

DENEL insights

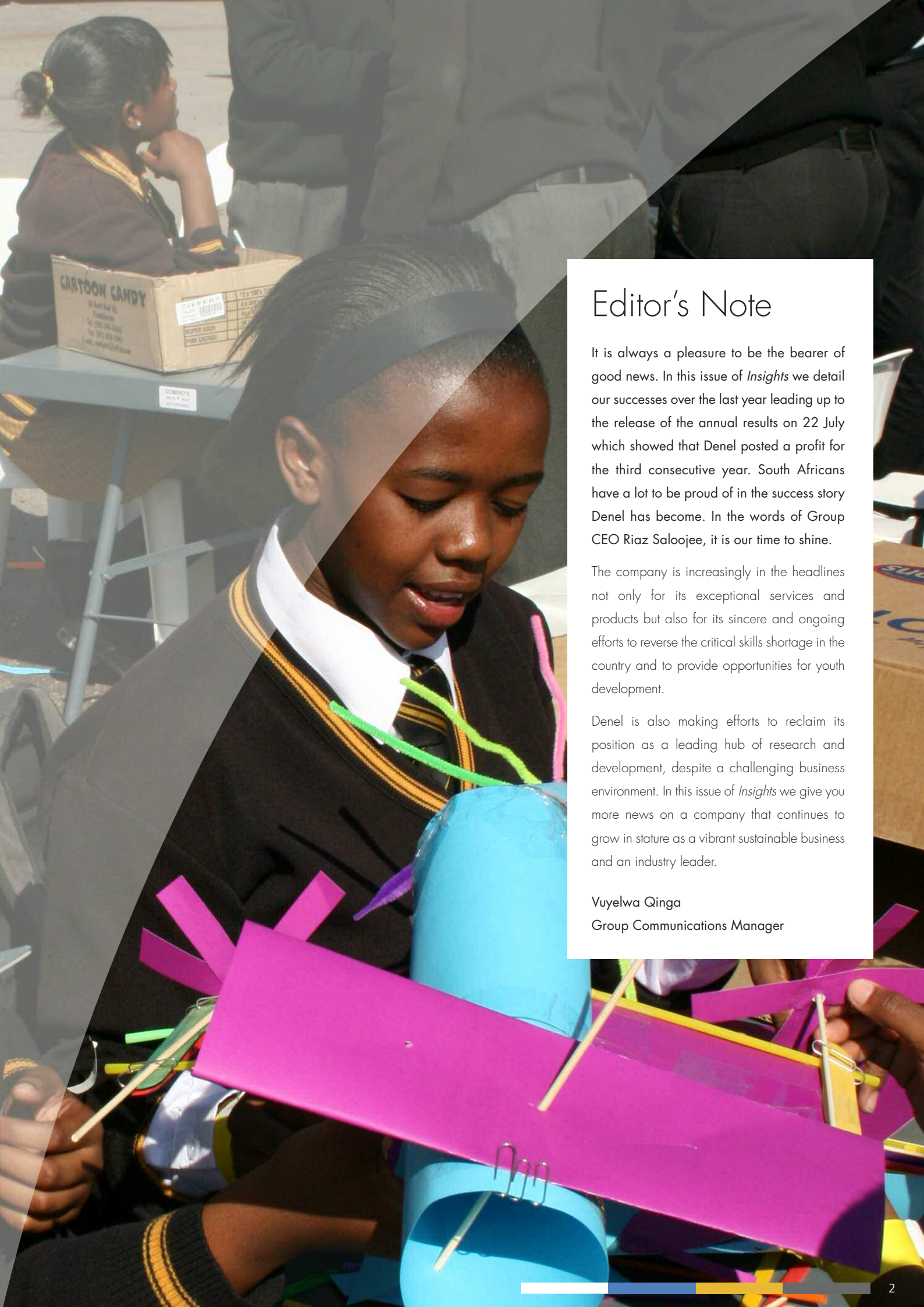


The success
story continues

Good governance

Denel Group
highlights

SECOND QUARTER
2013



Editor's Note

It is always a pleasure to be the bearer of good news. In this issue of *Insights* we detail our successes over the last year leading up to the release of the annual results on 22 July which showed that Denel posted a profit for the third consecutive year. South Africans have a lot to be proud of in the success story Denel has become. In the words of Group CEO Riaz Saloojee, it is our time to shine.

The company is increasingly in the headlines not only for its exceptional services and products but also for its sincere and ongoing efforts to reverse the critical skills shortage in the country and to provide opportunities for youth development.

Denel is also making efforts to reclaim its position as a leading hub of research and development, despite a challenging business environment. In this issue of *Insights* we give you more news on a company that continues to grow in stature as a vibrant sustainable business and an industry leader.

Vuyelwa Qinga
Group Communications Manager



The Denel success story just keeps going on says CEO Riaz Saloojee

Denel's annual results for the 2012–13 financial years show a profit for the third consecutive year; demonstrating our growth as a state-owned company and increasing our reputation as a profitable and sustainable business. Denel has now entered a trajectory of sustained growth.

In the financial year under review, there has been a 10% improvement in revenue, a feat that can be attributed to a 34% growth in exports – from R1 329 bn to R1 783 bn. This was particularly within the missile and landward defence businesses.

We have also managed to grow the company's export revenue in all of our key target markets, most notably in Africa, the Middle East, Asia-Pacific and South America. Local revenue amounts to 55% (R2 135 bn) of the total revenue.

The net profit for the year has grown to R71m as a result of the increase in revenue, the restructuring of the company and a wide range of cost-saving initiatives. This included the integration of 11 businesses into six divisions.

The operating expenditure has decreased from 27% to 24% of revenue, but the results continue to be affected by the interest on external borrowings and the financial losses posted by Denel Aerostructures. Operational savings and new contracts signed have contributed to a significant reduction in the losses incurred.

During the financial year, we successfully restructured the short-term debt of R1 185 bn to a combination of short-term debt, three-year and five-year bonds to mitigate liquidity risks.

The company's financial performance and our prospects for growth were recognised in the financial markets through an over-subscription on the Denel bond issue. Fitch Ratings revised the Denel long-term rating from negative to stable, a very positive achievement for the company considering the downgrades experienced by other companies and institutions during this period.

Parallel to developing defence products and solutions for global markets, internally, Denel has created an environment that attracts and retains skills that are critical not only to our business, but to the country. During the year under review, we have made a number of strategic appointments to strengthen the senior management of the company while also meeting our objectives for transformation and succession planning.

These positive results, the newly concluded and about to be concluded contracts of R22 bn billion, which will be executed over the next 7–10 years, will contribute to our sustainability. In addition, we have a significant order pipeline that will enable us to grow the business in both local and international markets.

As a key player in the global aerospace and defence landscape, Denel has earned an international reputation in a number of niche areas. These include guided missiles, global civil and related aviation and aerospace sector, and artillery systems, to mention just a few. Our capability in design, development, and manufacturing is world-class, with technologies and products competing head-on with leading international competitors.



■ Chairman of the Denel Board, Mr Zoli Kunene with the Group CEO, Mr Riaz Saloojee.

In support of our country's national developmental priorities, we have a number of youth, artisan, internship, apprenticeship and bursary programmes. At least R46 m was spent in skills development in engineering and technological disciplines within the 2012/13 financial year. During the same period, R10 m was spent on Youth Development.

Two-hundred-and-fifty apprentices and 827 learners benefitted from these programmes

Our key technologies and capabilities include artillery systems, UAVs, missiles, ammunition, advanced aircraft composite technologies, Rooivalk combat helicopter, aircraft maintenance repair and overhaul, military vehicles and turrets, electro-optical systems (in submarine periscopes), landmine clearance and a multi-purpose test range facility. The total R&D spend amounted to R528 m.



■ The Minister of Public Enterprises, Mr Malusi Gigaba.



■ Dignitaries viewing Denel's products.



SIGNIFICANT PROJECTS

Among the key projects that Denel was responsible for during the 2012/13 financial year, are:

- Successful completion of humanitarian demining operations and the disposal of remnants of war in South Sudan, the Democratic Republic of the Congo, Senegal, Libya, Angola and Mozambique.
- Successful UAV surveillance service to SANPARKS in the Kruger National Park in support of anti-rhino poaching activities
- Progressing the final development and qualification of the A-Darter, 5th generation air-to-air missile in collaboration with our industry partners in Brazil and locally. The success of this project provides the benchmark and foundation for future technology collaboration among the BRICS nations.



- Initiating the development of the future-orientated Marlin missile project, aimed at establishing a common platform for long-range all weather air-to-air and surface-to-air defence capabilities. Denel is extremely appreciative of the close and strategic collaboration between Denel, the SANDF, Department of Defence and Armscor on programmes like this.
- Concluding the development phase of the SANDF's Project Hoefyster to deliver a world-class infantry combat vehicle, the Badger, which will meet the requirements of a modern defence



force. To date, more than 100 local sub-contractors are actively involved in this programme and this impact will spread across the wider manufacturing sector once the green light has been given for the production order, which is sometime this year.

- We delivered the final Rooivalk combat support helicopter to the SA Air Force, reaching a major milestone in a project which bears testimony to the capability, skills and innovation that South Africa can offer to the world.



- Established a joint venture with Tawazun Holdings, a company owned by the government of the United Arab Emirates, for the manufacturing of guided munitions. Locally, Denel acquired IMT to strengthen our capacity in the landward vehicle market.
- Opened a Centre of Excellence at Denel Aviation during the recent BRICS Summit, which will provide extensive maintenance, repair and overhaul services to aircraft manufactured by Russian Helicopters. This initiative has been singled out as one of the first tangible results flowing from South Africa's participation in the BRICS alliance.



- Participated successfully at the Africa Aerospace and Defence Exhibition in Tshwane and maintained a strong marketing presence at a number of global industry events, including in Brazil, Paris, Turkey, Malaysia and the United Kingdom.

FUTURE PERSPECTIVES

An analysis of Denel's five-year budget cycle indicates that there will be significant revenue growth over the medium term, and that the company will continue to be profitable and sustainable into the foreseeable future.

Our strategy is focused on significantly growing revenue, optimising costs and efficiencies, strengthening the balance sheet, transformation and modernising technology. The planned growth is backed by expected growth in our traditional markets, strong government support and strategic partnerships.

As our national defence force is becoming more involved in international peace-keeping missions in Africa, Denel remain committed to supporting our forces with leading edge technologies and products. This includes the fields of observation, command and control, and other systems to enhance inter-operability. In short, we will be there when and where the SANDF needs us!

We expect important local projects in the fields of infantry combat vehicles, expanded ground-based air defence systems (GBADS), and the acquisition of aircraft for maritime reconnaissance which are currently in the pipeline will receive the green light in the coming year.

With regards to the African continent, Denel will intensify our commitment through an optimised product and service offering as well as long-term collaboration rather than selling. We are already seeing the success of this strategy.

Our success in all these endeavours will make Denel profitable on a sustainable basis. I am positive about the future of Denel in light of the order pipeline, the successful transformation of our business, the quality of the human resources available to our company, and the industrial partnerships we have forged locally and internationally. The positive progress we have made during the year leads me to believe that Denel is certainly on a positive growth trajectory. It is indeed our time to shine for South Africa, Africa and the developing world.



Denel at Turkish defence show

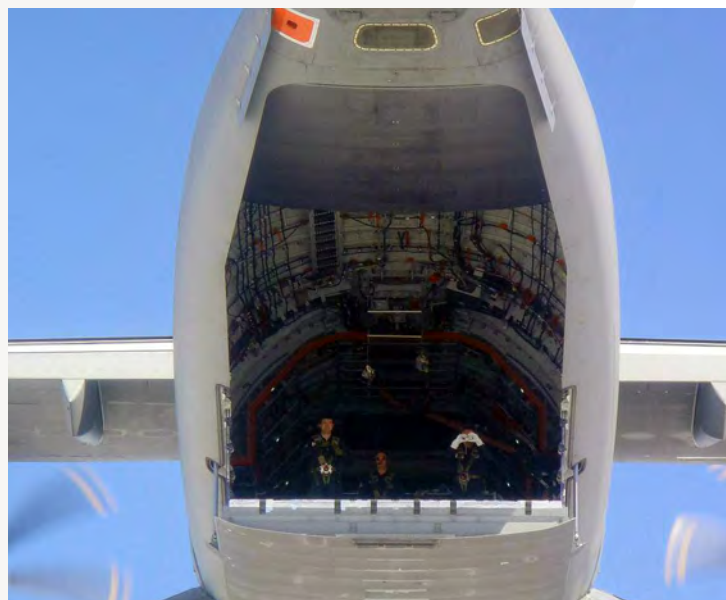
Denel went on show at the annual International Defence Industry Fair (IDEF) held in Istanbul, Turkey from 7-10 May.

Riaz Saloojee, the CEO of Denel, said IDEF presented a strong opportunity for Denel to market its products and services to potential clients in key target markets of the Middle East, Northern Africa and South East Asia. South Africa and Turkey enjoy strong diplomatic and trade relations and both countries are members of the G-20 group of major

economies. Its strategic position between Europe and the Middle East provides Denel with significant marketing opportunities.

"Turkey has an advanced defence manufacturing industry similar to South Africa and we also share national industrial development goals," said Saloojee.

Both Denel Aerostructures and Turkish Aerospace Industries (TAI) manufacture key parts of the A400M, the world's most advanced military airlifter produced by Airbus Military.



DENEL SOC LTD
ANNUAL REPORT TWENTY 12



Denel gains recognition for good governance

Denel was once again recognised for excellence in reporting at the annual Nkonki State-Owned Company (SOC) Integrated Reporting Awards ceremony held in Rosebank, Johannesburg.

This is a great achievement in recognition of the steps Denel has taken to improve the quality of financial reporting and ensuring that the company has mature corporate governance in line with best practice.

Denel's 2011/12 annual report received an award for being in the top five overall for excellence in corporate integrated reporting. In addition, the company received awards for the reports in the "Governing of Stakeholder Relationships" category and the "Governance of Risk" category. The company ranked well on the other rated categories.

These awards were launched last year, where Denel also featured fairly prominently. During October 2012, Denel was also recognised as the best governed SOC by the Centre for Corporate Governance of the University of Stellenbosch. These awards or recognitions for excellence are taken seriously by the company and Denel is committed to improving its reporting as well as maintaining transparency.

The Nkonki Research on Schedule 2 state-owned companies was conducted in order to understand how SOCs have embraced comprehensive reporting expected in terms of Integrated Reporting in their audited annual or integrated reports. "In a nutshell, the purpose of the research is to gain insights into state-owned companies integrated reporting trends and to recognise and celebrate excellence for those state-owned companies that are taking the commendable lead in integrated reporting in South Africa," said Sindi Zilwa, (CEO) Nkonki Inc.

A RELIABLE DEFENCE, SECURITY AND TECHNOLOGY SOLUTIONS PARTNER



South Africa conjures up support for hi-tech collaboration

Missile innovator, Denel Dynamics, unveiled its Marlin All-Weather Air Defence Missile technology development programme at the 9th biennial LAAD Defence and Security International Exhibition which was held in Rio de Janeiro, Brazil from 9–12 April.

The success of the A-Darter joint development air-to-air missile project with Brazil has laid the foundation for further defence collaboration programmes. In concept it is a multi-force (navy, army and air force) application missile where synergy is achieved due

to common subsystems. Currently, South Africa is investing in risk reduction technology activities, potentially leading to a missile demonstrator. Funding from a second party would elevate this technology establishment effort into a full-scale joint development programme. With that comes skills growth and industry job opportunity for both parties.

The outcome of collaboration on Marlin will be a Beyond Visual Range (BVR) missile for the two air forces and an All-Weather Surface-to-Air Missile (SAM) for the two navies and armies. This type of

initiative is supported by IBSA and other bi-lateral initiatives between RSA and Brazil.

The performance of the missiles from the Marlin programme is expected to be in the latest generation class relevant to each type. A BVR missile is typically used in conjunction with an SRAAM (e.g. A-Darter) on a fighter aircraft, where the BVR provides a larger stand-off distance and the highly agile SRAAM is used for close combat. The Marlin All-Weather SAM will have a much larger range than the typical Infra-Red SAMs.



■ Nosiviwe Mapisa-Nqakula, Minister of Defence, visited the Denel stand at the LAAD exhibition.

New appointments

These are the new appointments to key positions in the Denel Group. These appointments are in line with Denel's objectives to fast-track transformation, employment equity, skills development and succession planning.

- **Vuyelwa Qinga** has been appointed as the new Group Communications Manager. Vuyelwa comes to Denel from the Ministry of Higher Education and Training. She brings with her a wealth of experience in the communications environment.
- **Colin Singarum** is the new Senior Executive Business Development: Americas & Europe. He has moved up the ranks from Denel Aerostructures and his appointment will enable Denel to accelerate its efforts to penetrate new markets and clients for its products and services.
- **Zizikazi Mlokoti** has been transferred from Denel Technical Academy to the position of Group CSI Manager. She will be responsible for Corporate Social Investment across the group as Denel moves towards integrating these initiatives and implementing the Denel flagship CSI project.
- **Natasha Davies** is the new Group Executive: HR and Transformation. Davies has worked at Denel since September 2007.
- Two senior appointments have been made at Denel PMP. **Veronica Qezu** is the new HR Executive Manager and **Victor Khasapane** will be responsible for Business Development as the Executive Manager.



Brightest learners attend youth camp

A hundred of the best performing learners in Grade 10 and 11 in Free State schools were invited to a youth camp held in the Denel hostel from 23-28 June.

The Youth Month initiative was a partnership between the MEC of the Department of Economic Development Tourism & Environmental Affairs in the Free State, DoD, DPE and all SOCs.

The purpose of the camp was to expose learners to the real world of the workplace and to show them the workings of SOCs and the career opportunities

they offer. It was also to promote nation-building and patriotism.

Bulelani Magwanishe, Deputy Minister of Public Enterprises and Mosebenzi Zwane, MEC of the Department of Economic Development Tourism and Environmental Affairs in the Free State both attended the welcoming ceremony held at Denel on 23 June.

Riaz Saloojee, Group CEO of Denel said he hoped the camp would be a great learning opportunity for the teenagers.

He urged the learners, "the future leaders", to take their studies seriously: "There are very few jobs in Denel that do not require a strong high school background in mathematics, science and technology. Our company is able to produce highly sophisticated defence and security products because we are able to attract the best and the brightest of students," he said.

The learners were able to do site visits to SOCs such as Telkom, Transnet and SAA and Denel where they were exposed to new skill levels.





Group highlights

DENEL AVIATION (DAv)

- Denel Aviation has expanded its facilities for Russian Helicopters to now also include overhaul and upgrade work. An agreement between Denel and the Russian state-owned corporation, Oboronprom, was signed at the Paris Air Show.

The new agreement will enable the company to perform the entire range of maintenance, repair and overhaul services to the Mi-8/17 series of commercial and military helicopters which are in wide use across Africa. The two companies opened a Centre of Excellence to do this work during the Brics Summit in March.

Africa has a significant fleet of Mi-8/17 helicopters that need qualified and professional maintenance.

- DAv handed over the Puma 414 aircraft to a high level delegation from the Kenyan Air Force at the Kempton Park campus.

Major-General Otieno, the Chief of the Kenya Air Force, who officially received the aircraft, said it passed its flight test and P4 inspection.

"We have received a lot of support from Denel in the past and their co-operation is much appreciated," he said.



Abdul Carim, DAv Deputy CEO and Maj. Gen. Otieno, Kenyan Air Force Commander.

The Kenya Air Force technical team was at DAv for the past 12 months to undergo on-the-job practical and theoretical technical training whilst their aircraft was being serviced.

Abdul Carim, Deputy CEO of DAv, said Denel had enjoyed a 17- year partnership with the Kenya Air Force.

"We have recently been accredited as an MRO for Russian Helicopters and this will enable us to be of further assistance to the Kenya Air Force," he said.

The relationship between Denel Aviation and Kenya Air Force dates back to 1996. Apart from work on the Puma 415, DAv has completed work on seven Puma P4s.

- High school learners from Tshwane were urged to consider careers in aviation and engineering disciplines during a visit to the annual air show at Air Force Base Zwartkop on 11 May.



Getting down to the nitty gritty – learners find out what it takes to follow a career in aviation.

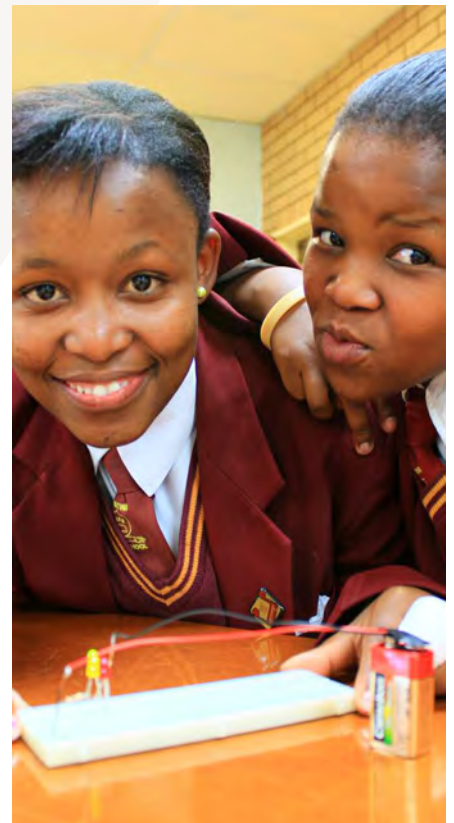
Denel Aviation hosted some 90 learners from schools in Atteridgeville and Mamelodi and provided them with a tour of the modern and vintage aircraft on show as well as information on career and study opportunities the company has to offer.

The Zwartkop event, organised by the SA Air Force Museum, is one of the largest air shows in the country and annually draws more than 50 000 aviation enthusiasts to watch the flying displays and visit the industry-related exhibitions.

The young audience had an opportunity to watch Denel's iconic product, the Rooivalk combat support helicopter, from up close and

observed the wide-ranging collection of aircraft on display at the SAAF Museum.

Ellelwani Mainganye, the communications consultant at Denel Aviation, gave the young visitors an overview of the company and invited them to apply for bursaries to study at the Denel Technical Academy.



- More than 70 young girls toured the Kempton Park campus as part of an ongoing campaign by both Denel Aviation and Aerostructures to get more women into the aviation industry.

This time it was the Cell C Take a Girl Child to Work Day, held on 30 May, which presented yet another opportunity to showcase the aviation industry and the career opportunities it offers.

Most of the learners who attended were from the Reiger Park and Etwatwa high schools and the rest were children of staff members. The girls were given a glimpse into the traditionally male stronghold with tours of the facilities and talks on the aviation industry.



Group highlights continued ...

DENEL AEROSTRUCTURES (DAe)

- A third multi-million contract for the manufacturing of critical parts for the Airbus A400M strategic airlifter has been awarded to Denel Aerostructures.



The A400M's distinctive vertical tail plane.

The 'ribs, spars and sword' form the inside structure of the aircraft's very distinctive vertical tail plane.

Riaz Saloojee, the Group Chief Executive Officer of Denel, said the approximate R157 m contract over a period of eight years demonstrates the confidence of major international companies in the design and manufacturing capabilities of the local aerospace industry.

"We have proven ourselves to be a reliable and innovative top tier supplier to one of the most sophisticated aircraft manufacturing programmes in the world. Airbus's decision to place a third major order with Denel shows satisfaction with the quality of our design, our manufacturing processes and our ability to deliver on time and within budget."

Ismail Dockrat, the CEO of Denel Aerostructures (DAe) said the new contract "places the company at the core of the global aerospace manufacturing industry."

The vertical tail plane is a flight critical part of an aircraft of the size of the A400M and contributes to its unique ability to land and take off carrying payloads in excess of 35 000 kg.

Dockrat said the new order also confirms that South Africa is at the forefront of global trends to use composite materials for high-tech manufacturing. The aerospace sector is leading the move away from metallic structures towards advanced materials which offer superior properties such as durability, hardness, elasticity and high strength-to-weight ratios.

- Denel Aerostructures has made significant investments in a composite facility in which it is able to manufacture products ranging from simple aircraft parts to complex rotor blades for helicopters.

The raw carbon fibre material is bonded, moulded, heated and machined into the required shape.

"The Government, in its Aerospace Sector Development Plan, recognises the immense potential of the composite sector, noting that it will be dominant in aerospace going forward and should be integral to future business planning," said Dockrat.

- The company hosted global delegates to the Airports City Conference and Exhibition (ACE) in Ekurhuleni from 24-26 April where it was able to showcase its high-tech manufacturing capabilities.

More than 800 delegates from across the world attended the three-day conference which was held in Africa for the first time. The conference focused on the prospects of developing Ekurhuleni into an Aerotropolis, or airport city, in the future. Dockrat said the company strongly supports the growth of an Aerotropolis as envisaged by the City of Ekurhuleni and the Gauteng provincial government.

Some 240 VIP delegates to the conference visited the Denel Campus in Kempton Park on 24 April as part of an extended tour that also included the O R Tambo International Airport.

The idea behind an Aerotropolis is to utilise an airport as an engine for economic growth that drives the development of the commercial and industrial sectors.

DENEL DYNAMICS

- As part of the ongoing commitment by Tawazun Holdings to build local defence manufacturing capabilities, UAE National employees from Tawazun Dynamics LLC, the Abu Dhabi-based precision-guided munitions manufacturer, have undergone intensive specialist training in South Africa.

The UAE National employees underwent an eight-month training course on manufacturing assembly and integration of precision-guided systems for conventional air munitions.

The programme was designed to equip the technicians with all the necessary skills to assemble and integrate Tawazun Dynamics's flagship product, the 'Al Tariq' system, through nine different modules.

Hamad Al Marar, General Manager of Tawazun Dynamics, said: "Capability building and knowledge transfer efforts are two of the critical foundation pillars needed to allow Tawazun Dynamics to realise its potential.



Students from Tawazun Dynamics pictured with the Al-Tariq system.

"Our aspiration to build a globally leading specialist business in its field goes hand-in-hand with our desire to build a local workforce with world-class expertise and standards.

"Through the right partnerships and application, we aim to support the development of a young generation of Emirati professionals who have the technical skills needed to contend in the global defence industry, as well as provide the UAE with a strong base of national industry experts who will help to lead and inspire the generations which follow."



Group highlights continued ...

Reflecting on his experience, one of the Tawazun Dynamics trainees, Mohamed Al Blooshi, said: "This training was a great learning opportunity and we found the work environment to be extremely engaging and motivational. The courses were truly comprehensive and helped develop our skills on a professional as well as on a personal level."

- Denel Dynamics Engineering Academy of Learning (EAL) continues to participate in career fairs and exhibitions across South Africa to ensure that South Africa's brightest minds are attracted to choosing a career within the company through bursaries, internships and vacation work.

The ability to innovate cutting edge, globally competitive, technologically advanced products and services is an essential quality that will propel the growth of local business into the future.



Current Denel Dynamics Bursars visiting the EAL team.

The EAL aims to develop and grow young graduates to enable them to be productive in as short a time as possible. This is achieved by assigning each graduate a formal mentor, providing training courses conducted by experienced Denel Dynamics staff, and external courses where applicable and assign a Product Development Project (Intern Project).

The first career fair of many for 2013 was the University of the Witwatersrand Career Fair, which was held on 18 April at East Campus –

Senate House. The EAL team were on hand to interact with students and give them an all-round career information session.

- Since May 2012, work has been underway on the new Tawazun Dynamics production facility.



Tawazun Dynamics management with the first batch of trainees who received certificates of completion for the Basic English skills training course.

Following the Approval from Sheikh Mohamed bin Zayed Al-Nahyan, Crown Prince of Abu Dhabi and the Deputy Supreme Commander of the UAE Armed Forces on 10 February where the facility received the country's highest approval, continuous work on the facility has taken place.

The facility now has multiple completed work stations and storage areas. Tawazun Dynamics has also completed training with the first batch of trainees on Basic English skills.

- In a role modelling campaign, young Denel Dynamics employees are giving up their free time to help learners find careers in science, engineering and technology.

The role modelling project is the South African Agency for Science and Technology Advancement's (SAASTA'S) contribution towards recognition of professionals who excel in the critical areas of mathematics, science and technology.

The project exposes learners to people with careers in Science, Engineering and Technology (SET) with the aim of providing learners with role appropriate models and mentors.

Learners normally meet and interact with at least four role models with different careers at each of the interventions. Role modelling was initiated in 2005 by the South African Women in Science and Engineering (SAWISE) committee in

collaboration with SAASTA to recognise women in science and engineering and to encourage and inspire girl learners to follow careers in SET.

The aim is to expose learners to career opportunities, to increase the number of learners choosing science and mathematics as subjects and to encourage them to take up related careers as well as offering scholarships/grants to exceptionally smart students.

Assigned role models monitor the progress of the students throughout the year and assist the students academically.

MECHEM

- Mechem won a contract with the Kenyan Defence Force for the supplying and training of dogs as well as the training of SANDF members as Explosive Detection Dog Handlers.

The Kenyan Defence Force requested that only Springer Spaniels and Labradors be supplied so Mechem imported these from Ireland. The dogs all arrived safely at OR Tambo on the 3 May.

The first imprinting stage started at the Mechem Dog Unit. Two instructors and 12 dogs were sent to Nairobi during the week of the 19 May, where training began.

DENEL LAND SYSTEMS (DLS)

- DLS is currently, under project African Warrior, upgrading the SA Army's R4 assault rifle to enhance its capabilities in order to meet the requirements of the modern dismounted soldier.

This upgrade is a small part of the bigger SA Army's Warrior programme to enhance the total capability of the new Integrated Infantry Soldier programme.

The R4 assault rifle has been produced by Denel Land Systems for the SANDF over the last thirty year and more than four hundred thousand of these weapons have been delivered up to 1997.

In order to reduce the technical risk of the upgrade to the R4 assault rifle, DLS has designed its own unique modular Picatinni rail system.



Group highlights continued ...

These designs are aimed at establishing a modular weapon system that requires the least amount of modifications to the basic R4 assault rifle and all the attachments will be interchangeable between the variants.



DLS team after testing the R4 rifle.

The upgrade to the R4 assault rifle will render it comparable with modern assault rifles allowing the SA Army to meet the requirements of the modern battlefield and furthermore it will extend the life of the R4 for another twenty to thirty years.

It will also support DLS to make its small arms business sustainable in order to meet the SANDF's strategic requirements for such a cardinal capability.

- The DLS Mentoring for Success (M4S) Group was involved in a project to introduce the 'Mini-Chess Programme' to Philena Primary School in Olievenhoutbosch.



DLS introduced the Mini-Chess Programme to Philena Primary School.

This programme uses chess to teach learners about maths and science. It was designed by Marisa van der Merwe who won the accolade of Shoprite/Checkers "Woman of the Year" in

the educators category. In order to raise funds, the M4S Group hosted a competition with a prize of a chess set.

The M4S Group is in partnership with DLS as part of a Structured Mentoring Programme (SMP).

DENEL OVERBERG TEST RANGE

- The Test Range supported two global satellite launches recently. Two telemetry specialists from Denel Overberg Test Range and their mobile telemetry station successfully supported the second launch of the VEGA launch vehicle (VV02) while deployed in Northern French Guiana on 7 May.



Herman Steenkamp, Gilles Sonny (Telespazio – Kourou), Robin McNeill (Venture Southland – New Zealand) and Leon Korkie, celebrating the successful support of the fourth Automatic Transfer Vehicle (ATV4) launch.

Leon Korkie and Deon van der Hoven assembled the mobile telemetry station on site, integrated it with the French Space Agency telemetry kit and participated in the qualification of the telemetry network before supporting the actual mission. The mobile telemetry station of the Test Range provided key coverage for the powered phase of the ascent of the launch vehicle from shortly after launch, from the Guiana Space Centre near Kourou, until it disappeared over the horizon in the north.

The second mobile telemetry station of the Test Range was deployed and prepared by Herman Steenkamp and Nico du Plessis at Invercargill in New Zealand during March 2013.

On 5 and 6 June, Leon Korkie and Herman Steenkamp flawlessly supported the fourth launch of the Automatic Transfer Vehicle (ATV4: Albert



Denel Overberg Test Range's mobile telemetry station's antenna at the deployment site in French Guiana where it provided key coverage during the second launch of the Vega launch vehicle.

Einstein) from Kourou on an Ariane 5 ES Launch vehicle.

The launch of the Albert Einstein space vehicle with a mass of more than 20 metric tons was a record-setting heavy-lift mission for Ariane Space. It docked with the International Space Station on 15 June after a 10 day period of free flight. Japie Venter, Project Manager for these stations, remarked: "This is also a record for us, because it is the first time that two Denel Overberg Test Range mobile telemetry stations successfully supported two different missions on opposite sides of the world." Both missions were contracted by the French Space Agency (CNES) under a current umbrella agreement.

- The Test Range has invested in units which will be used to condition ammunition.



The new cold and hot / ambient units the Test Range obtained to satisfy the requirements of clients, enabling the Range to deliver a more comprehensive service.

Market research indicated that such a capability will attract more clients to the Test Range. At the end of May, Denel Overberg Test Range took ownership of two conditioning units, a cold and a hot/ambient unit.



Group highlights continued ...

This will enable the Test Range to provide a more comprehensive service for the testing of artillery, mortars, naval and various other ammunitions or sub-munitions.

They are designed to condition, for example, up to twenty 155mm artillery rounds including the charge, which enables the firing of forty conditioned 155mm rounds per day.

A complete history of the conditioning temperature can be recorded with the use of temperature data loggers. The effective operation of the units allows the required temperatures to be obtained in less than one hour from the time of switching on. As the units are mobile they can be used at various locations which allow for flexibility when executing a test.

- The Test Range hosted a group of matric learners in a three-day motivational and leadership camp that gave them a glimpse into an exciting high tech world.



Abrie van der Walt, Chief Executive Officer of Denel Overberg Test Range, addresses the learners from Peak View Secondary School during their visit to the Test Range.

The Grade 12 learners from Peak View Secondary School, a feeder school for the previously disadvantaged communities of Khayelitsha, Langa, Gugulethu and Bridgetown, were housed at Die Herberg hotel - an experience few will forget.

"Thank you for serving three meals and providing a comfortable stay, as many of our learners come from impoverished communities and are not used to such luxuries," wrote one of the teachers, Mr M Lutta in a thank-you letter."

The 48 learners, teachers and service providers – a group of 61 – were given presentations and allowed to visit the control room of the Test Range, something that few South Africans will ever see.

The visit took place during the weekend of 13 April after a request from Me Connie September, then a member of parliament's Portfolio Committee on Public Enterprises.

She had visited the Test Range in November last year and had been so impressed with the facility that she had asked if they could host the Grade 12 learners. Principal Oswald de Villiers described the visit as "the most exciting weekend of the learners' lives".

He said that the presentations by Abrie van der Walt, CEO of Denel Overberg Test Range had "opened their eyes" and revealed a whole new world of exciting possibilities for the learners. De Villiers said the invitation demonstrates the positive attitude of Denel towards community upliftment and its unselfish commitment to the youth – tomorrow's leaders.

PRETORIA METAL PRESSINGS (PMP)

- On 15 April PMP again reached the one million milestone for man-hours worked without a lost-time injury. The previous incident took place on 1 November 2012. It takes up to 165 days to reach this milestone. PMP's previous record, reached in March 2012, is 2,4 million hours. This achievement can only be attributed to a 'safety first' culture that each employee exercises.



- PMP mentored mechanical engineering student, Elana in her final year project at the University of Pretoria.



Mechanical engineering student Elana Kruger was mentored by PMP's Thabo Meletse for her final year project at the University of Pretoria.

Kruger approached PMP Metallurgical Lab for help with her project on mechanical testing of engineering polymers.

Thabo Meletse, physical metallurgist at PMP who has a Masters Degree in Polymers, guided Elana through the experimental procedure, sample preparation, set-up of apparatus, execution of experiments and then discussed results and the enhanced knowledge and understanding of the properties and capabilities of engineering plastic she had learned.

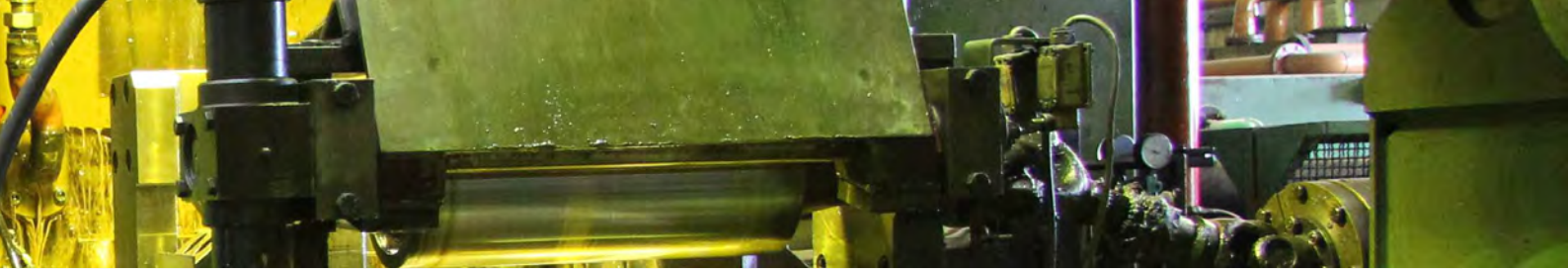
Elana was one of the top 20 students (out of 180) who received distinctions for their project.

- Thirteen new imported machines have been installed and commissioned at Denel PMP to boost the company's production of medium calibre 30mm X 173 ammunition.

The new Computer Numerically Controlled (CNC) machines will be able to manufacture up to 500 of the medium calibre rounds a day, meeting the requirements of the SANDF for Project Hoefyster, says the CEO of PMP, Phaladi Petje.

"This is a major step forward for PMP as it modernises our medium-calibre production processes and strengthens our capacity to deliver zero defect products of the highest quality to our clients in the SANDF," says Petje.

The development of the ammunition took place parallel with the development of the 30mm



Group highlights continued ...

Cam-gun for the Badger, done by Denel Land Systems. Two of the 8X8 Badger infantry combat vehicle variants will be equipped with 30mm cam-operated cannon. Hennie Vermaak, Manager: Medium-calibre Ammunition at PMP, says the requirements are to manufacture a volume of up to 100 000 rounds a year.

This target can now be achieved with the introduction of the new CNC machines. The entire projectile – that can consist of up to 20 parts – is now cut, machined, surface-treated and inspected at the medium calibre plants where the 13 CNC machines were installed.

“The machines enable us to speed up production processes and meet the exceptionally high demands for quality and accuracy required in the manufacturing of medium-calibre ammunition,” says Vermaak.

True to PMP’s commitment to produce ammunition of the highest quality, each component of every round is still hand-and-eye checked by human quality controllers.

Phaladi says the commissioning of the new machines will also enhance PMP’s capability to export more medium-calibre ammunition and earn the company foreign exchange. A number of other variations in the 30mm X 173 range are also under development.



■ Philippi site 2008.



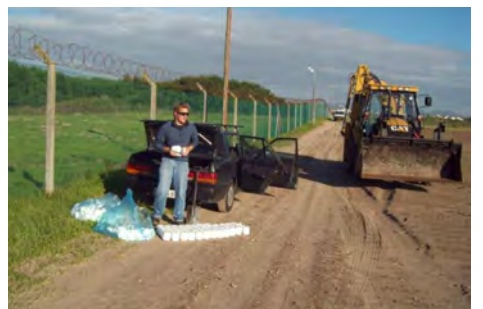
■ Decontamination of buildings and contaminated wood and ducking.



■ In some cases bulk burning was required.



■ The area was cleaned and the soil sieved to ensure that the area was clean.



■ Quality assurance and sampling was done by WSP (contracted environmental specialists).

DENEL INDUSTRIAL PROPERTIES

- In what is possibly a first for the country, Denel Industrial Properties (Deniprop) rehabilitated an explosives and munitions site in a complex and risky operation, which at one point involved sifting soil metre by metre with the help of highly trained Mechem de-mining dogs.

Some of the old explosives and pyrotechnical rounds were found up to 80 cm below the ground at the proof range. Deniprop’s challenge started in 2008 when Rheinmetall Denel Munition (RDM) leased this 513 ha site from Denel. The facility had to be relocated as a working entity to the Somerset West site. The relocation of the 64 year old facility was driven by the RDM’s effort to consolidate the operational facilities on fewer sites.

The environmental studies that were done by Denel over the past 20 years indicated areas of possible contamination. Higher remediation levels are needed for future residential areas.

The aim was to remediate the site in terms of current legislation and in line with a site characterisation study done prior to relocation of the facilities to Somerset West. Although the management and remediation of contaminated land is addressed in the Waste Act, not all sections of the act have been

promulgated. In planning this process to remediate the old factory, a detailed project plan was drafted with the inputs of the regulators, environmental consultants and a small dedicated team of RDM lead by Dirk Kotze, a seasoned explosives technologist/manager.

During the remediation process, 220 contaminated buildings were burnt and demolished. The building material was then sorted and recycled. All steel material was removed, roof trusses were recycled



Group highlights continued ...

and asbestos roof material was relocated to a hazardous waste site.

The rest of the building material was crushed to be used as topping for the construction of roads. Probably a first for South Africa was the remediation of a test range (approx 25 ha) by means of mechanical excavation and the use of the Mechem de-mining dogs.

As the cleanup on the test range involved mechanical sieving to remove blind and stray ammunition, the main challenge was, and still is, environmental conditions and mechanical breakdown of equipment.

Wet sand does not sieve easily and dry sand has a tendency to blow away resulting in difficult working conditions for the operators.

During the entire remediation project the Community Consultative Forum (CCF) formed part of the process. The latter consisted of community leaders, council members and representatives of the authorities. Special care was taken to ensure that the environment was preserved.

Property Portfolio Manager James Stewart said: "We are glad to report that we did not have any ammunition-related incidents or near misses during the entire remediation project and we thank our Lord for that."

Areas where soil contamination was evident were identified by making use of historic records and human resources. Special actions were taken to remediate the areas where uncontrolled dumping had taken place.

After all composites were removed, the area was cleaned and the soil sieved to ensure that the area was clean and soil samples were taken and tested to ensure that the soil area conforms to the remediation standards defined in the site characterisation standards and the draft legislation for cleanup of contaminated soil.

The Test Range was surveyed and demarcated into 50 x 50 metre squares which had to be checked



■ Sieving done at the Test Range.



■ An air quality baseline was conducted.



■ Remediation activities were explained during a site visit.



■ Current status at the Test Range.

for unexploded ordinances. The only way to clean the area was using mechanical excavators as the impact area was heavily contaminated with metal debris. Some of the ordinances were found up to 800 mm below the ground.

Special care was taken to ensure that the environment was preserved. The project is nearing completion and Deniprop is presently negotiating to sell the entire site for housing developments, inclusive of a mixed development.