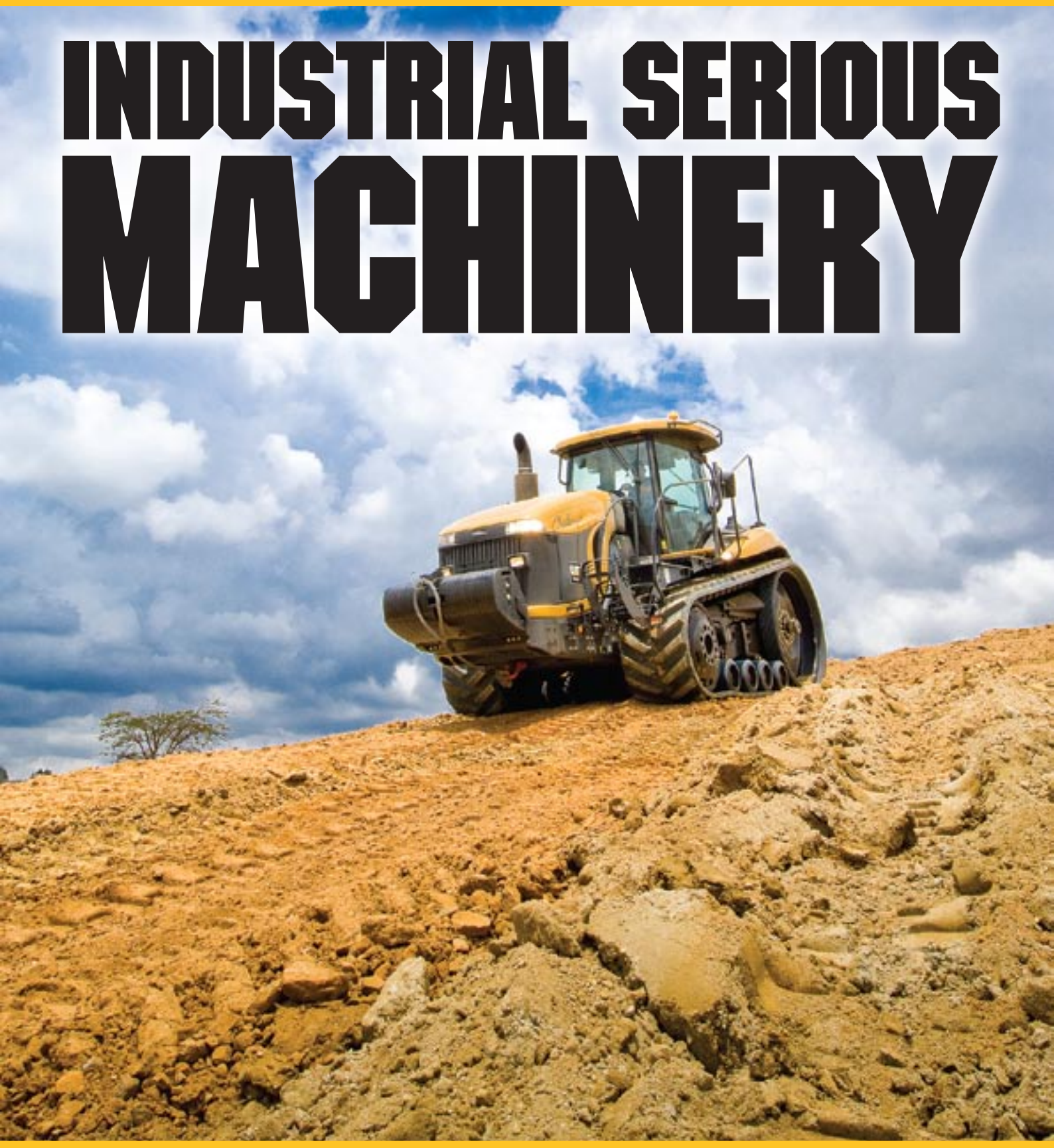
Challenger®

ISSUE 1

INDUSTRIAL SERIOUS MACHINERY



INDUSTRIAL SERIOUS MACHINERY

A brand of AGCO, Challenger supplies a wide range of high performance, high specification machinery for the professional farming, industrial and contracting sector including tracked tractors, application equipment, wheeled tractors, combine harvesters and balers.

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POWER, FINESSE & VERSATILITY

CHALLENGER CAN MAKE A PROFITABLE DIFFERENCE TO YOUR BUSINESS

With a range of super-powerful, high specification tracked and wheeled tractors and application machinery, Challenger equipment makes good business sense in the industrial sector.

There are Challenger machines working all over Europe helping to reduce costs and boost output in industrial applications. In this magazine, you can read about the real, practical results professional operators are achieving on industrial and construction projects - from Czech Republic to Ireland and from the Netherlands to Antarctica. No matter where you operate, the message is clear – Challenger can make a profitable difference to your business.

There are a huge variety of possible applications ranging from road and airport construction, forestry and rural road maintenance, property development, landscaping, mining and landfill operations to dam construction and municipal amenities.

Take for example, scraper operations with the latest Challenger MT800C Tracked Special Application tractors. When coupled to the latest design of scraper box, they are one of the most cost-effective earthmoving combinations available in the market today, offering significant cost savings when compared to traditional methods. Two tractors and four scrapers can, in many situations, replace the larger number of machines and manpower required for more conventional earthmoving techniques.

When it comes to operating cycles, the Challengers and scrapers also have the upper hand. Scraper tractors load, haul, dump and grade by themselves without the need for 'pusher' dozers which often stand idle for the majority of the operating cycle. Moreover, the scraper can even grade on return along the haul road, thereby eliminating the need for a dedicated grader and further improving the overall cost-effectiveness of the operation. Added to this of course is the versatility of a tracked tractor which has potential to be working and earning outside it scraper duties.

Other examples of Challenger equipment operating successfully in the industrial sector include soil stabilisation, drainage and forestry work with both the MT tracked and wheeled tractor models. The Challenger Terra Gator range of application machines is ideal for lime injection and water bowser spraying for dust control.

If you are looking to boost your bottom line, the power, traction, flotation and versatility of Challenger equipment is definitely worth serious consideration. Contact us today for more details or to arrange a demonstration at **info@challenger-ag.com**.

Tractor/scraper combinations were originally developed for agricultural land levelling but have since migrated to the construction world where the economic benefits are paying dividends. Petr Leiš reports.

ULTIMATE DIRT MOVERS

In Czech Republic, Challenger MT875B scraper application tractors equipped with two Reynolds scraper boxes hitched in tandem are saving 25-40% in manpower and fuel costs when compared to a digger/dumper/dozer combination working the same operation.

Integra Liberec, a construction company based in Liberec, 100 km north of Prague, has been working with its two new MT875B and 15.5m^3 capacity Reynolds 20E12.5 scraper boxes since mid-2007. Specialising in ground works, the company employs 100 people and operates a pool of over 250 machines. The majority of its work is connected with highway, retail and industrial developments, working in both the private and public sectors.

"The use of tracked tractors and pulled scrapers represents an interesting alternative to the traditional systems in use which include various combinations of equipment like excavators, diggers, dumper trucks and dozers," says Petr Cyrus, Technical Director at Integra Liberec. "In the right conditions – for example, if the development site is of a sufficient size and the soil is easily breakable without large rocks – then, in terms of costs, the tractor/scraper system is the most effective method of digging, transporting and dumping the soil."

In essence, a scraper is a big metal box fitted with a blade that scrapes up the top few centimetres of soil and propels it into the box. To cope with this application, the scraper-ready MT800B's are fitted with a special scraper hitch-plate. This is compatible with the scraper manufacturers' drawbar and is capable of withstanding up to 9000 kg vertical drawbar load.

Equipped with Challenger's famous Mobil-trac system which combines the speed, mobility and versatility of rubber tyres with the traction, flotation, smooth ride and low ground pressure of steel tracks, the Scraper tractors also come with special application scraper belts to enhance durability in these rugged conditions.

CHALLENGER MT800C - SCRAPER-READY:

MODEL	hp/kW
MT845C	430/321
MT855C	460/343
MT865C	510/380
MT875C	570/425

For Integra Liberec, a Challenger MT875B equipped with two 15.3 m^3 capacity Reynolds scraper boxes has demonstrated that it can scrape the soil, transport it a distance of approximately 500 m and evenly dump approximately **2500 m^3** in one **12-hour** shift. Average fuel consumption is **45-50 litres/hr** which is an excellent performance when one considers that with the complete load of 30 m^3 of soil, the entire rig weighs in at 90 tonnes.

"Of course, a lot depends on the actual parameters of the development site such as the profile of the terrain and the soil, climate and road conditions," explains Petr Cyrus. "With our two sets of Challenger MT875B tractors and scrapers, we are able to handle a similar amount of work as is possible with a machinery set comprising a 50-tonne digger, four articulated dumpers and a 35-tonne dozer. This adds up to significant savings in payroll costs and fuel. For the same volume of digging, savings would represent **25-40%**."

"The tractor/scraper rigs are extremely flexible when moving around the building site and can cope with difficult terrain," he adds. "Loading of the scraper boxes is fast too. It takes approximately half the time to load compared with using diggers and dumper trucks."

The skills of the drivers are also a decisive factor. The equipment has to be set up correctly and the scraper boxes need to be fully and evenly filled to maintain maximum productivity. At Integra Liberec, the operators have had to get used to a new way of working but after a short training period with the Challenger MT875B's easy-to-use controls, the transition went smoothly.

Given their highly cost-effective and efficient operation, Petr Cyrus is already looking at other potential areas to utilise the Challenger/Reynolds combo. This includes smaller building sites where the savings in manpower and equipment provided by the rigs would make sound economic sense.

Challenger MT875B scraper application tractors equipped with two Reynolds scraper boxes hitched in tandem are achieving major savings for Integra Liberec.

MT865B HITS THE DIRTSHIFTING TRAIL

A Challenger MT865B equipped with Reynolds scraper boxes is delivering quick cycle times and fuel-efficient operation on a major highway construction project in Ireland.

With some 60 km of the new M3 motorway from Dublin northwest to Navan currently under construction, W H Earthworks run by Greg Weir and Vincent Horton have taken on the contract to build up the base of the M3 spur road on the outskirts of Navan.

Here the ground, while not exactly bog, is very wet and soft and, in its natural state, incapable of carrying heavy loads particularly those associated with earthmoving and road construction machinery. Road engineers are using soil stabilisation techniques to build up the roadbed using soil excavated from an industrial site under development at the Navan end of the spur. Excavated soil is loaded into Articulated Dump Trucks (ADTs) and moved a few hundred metres to a site adjacent to the proposed motorway where it is levelled. From this point it becomes the responsibility of W H Earthworks – a total dirt shift of around **150,000 m³**.

Due to the ground's lack of carrying ability, W H Earthworks has invested in rubber-tracked crawlers

With its 18.1 litre CAT C18 engine, max power of 534hp and a torque rise of 42%, site records show that the MT865B is using just 58 litres of fuel an hour.

including a Challenger MT865B which hauls a pair of 17m³ Reynolds scraper boxes. This rig is capable of moving around 34m³ a trip. Ground pressures are relatively low and ground damage minimal – especially when compared to the wheelings left by the ADTs which occasionally visit the site.

So why use a tracked tractor/scraper combination?

First there are the requirements of the site engineers who demand the application of even, thin layers of soil that can be spread with lime, which is then mixed in before being compacted. Greg Weir reckons it would cost Euros 2/m³ to shift the soil using ADTs. On top of that, there would be spreading costs to reduce the heaps to layers thin enough for the lime to be applied, plus the cost of eliminating ruts.

"Using trailed dumper boxes we are looking at a cost of around **Euros 1.50/m³** and ground damage is virtually zero so productivity is high," says Greg.

Added to that is the versatility of the tracked tractor. The number of boxes being pulled can be reduced or increased to one or three depending on conditions, or other equipment can used behind the tractor. "There is a lot of potential to keep the tractor working and earning," adds Greg.

With its 18.1 litre CAT C18 engine, max power of 534hp and a torque rise of 42%, site records show that the MT865B is using just 58 litres of fuel an hour. This compares to **62 litres/hr** being consumed by other tracked machines with smaller engines doing exactly the same job on the site. Multiply this by a ten-hour day, day-in day-out and the difference in fuel consumption soon adds up.

Mike Carney is the regular Challenger MT865B operator for W H Earthworks. He reports that the Challenger is a comfortable machine to operate with controls coming easily to hand. "The long single tracks even out ruts and other undulations on a road or industrial site," he says. "And the idlers allow the flexible track belt to follow minor undulations and ruts to maintain traction."

Deep ruts, Mike believes, should be the subject of a little housekeeping. "Letting the operating areas get too rough is counter productive and a little time spent smoothing things over is time well spent. In rough operating conditions, cycle time are reduced, drivers are uncomfortable so get tired easily and machine wear and tear is increased."

W H Earthworks' MT865B hauls a pair of 17m³ Reynolds scraper boxes consuming just 58 litres of fuel an hour.

Greg Weir reckons that it costs Euros 1.50/m³ using pull scrapers compared with Euros 2/m³ for ADTs to simply dump the load.

The Earthworks outfit runs Reynolds 17E10.5 boxes which have a capacity of 17m³ from a cut width of 3.2m. When empty, each scraper weighs in at 10,727 kg. Add to that 12.9m³ of material and the overall payload is upwards of **27 tonnes**. This weight is supported on four 20.5R25 tyres spaced across the rear, with about one third of the weight transferred to the tractor or scraper in front. "I've been a fan of these boxes for some time," remarks Greg Weir. "They're simple to operate and pretty well impossible to wear out if properly maintained."

Adapted from an article in Earthmovers magazine.

CREATING SOLID GROUND

Soil stabilisation is dusty work as our picture shows.

Here a Challenger MT665B is working with a 3700 kg Stehr stabiliser, mixing quick-lime with soil on a new highway construction project in northeast Czech Republic.

The new D47 motorway between Belotin and Hladke Zivotice is being funded by the Czech Republic government. The main contractors are Inzinierske Stavby Kosice (Group Colas) and the Challenger MT665B is owned and operated by Slovak subcontractor, Cezles s.r.o..

"While the productivity and fuel consumption vary depending on the soil type and humidity, the tractor/stabiliser combination operates at an average speed of 0.4 km/h to a depth of 0.4m – although the machine is capable of depths up to 0.5m," says Róbert Buci, Director of Cezles. "93% of the time the tractor runs at full working load, the rest is spent in transport operations. Our average fuel consumption over 1050 hours' service has been 25 litres/hr (including transport ops)."

Once the quick-lime has been applied to the surface and thoroughly mixed, it absorbs water out of the soil. This process creates heat and further moisture evaporation. The chemical reaction that takes place between the molecules in the soil and the quick-lime allows the mix to be compacted.

Equipped with a range of high technology machinery, Cezles focuses on road building – particularly through forest areas. The company is dedicated to environmentally-friendly operations, recycling existing site material wherever possible.

Working at full load for over 90% of the time, this Challenger MT665B is working to stabilise the soil on a highway project in Czech Republic.

The Challenger MT765 is indispensable and has clocked up 6000 hours since it was bought in 2004.

MT765 BOOSTS DUTCH LAND DRAINAGE OPERATION

Track technology is indispensable for the drainage work carried out by contractor Klaas Fekkes in Friesland, north Netherlands.

"We work at depths of up to 1.5m and the only way to operate the drainage equipment without causing soil damage is to use a tracked tractor," Klaas explains. The tracked tractor in this case is a Challenger MT765 equipped with Auto-Guide automatic steering.

Klaas established his contracting business in 1990, specialising in soil improvement, drainage and land levelling. His team of four full-time staff also get involved in arable work including cultivation and seeding plus grass mowing.

"We carry out the land levelling and drainage on around 1000 ha a year and lay some 250 km of pipework with the help of the Challenger MT765. The arable work accounts for around 1200 ha a year," Klaas comments. "We are also looking at cable laying as an area for expansion."

"Our work is spread throughout the year. Weather conditions during land levelling periods are very important – too much rain means that the structure of the soil suffers. With the MT765, we have the advantage of its enormous traction coupled with low ground pressure which minimises soil damage and enables us to make optimum use of available time."

Klaas and his team tested a number of different makes of tracked tractor and eventually decided on the MT765 which went into service in 2004 and has since clocked up over 6000 hours. Equipped with creeper gearbox, wide midwheels, wide drivers, 762 mm belts and front linkage, the tractor is a key part of the Fekkes machinery fleet.

Vital in drainage work is the laying of pipework in straight lines at accurate depths. The specialised drainage machines are laser guided and are connected directly to the MT765's hydraulic system to control lifting and lowering of the implement and ensure consistent depth is maintained.

"We use Auto-Guide for the drainage work, land levelling, seedbed preparation and ploughing and I'm very satisfied with its accuracy and reliability," adds Klaas. "I've also used it in conjunction with a 'Companion' iPaq Pocket PC for the last two and a half years." This combination enables pipes to be laid precisely and allows the production of maps to show locations of the pipework. The latest system available from Challenger for this type of work involves the integration of Auto-Guide with the suite of GTA software for machine management, record keeping and mapping.

One of the latest pieces of kit to join the Fekkes fleet is a 6-furrow Kvernland plough. Its combination with the MT765 has generated a great deal of work. "The arable farmers in the area are impressed with the tractor's performance," says Klaas. "As we plough 'on land' without driving a wheel through the furrow, it means we don't create a layer of soil compaction at 30 cm depth."

The smooth ride afforded by the MT765 is another feature to come in for praise. "The ride is so good that we can drive to the job by road – sometimes as far as 30 or 40 km at speeds of 40 km/h and without unacceptable wear and tear of the tracks," Klaas reports. "The cab is superb in terms of space, visibility and operation. In the field, work can be carried out in comfort while a further advantage is that, as result of its stability, the tractor ensures that the levelling machines can do their job properly. A stable tractor equals a stable implement."

"We invest heavily in technology but are still able to achieve a high turnover per member of staff and per €1000 of invested capital," says Klaas. "For us, the price of a job is not the first thing that we discuss with customers. High productivity, careful work, professionalism and modern equipment are what we are hired for."

Klaas Fekkes specialises in soil improvement, drainage and land levelling. Once the drainage machine (pictured on the back of the tractor) has done its job and the pipework is laid, the Challenger is reversed back along the same track with a roller attached to the double acting front linkage to pack the soil and eliminate any ridges.

MT765B TRACTORS SPRING INTO ACTION ON ICE SHELF

Two Challenger MT765B tractors purchased by the British Antarctic Survey (BAS) for transport duties went into hibernation for the winter months (March-October 2007) but have been back working on the ice since November 2007.

BAS is building a new research station – Halley VI - on the Brunt Ice Shelf further inland to the existing Halley V which is located in an area now at risk from breaking ice. The MT765Bs have been brought in to increase productivity in the delivery of cargo from ship to building site, while they will also be used to haul the new station to its final resting point at the end of the 2008/9 season.

In an email to us from the Antarctic, Martin Bell, BAS Deputy Project Manager reports: "With the arrival of our spring, we dug out the Challengers from their snow mounds and de-iced them. Winter storage can see temperature as low as –50 degrees C. The Challengers run on low temperature oils and have heaters in both the water jacket and transmission to aid starting after the winter. As fuel, we employ JET A1 (Avtur - the same as that used by Jumbo jets) which is good down to -70 degrees."

Hauling an Antarctic land train is no problem for the tractors.

The tractors re-started smoothly after their winter sleepover and immediately set to work on a major logistics operation.

Continues Martin: "The machines worked virtually non-stop around the clock, delivering cargo from the relief ship to the build site, shifting around **14,000 m³** of cargo in eight days. We are very happy with the Challengers' performance. They have done exactly what we needed without fault. We've also had great support from our dealer, TNS and their staff."

"Another point in our favour this season is the vehicle route which we have been able to groom to enable the Challengers to work at high speeds, pulling loads of up to **40 tonnes**.

"All the team have worked really hard to keep the cargo flowing. Drivers spent **11 hours** behind the wheel and only changed when the vehicle was due a fuel stop. The length of time to fill the tank had been calculated into the fleet planning and was quickly achieved."

With the building materials now on site, the construction of the Halley VI station can begin in earnest. It will take until February 2009 to complete the build and then the next important role of the Challengers will start. This will involve moving the new station to the new site 15 km inland from Halley V.

"The MT765Bs tractors are key to the whole project - some of the larger buildings could weigh up to **200 tonnes** so we have a pretty big job on our hands," says Martin.

The Challenger MT756B tractors were mothballed during the Antarctic winter and dug out of their snow mounds to start work again in November.

SCRAPER COMBO PERFORMS WELL ABOVE PAR IN SHIFTING SANDS OF NEW GOLF DEVELOPMENT

A Challenger MT875BS equipped with Reynolds scraper boxes is proving the best solution for shifting the sandy soils on an ambitious new golf resort construction project in the Slovak Republic.

Having visited the United States several times and seen the benefits of scraper technology in action, Martin Munka, Business Manager at ORAG Slovakia s.r.o which is responsible for delivering the entire project, realised that the very specific soil conditions at the site called for a rethink on their traditional methods of soil movement.

"We are dealing with just a few centimetres of normal soil on top of layers of sand here," he told Serious Machinery. "One option was to use big tracked diggers with dumpers and dozers but this was very expensive and also limited in that it was not possible to move the soil everywhere we wanted to."

After a very successful demonstration by Challenger dealer Agroservis Morava and Reynolds dealer Pera-Trade, ORAG purchased an MT875BS and two pull-type Reynolds 20E12.5 scrapers each with a volume of 15.3m³.

Based in Bratislava, ORAG is a golf course specialist offering a full spectrum of services including earthmoving, grass seeding, irrigation systems and the provision of golf equipment. The company has nearly 50 years' experience in the field and is an international member of the Golf Courses Builder Association of America. Other activities include development of football pitches and park areas. Working mostly in Slovakia and Czech Republic, where it has been responsible for building 20 of the region's biggest golf courses, the company has also co-operated on projects in Ukraine, Switzerland and Austria.

This latest project is to construct the new golf resort – Golf Club GG – in Šajdíkové Humence near Senica in the west of the Slovak Republic. The new resort will include a 36-hole course with driving range, two putting greens, a chipping green plus a 22 ha lake, hotels and restaurants.

Martin Munka views the tracked tractor/scraper combination as a complete package of benefits: "We don't know of any other technology with similar (low) costs that is able to do the same job," he remarks.

Pavel Topol´ovský, Construction Site Manager, believes that it is the only technology capable of moving the soil efficiently in such sandy conditions. "You have just one rig with one operator instead of four or five machines," he says. "In addition, the combination is highly manoeuvrable in confined areas on the golf course – more so than an articulated tractor would be, for example."

"The sand is extremely fluid and it can be difficult to load the scraper box," he adds. "An experienced operator is able to load it to a maximum of approximately 75% of its volume. The hardest part is the unloading cycle where the machines are moving on very loose sand in tight areas.

"We are very pleased with the durability of the Challenger track system – after 650 working hours, there is no excessive wear (see picture). In addition, we receive good service from Agroservis Morava – one of the best in the construction machinery sector in our view," he adds.

As the main operator of the Challenger/Reynolds rig, Koloman Gögh is enthusiastic about driving the scraper combo. "The suspended track system gives a perfect ride," he comments. "I appreciate the big cab with its excellent visibility. I'd describe it as a very friendly operating environment in all respects."

Golf course construction is currently booming in Slovakia and Czech Republic. "We'll be using the Challenger on future projects," concludes Pavel Topol´ovský. It's significantly reducing our costs and boosting productivity."

After 650 hours, the track system is showing no signs of excessive wear.

The Challenger MT875BS and Reynolds scraper is proving a winning combination for golf course construction specialist, ORAG on its latest project in Slovakia.

MT865B models conquer extreme cold in construction of new polar ice station.

A red paint job means the Challenger MT865B tractors are easier to identify in the whiteout conditions.

RESEARCHERS MAKE TRACKS TO ANTARCTICA'S HIGHEST PEAK

Following our report of Challenger tracked tractors being used by the British Antarctic Survey on the Brunt Ice Shelf comes news of a Chinese research team also employing the machines for transport duties at the coldest place on earth.

In November 2007, en route to Antarctica, the Chinese icebreaker Snow Dragon stopped in Fremantle, Western Australia to pick up four Challenger MT865B tractors sold to the Polar Research Institute of China (PRIC) and especially modified for use in the extreme cold.

Their main task is to haul construction materials as well as essential food and medical supplies on sleds across **1400 km** of snow and ice from the coast of Antarctica to the highest peak, Dome Argus (or Dome A), a vertical rise of **4093 metres**. Dome A is thought to be one of the coldest naturally occurring places on earth, with temperatures believed to reach -90°C in the winter. In the summer, when the tractors make their trip, temperatures are normally a relatively more balmy -50°C!

The PRIC team reached Dome A in January 2008, only the second expedition to reach the towering peak. In collaboration with many other organisations including the University of New South Wales, the PRIC is establishing a robotic observatory called PLATO on Dome A and they aim to carry out field surveys in the areas of glaciology, geophysics, astronomy, topography and meteorology. They plan to have the station finished in early 2009. The station will be fully robotic, as owing to the extreme conditions, it is not possible for humans to remain here for extended periods.

The Challenger MT865Bs are extremely well suited for use in the cold conditions due to the friction drive system which works well in ice and snow and is able to transfer more power to the ground than any other alternatives. William Adams, the Challenger dealer for Victoria and Tasmania, Australia who supplied the machines made a number of modifications to help the Challengers operate in the extreme cold. This included additional lighting, double-glazing of windows, special components for cold weather, oil and electrical heaters and a new red paint job to ensure the tractors are easier to locate in whiteout conditions.

According to Peter Fewkes, Manager – Polar Projects for William Adams, the main aim is to keep the cold out of all components. "With machinery and electrics having to operate and be reliable at -50°C, it really pushes all components to the edge of what they were designed for. We have to ensure that all components will operate normally in the harsh conditions, as a breakdown on Dome A would be a life or death situation."

The MT865B models bought by the Polar Research Institute of China are operating in temperatures down to -50°C.

Brrrr!! A member of the Chinese research team braves the freezing temperatures without his thermals to prove it's not just tractors that can conquer the cold.

The superior flotation of Challenger tracked tractors is proving a boon to a Belgium-based company specialising in soil stabilisation.

Cloet Pittem which hails from Flanders in Western Belgium was one of the pioneers of soil stabilisation in Benelux. Originally an agricultural contractor, the company was asked to do more and more work involving groundworks and the business developed from there.

Today, the firm runs a fleet of three Challenger MT tracked machines while another - in the shape of the latest MT765C –is scheduled to arrive in June 2009.

90% of Belgium is covered with sand or heavy clay and, as a result, soil stabilisation has become increasingly popular. In addition, legislation requires all transported soil to be analysed for pollutants – every cubic metre has to be investigated. Thus, it has become more cost-effective to keep soil on site and find a way to make better use of it.

Cloet Pittem employs a mixture of quick-lime and cement to compact and stabilise the soil. "We initially started out using a 240 hp wheeled tractor in combination with a 2.5 m-width towed stabiliser," says Director of the firm, Diederik Cloet. "While the tractor was powerful enough, it soon became clear that the soft, wet soils demanded a machine with far more flotation capability."

In 2000, the firm turned to the world of tracks for its power source and purchased a 275 hp Cat Challenger 55 (predecessor to the Challenger MT range). Coupled with a Gutzwiller cultivator, the combination spurred a good period of growth for the company, enabling the team to handle the worst of ground conditions presented by Flanders' road construction and industrial building projects.

A Challenger MT765 with creeper gearbox and 30 ins Extreme Application tracks - purchased from dealer Mechatrac in the Netherlands - was Cloet's next big investment together with a big Gutzwiller GM 250 stabiliser.

"We need to operate at speeds as low as 500-550 m/hr," explains Diederik. "Getting the right mix is vital – every soil particle has to come into contact with the cement or quick-lime. The aim is to ensure the soil remains in the stabiliser for three complete cycles of the mixing rotor. It has to be done at the correct speed."

At 350hp the MT765 was well up to handling the 6-tonne stabiliser. Cloet developed its own 2-tonne front weight for the tractor to add extra ballast.

The MT765 from 2003 now has 6000 hours on the clock without any serious problems despite the extremely harsh environment in which it has to operate. Not only are ground conditions difficult but the whole process creates vast amounts of dust. Added to that, the cement and quick-lime not only set hard in the ground, they also set hard on the machines.

Reflecting continued growth, two more Challenger MT765B models were added to the Cloet fleet in 2006 and 2008. The imminent arrival of the new MT765C signals retirement for the original nine-year-old Cat Challenger 55 – the machine which kick-started Cloet's tracked success story. "Although it means saying goodbye to the Cat 55, our fleet of four MT765 models will give us the opportunity to handle any job," says Diederik.

Cloet's current fleet of four Challenger MT Series tractors and a nine-year-old Cat Challenger 55 – will soon see the arrival of a brand-new MT765C.

"The machines have proven reliable and durable with excellent output even under the worst conditions," he comments. "From the big comfortable cab, the driver is in complete control. The tractor and stabiliser make a good team, producing top quality results coupled with economical fuel consumption and cost of ownership."

BUILDING ON FIRM FOUNDATIONS

In soil stabilisation, getting the right mix is vital. Every soil particle has to come into contact with the cement or quick-lime and therefore, slow creep speeds are essential.

Mud larks - Challenger's track dumpers have a maximum capacity of 12m³.

TERRA GATOR TRACK DUMPERS ARE A SOFT TOUCH IN GROUNDWORK

Traction, flotation, manoeuvrability and high-capacity.

If you need to shift material in soft or marshy ground, then check out Challenger's high-capacity Terra Gator 2104 track dumpers and generate more income.

These dumpers can move massive payloads of **15 tonnes** in the wettest softest ground conditions and have a maximum capacity of **12m³**. Dumping the payload takes just **16 seconds**. With a track contact patch of 7m² and a top speed of **25 km/h**, in fields where wheeled machines might struggle, the highly-manoeuvrable Terra Gator 2104 provides top performance enabling boosted profitability and almost no dependence on seasonal conditions.

Dutch contractor, Velzing Groundwork BV originally helped test pre-production models of the new machines and has recently invested in four of the first batch of commercially-produced units.

The company won a big contract to shift **800,000m³** of peat as part of a German motorway construction project and drafted in the big new dumpers to speed up the job. Peat is notoriously difficult to work in but the tracks fitted to the dumpers enable them to cope even in the wettest conditions.

The 2104's rubber tracks are at home on all types of ground but really come into their own when the going is soft - boasting excellent traction and flotation. Measuring 91cm-wide, each belt puts down a 1.89m-long tread to provide an almost 2m² footprint.

This large contact patch produces a ground pressure of just **0.5kg/cm²** with a loaded vehicle weight of around **35 tonnes** - resulting in less soil damage and fewer track marks.

According to Johan Velzing of Velzing Groundwork, the four machines can shift as much as **1200m³** a day because they can keep going at speeds of **20-25 km/h** continuously, in all conditions. "There is no other machine that can guarantee this," he says. "It allows us to keep on time, which is critical with many jobs. In addition, there is no need to lay special steel-plate roads which can easily add a further 10% to the cost of a job."

With its articulated driveline, the 2104 offers exceptional manoeuvrability and a very tight turning circle.

The dump body is designed with sloping sides for optimal load discharge. It can unload at an angle of 65 degrees and employs a hydraulically-operated unloading gate.

The machines are equipped with powerful 325hp 8.1 litre engines and Terra-Shift full powershift transmission - operated via a joystick control and featuring 10-forward and 3-reverse speeds and a maximum speed of 25 km/h.

"These are specialised vehicles designed to provide a fast and mobile solution to shifting payloads in soft land," adds Dorus van Esch, Challenger Director Technology and Business Development. "The machines successfully combine power and capacity with superb traction to tackle jobs where wheeled dumpers could not even be considered."

Terra Gator 2104 track dumpers are currently available in Western European markets.

The Terra Gator 2104 articulated track dumper can move payloads of 15 tonnes.

AGCO Your Agriculture Company