

GIANT GRIZZLIES

The stars of the show at Belgian earthworks company Aertssen are a number of heavily re-worked Hitachi excavators. Steven Vale has the grizzly details

It is 10 years since my last visit to see the Belgian earthworks firm Aertssen. At the time the firm had around 300 employees with 350 items of plant in their mobile fleet, including excavators, wheel loaders, dozers, haulers,

cranes and a host of smaller machines. I was suitably impressed by what I saw.

However, nothing could prepare me for the way the firm has grown over the last decade. Their HQ on the fringe of Antwerp Port remains at the same location, but the business has changed on virtually all other fronts. For starters, there is a new and squeaky-clean premises, complete with a large workshop, but even more amazing is the size of the machine fleet, which is now around 1600 units, with staff numbers over the 2000 mark.

Much of the growth of the past decade has been realised in the Middle East, where the company is active with two subsidiaries. Gulf Earth Moving (GEM) is located in Qatar and

Earthmoving Worldwide (EMW) operates out of Abu Dhabi in the United Arab Emirates. However, nearly 1100 items of mobile plant and 800 staff are based in Belgium.

FLEET FOCUS

Aertssen's current fleet includes a lot of Caterpillar machines, of which the larger specimens include 14M graders, D10 dozers and 988 wheeled loaders. During our previous visit in 2006, the firm's half-dozen 80-tonne class excavators were equally divided between Cat and Hitachi. Cat is still the favoured brand for excavators around the 80- to 90-tonne mark – the largest being a 21.5m long-reach 390D. However, with the exception of two giant Sennebogen EQ880s, everything heavier was sourced from Hitachi.

"AERTSSEN REQUIRED AN EX1200 WITH A WORKING ENVELOPE THAT ONLY A TAB WOULD PRODUCE"

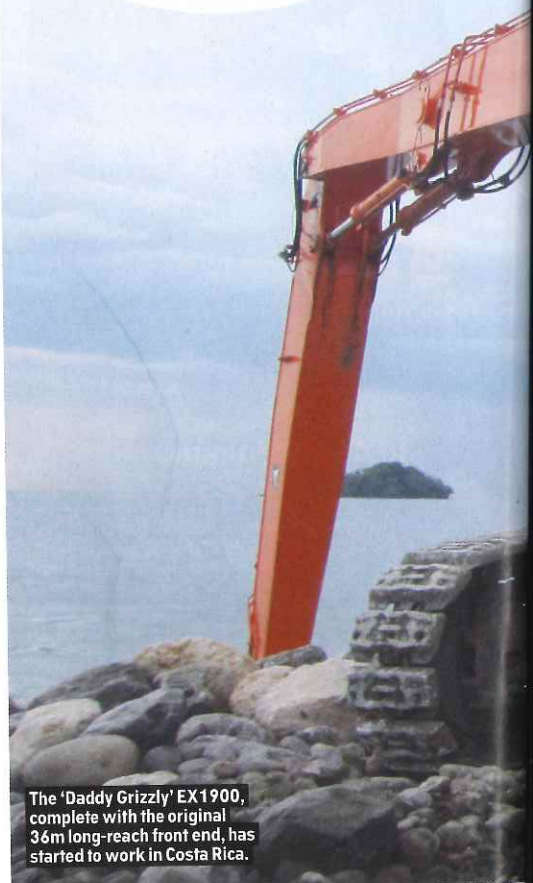
The amazing fleet of excavators includes 30 Hitachi heavyweights over 80 tonnes, all supplied and reworked by Belgian dealer Luyckx. There are 13 ZX870s in the fleet, all of which are capable of placing three- to six-tonne pieces of rock armour at a reach of 21m from the centre of the slew ring. Just two of their 14 giant EX1200s were supplied in standard

Nicknamed the 'Grizzly', this almost 170-tonne version of Hitachi's EX1200 is capable of digging down to depths of around the 15m mark at a forward reach nudging 23m.





**"IT IS CURRENTLY CAPABLE
OF HOISTING 15 TONNES
AT 36M FROM THE CENTRE
OF THE SLEW RING!"**



The 'Daddy Grizzly' EX1900, complete with the original 36m long-reach front end, has started to work in Costa Rica.

➔ configuration, plus they have a couple of even larger EX1900s and a mighty EX2500 on their books.

With the exception of the latest EX1200 (see below), the other 13 are working on projects in the Middle East. A mix of Dash-5 and Dash-6s, nine are fitted with a 15m boom and 12.3m dipper stick to provide a total reach of 29m from the centre of the slew ring. This configuration remains one of the most popular long-reach options offered by Luyckx for the EX1200.

This is not the first time that Luyckx special builds have graced these pages, regular readers may recall a re-worked EX1200 dubbed the Elephant built for a job in Australia. The dealer started to produce long-reach conversions of the EX1200 in 2006, with a commission on behalf of Jan de Nul, and Aertssen took their second and third conversions in 2007 for projects in the Middle East.

Aertssen's excavators tend to average 6000 hours a year and those working in the

Middle East are generally part-exchanged before they reach 15,000 hours. The plan was to keep the EX1200s to the 20,000-hour mark, but the first machine delivered in 2007 has performed so well that it was kept on front line duties and now has 28,000 hours on the clock. Aertssen is only now looking to sell it, but they will retain the long-reach front end and dispose of the excavator with its standard boom and stick.

ENTER THE GRIZZLY

Aertssen's latest overseas project is a container port in Costa Rica. The consortium of Van Oord/BAM International is the main contractor for the new terminal and marine access. Aertssen is working as their sub-contractor, supplying and maintaining the 35 machines needed throughout the project's two-year duration, with all the kit operated by Van Oord's staff.

The project fleet is headed by a giant 300-tonne Sennebogen EQ880, which was shipped from its home in the Middle East.

Apart from two giant Hitachi excavators, the rest of the fleet on this project is an all Cat affair, including half-a-dozen 980 wheel loaders, three D6 LGP dozers, a trio of 374Ds, two long-reach 390s and a long-reach 385C, together with half-a-dozen 740B ADTs.

For this project Aertssen required an EX1200 that was capable of lifting heavier blocks, with a working envelope that only a triple articulated boom (TAB) would produce. This presented Luyckx with a real challenge as, although they have made TABs for smaller ZX870 excavators, they had never designed a TAB for a 120-tonne class EX1200-6. Their decision to proceed with the design work was helped by an order received at the same time for a similar boom, to be attached to a pontoon-mounted EX1200.

Required to stand on its tracks, the base excavator of Aertssen's machine was subjected to a great deal more work. Starting from a clean sheet of paper, the Luyckx team quickly decided that the best way to achieve the



necessary stability was similar to that used by many high-reach demo rigs; rotating the centre frame of the undercarriage through 90 degrees and then stretching the track frames to provide a wide and long footprint.

The starting point for the design of the front end was loosely based on the largest TAB produced for an EX870.

This sees an 8.3m boom married to a 9m auxiliary boom and the choice of either 8m or 12.4m dipper sticks. The longer dipper has a Hitachi ZX470 bucket linkage and usually works with a 3.0cu.m bucket. The shorter dipper has the linkage from a ZX870 and is mated to a 4.4cu.m bucket.

Nearly 23 tonnes of extra weight was added to the excavator's rear ballast block to support the extra weight of the front end. To lift the main boom, the EX1200's standard main lift rams were swapped for a pair of heavier cylinders from an EX1900. Additional hydraulic supply lines were added for a hammer, crusher and attachment rotation,

but there was no need to alter any of the excavator's standard hydraulic pressures.

Nicknamed 'The Grizzly', at nearly 170 tonnes the result is capable of digging down to depths of around the 15m mark at a maximum forward reach nudging 23m. Ready for action, the giant excavator was shipped to Costa Rica last December.

"We wanted more power and this is just what we have been given," says Aertssen business development manager Bart Apers. "The three main lift rams give it so much more power than all our other EX1200s."

DADDY GRIZZLY

At the time of writing The Grizzly had done over 1500 hours and is proving to be ideal for the job it was configured to undertake. However, the consortium was seeking even more power to help position 20,000 large concrete blocks for this project, each weighing 12 tonnes. In addition to the Sennebogen EQ880, Aertssen was therefore asked to supply

a second Hitachi excavator, something with a much greater reach and even more grunt than the EX1200TAB. Once again, Luyckx was able to provide them with just what they were looking for.

The Belgian Hitachi dealer had modified an EX1900-5 for Jan de Nul for a job in the Middle East some eight years ago, the excavator providing a reach of an astonishing 34m. This excavator still works today, but the long-reach front end was sold to Aertssen, who fitted it to a new EX1900.

Luyckx must have been confident of the success of their EX1900 long-reach conversions as they bought an unused EX1900-6 for stock early in 2014. Such a 190-tonne investment is proof that the Belgian company is not afraid to take a risk, but they went one stage further and their engineering department was instructed to develop a super-long front end for it. All this without even having a tentative enquiry from a customer!



EXTREME MACHINES // HITACHI EX1900

This 250-tonne Hitachi EX2500 was initially bought for ripping duties on a new port project in Qatar. The rock was removed without the need to use explosives.



"THE PROJECT FLEET IS HEADED BY A GIANT 300-TONNE SENNEBOGEN EQ880"



Left: Through their Middle East subsidiaries, Aertssen runs two of these Sennebogen EQ880s, each capable of positioning 8t blocks at up to 40m.

Right: Reaching to 34 metres, Aertssen's other heavily-reworked EX1900 is currently on duty at a project in Qatar.



➔ Again the excavator's H-frame was rotated through 90 degrees and the tracks lengthened by 1.7m, so that the footprint of the tracks is now 10m long and just over 9m wide.

The excavator's standard boom and dipper stick were replaced, with the new boom nearly 20m long and with the 16.5m dipper typically carrying a 4.4cu.m bucket on a ZX870 linkage. The standard dipper stick cylinders were powerful enough, but as large as they are, the EX1900's standard main lift cylinders were simply not man enough to manage the new front end and therefore Luyckx added a third.

Complete with an additional 22 tonnes of rear balance, the excavator now weighs 270 tonnes and can be split into 14 loads for

transport. As for its performance, the statistics are impressive as it is currently capable of hoisting 15 tonnes at 36m from the centre of the slew ring!

The impressive machine was first assembled for tests in April last year and the gamble immediately paid dividends when Aertssen unexpectedly was in the market for such a beast. While the calculated lift capacity was roughly in line with what they were looking for, ideally they needed to reach just a few more metres.

A deal was done that saw Aertssen take the modified EX1900 together with its standard front-end equipment and the Luyckx 36m long-reach working equipment.

This would enable the excavator to complete the first part of the project. In the meantime Luyckx would design and build an even longer boom.

The 22.3m boom currently in development is the longest and heaviest Luyckx has ever made. When coupled to the excavator's new 16.5m dipper, it will allow the giant excavator, now nicknamed 'Daddy Grizzly' to reach to an incredible 40 metres from the centre of the slew ring.

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