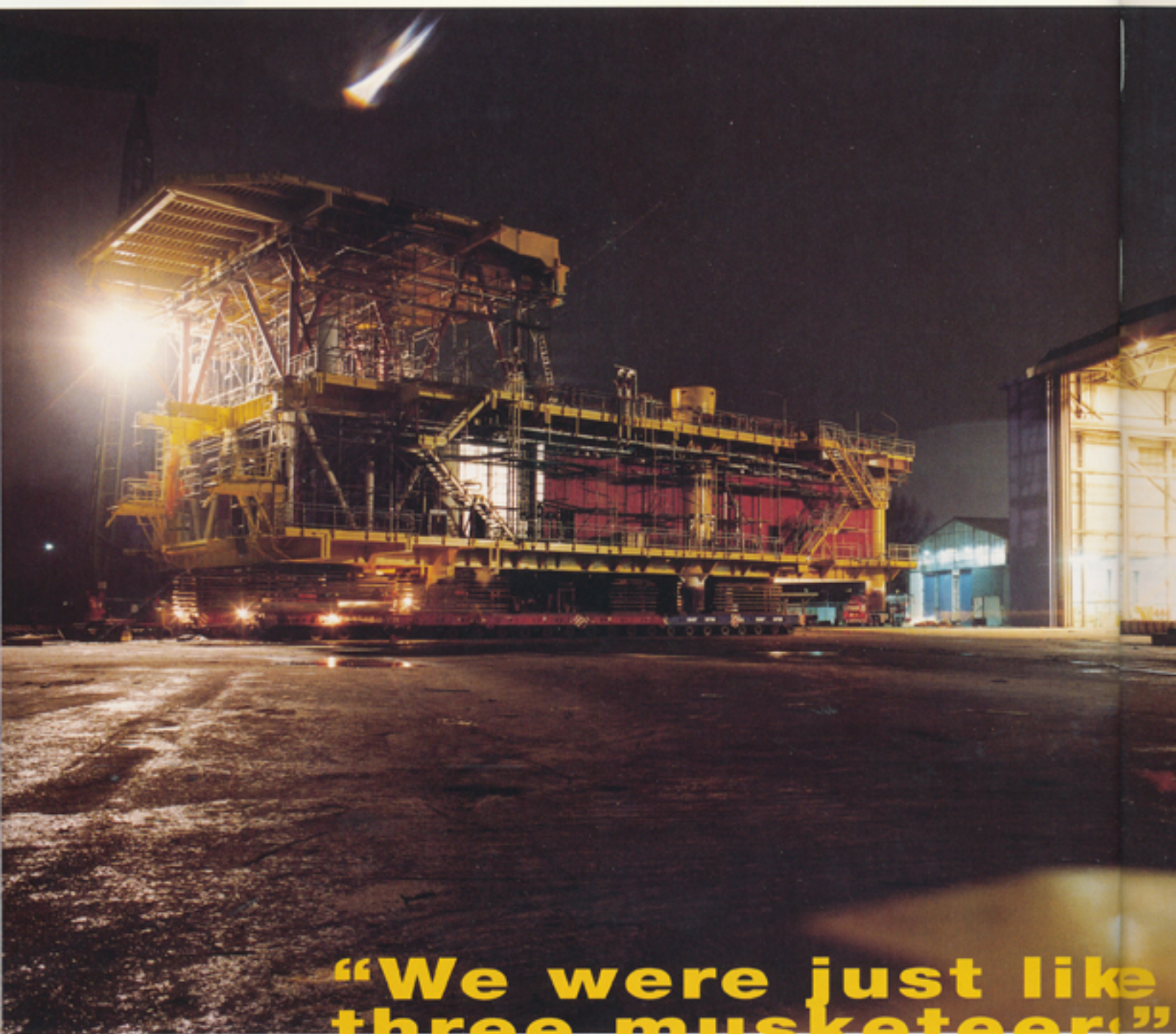
Van Dijk about the preparations for such a transport: "In general, such transports do not start on the ship. Preparations begin in the factory and quite often the dry-mover — as we call it — takes charge. The wet-mover did not do too much; he only offered his equipment against a lumpsum price. All calculations and drawings were mostly prepared by the other party."

According to Van Dijk transport engineering has become more important for wet-movers. Nevertheless, he closes with a critical aside: "Generally speaking occasional and exceptional are never paid for as they should. Sometimes I regret that our line of business demands so much know-how and that so many efforts are put in to transport engineering while payment is less than adequate."



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**“We were just like
three musketeers!”**

1 9 8 2

Project – Site move and
load-out of an offshore
module at HCG in Schiedam.



Interview with Hans van der Kooij -Operational Director Brinks-Nedlloyd-



"The developments in the offshore industry started to move in the period that I worked with Mammoet Stoof (1981-1987)," according to Van der Kooij. "It was a real offshore boom in the countries around the North Sea. Weights, measurements and volumes of offshore construction grew at an enormous pace. These developments went so fast that we could just avail over the right tools to solve all load-out questions. For me and my colleagues Jan Gommers and Henk Beesems it was sometimes a real pioneering job. We had to come up with ever new creative solutions. Had we just solved the one problem, was the next introduced. Sometimes it seemed a vicious circle. But we always came to a solution. Again and again we found answers to the strangest questions of our clients and solved their problems. We were just like the three musketeers. An enthusiastic team that was a world-wide trendsetter for the execution of load-out projects."

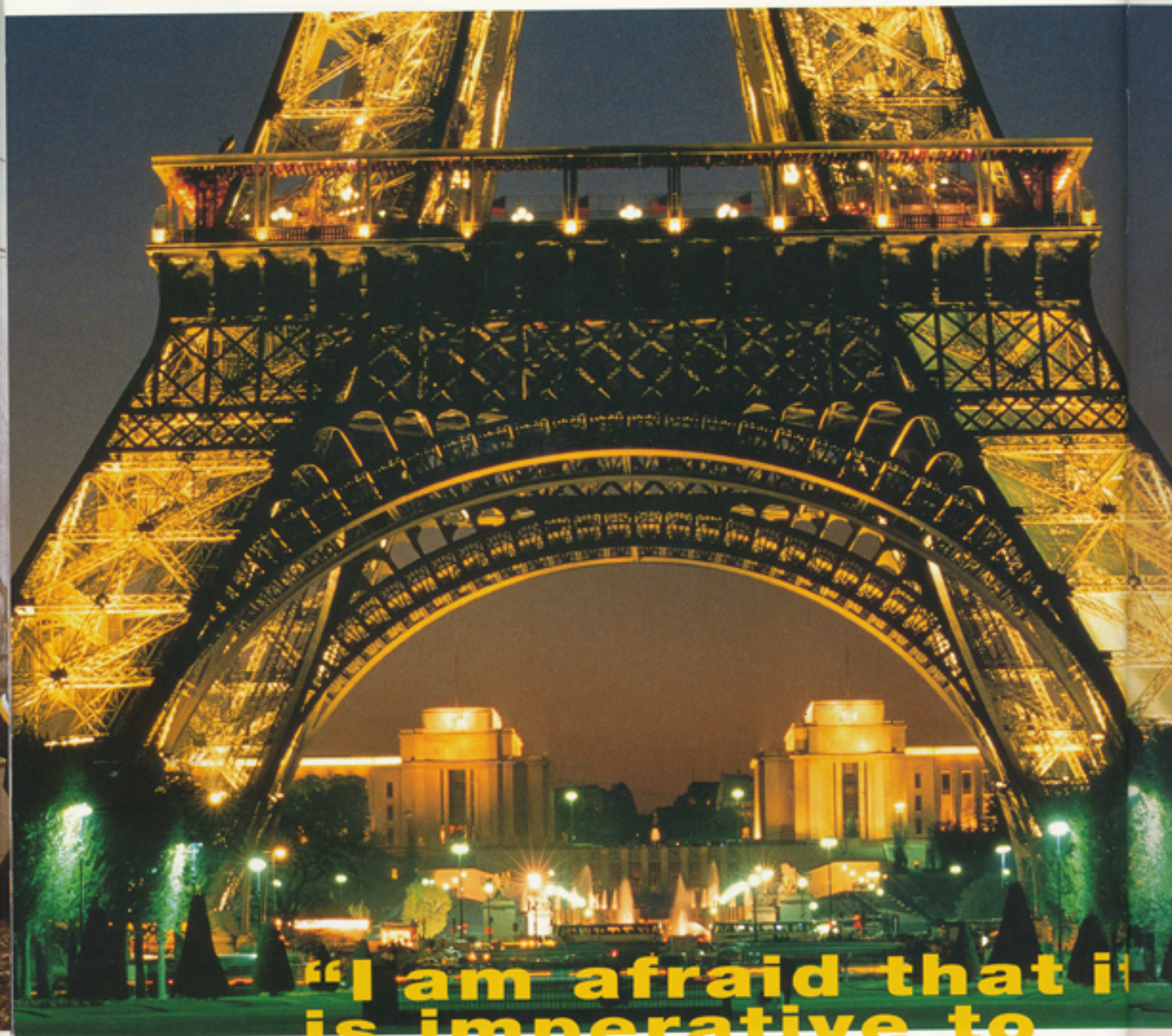
"In 1979 load-outs of 300 tonnes were still important enough to have the Mayor around and a television crew make a report. In those days these were major transports. Three years later, however, we turned out a load-out of 1800 tonnes in Schiedam and another two years on one in Marseilles of 4200 tonnes. Later these weights increased even more to 10,000 tonnes and over."

"Before I started with Mammoet Stoof, the skidding systems had made room for the conventional platform trailers. In the construction halls these were driven underneath the modules or topsides whereafter the whole contraption was pulled on board a seagoing barge with winches and tractors. I clearly remember a load-out in 1982 at the HCG yard in Schiedam which was performed in this manner. Here we dealt with a production platform's topsides weighing 1800 tonnes. Weight and size were a record for the yard. Never before had there been built such a large and heavy offshore module."

"Just as with many other yards in North-West Europe we were one of the family at HCG. Not only for load-out operations but also during the building of such platforms, to lend a hand with transportation and the lifting of large parts or for skidding and jacking. Besides, in the building process we were thinking along with the yards. Usually we were involved from the start. Thus we could give useful hints which could save in the steel construction. In 1984 the self-propelled modular transporters (SPMTs) entered the business and we were even better prepared to accommodate the wishes of the offshore industry, so that boundaries could be pushed back even further. Something that must be mentioned is the input of Mammoet Shipping for these load-out operations. They provided us with a computer programme for the calculation of ballasting the transport barges."

"In Breda we had a great team of young engineers who did not shun any challenge and who, because of the expansion of the offshore construction sector, came to unique achievements," according to a very enthusiastic Van der Kooij who has been working quite some time now as Operational Director at Brinks-Nedlloyd in Houten.





**"I am afraid that it
is imperative to
demolish some flats**

1 9 8 3

Project - Transportation of the Eiffel Tower in Paris in answer
to the publicity campaign of Dutch transporter Van Gend & Loos.



Interview with Aad van Leeuwen -P.R. manager Mammoet Transport-

(excerpt of a Dutch World Broadcasting radio programme)



ALS VAN GEND & LOOS ER GEEN RAAD MEE WEET, IS 'T NIET TE VERVOEREN.



De ene heer gaat het om kleine puljes. De andere heer zijn 's grote zendingen. Wij doen vervoer van transporten. Wij organiseren de samenstellingen. Wij rijden, dragen en vervoeren van de vloeren van heel veel kleine lasten kunnen we er echt niet meer uit de vervoer. Maar dan weet u zeker dat niemand er raad mee weet.



"Last week the publicity campaigns of two transportation companies screamed for attention. The first, Van Gend & Loos, informs the public that they can move anything except when it is too massive to do so. The company visualises this message in a television clip by having one of their own trucks drive off without success from the Eiffel Tower in Paris. Immediately, this triggered a reaction from the other transport company which is specialised in heavy transport; Mammoet Transport. Along with a serious looking drawing the possibility to actually move the Eiffel Tower is shown.

First question to P.R. manager Aad van Leeuwen of Mammoet Transport is how serious this possibility is. 'I received more than one reaction from people who asked if this was an April fools joke. But it is not. We actually have the means to move the Eiffel Tower. Our engineering department calculated the transport as follows; according to Larousse encyclopedia the tower itself weighs 7,175 tonnes — which is inclusive of a couple of tonnes of paint — add to that a support construction of 519 tonnes and finally the weight of the platform trailers that have to carry the whole thing, which weigh 1,100 tonnes. All in all this give a total of 8,794 tonnes. Considering that Mammoet has a world-wide transport capacity of 10,000 ton, the transport of the Eiffel Tower is a possibility. The large number of 1152 wheels is necessary to obtain a good spread of the weight and to prevent the whole contraption from sinking through the surface.'

Has the width of the roads been taken in to account? 'No, that will no doubt form a problem and if you want to take the Eiffel Tower out for a spin something has to change in Paris's infrastructure. For a transport of this size I am afraid that it is imperative to demolish some flats and I am afraid that the Paris council will pose some problems against that.'

What will be the average speed with which the whole thing will be moved through Paris? 'Sadly, speed is not the major asset of these trailers. Fully loaded they reach the top speed of 2 km per hour.'

Half of Paris demolished to move the Eiffel Tower at 2 km per hour. Upright or on its side. For Mammoet Transport also has the necessary techniques to lay it down. And all that because of an ad from Van Gend & Loos."

MEMO

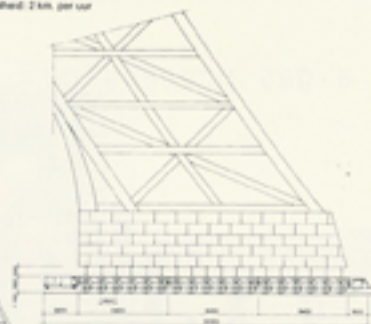
Aan: Van Gend & Loos
Van: Mammoet Transport

Het is voor onze engineering-afdeling
even rekenen en tekenen geweest, maar
ook de Eiffeltoren is te vervoeren.

Dus als U er geen raad mee weet,
bel Mammoet.

gewicht tonen	7175 ton	gewicht op elke as	122.2 ton
ondersteuningsconstructie	519 ton	gewicht op elke as	15.3 ton
platformwagens	1100 ton	gewicht op elke band	7.7 ton
totaal	8794 ton		

in te zetten materiaal:
18 platformwagens draagvermogen 100 ton, met eigen voortbeweging,
en 18 assen, totaal 1152 wielen.
snelheid: 2 km. per uur



**MAMMOET
TRANSPORT**

Amsterdam 020-221644
Breda 076-879015
Paris 01-800074



**"If you do not
cases you could
most horrible a**

1984

Project - Integrated transport of a gas processing plant to Karstoe in Norway.



Interview with Jo Pardoel -Retired supervisor Mammoet Stoof-



The Karstoe project was Mammoet's first major project where transport logistics played an important role. Modules, columns and piperacks came from Belgium, Japan and Norway and had to be delivered in time and installed. Supervisor Pardoel was in Norway for three months and cherishes good memories of this project. "The most beautiful sight was when you saw one of those yellow Mammoet ships approaching. The cargo always arrived at the right time and it was always different. The variation in the cargo and the well-calculated planning made carrying out this project very attractive."

Pardoel relates that two columns were too heavy for the available cranes so that for their erection the Hydra-Jack system was used. "The guy ropes of the Hydra-Jack were fixed to the rock bottom with a special drilling/glueing technique. As I was not familiar with this, I have to confess I did not trust it. Therefore, I had one man available to keep his eyes on the fixtures all the time. If those anchors had come loose, then the whole gantry would collapse."

The pre and oncarriage was performed with conventional platform trailers as well as with the High Tech SPMTs who had been introduced in the market that same year. "The installation of the piperacks with the SPMTs was a very interesting operation." On arrival at the plant each part was lifted with four cranes and an SPMT was moved underneath with a construction to be able to place the piperack on its foundation at the right level. The transporter's hydraulics were used for the positioning of the piperack. And so everything was knitted together," says Pardoel who clearly enjoys reminiscing this project. "It was the first large job that I experienced in which a plant was put together from modules. It was also very special that all vessels were completely pre-dressed with all the pipes, isolation, platforms and ladders. Before that this was hardly ever done and it saved much time in the completion work."

According to Pardoel this pre-dressing was sometimes taken too far. "I was curious to know what that dressing looked like at the fabricator's end. I came there and saw how those men were busy dressing the vessels. I also noticed how they were attaching a heat exchanger with a weight of about ten tonnes and I thought, this is not possible. If it would have been attached like a spaceshuttle at the launch, the weight would have been spread equally. But this way it would give tremendous lifting problems. We agreed that they would take the exchanger off again once it had been fitted and that Mammoet would fix it on the column after positioning. If you do not act in such cases you could get the most horrible accidents." Pardoel then explains that as supervisor you have your own responsibility and you have to take it.

Pardoel finalizes his story, "As the leader of the troupe you must start by giving a good example. For if you come late yourself, you cannot correct your people. There must be order and regularity and they have to know that there is only one guy to keep time. And if I was at a job, I would do just that."



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**“The departure was
sentimental good”**

1985

Project – Transportation of East Indiaman replica
‘Prins Willem’ from Amsterdam to Nagasaki, Japan.



Interview with Maarten de Groot -Director Bureau voor Scheepsbouw -



"Our bureau", says engineer Maarten de Groot, "became involved with the 'Prins Willem' project in a special way. In fact it was a small article in a Dutch newspaper that a Japanese delegation would be visiting our country to order a replica of an East-Indiaman. This was destined to be the eye-catcher at Nagasaki Holland Village in Japan. We wrote to the Japanese and told them what we could do as ships' design bureau. We already had some experience with East-Indiamen in the preparations of the building of East-Indiaman 'Amsterdam'. This had been an order for the city of Amsterdam."

"At first all was silent. The Japanese seemed to think it would be very easy to order East-Indiamen in Holland. Practice proved differently, however, and so after a while we were invited anyway to explain about our plans. In the end this led to a feasibility study that took three months. We had to do a lot of historical research, for much of the knowledge about the 'Prins Willem' had faded away. After the feasibility study our bureau also received the order for the final design and a construction plan. Furthermore, we were put in charge of the entire project management until the delivery in Japan."

"For us it was unusual that we had to design the ship to withstand typhoons with wind velocities up to 160 km per hour. We designed a special anchoring system attached to the steel bottom of the hull. We chose Shipyard Amels to build the vessel in their large shipbuilding hall in Makkum. The hull was built outside the shipdock because in it there was a large commercial ship under construction. In order to launch the hull Mammoet Transport's platform trailers had moved it on to a barge. Then the barge was submerged. As soon as it was finished, the replica was towed to Amsterdam and opposite the Mammoet Shipping office it was floated in to the hold of m.s. "Happy Mammoth". The departure from Amsterdam was quite a sentimental goodbye for me. I have carried out quite a few shipbuilding projects, but hardly ever have they been as emotional as that one."

"For the passage through the Suez Canal the charges had to be paid for two ships. This surprised us since it was not unusual to move one ship inside another. Mammoet Shipping however, had no choice and had to pay. One of the company's most experienced captains was on duty for the passage, which went almost without a hitch. Only near Singapore the transport ran in to the swell of a typhoon. This broke the bowsprit of the 'Prins Willem'. Later on this damage could fortunately be repaired."

"The construction and the transportation of the 'Prins Willem' drew a lot of attention worldwide. The same was true for the official delivery of the vessel in Japan. By the way, five days after the official handing over, a heavy typhoon raged over Nagasaki Holland Village and the 'Prins Willem'. The typhoon caused much damage in the vicinity but the 'Prins Willem' survived unharmed. That was the proof of the pudding," according to De Groot. In the next years his bureau carried out three more special designs of replicas for the Japanese client. Among these was 'De Liefde' (Love), the first sailing ship ever to arrive in Japan from the West.



... was quite a
... goodbye for me"





**"When I saw it for
first time ... it took
my breath away"**

1986

Project -Transportation of a 700 tonne
pressure vessel from Japan to England.

Interview with Adriaan Landwaart -Retired Superintendent Mammoet Shipping-



He worked exactly 25 years with Mammoet Shipping. First as Master on the "Happy Pioneer", the "Happy Rider" and the "Happy Runner" and later as superintendent. "It was a fascinating job", says Landwaart who recently began his well-earned retirement. "As Master you only saw a few projects a year. As Superintendent, however, you were working on a lot of different projects. There was much more variation and you had to travel a lot. Every project was prepared at the head office at the Westerdoksdijk in Amsterdam. Here all calculations were made, for instance for stability and seafastening. When everything had been prepared, I flew to the client to discuss the whole operation so that everything would be prepared once the ship came in. Then I informed the Master on what was about to happen and we went to work as soon as possible to get the cargo on board."

"At one time it all became extremely exciting. We had to load a huge steel vessel in the Japanese port of Yatsushiro. The vessel weighed as much as 700 tonnes and had a diameter of 25 meters. I don't think anything like that had ever been built before. It had been constructed by Hitachi Zosen. When I saw it for the first time during the completion in Japan it took my breath away. What a huge thing. The vessel was brought to Yatsushiro and moved alongside the "Project Arabia". To pick it up real straight with our lifting gear, we had made a special twenty metre long lifting beam. The capacity of the vessel's lifting gear reached the upper limits and to carry the 700 tonnes on deck we first moved up the tweendeck hatches and lashed them, just as the weatherdeck pontoons. This had all been calculated in advance. We thought it would be handy to take the long lifting beam that had been used in the loading operation, with us to the final destination. That would save us some time in Ellesmere Port in England. The Japanese client saw the value of this solution and together we decided to lash the lifting beam to the vessel, so that it would be well seafastened during the voyage. Once you have earned the trust of the Japanese client they are very cooperative. They are open for good ideas to work faster and more efficiently and think along with you."

"The vessel's voyage to England went smoothly. In Ellesmere Port Econofreight were ready with their trailers to take over the enormous vessel. The discharge operation took place behind the locks, so that we did not have problems with the tide. The port had a low quay so that Econofreight could manoeuvre the trailers next to the heavy cargo ship. For us this was quite useful as the tremendous diameter limited the outreach of the vessel's cranes. Now we could exactly position the vessel on the saddles, whereafter for us the project was finished," according to Landwaart, who adds that the longer you are in this business, the more you become convinced that virtually everything is possible where transportation is concerned. "Whatever it was that I dealt with in the past 25 years, and I've seen quite a number of projects, always did I have the feeling that it could be done; no matter what size or what weight. Practice has meanwhile shown that this is true."

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"The most important factor is the dedication of the people..."

1987

Project – Mammoet Ferry Transport with subsidiaries in the Netherlands, Belgium, Germany and the U.K. operates a trailer ferry service between the Continent and the United Kingdom with over 400 ferry trailers.



Interview with Henk de Man -Retired Director Mammoet Ferry Transport-



At the start of his career, Henk de Man was manager of Transterra, part of shipping company KNSM. "Transterra organised transportation between the Netherlands, Germany, Italy and England. Quite often this involved transit cargo and at that time container transportation just started. Early in the seventies KNSM even had their own ferry company, the Continac Line with only one vessel, "Vechtstroom" sailing between Amsterdam and Hull. Completely unsuitable for ferry transportation, but we were KNSM and even then we did a lot of transportation to England."

Brown Bethel, part of Brown Geveke was the agent of Transterra in England — as well as of Mammoet Shipping. When Transterra was sold to Stolk Bros. the England department was picked out and that was when Mammoet came in the picture. "The relationship with Mammoet Shipping existed through the liner agent in England and it was thought we should co-operate on the road as well. That was the start of Mammoet BBI in 1976. We moved from Amsterdam to Rotterdam where only the two of us shared an office near the Europoort terminal of North Sea Ferries."

The co-operation with Brown Geveke was terminated in 1983. "When that happened our organisation more or less fell between two stools. The English side wished us to co-operate more with Brown Geveke, while we were more inclined to work with Mammoet. Finally, we convinced the English of our point of view and to cut a long story, Mammoet Ferry Transport was founded as a 100% Mammoet daughter."

About the changes in ferry transportation: "It has become much quicker, more competitive, prices have dropped and one has to be extremely efficient in order to cope with all that. Furthermore, you must beware of costs. Never mind if you talk about heavy transportation or about ferry transport, if you work along those lines, you get quite far."

De Man explains that Mammoet Ferry Transport can hardly be counted among the largest players in the branch. De Man, "But then, that is not what we aspire. I once said to my boss (Jan Ijmker), when we worked with only 100 trailers, that we aimed at 300. You cannot stop a company's growth and you have to go on. My boss laughed and his reaction was something like, 'as long as you keep it under control'. Of course he was right, for as soon as you lose track of the situation you have grown too big."

Henk de Man received the honour to lay the foundation stone for the new building in Europoort. This office also houses the heavy transport branch of Mammoet Stoof, who thereby improve their possibilities to keep a close eye on the Europoort area. This flat-sharing dates from 1985, when a piece of land was rented from the city. De Man, "But the most important factor is the dedication of the people who support their company with heart and soul. The people have much influence on that but so has the management. If you are a team — and that is my experience through the years — you achieve the most. My successor Tom van der Enden said in his speech on occasion of the opening of the new premises that there is very little change in personnel. Firstly, this means that the people enjoy themselves and also that we never had too many staff to begin with."



portant
dedication
..."





"I have seen the elephant before"

1988

Project – Shipping and land transport of tunnelling machines for the construction of the Eurotunnel between France and England.

Interview with Rolf Marner -Retired Assistant Chief Editor ANP-



"I've seen this little elephant before." The remark is made by Rolf Marner, an ANP-er to the bone with 35 years experience as journalist with the Dutch press agency 'Algemeen Nederlands Persbureau'. He refers to the Mammoet logo that occurred now and then on ANP photographs, which did well, he says, in the economical sections of the daily papers. The ANP is owned by the Dutch newspapers and the NOS (the broadcasting corporation) and supplies news and photographs for these 'bosses'. Furthermore, the ANP stays in contact with practically all major news services in the world, such as UPI, Reuters, AP, DPA and AFP. Written news is collected at ANP in the Hague and photographic material is transmitted to and from ANP-foto in Amsterdam. Marner, "ANP foto is a completely different story. It is participant in EPA (European Press photo Agencies) in which all European press agencies co-operate in exchanging European pictures, whereas this organisation has a contract with AFP International. Therefore, visual news from the whole world streams in to the Amsterdam office 24 hours a day."



According to Marner sport is the news service's sacred cow. "From the moment I started at ANP in 1960 I reported on nearly all Olympic games, both Summer and Winter. Rome, Los Angeles, Barcelona. My last major job were the winter games in Lillehammer, where I was co-ordinator for EPA." Via another important source of news, economy, he arrives at Mammoet. Marner, "Mammoet's P.R. man came through the door with pictures he had made himself. I cannot quite remember what the first feature was, but it was attractive material for the papers. Such as, for instance, the construction of the Channel Tunnel. Usually this material was supplied by the French press organisation AFP, but since the Eurotunnel builder was not very generous with their press information, we were very glad with the material that we obtained directly from Mammoet. Apparently they had other admissions to the project and I can remember that once or twice we received photographic material from Mammoet that we could not get in any other way."

Marner states his opinion on the possibility of a conflict of commercial interest between Mammoet and the independent press. "One of the noticeable aspects of the material from Mammoet was that it was never too much nor too often. It was without doubt of good quality and furthermore it was material we could not obtain through other channels." Marner hints at the photography of load-outs of large offshore modules and also the transportation of a complete zinc factory through Alaska. "That too is a crucial point. If a P.R. official from whatever organisation offers us material that we can get through ten other channels, it is of much less value to us."

Marner concludes, "The ANP is an independent news organisation. We cannot identify with any company. It happened that companies supplied us with good material which we were unable to use since it was too commercially photographed. A common mistake in the P.R. business. My experience with Mammoet through the years was that the Mammoet logo was always to be seen somewhere, but never too prominent."



this little
ore"



**"They were
really long days**

1989

Project - Integrated transport of a complete zinc/lead ore installation from the Philippines to Alaska.



Interview with Mark Bakker -Free lance camera man-



The Red Dog project gave Mammoet Transport a wealth of International publicity. The project involved the complete transportation of eleven large modules from the building site in the Philippines until placed on foundation at the zinc mine in Alaska. The whole project was interesting enough to be put on film and Mark Bakker was the camera man. "I had just graduated from the film academy and had filmed a Dutch soap, 'Medisch Centrum West'. A producer asked me to film a Mammoet Hydra-Jack job. This turned out to be the positioning of the second Van Brienenoord bridge in Rotterdam. It was my first meeting with Mammoet and an impressive one. Later on, it proved to be a try-out for what became an extensive camera job for the Mammoet Red Dog project.

The first takes for "Road to Red Dog" had to be made in the port of Batangas and before Mark knew it he was shooting in the damp heat of the Philippines. "We had just made a shot of the project manager in a jeep and I had to change the film. These rolls last 10 minutes and have to be put back in the tin in the dark, in a changing bag. Because of the hurry something went wrong in the bag and the result was what they call in the film world 'film salad'. In the sweltering heat and under the scrutinising eyes of fifteen Philipinos I was in a cold sweat in that jeep to get the tangle of film neatly back in to the tin."

Bakker explains that this project was his first major job abroad and that it acquainted him with the "wonderful world of SPMTs". After a week in the Philippines he flew to the West to Alaska. "I clearly remember that we arrived at the camp and that we immediately went down that famous road to find a module that was under way. Somewhere at the half-way stage we left the car and continued to the module on foot. I found it impressive — that long, endless road with far way a little box, which grew the closer we got. Up close it was an immense building."

In preparation for the interview, Bakker had viewed the film again. "I hadn't seen it for some three or four years and I must say I very much appreciated the renewed acquaintance. It gives a good picture of the atmosphere." According to Bakker selecting the takes is always difficult. "There is always a number of takes that you remember very well because you find them beautiful or they were very difficult to make — and then you must choose, which does not always mean the most beautiful pieces end up in the film. In the film business this is called 'killing your darlings'."

The Red Dog mine was in the middle of nowhere. Bakker says about his two months stay, "Alaska is a beautiful country with splendid nature. Where we were, though, it was a desolated area with only the 87 km road connecting the jetty with the camp. In the first couple of weeks you are impressed, but that feeling declines later on. The weather was quite bad, it rained all day and that is not very pleasant. It smudges your lens and settles in the equipment. For the Mammoet men it was even more of an ordeal. It rained continuously and the road slowly changed in to a puddle while flat tires, which had to be repaired on the spot, were a very annoying extra factor." Bakker remembers that at the time he was there it was light twenty-four hours a day. "At first you think 'that's very nice' for you can continue filming forever, but you shoot far too much material. And I must say that the non-existence of a night and day variation is disorientating. They were really long days."





SHELL / ESSO KITTIWAKE

**"The Kittiwake
the first of its kind"**

1990

Project - Record load-out of an 8010 tonne integrated oil production platform at the Press Offshore yard in Walls End, United Kingdom.



Interview with Norman Reed
-Managing Director of Taylor
Woodrow Northern Ltd-



"The giant oil production platform which was built for Shell and Esso, was named after a little sea bird, the kittiwake. This stems from a Shell tradition to name the platforms after birds that find their food at sea." Norman Reed tells about an eye-catching load-out which was recorded in the Guinness Book of Records. He was Branch Manager of Mammoet Transport (UK) in Middlesbrough at the time. "Being an integrated oil production platform, Kittiwake was the first of its size and a long row of load-outs of similar platforms followed."

Mammoet Transport (UK) had already taken their share in the load-out activities during the oil rush on the continental Shelf (North Sea) in the seventies and eighties. Oil and gas production platforms were built modular wise in big chunks at construction yards in the U.K., Norway and The Netherlands. These prefabricated parts of different modes and various weights were finally assembled by crane ships at sea. Because of the innovation and improvement in transportation and lifting techniques still larger weights and dimensions became possible and that was the start for the construction of integrated platforms of 8000 tonnes and more.

Reed, "It took 18 months to construct the Kittiwake platform and Mammoet was consulted in an early stage of the project. A feasibility study was carried out as to whether the deck could be loaded-out with the latest heavy transport technology and what changes should be introduced to the designs to make the load-out as efficient as it indeed turned out to be. At the time, we had not enough high tech SPMT axle lines in the company for a load-out of that magnitude. To solve the problem we added a considerable number of conventional axle lines. Luckily we did not have to perform a difficult steering pattern. It was basically a straight forward load-out exercise which worked out beautifully."

According to Reed Mammoet U.K. plays an active role in onshore projects as well. "The load-out activities traditionally formed the greater part of Mammoet U.K.'s revenues, but lately there is a significant increase in onshore projects being constructed with modular techniques. Because of the shortage of skilled labour in the remoter areas, where many of these plants are built, most clients are keen to build in a modular fashion. They prefabricate the major components in established yards and then the heavy stuff is moved by land and sea to the construction site. A good example is the newbuilding of a methanol plant near Trondheim in Norway, for which Mammoet moved and installed numerous modules, columns, piperacks and other heavy equipment from Europe."

Reed foresees a gradual decline in the offshore construction market. "On the other hand, there are a lot of old structures out there which need to be brought back. With the Brent Spar experience a lot of them have to be demolished on land because Green Peace won't allow to leave them where they are or sink them. The good thing is that there is a lot of work involved, the bad thing that we probably won't get the same amount of revenue to bring them back as we did for loading them out."



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...some transport
needed to be solved

1991

Project - Factory to foundation transport of four 900 tonne high pressure vessels for a gas to gasoline plant in Bintulu, East Malaysia.



Interview with Ton Raemakers -Head Project Department-



The Bintulu project was a shining example of a project involving all disciplines of the Mammoet company. Heavy lift shipping, SPMT trailer transport, craning and Hydra-Jack lifting were all carried out in a smooth operation by the people of Mammoet Shipping, Mammoet Stoof and Walter Wright Mammoet. The four reactor vessels form the heart of an installation that turns natural gas in to heavy liquids such as diesel oil, kerosene and wax through a new process. Project coordinator Ton Raemakers, "The vessels were very heavy, firstly due to the thickness of their walls and secondly because the internals which consisted of thousands of little pipes holding a specially designed catalyst."

According to Raemakers the fact that the four heavy vessels could be shipped in one shipment from Italy was unique in itself. "The heavy lift vessel 'Happy Buccaneer' is one of only a few ships in the world that could accommodate this cargo all in one go and discharge the 900 tonne vessels with her own heavy cranes directly on to our High Tech SPMTs. The transport by public road to the plant was also a nice aspect. They were in fact very short tanks but with a very high unit weight and therefore, of course, some transport puzzles needed to be solved. By coupling the SPMTs three abreast, that puzzle was again perfectly solved."

For the final positioning the Hydra-Jack system was built up. Raemakers, "The site where the vessels had to be positioned could only be reached from one side. There was a piperack in the back and the sides were completely built in. This made the Hydra-Jack an attractive tool because of the little space this system needs. It also enabled the continuous building of the plant in the immediate vicinity. A second issue in this project was that the vessels had to be positioned on a table top. Therefore, the reactors had to be skidded in from the side while hanging from the Hydra-Jack. The third point was the tailing of the vessels. This was taken care of in combination with the SPMTs that had also been used for the road transport."

Plant owner Showa Oil and client JGC chose this manner of lifting because of the compact form of the system and its reliability. Raemakers finalizes, "In a way it also led to the contract for the Showa Shell project in Yokkaichi, Japan where another four reactor vessels with weights varying from 1000 to 1100 tonnes were positioned in a similar manner."



port puzzles
olved"





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**"We even have
super SPMTs...."**

1992

Project – Transportation of five furnaces
from Belgium to Saudi Arabia.

Interview with Frans Segeren -Head SPMT Department-



"The project came in through Mammoth France in Paris, who had been contacted through a forwarder working for the French engineering company Heurtey. They were our client and the job was the transportation of five huge furnaces, built in Antwerp and destined for a petrochemical plant in the Middle East."

Frans Segeren has grown up in the heavy lift business and knows from experience where problems can arise. Segeren, "The extraordinary side of this project was the size of the furnaces in combination with pre transportation in Antwerp, sea transport and through transport in Saudi Arabia. It is important to know that we have an office there — Alatas Mammoet — which keeps us informed of how things are going in that area. Therefore we could accept conditions for which the competition would have to revert back to the client".



Because of the size of the furnaces Mammoet Shipping could not offer for sea transportation. DockWise moved the modules to Jubail in two shipments; loading as well as discharging was carried out with Mammoet's Self-Propelled Modular Transporters on four trains, each with 20 axle lines. Segeren, "The open trailer configuration that we used in this special transport was tailor-made for our SPMTs. The system is steered by one man and the computers can be set in such a way that you obtain a perfect steering geometry. With conventional trailers this must be done on sight and there are no conventional trailers that can steer at an in-between distance of two meters."

Frans Segeren continues to explain that in 1992 the new generation SPMT did not yet exist. They were introduced in 1994. "The 1994 generation SPMTs are clearly improved compared to the generation of ten years before. All experiences that we went through in these ten years were taken in to account to design the new trailers. That means that everything has become digitalized with much less cables. Furthermore, a completely new computer system was installed. And contrary to the earlier generation, which operated with loose main computers, the new generation is provided with computers built in in the frame. Now, when you have a trailer and a power pack, you're away. That is a major advantage if you have to work in different locations."

The SPMT's traction has improved as well. Where there used to be one powered axle line per unit, there are now two. We even have super SPMTs that have three powered axle lines per unit while the power packs have increased in strength by some 30%. The main part of the older generation has meanwhile been adapted to new standards in a major conversion programme.

Back to the Petrokemya project, and to the last transport leg from the industrial port in Jubail to the petrochemical complex 15 km further on. Segeren, "The area's infrastructure is perfect. It is one of few areas in the world where a special road is built for heavy transport with strengthened viaducts etc. Once you have left the port area you enter another terrain that is watched over by the Royal Commission. Then you pass on to the main road and stop at the next check point. By the way, that was one of the strong points we could offer because of Alatas Mammoet; obtaining and arranging all permits that were necessary for this transport. You must take in to account that the rules in Saudi Arabia are presently rather strict. If the documents are not up to scratch, you are stopped. In fact it is not much different compared to for instance Europe."





**"I sometimes set up
different set up**

1993

Project – Heavy lift shipment of four 1000 tonne reactors from Japan to Belgium including transportation by public road and installation on site.



Interview with Kees Visser -Superintendent Mammoet Shipping-



"Over the years you find that the vessels become heavier and heavier. Formerly, a vessel of eight or nine hundred tonnes was quite an event and a thousand tonnes, as these vessels for the Fina Fuel Oil Upgrading Project, was hardly ever seen." Kees Visser of Mammoet Shipping was involved in the discharge of the heavy vessels in Antwerp. "And they are still growing. This year we have already done four of some one thousand tonnes and there are four more scheduled."

The execution of a project depends on the preparations. Visser, "First you ask the client for drawings, you check where the saddles are, what the complete construction weighs. Then you draw up a stowage plan complete with the calculations of deck strength. This is important to know where the saddles of the vessel can be positioned. If you end up between the ship's frame, you need load-spreaders to prevent the construction from crashing through the deck. Once the stowage plan is ready, you need a lifting plan, and of course a seafastening plan — the cargo must be well-attached to the ship for the voyage. Once you have finished the whole package, it is sent to the client with the message, 'this is how we would do it and do you agree'. Quite often, there is also the insurance company who ask a surveyor to recalculate your planning." According to Visser it can be quite a song and dance before everything is ready.

The Fina cargo was shipped in two voyages from Japan. The first took place with m.v. "Happy Buccaneer" and the second with m.v. "Envoyager". Visser does not quite remember why the cargo was split up. "The "Buccaneer" could easily have taken all four, but I suspect it had something to do with the time of delivery."

Under the watchful eyes of those invited, the first shipment with m.v. "Happy Buccaneer" was discharged directly on SPMTs that stood ready on the quay and could drive off with the vessels over the public road straight to the refinery. There Mammoet Stooft stood at the ready with the Hydra-Jack lifting system to raise and position the vessels.

The second shipment with m.v. "Envoyager" was more complicated and therefore more interesting. Visser, "Loading in Japan was no problem as there was a floating crane available that can lift a thousand tonnes. In Antwerp, discharge in this way was not possible so that we planned to take 400 tonnes with the vessel's gear and 600 tonnes with the heaviest floating crane in Antwerp, the "Brabo". For this you need a barge on the water side of the vessel to be able to put down the cargo. And that requires painstaking observation for you work with three floating objects; the vessel, the floating crane and the barge with the SPMTs. At the moment the floating crane starts lifting, the ship unloads. So, the weight in the floating crane's hook is taken off the ship. This means that you get a list although the ship's gear is idle. To solve this I took the cargo's weight in the ship's hook and had the floating crane take over the weight little by little — meanwhile the vessel can be ballasted beautifully — and then you go over the side and lower the cargo."

Visser clearly likes to work in combination with the Mammoet land organisation. "You work more or less according to the same standards and the safety is better monitored. I sometimes experience different set ups."

experience ups"





Project – Load-out of 11,000 tonne integrated deck for the Heidrun offshore project at HMV in Haugesund, Norway.

"We had to find a way to move these units from the yard and since Mammoet indicated at that time to be in the market for this kind of job, the contact was soon made. Since then, this company takes care of the load-out operations on our wharf at least once a year. Although we have been working with Mammoet over quite a number of years, it was not at first a certainty that this company would be the one to take on the Heidrun process module load-out job. For every new project we enter the market in an early phase to see where we can get the most valuable tenders. We evaluate their skills and techniques and watch for quality and efficiency. Then we judge the proposals of the three or four selected contractors, whereby we look into every detail. After we have unearthed what is the very best for our client and for us, we make our choice. Up till now it has been Mammoet."

Kjell M. Gabrielsen, Purchasing Manager HMV.



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1994

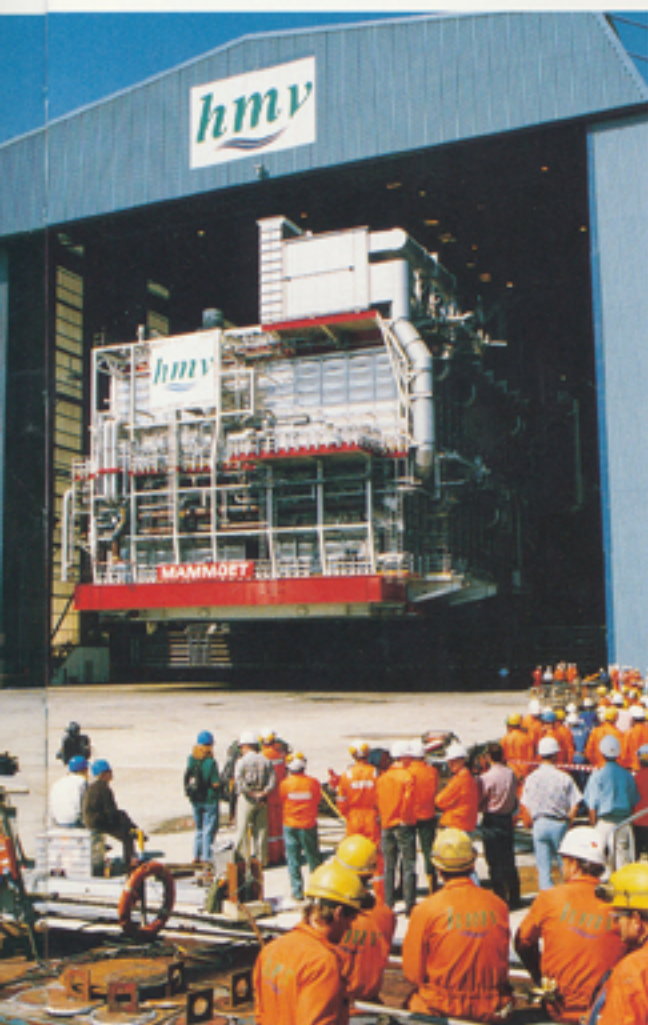
Project – Transport and erection of a 750 tonne deisobutaniser column at the Dugas MTBE construction site at Dubai, United Arab Emirates.

"The following arguments can be mentioned for using the M1200R lifting concept. Firstly people have a higher confidence level in this machine compared with a dual-lift solution for a column of this weight and size. Furthermore we experienced a minimum of interference with the planned foundations; only three different crane locations were necessary to service the entire construction area. Quick shifting from one location to another resulted in an optimal utilisation of the crane. And not least, Mammoet met with all major 'mile stones' in the time planning."

Construction Superintendent David Goodfellow.



1994



Project – Transportation, lifting and skidding of the living quarters and the drilling modules on to the deck of the Troll gas platform at the Aker Werft at Stord.

"The drilling concept of the Troll platform is billed as the most advanced in the world and includes mechanised pipe-handling and remote controlled drilling operations. There will be no personnel on the drilling floor or in the mast during normal drilling and casing operations. Large-scale accommodation will be needed only during the offshore installation. The platform will stand in a very exposed area. The sea is severe at this spot. Waves can reach heights of up to 30 metres and sea currents are very strong. Field installations, therefore, had to be designed and constructed to endure extreme environmental conditions throughout their lifetime."

Ian R. Hill, Head of Topsides Construction A/S Norske Shell.



Project – Integrated transport operation of a nylon plant from Batangas on the Philippines to Pulau Sakra in Singapore.

"The man who had the vision to build the heavy lift vessel 'Happy Buccaneer' in the eighties must have had a foreseeing mind for the modular construction market in the nineties."

Comment of an onlooker during the loading operation of the Nylon plant at Batangas.



Project - Transportation and installation of 167 modules for the Singapore Aromatics Project on Pulau Ayer Chawan.

"Months of intensive engineering were involved to plan the transportation and installation of 167 modules in only six months. The main concerns were the short time span, the ground condition and the congested site. Roughly 75% of the construction area was still to be reclaimed when the engineering phase started. Whenever a module was installed, it mostly closed the door for further transportation in the future. Crane and transport operations had to be performed in confined spaces. Access had to be assured for both the heavy cranes and the trailer equipment. Neither storage of modules nor materials was even to be considered, a distribution point on the mainland of Singapore was created for the supply of smaller equipment such as pumps and hook-up piping. Engineering standards were also set high. The transportation and installation of each module was supported by several documents prepared by the WWM engineering team which was based on site to ensure a fast turnover of documents due to changes in the field. The heavy lifts on the island are now completed. In total Walter Wright Mammoet handled 211 items managed by 49 people over a period of 7 months in 85115 man hours."

Michael van Rijsewijk, Transport Engineer Walter Wright Mammoet.

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1995

Project - Integrated transport of a radiant syngas cooler from Italy to Florida

"The most spectacular part of the overland transportation in Florida was the crossing of the Interstate 75. It took place in two separate moves, a week apart. First, the 500 ton shell, then the 250 ton internal tube bundle. My worst fear was that when you were going across I 75 for the first time, something would go wrong and the County would say: 'You're not going the second time.' Then I'd have got that big tube bundle sitting at the port and no way of getting it there! That would have caused monumental problems. However, it went so smooth, I never heard a peep from the State Agencies or anyone else. For the first transport 15 minutes to get across the highway, then 7 minutes for the bundle to cross the highway a week later. I'm still amazed at how easy Mammoet made it look."

Mike Rivers, Construction Manager Polk Power Station.





Project – Transport and positioning of five topside super modules for the Hibernia project at Bull Arm, Newfoundland.

"We went for a completely new principle of how to build topsides. Normally, they are built with the main frame produced first and then the smaller modules on top. These could range from eight to sixteen units but that particular construction method gave us some problems here. What we decided on was to divide the topside in five big pieces and create a pier where we could place the modules next to each other. Later on we can then position barges underneath the structure, lift it off the pier and mate it with the Gravity Base structure."

Henk van Zante, Construction General Manager Hibernia project.

Project – Construction of Blast Furnace no. 6 at BHP Steel in Wollongong, Australia.

"I think the crane's flexibility is important to us. One of the most important criteria for selection of a lifting system to be used was that the crane should be able to handle the height and weight conditions that had to be met in constructing this furnace. So we looked for sufficient outreach and capacity at radius and designed the modules accordingly. The M1200R looked well technically and together with our experience with the ringer crane 4100 and 4600 models this lead us down the path. We definitely could not handle anything with a stinger or a trailer attachment that would occupy a large area. That brought us to the ringer, being the system that took up the least amount of real estate. From there the M1200R could probably be beaten by the deadweight lifting capacity of other cranes, but not in reach and flexibility. Commercially it was touch and go, but then again a specific benefit was that we could use the M 250 crawler crane before and after ringer use."

Alec Taylor, Construction Manager of Davy John Brown.



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1995





Tjeldbergodden A case-history from different a

1996

Project – Tjeldbergodden, or how to tackle the logistics of a major transport operation for the modular construction of a methanol plant in Norway. Mammoet proved its leadership in the heavy lift market by moving 55,000 tonnes consisting of modules, piperacks, process and reactor vessels, boilers, heaters, cold boxes and a 1,400 tonne primary refractionator, all moved and delivered from Italy, Spain, France, England, Denmark and Norway in ten months.

Interview with John Short -Project Manager Mammoet Transport-



"You've got to spend time on making a good presentation and that's your first concern without any question." Speaking is John Short, Mammoet's Project Manager at Tjeldbergodden. He was responsible for the tender preparation that resulted in the contract at the end of 1994. "It was a worthwhile exercise to produce a good, comprehensive Tender and because time was taken to produce a high quality submission, the Company (Statoil and Fluor Daniel) had greater confidence in Mammoet undertaking the work. Overall, the Tender formed a major part in securing the job."

Short explains that Mammoet was awarded the contract, not only because of the good presentation but also because Mammoet has an excellent track record in this field of work. "The big advantage on the competition is that we have everything in-house: ships, trailers and cranes. This is a major influential factor for the client. If you look at the tender and the contract, the most important part of the construction is planning. As soon as you've got that right, your project will be successful. Mammoet Shipping laid the foundations for the overall planning by producing the stowage plans, and, on that basis, we could integrate the land transportation side together with the crane activities, to form an overall view."

The heavy lift vessel "Happy Buccaneer" played a leading role in the project. "Using a larger vessel like the 'Happy Buccaneer' gives the client a number of advantages. First and foremost it reduces the number of voyages, so that, in turn, it reduces costs. The second issue relates to the number of pieces you can put on board — the more pieces you can supply, the better opportunity you have to assemble them. And certainly there were a number of structures down in the field of enormous sizes. There were large and heavy PAUs and PARs to put in that were a lot bigger than we've seen on other projects. With a smaller ship it would have resulted many more sea journeys to collect some of the bigger pieces. By selecting the 'Happy Buccaneer' we were able to eliminate all these problems."

John Short explains in detail the contents of the tender, which is, in his opinion, the most important document of the project. "It gives the conditions of contract, scope of work, sizes and weights of the units, the 'ready for collection' dates. Furthermore, the administration requirements for quality, insurance, safety, documentation criteria are stipulated in detail. Part of these requirements is the risk assessment. For example, what happens when you transport something and a tyre blows. What would you do in the event of the ground giving way? The risk assessment is intended to cover all the risks you can foresee and how you would solve problems arising. It is interfaced with the safety factor, which is of paramount importance on a project of this magnitude. All transportation and lifting work is seen as 'high profile', especially in our line of work as everyone is monitoring your performance. We get our personnel together every week for so-called 'tool talks'. We go through incidents that happened on site, for example, 'you were not wearing your safety glasses on the job, why? We hold our men responsible for safety to highlight its importance."

In spite of the meticulous preparations made for the transport and lifting operations, it is important to stay flexible during the execution of the work. "We encountered a major problem in the erection of the cold box, which was by far the most spectacular installation seen on this site. They actually built a steel storage



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Tjeldbergodden
A case-history

1996





tank in the slewing path of the crane, which had not been allowed for on our engineering drawing. We then had to find an alternative crane position to allow the installation to take place. Also, the length would have been somewhat problematic during the transportation over the restricted site and that's where our High Tech Transporters came in as a valuable piece of equipment." Short recalls that not only the cold box was a difficult item to move. Also the 1,400 tonne primary reformer from Italy posed some manoeuvrability problems. "The design gave us some difficulties to steer the SPMTs underneath the structure. As its vertical support beams meant the steering pitch of our transporters was limited. We overcame the problem by shunting a little in the corners, which highlighted the transporters' versatility, and we managed to install the complete building safe and sound on its ultimate foundations."

"In this project we have encountered a number of positive things. We've been able to keep tight control on our sub-contractors in terms of costs. The project has gone exceptionally well, it's virtually gone to plan. We finished slightly ahead of programme and it was a rewarding experience for Mammoet as an integrated heavy lift company."

Interview with Geoff Harrison -Project Manager Fluor Daniel-

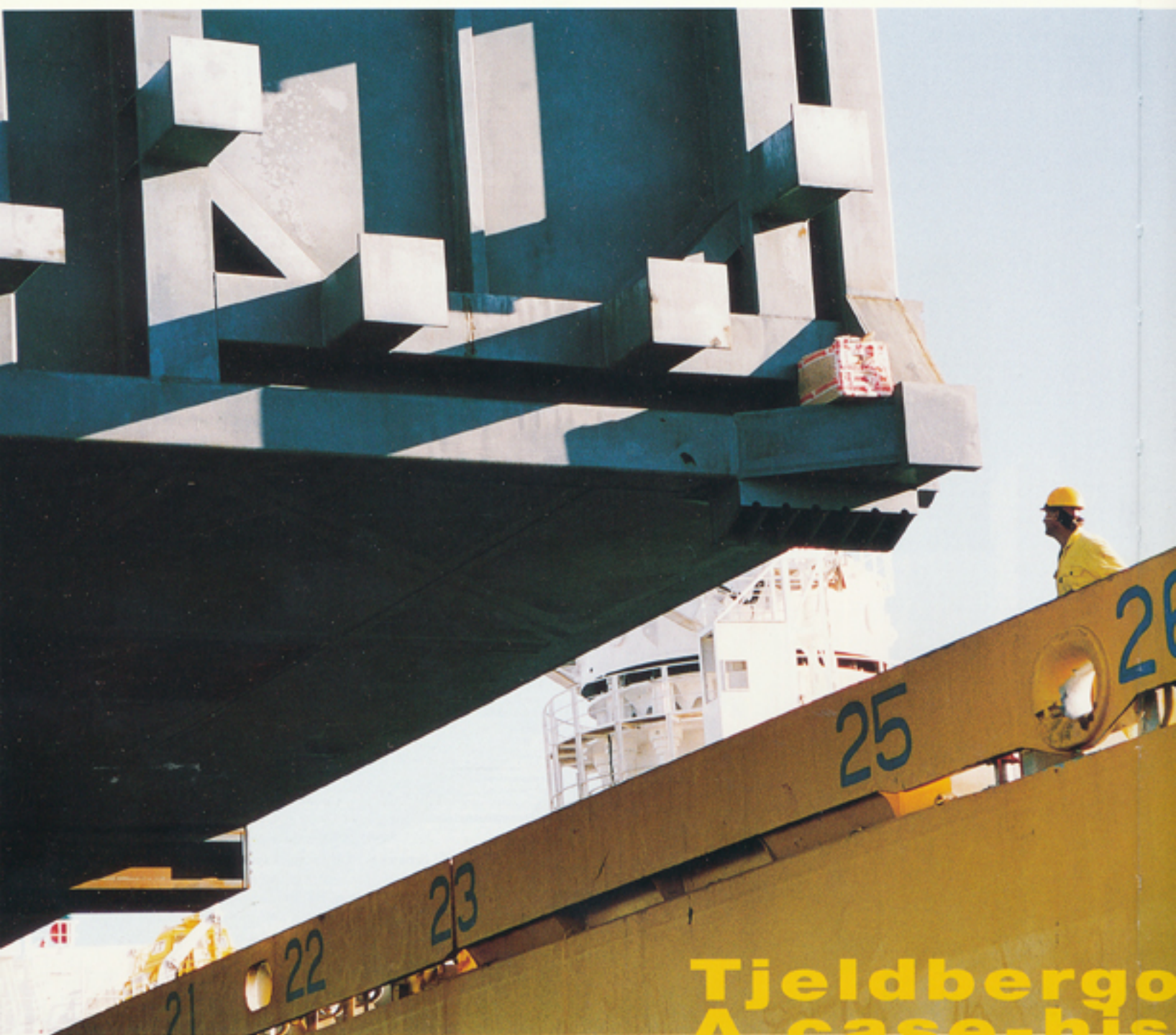


"My job in the project is really a multi-faceted one. Besides being Fluor Daniel's Project Manager, I'm the company representative for Statoil for all the mechanical contracts. That includes the transport and heavy lift, the piping and the mechanical erection and the tankage. My other role is that I am the mechanical manager for Statoil and I play a role in the construction management. Since we have a totally integrated team here, my function is not so much between Statoil and Fluor Daniel as between all the people who are here on the site, whatever their company."

Harrison explains that Fluor Daniel is essentially an engineering and construction company with offices in countries throughout the world. "In Europe we are represented in the U.K. in Camberley and Manchester. Furthermore, we are in Holland and in Germany and we have recently opened an office in Poland with the objective to enter the Eastern European market. We are also well-represented in the Middle East, the Far East, the Pacific Rim, Australasia and in the United States where our home base is. We are involved in a variety of works; industrial, commercial, petrochemical, pipelines, governmental, defence, nuclear — an enormous range of disciplines. For the Tjeldbergodden project a special project office was set up at Hook to accommodate all the people we needed when we were awarded the contract."

The modular concept for plant construction is winning ground. "The reasons for modular construction are quite varied. Principally, it is to reduce construction effort and to avoid high construction costs at remote sites, where we would have to import a huge labour force for construction on a stick-built basis. And





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of course the lack of time. Right from the beginning, this project would be modularly built; this was established by Statoil and their partners Conoco and DuPont, who prepared part of the front-end design engineering. You can imagine that the costs of a labour force to install all the equipment and piping in the structures which you have seen at the site would be enormous. Even with the modular construction we have a camp that is accommodating a thousand people. In addition, there was an advantage in the coastal location of the site; the deep water — we could easily bring in big ships with large modules."

According to Harrison, there are only few disadvantages when looking at modular concepts. "One of them is that engineering has to start much earlier, enabling the module fabricator to do his work before everything is received on site. Furthermore, you have to specify and buy the equipment that has to go in to those modules very early, in order to acquire the vendor data, which we need for the detail design to include in the scope of work for the fabrication contract."

Harrison comments on Mammoet's performance as heavy lift contractor during the project. "We were quite impressed with Mammoet's overall approach to this project. We have enjoyed an extremely good relationship in terms of both heavy lift and transportation. We also appreciated the flexibility and planning effort they brought to the job."

Harrison tells that the Tjeldbergodden project is special in a number of respects. "Primarily its location, secondly its size and thirdly the attention we paid to safety and the environment. For a variety of reasons Statoil chose to site this plant at Tjeldbergodden. It is remote and that poses its own problems in terms of accessibility for delivery of material and equipment, accommodation and general welfare of the construction force. It is a big plant, from one end of the process units on the lower level to the other, it stretches for more than a kilometer. And because it's open to the sea, it's got its own weather problems. The weather conditions over the last two winters have not been dramatically different to any other winter one might experience in this area. Winters in Norway usually bring a great deal of snow and bad weather. Everybody recognises that this would be the case and it was taken in to account in the planning. Last winter was remarkable, not so much for the amount of snow, but rather for the extend of frost that we had. But that didn't greatly affect the progress of construction."

"Right from the beginning, safety had a very high profile. Fluor Daniel as a company is extremely safety conscious and has an excellent safety record. DuPont, who are partners in the venture through Conoco with Statoil, are world leaders in safety. Statoil sets very high standards for what they wished to be the safety of this project. Actually we are the safest construction site in Norway. Of course, there is always room for improvement and we are continually striving for it. Generally speaking the contractors have responded well to the requirements we have put on them and each month we issue an award to the safest contractor on the site. I'm happy to say that this month the award was won by Mammoet."





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Interview with Harald Ynnesdal -Senior Vice President Statoil Methanol-



Mammoet Mail meets Harald Ynnesdal in a Statoil building in Sandvika, located on the outskirts of Oslo. The Scandinavian design of the interior of the building is quite remarkable and so is the biggest company in Norway: Den Norske Stats Oljeselskap A/S, internationally known as Statoil. It is also one of the largest employers in Norway with 14,000 employees and a total revenue of 80 billion NOK. Statoil is divided in 14 business areas of which Statoil Methanol is one.

Ynnesdal explains the set-up of the first methanol plant built in Norway. "Statoil is the owner of the Methanol plant at Tjeldbergodden and we have in a joint-venture with Conoco and Aga for an additional air separation unit. The story started in 1985, when the Heidrun oil field was discovered, 250 kilometers offshore from Tjeldbergodden. When you develop an offshore field, you need a plan to dispose of the gas and in this case that was not easy because of the long distance of the pipelines going to the Continent. A solution was developed in the form of a 16" pipeline to the shore and then attaching a methanol plant. On 4 February 1992 the project was approved in the Norwegian Parliament. Alternatively, we could have reinjected the gas in the reservoir, but that would not have been of any economical value for the area. Building the methanol plant at Tjeldbergodden was the best solution.

The economic impact for the low-income area is considerable. "Total spending for building this grass-root facility is four billion NOK and much is spent among companies in the region as well as in the municipality. When in operation we will be working with some hundred people and there can still be more development because only one third of the capacity of the pipeline is being used. So may be we can have another methanol plant or a gas power station to utilise the full capacity of the pipeline coming from the Heidrun field."

"We had an internal discussion on how to get the primary reformer from Venice to Tjeldbergodden. Because the reformer with all the critical brickwork was completed in Venice, it was a very sensitive piece to transport with respect to vibrations, which might cause the brickwork to come loose. Actually it was the first time that this kind of equipment was transported in this way. After arrival we had a thorough inspection when it was put on to the foundation on site and we found that it was in perfect condition. Just like when it left Italy."

The fact that Ynnesdal is a civil engineer does not prevent him from giving an explanation about the chemistry of methanol. The product is used for many purposes. The most known derivative is MTBE, which is used as a fuel additive to obtain better and cleaner burning in engines. It is also used to replace lead, enhancing the fuel's octane number. On the chemical side it is a feedstock for the plastics industry. Capacity wise, we are looking at 2,400 tonnes methanol a day from day one. Over the year we expect a capacity of 850,000 tonnes, which could be growing to 900,000 tonnes after a few years in operation. The market is basically European. When we consider the total consumption of six million tonnes, then our capacity is just to provide only one million tonnes."

Ynnesdal gives a talk on the present state of affairs of the plant construction. "We exceed a thousand people, working hard to complete the project. All the large pieces are in and Mammoet



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delivered the last heavy item on 1 June. This was the conclusion of six months very hard work also on the Mammoet side. We are extremely satisfied with the way the work was executed without any problems."

"When laying out the chart briefs for Tjeldbergodden and taking the fact in to account that it is a remote location where you have to bring in all kinds of services and people and establish everything at site, a lot of logistics had to be dealt with. It was defined in the contract to use the modular concept as much as possible. We had the modules delivered as complete as possible so that not much work had to be done on the modules on site. As far as we are concerned, we would again go for this modular concept. By having all these good means of transportation for heavy pieces it makes it easy and effective."

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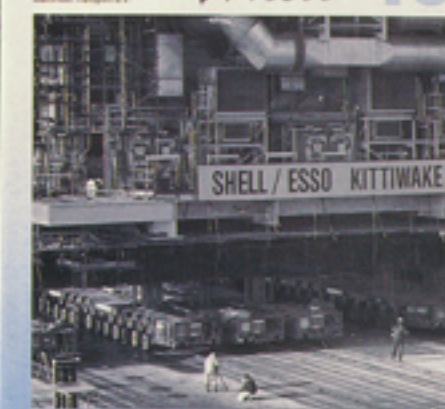
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3 Heavy transport for a special project **11** New ship for the fleet **14** Change of address



3 MAMMOET sponsors elephant **10** Integrated transport to Scotland **14** A record load out on the TSS



4 Self-propelled and flexible **12** Cost underbid for power station **16** Red ship's painting



8 Integrated heavy transport in France **12** Another new record **15** New contract with client



16 New contract with client **18** Record transport on TSS to Spain **20** MAMMOET works on TSS to Spain



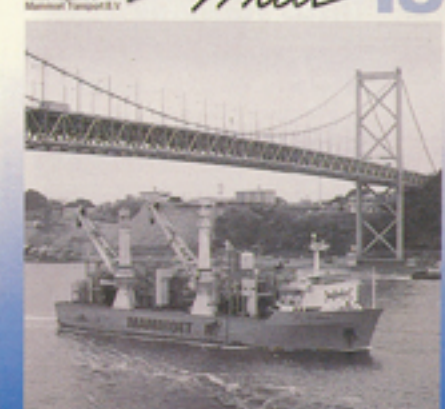
4 Heavy Transport part and parcel **9** Move from Alaska Big Lift **12** MAMMOET Shipping U.K.



4 New contract with client **12** MAMMOET Shipping U.K. **16** New contract with client



10 New contract with client **12** MAMMOET Shipping U.K. **18** New contract with client



3 New contract with client **10** MAMMOET Shipping U.K. **20** New contract with client