

# Every step counts

**The Corus plant in IJmuiden** is physically big, thinks big and takes big steps whenever it can. One of its biggest steps is its changeover to electrical internal transport. Where there are considerations of safety, efficiency and convenience, the approach is also on a grand scale – which is where Cat lift trucks have a big role to play.

by Theo Egberts



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**T**he Corus (formerly Hoogovens) facility in IJmuiden is a big fish in a big sea. Located behind the dunes on the coast of the North Sea, 20km NW of Amsterdam, the plant covers around 750 ha (1850 acres). Everything about its steel manufacturing is on a huge scale, from the blast furnaces, through the production halls and all the way to its lift trucks. Models with a lifting capacity as much as 50 tonnes carry huge rolls of steel or other loads back and forth across the site. Corus relies on the power and performance of its lift trucks for straightforward transportation and a range of other tasks, besides.

“We have some 350 lift trucks in total,” says Herman Tollenaar of the Industrial Vehicles Transport Department, known as ‘Transport and Logistics’. He and his colleagues are responsible for nearly all the industrial vehicles – around 450 altogether – operated on the Corus IJmuiden landscape. His department is responsible for ensuring that each user drives the correct type of truck, selected from a fleet with lifting capacities ranging from 1 to 50 tonnes.

### Transparency

Nearly all of the vehicles at Corus are leased, a trend that started in the mid-1990s to ensure that capital was available for other investments. In 1998 the company invited tenders for the fleet of electric vehicles. After extensive and in-depth analysis, it reached a framework agreement with Crepa, the largest importer and dealer of Cat Lift Trucks in The Benelux.



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The broad outline of the framework agreement has been fleshed out and detailed in distinct agreements covering maintenance, leasing instalments, financing and guarantees for 24/7 working year-round.

**“We are changing over to electric traction wherever possible.”**

“The entire calculation is transparent, which provides both Corus and Crepa with clarity,” according to account manager Eugène Ringeling, who has been dealing with this key Crepa business account for many years. Two hundred of the 350 lift trucks in the fleet are now electrically-powered, a great deal more than just a few years ago.

“It is highly likely that that figure will increase, because we are changing over to electric traction wherever possible,” says Herman Tollenaar. “This decision is partly driven by the ban on using diesel trucks up to four tonnes in closed or partially closed spaces. Furthermore, we want to limit our operating resources’ exhaust emissions as much as possible, as well as keeping noise levels to a minimum. Every possible step in this direction is being taken, no matter how small.”

### Logical choices, emotional objections

Safety considerations and practicality mean that electric lift trucks cannot be used for all tasks. There are open flames near the blast furnaces, which means that only diesel-powered vehicles can be used in their vicinity. In the steel works themselves, various superheavy diesel or LPG-powered lift trucks are used, because steel rolls are becoming heavier and heavier and an electric alternative is usually not available.

“We use electric trucks up to 18 tonnes but the roll weight can be up to 28 tonnes,” says Tollenaar, indicating some big, heavy duty

vehicles in the cold rolling mill. “There’s no way we can use electric trucks for those tasks.”

When Corus began changing over from IC to electric power, Tollenaar and his colleagues met with a certain amount of resistance. The ‘received wisdom’ was that electric vehicles were too slow and unsuitable for production applications – everyone ‘knew’ that. Even charging and/or changing the traction batteries was seen as problematic. Herman still laughs about this.

“Reduced productivity never was and definitely never will be an issue,” he says. “Speeds are broadly comparable with those of a diesel or LPG truck in all areas of application; our maximum driving speed is 16 km/hour outdoors and 6 to 10 km/hour in the halls. It was really a question of emotional reactions. The driver depresses the accelerator and there is no engine noise. However, by keeping the acceleration force at an acceptable level, complaints have pretty much disappeared. Electric trucks have now become a generally accepted principle; they are now part of our thinking.”

### Brand power

All electric trucks up to a capacity of 5.5 tonnes are or will be Cat trucks, which has a range wide enough to cover both warehouse and lift trucks. Their AC power units make them strong, easy to maintain and able to negotiate slopes and intersections with ease – even when carrying heavy loads and under constant work pressure.

“That was more of a challenge in the past, with DC trucks,” Eugène Ringeling recalls. “However, with Cat lift trucks we have a strong brand name to rely on.” Crepa is able to provide Corus with uniformity and security. Ringeling sees additional advantage in the lower costs associated with operating electric trucks; Corus shares this view but cannot support it with hard figures, because the wide variety of models and variance in operating →

**Front Cover:** Corus/Tata Steel, Hot Roll Coils (Image courtesy of Newscast)

**1.** The Corus facility in IJmuiden is located on the coast of the North Sea, 20km NW of Amsterdam. (Image courtesy of Corus Staal bv)

**2.** Cat lift trucks dealer Crepa provides Corus with all the necessary electric lift trucks and the relevant service for optimal reliability.

**3.** Corus uses electric lift trucks up to 18 tonnes but the roll weight can be up to 28 tonnes, but they can’t use electric trucks for those tasks. (Image courtesy of Corus Staal bv)



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4. The framework contract that Crepa entered into with Corus also covers the maintenance of all traction batteries, so that users can drive the trucks with complete peace of mind. 5. Herman Tollenaar, Manager responsible for the Corus Logistics and Transport department.

→ methods means there are no like-for-like comparisons available.

"I estimate a saving of 10 to 15 per cent, purely based on energy costs," says Tollenaar. "As far as other costs are concerned, our agreement with Crepa means we will have no nasty surprises. The most important variable remaining is the cost of repairing accidental damage."

### Training and buying for safety

While all users at Corus undergo strict internal training to become lift truck drivers, that does not mean that everyone treats the trucks with kid gloves. Personal differences are reflected by variations in truck operation, experience and motivation. Different safety requirements and working environments in each department create an extra hurdle to ensuring that everyone achieves the same level of performance. Even taking into account that everything is on a bigger scale at Corus, it's easy to grasp that a great deal of thought goes into choosing the right type of truck for each job.

"We work hard to reduce damage and further improve safety", says Tollenaar during the tour of the immense terrain. "This process

is centrally regulated in England and extends to all business units' UWPs, or Uniform Working Procedures." The lift truck UWP document shown to us by Tollenaar is four pages long and filled with regulations. It covers basic practices, such as the requirement for each lift truck to have a yellow reflective safety belt or a safety cage that keeps the driver within the confines of the vehicles. High visibility reflective stickers are attached to the mast and all trucks must be yellow; the standard ochre yellow of the Cat trucks is acceptable. Stickers warn pedestrians not to come within a distance of either 3 or 5 metres, depending on the size of the truck. Only once the truck is at a standstill with the engine off can pedestrians approach. The safety cages are connected to the hand brake and the horn; driving is impossible unless the cage is closed.

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"We are also working on a system like Easykey, which replaces the ignition key with personalised driver access control," says Tollenaar. "With the diversity of truck types,



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areas of deployment, physical size and types of usage at Corus, it is not easy to choose a suitable, standard system for supplementary technology, such as shock sensors and driver ID registration. But that sort of technology is very much on the cards; we don't want to leave anything to chance in any of our equipment purchasing decisions."

also have a central exhaust to release gases that form during the charging process. This helps to prevent gas accumulation under the battery cover or elsewhere in the truck. Even for a company where everything is on a grand scale, it's the small details that still make the difference. ■

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6. This application needs specific attachments. Here a truck equipped with integral side-shifter and extra long forks.

## "We work together"

Herman Tollenaar (49) has been working for Corus since 1 January 2006 and is the manager responsible for the Industrial Vehicles Transport Department. Before 2006 he worked for KLM, for the first 11 years as a fitter and a maintenance engineer for aircraft engines, then for 8 1/2 years in logistics. When KLM was taken over by Air France, he took the opportunity to seek a position that offered wider prospects. At Corus, he found a job that provides him with sufficient variety and technical challenge on a day-to-day basis and will continue to do so in the future, as he looks after 350 lift trucks (150 IC and 200 electric) and a host of other industrial vehicles. Tollenaar and his colleagues act as intermediaries between the users of the internal transport and Cat lift trucks dealer Crepa, to ensure smooth cooperation.

"We consult with Crepa to determine which type of truck is most suited to a particular task", he adds. "The users themselves are certainly less aware of what goes on. They order a five-tonner although they could happily do their work with a 1.5 tonner. Or they think that a five-tonner can cope with picking up 5 tonnes at a load centre of 3 metres. This is basic knowledge, for us; for them, the truck is nothing more or less that a work tool."



### The devil is in the detail

Availability and reliability are key at Corus. Because there are so many areas of deployment and each department may have only a single truck driving around, then failure in even a single vehicle is not an option. Maintenance of the electric fleet, including the superheavy 18 tonners, has been outsourced to Crepa. Van Santen, based in Haarlem, specialises in the IC vehicles. Together, the two companies have replaced Corus' in-house five-man technical section. Four fitters from Crepa are always on-site; a fifth fitter ensures the maintenance of the batteries, so the driver never needs to check. Corus management has provided special, secure workplaces at various locations and a well-equipped service bus means that Crepa fitters are able to tackle each job quickly and easily.

Crepa doesn't send a Cat lift truck to Corus without preparation. In addition to the basic safety requirements already mentioned, all cell shells from the traction batteries are provided not only with a central filling system for easy and convenient water top-up but they

### Bundled force

- The company previously known as Koninklijke Hoogovens was renamed Corus in 1999, after merging with British Steel.
- The site in IJmuiden forms part of the Corus Group, which is now part of Indian industrial giant Tata Group's Tata Steel.
- Approximately 9,000 people work at Corus in IJmuiden.
- Annually they produce and supply 7.5 million tonnes of high-quality and partly clad steel in the form of rolls, together with appropriate development, technology and consultancy services.
- IJmuiden steel is used in the automotive, the construction and the packaging industries, as well as batteries, piping, industrial vehicles and in white goods, such as fridges and cookers.



- Corus in IJmuiden is made up of the Corus Strip Products IJmuiden business unit, and subsections of the Corus Packaging Plus, Corus Colors, Corus Primary Aluminium and Corus Research, Development & Technology business units. Corus Hyfo and Corus Hylite business units are also located on within the facility
- Annual turnover is €3.2 billion.