

DENEEL INSIGHTS

Third Issue 2016



#DeneelAAD2016



DENEL GROUP VALUES



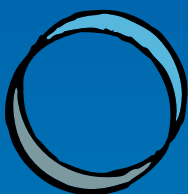
PERFORMANCE

WE EMBRACE OPERATIONAL EXCELLENCE.



INTEGRITY

WE ARE HONEST, TRUTHFUL AND ETHICAL.



INNOVATION

WE CREATE SUSTAINABLE INVESTMENT SOLUTIONS.



CARING

WE CARE FOR OUR PEOPLE, CUSTOMERS,
COMMUNITIES, NATIONS AND THE ENVIRONMENT.



ACCOUNTABILITY

WE TAKE RESPONSIBILITY FOR ALL OUR ACTIONS.

Issue highlights



- 2 Editor-in-Chief
- 3 Message from the Acting Group CEO
- 4 Denel Reports to Parliament on Financial Sustainability and Growth Prospects
- 6 Denel Ready to Meet Future Challenges
- 7 Growing Global Interest in Denel's Products and Technology
- 7 SANDF's use of Denel Products Creates Confidence
- 8 Young Engineers Deliver on Breakthrough Weapon
- 8 Innovation Combined with Experience
- 9 New Partnership to Explore Maritime Opportunities
- 9 Growing Denel's Maritime Business
- 10 Precision Meets Power in Integrated Weapon System
- 11 Denel Leads the Way in High-Tech Solutions
- 12 YDP Programme Sparks Youthful Interest in Denel
- 12 Rooivalk was Biggest Drawcard
- 13 Young Leaders Reflect on Denel's Future
- 13 Denel's Investment in Youth
- 14 Africa Truck – a New Solution for Military Transport
- 14 Advancements on Tried-and-tested Product
- 15 Integrated System Offers Best Protection Against Attacks
- 16 Denel Supports Free State Learners Before Final Exams

Editor's Note

We would like to hear from you!

Denel Insights has been created as an external communications platform to keep you – our stakeholders informed about the projects and developments within our Group. We would love to hear your comments and suggestions about issues that you would like us to update you on.

Please email your letter to the editor to pamm@denel.co.za, and include your name and contact details.

We look forward to hearing from you.

Pamela Malinda



Ms Vuyelwa Qinga

The Denel Management team, appreciates the contribution you have made to our success this year. We extend out best wishes to your family over the festive season and wish you a prosperous New Year.

Editor-in-Chief

Denel Continues to be on the Leading Edge

Throughout the centuries the defence industry has been the catalyst for innovative cutting edge technology that often brings tremendous benefits to the broader society. Whatever one's position is on the need to support a country's armed forces with sufficient products to defend a nation's sovereignty and protect citizens, the role of the industry in technological advancement cannot be denied.

It is safe to state that many modern advances in the fields of energy, advanced manufacturing, aviation and space exploration would not have been possible without initial research done by the defence sector. More recently the focus is shifting toward cyber-security. Again, the defence industry is leading the way in developing secure systems in an effort to keep countries safe against possible penetration by hostile forces.

In South Africa the local defence industry in general – and Denel in particular – have grown into a source of national pride, far removed from the role it once played before 1994. A key part is our contribution into South Africa's developmental agenda, which includes employment creation, skills development and transforming our economy.

Given Denel's position as the leading defence manufacturer in Africa – and among the global top 100 defence companies – it was to be expected that at this year's AAD, there would be significant attention from industry watchers on the new products and innovations exhibited at our pavilion.

Denel did not disappoint. While two years ago the focus was on our breakthrough medium-sized regional aircraft, the SARA, this

year the Africa Truck demonstrator elicited a lot of interest. The attention of the industry was drawn to its capabilities in providing peace-keeping forces operating on the continent with a new logistics solution to transport much-needed supplies right up to the frontlines.

This again, demonstrates Denel's capability to offer solutions that are designed for African needs and conditions. It further supports the notion that there are opportunities to partner with us in both manufacturing and in downstream enterprise development for companies that are based on the continent.

This edition of Denel Insights also tells you how the company is leading in the fields of cyber security, the protection of our country's maritime resources and the need to protect forces against attacks from terrorist groups and militias. These are among the key issues that occupy the minds of the current generation of defence decision-makers. In this context Denel, with our proven ability to develop workable systems, becomes a critical partner in providing the required technology.

AAD 2016 also confirmed the emergence of a new Denel with a new generation of scientists, engineers and executives moving into management positions and taking over responsibilities for major projects. This is also reflected in the pages of this edition.

Enjoy this copy of Denel Insights and please continue to give us your feedback.

Vuyelwa Qinga

Group Executive: Communication & Public Affairs



Mr Zwelakhe Ntshepe

The publication of our annual results and our very successful participation at AAD 2016 showed that we are on the right path.

Message from the Acting GCEO

Denel Emerges Stronger in 2016

2016 has been an eventful year for Denel as we continue to build on the successes of the past and restructuring the company to meet the challenges of the future.

The global defence environment is changing at a rapid pace and Denel has to be agile enough to identify trends, to position ourselves and to respond to opportunities that might arise.

The publication of our annual results and our very successful participation at AAD 2016 showed that we are on the right path. Our decisions to establish Denel Integrated Systems and Maritime and to make strategic acquisitions to strengthen our position in landward defence have, with the wisdom of hindsight, proven to be wise and it has already enabled us to move into new areas of business.

Similarly, we took strategic decisions to focus more extensively on the export markets, given the fact that close on 60% of our revenue is already derived from exports.

This does not mean that we are losing our focus on our primary mandate to be the partner of choice for the SANDF and the local industry. Our development of the Africa Truck demonstrator, in collaboration with Armscor, demonstrated, once again, our thorough understanding of the requirements of the SANDF while our cooperation with entities such as the CSIR on cyber security and maritime technology underlined the value of such partnerships.

However, in many ways the past 12 months have also been a difficult and trying period for Denel. I am pleased to note that we

have weathered most of the storms and succeeded in keeping the business running smoothly.

This would not have been possible without the valuable support we have received from the Board, our stakeholder at the Department of Public Enterprises, the Department of Defence and Military Veterans, the SANDF and Armscor. We want to thank them for their ongoing support and also extend a word of appreciation to many other partners in industry, in the broader defence and technology communities and among our suppliers.

Denel has always been a company which prides itself on the quality of the people who work within our organisation. Our human resources are our most important assets and we are exceptionally proud to see the emergence of a new crop of leaders and innovators who are demonstrating their abilities to eventually take over from the current generation.

At the end of the year I want to extend festive greetings and my best wishes to everybody at Denel, to our stakeholders and partners. I trust that you will have the opportunity to enjoy a well-deserved period of rest in the company of family and friends and I am looking forward to continue our relationship at the start of the New Year.

Zwelakhe Ntshepe
Acting Group CEO



Denel Reports to Parliament on Financial Sustainability and Growth Prospects

Denel continues to maintain a healthy financial position and is poised for a period of sustained growth in the defence and high-technology areas.

Denel presented its annual report and financial results to the Portfolio Committee on Public Enterprises in Parliament recently and emphasised the fact that it has posted profits for five consecutive years.

“The turnaround of Denel has been very successful,” says the Acting Group CEO, Zwelakhe Ntshepe. “We were able to demonstrate to Parliament how we have moved from a loss-making situation a mere six years ago to a position where we reported profits of almost R400-million in the past financial year.

“Denel was able to deliver these excellent results through restructuring and cost-cutting measures and by aggressively driving business growth, especially in export markets which now account for almost 60% of revenue,” says Ntshepe.

The presentation and Annual Report tabled in Parliament show how Denel has met –and exceeded – almost all the targets and key performance indicators set by the shareholder, the South African government. Revenue has grown by 41% to R8.2-billion and earnings before tax and interest improved by 59%.

Ntshepe says Denel informed Parliament that the company’s long-term growth strategy is aligned with its intentions to increase sales and widen its product portfolios. Within South Africa the emphasis is on strong alignments with Government and Armscor and externally Denel aims for a “focused and sustained penetration of selected international markets.”

Denel’s sustained financial recovery is dependent on its ability to increase market share, manage costs and achieving its revenue target – but also on the continued support and guarantees that it receives from the government.

“We therefore welcomed the opportunity to report back to Parliament on our financial performance and the quality of corporate governance that is in place at Denel,” says Ntshepe. “We trust that our engagement with the Portfolio Committee strengthened its confidence in the ability of the Board and executive management to lead Denel to even greater heights.

Ntshepe says the presentation to the Portfolio Committee also contained details about the progress made at Denel to appoint women and younger leaders into executive positions and to increase the share of emerging enterprises in the company’s supply chains and enterprise development programmes.

Denel spends more than R550-million on research and development and intellectual property and invests more than R65-million annually in training and skills development through bursaries, learnerships and education enrichment programmes aimed at high school learners.

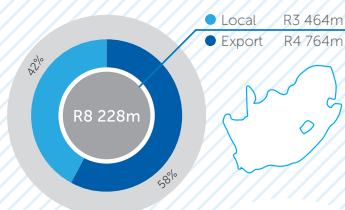
“The future of Denel looks positive,” says Ntshepe. “Denel has grown into the second largest defence company in the southern hemisphere and created a global awareness about the qualities and capabilities that exist within the South African defence and technology sectors.

2015/16 ANNUAL FINANCIAL RESULTS HIGHLIGHTS



Revenue

R8 228m
grows by
≈ **41%**



Local revenue
R3 464m
improves by
≈ **23%**

Export revenue
R4 764m
≈ **57%**

Net profit
R395m
improves by
≈ **R125m**



Significant
R&D investment
≈ **R550m**

Normalised
OPEX
15%↓

EBIT
R637m
≈ **8%**

Debt equity
1.6
ratio



Equity position
≈ **R2 321m**



Borrowings
R3 717m
increases by
≈ **R1 559m**



Cash balance
R2 003m
improves by
R94m



Mr Zwelakhe Ntshepe, Acting Group CEO addressing delegates during the conference.

Denel Ready to Meet Future Challenges

Denel embraces the challenges of the future. It is determined to play its role as a state-owned company with a dedicated mission to be the credible strategic partner for innovative defence and security solutions.

This was the message of Acting Group CEO, Zwelakhe Ntshepe, when he addressed an international conference hosted by Armscor during AAD 2016.

"We have reached an exciting growth stage at Denel with many of our research and development projects now maturing into tangible and marketable products," he said. "In the past financial year we allocated more than R550-million on R & D and intellectual property development through a combination of self-funded and client-funded investments."

Ntshepe said a feature of this stage of Denel's growth is the emphasis on partnerships to develop products and technology, to identify opportunities and to deliver the right products to the right markets. Exports already account for close to 60% of Denel's total revenue.

"We have identified priority markets in Africa, in the Middle East and in South East Asia and we will continue to work with partners that have sufficient knowledge and experience in these regions and that will strengthen our ability to gain footholds and market share."

He called for a united approach from the local defence and technology sectors to access global markets and to collaborate on research and development projects.

Denel is responding to the industry challenges and becoming a company that can meet many of SA's defence requirements from land, to air, to sea, to space and cyberspace. He referred to a number of the company's achievements since the previous AAD:

- The **SARA** initiative and the development of a demonstrator model of the future regional aircraft.
- The successful deployment of the **Rooivalk** Combat Helicopter and Denel's readiness to deliver on a Rooivalk Mk2, if required.
- Progress made with the **Umkhonto** surface-to-air missile which can now be fired from a variety of launch platforms on land and sea.
- The **Cheetah C-RAM** missile which can be deployed as an offensive weapon against projectiles – rockets, artillery and mortar.
- The establishment of a dedicated **Tactical Cyber Command Centre** to enable the state to respond to global threats in the cyber environment.
- The launch of the **Africa Truck** to provide logistical support to forces responsible for peace-keeping on the continent.
- The cooperation between Denel and the CSIR to develop the **SeaFAR** system to detect illegal fishing and the dumping of oil in the country's coastal zone.

"I am convinced that Denel has made the successful transition from being Africa's premier manufacturer of defence products to become a high-technology powerhouse with the ability to provide our clients with integrated solutions across a much broader spectrum of business," said Ntshepe.



Growing Global Interest in Denel's Products and Technology

primary partner of the South African defence and security forces we are also targeting more international partnerships and export opportunities in key regions such as South East Asia, the Middle East and the rest of the African continent.

One of the highlights of AAD 2016 was the signing of an agreement between Denel and Poly Technologies, China's top state-owned defence supplier, to collaborate in the maritime sector. This will cover areas such as ship repairs, shipbuilding, naval systems and marine services.

One of Denel's fastest-growing business units, Denel Integrated Systems and Maritime joined forces with the CSIR to develop and market local technology that can detect illegal fishing in South Africa's coastal waters and the unauthorised dumping of waste oil into the ocean.

"We have strengthened our leadership position in landward defence and missile technology, but we are also making greater inroads in the technology-rich environments of cyber security, command and control and systems integration," says Ntshepe.

Denel is confident that its participation in Africa's largest defence and technology exhibition will lead to a growth in business and a stronger order book.

Zwelakhe Ntshepe, the Acting GCEO of Denel, says there was significant interest in the company's products and systems from foreign delegations that attended the Africa Defence and Aerospace Exhibition – AAD 2016 – in Tshwane recently.

"Exports already contribute 58% of Denel's total annual revenue of more than R8-billion," says Ntshepe. "Although we remain the

SANDF's use of Denel Products Creates Confidence

Ntshepe says there is considerable interest in both local and international defence circles in the Africa Truck that was unveiled by Denel Vehicle Systems during AAD 2016. The versatile mine-protected vehicle is able to meet the logistical requirement of active peace-keeping forces that must be supported with equipment, fuel, supplies and ammunition.

"South Africa's successful deployment of peace-keeping forces on the African continent is also focusing attention on the capabilities of the local defence industry," says Ntshepe. "We have built a proven reputation for products and systems that have been tried and tested in battle conditions and that are uniquely suited to combat threats posed by irregular forces and terrorism.

Denel Dynamics is developing the Cheetah C-RAM missile that can counter rockets, artillery and mortars launched by militias and

terrorist groups. When the Cheetah is integrated with the Oerlikon Skyshield developed by Rheinmetall Air Defence it offers a quickly deployable system that can be used in homeland defence and by expeditionary forces.

Denel has also collaborated with Saab, to integrate the locally developed Umkhonto surface-to-air-missile with the Swedish group's Giraffe radar. This integrated system offers a highly cost-effective solution for countries requiring a complete air defence system.

Ntshepe says the Denel pavilion at AAD 2016 hosted a number of foreign delegations including Lt Gen Joachim Wundrak, the commander of German Air Operations who discussed plans to use the Denel Overberg Test Range in the southern Cape for the testing of its Taurus air-to-surface missile in 2017.

Young Engineers Deliver on Breakthrough Weapon



From L to R: Marumo Talane, Dakalo Nekhumbe and Phindile Mashaba.

Three young engineers at Denel responded to the challenge to design a modern and lighter version of a machine gun resulting in a breakthrough product.

The new generation DMG-5 was on proud display at AAD 2016 and attracted industry attention due to its innovative features.

Two young mechanical engineering graduates, Dakalo Nekhumbe, Phindile Mashaba and Marumo Talane a trained electro-mechanical engineer, took to the challenge with enthusiastic “out-of-the-box thinking”.

Their task was to redesign an infantry soldier’s most trusted ally, the machine gun, making it lighter and easier to handle without compromising its firepower and reliability.

Nekhumbe, Mashaba and Talane work at Denel Land Systems (DLS) and are all products of the Denel Engineering Academy.

Stephan Burger, the CEO of Denel Land Systems, says it was an easy decision to offer the challenge to the young designers. Mashaba, Nekhumbe and Talane were given a simple, yet challenging brief: “modernise the weapon, decrease its weight and retain its reputation as one of the most trusted elements in the infantry’s arsenal”.

Within these guidelines they were given the freedom and flexibility to come up with an innovative and effective final product.

Innovation Combined with Experience

“The challenges were set – and met – with great enthusiasm and professionalism,” says Burger. The three young engineers were committed to the company’s Infantry Weapons Department where they worked under the guidance of experienced engineers and veteran designers.

The weapon that emerged from the engineering team represents a major leap forward in weapons design. A weight reduction of almost 20% has been achieved – the DMG-5 tips the scales at a mere 8.3kg compared to the 10.3kg of the standard SS77.

Burger says the new design is the result of creativity and innovation from a young team who tackled the challenge from fresh new angles. Among the major design changes introduced is a new barrel design, new cocking handles, new flash hiders, light weight trigger housing and a co-ax handgrip.

With each change in design precious grams were shaved off the weight of the weapon without compromising on stability and durability. The result is a well-balanced, light weight weapon which is ideally suited for modern soldiers who need to operate in both rural and urban battle environments.

Burger says the existing SS77 manufactured by Denel offers firepower, durability and reliability and has proven its capabilities in combat operations many times over.

However, both soldiers and weapon designers are always searching for an improved product – in this case a machine gun that is lighter to carry and easier to handle – without cutting corners or compromising on the requirements of firepower and accuracy.

The young engineers stayed with the project from design, to modelling, to testing and the production processes and were also on hand when the new DMG-5 was unveiled to the public at the AAD2016.



New Partnership to Explore Maritime Opportunities

Denel is joining forces with China's leading defence supplier, Poly Technologies Inc. to explore opportunities and collaborate in the South African maritime sector.

A Memorandum of Understanding between the two state-owned companies was signed at AAD 2016, Africa's leading defence and technology exhibition. The objective is that the two organisations will combine their skills and experience to contribute to the rejuvenation and growth of the local maritime sector in areas such as ship repairs, shipbuilding, naval systems and marine services.

The collaboration is closely aligned with the objectives of Operation Phakisa, the broad South African initiative to promote growth and

development in the oceans economy, including maritime transport and the shipping industry.

"We are thrilled to partner with Poly Technologies," says Zwelakhe Ntshepe, the acting Group CEO of Denel. "There is a synergy between our two companies that will lead to a beneficial relationship and add value to our primary client," the SA Navy.

The Vice President of Poly Technologies Inc. Mr Liu Jianmin, says the combined skills and expertise of the two entities will help to rejuvenate the entire South African maritime sector. "We are delighted with our partnership with Denel and look forward to deepen and strengthen this relationship."



Mr Ismail Dockrat, CEO of Denel Integrated Systems and Maritime.

Growing Denel's Maritime Business

Poly Technologies Inc. is a multinational supplier of defence equipment and solutions and is the only company tasked by the Chinese government to do research and development, manufacture, import and export defence equipment for the country's army, navy, air force and security forces. As a leading industrial company it has participated in a number of major maritime programmes in China.

Denel Integrated Systems and Maritime was established as a new division of Denel in 2014. One of its primary objectives is to grow

Denel's business in the maritime and naval environments and to explore opportunities that can support Operation Phakisa.

Ismail Dockrat, the CEO of Denel ISM, says it is a great opportunity to work together with the team from Poly Technologies. "Their passion, dedication and expertise in the maritime industry are well known and we are looking forward to pursue joint collaborations."

#DenelAAD2016

Precision Meets Power in Integrated Weapon System

The integration of the iNkunzi Strike fully automatic support weapon with Denel Vehicle Systems' Remotely Operated Weapon station will add considerable firepower to armoured personnel carriers and light vehicles.

The product combines the prowess and innovation of two Denel divisions and was on display at the Denel pavilion at AAD 2016. Mechatronics, a division of Denel Vehicle Systems has integrated the iNkunzi Strike into its light Remotely Operated Weapon Station – SDROW.

The iNkunzi Strike is a belt-fed, fully automatic support weapon that uses the same 20x42 mm ammunition as the semi-automatic iNkunzi Personal Area Weapon (PAW), produced by Denel PMP. It can fire high explosive and semi-armour-piercing ammunition, making it an alternative to 40x53 mm automatic grenade launchers but has a higher velocity and flatter trajectory.

Johan Steyn, the CEO of Denel Vehicle Systems says the integrated system "combines power, strength and simplicity in a compact package."

"We now offer clients a complete system, inclusive of weapon and ammunition, from one original equipment manufacturer," says Steyn. The weapon is integrated into a stabilised platform that can be remotely controlled from under armour.

The SDROW was designed to be fitted with a 5.56 mm or 7.62 mm machine gun to provide close-in self-defence for armoured vehicles. The integration of the iNkunzi Strike gives it significantly more firepower, meaning it could serve as the primary offensive weapon station for armoured personnel carriers and similar vehicles.

Recent conflicts show an increase in the use of compact, man-portable anti-armour weapons against vehicles. Conventional machine guns are no longer adequate to counter this threat. Forces now engage in asymmetrical warfare with no clear battle lines and the SDROW Strike can act as a force multiplier during offensive engagements.

Phaladi Petje, the CEO of Denel PMP, says the Inkunzi can be effectively used against high-value targets such as light-armoured vehicles, thin-skinned transport and machine-gun nests. Because of its accuracy it can be used in an urban environment or inside enemy positions. Its effectiveness is not reduced at longer ranges because the effect of the bursting ammunition remains the same.



Johan Steyn, CEO of DVS at the Launch of the Strike Remotely Operated Weapon Station.



Strike Remotely Operated Weapon Station Media Launch.

Denel Leads the Way in High-Tech Solutions



Denel's leadership role in cyber space and advanced information management is being confirmed through a number of new announcements and partnerships.

The establishment of Denel Integrated Systems and Maritime in 2014 enabled the company to devote greater attention and resources to the cyber environment and to establish partnerships with other local players with experience in the field.

- Denel is taking the initiative to combat cyber terrorism in South Africa with the establishment of a dedicated business unit to counter the growing global threat to the country's security and economic interests.

The Denel Tactical Cyber Command Centre - DTC³ - will form part of Denel ISM. Denel is synonymous with innovative defence and security solutions and is best placed to extend its experience and technology into the cyber security domain.

Ismail Dockrat, the CEO of Denel ISM says cyber-attacks are on the rise and everything from government security to business data to the confidential information of individuals are being targeted.

DTC³ will be the cyber security operational centre for Denel leading to the establishment of a Sector Computer Incident Response Team (CSIRT). In this process Denel will work closely with the CSIR and the Department of Telecommunication and Postal Services. DTC³ will also provide specialist cyber security solutions and services including a defensive and offensive cyber warfare capability.

- Real-time situation awareness in the safety and security environment will in future become more effective following the local development of a new software platform.

Denel ISM and the CSIR have concluded a strategic partnership to commercialise and market the Cmore system. The software platform was developed by the CSIR and partially funded by Armscor.

"We are combining the experience, reputation and marketing network of Denel with the specialist technology and research strengths of the CSIR to bring a home-grown solution to the local and international security environment," says Dockrat.

- Denel also joined forces with the CSIR to develop and market locally-developed technology that can detect illegal fishing in South Africa's coastal waters and the unauthorised dumping of waste oil into the ocean.

The **SeaFAR** technology is a Maritime Domain Awareness tool developed and hosted by the Meraka Institute of the CSIR.

Dockrat says South Africa has an exclusive maritime economic zone of more than 1.5-million square kilometres. This vast ocean area carries a rich and diverse marine ecology with immense value for the country's economy

"The CSIR has developed pioneering technology to detect illegal vessels and Denel ISM is now working with its team to further develop the system and to explore the export potential of SeaFAR," says Dockrat.

The establishment of Denel Integrated Systems and Maritime in 2014 enabled the company to devote greater attention and resources to the cyber environment and to establish partnerships with other local players with experience in the field.

#DenelAAD2016

YDP Programme Sparks Youthful Interest in Denel



Learners going through the different displays at AAD.



Bulelani Magwanishe, Deputy Minister of Public Enterprises accompanied by Richard Mdakane visited the Youth Development Programme at AAD.

Hundreds of young visitors to AAD 2016 – Africa's premier defence and technology exhibition – were given an opportunity to experience the defence industry up close through Denel's sponsorships and exhibitions.

Of the more than 3 300 participants in the Youth Development Programme hosted at AAD 2016 some 820 were sponsored by Denel including learners from rural schools in the Eastern Cape and KwaZulu-Natal.

The aim of the YDP was to create an interest in the defence sector among the learners by giving them hands-on experiences with equipment and technology and interaction with young professionals in the industry.

Many young people associate the defence sector only with being a soldier or shooting with rifles. However, through the YDP at the AAD Show were shown that there is a much broader picture where technology and advanced skills are part and parcel of a modern defence force and its supporting industries.

Rooivalk was Biggest Drawcard

The Rooivalk simulator attracted the most attention from the youth and they were also able to observe the combat helicopter from up close while it was preparing to fly during the open day air show.

Another favourite was the innovative robot designed by Denel Mechem electronic technicians Selaelo Mojela and Isak Sokuwe. The robot can detect landmines through an on-board camera and the information is then sent back to its operators through a wireless system.

The Tactical Observation Ball System, developed at Denel Dynamics, enables soldiers to see beyond the conventional barriers of the battlefield. It is deployed through a window or opening and controlled through a smartphone. By moving the ball around within a space soldiers gain critical visual information without putting lives in danger.

A number of important guests expressed support for the Youth Development Programme during visits to the exhibition, including



the Minister in the Presidency, Jeff Radebe, the Minister of Defence and Military Veterans, Nosiviwe Mapisa-Nqakula and the Deputy Minister of Public Enterprises, Bulelani Magwanishe.

Young Leaders Reflect on Denel's Future



Malusi Shezi, Programme Manager: Rooivalk from Aviation sharing his experience with the learners and other young engineers.



Learners attending the Denel Young Talent Breakfast.

Young engineers and learners from Denel's Schools Outreach Programme had an opportunity to come together during AAD 2016 to talk about their experiences in the company and share views about the direction of the defence industry.

Ms Khumbudzo Ntshavheni, a member of the Denel Board of Directors was the guest speaker at the Denel Young Talent breakfast which brought together many of the new generation engineers, artisans, technicians and scientists within the organisation. A number of learners who participate in the enrichment programmes offered through the Denel Schools Outreach project also attended the breakfast.

The speakers and participants in the question and answer session reflected on issues such as the role of the youth in South Africa's growth and development and the opportunities available for young people within the critical and scarce skills careers to contribute to the country's future.

Discussions also centered on the transformation of Denel as a company and the opportunities for young professionals to carve careers within the organisation and become part of the leadership structures.

Denel's focus area is to drive transformation and as a result, the company is starting to reflect the demographics of South Africa. At the same time young engineers are increasingly taking responsibility for key engineering projects and research initiatives.

Malusi Shezi is a young black engineer who is the project manager of the Rooivalk helicopter project – leading the future development of one of Denel's flagship programmes. At Denel Land Systems three young engineers, Marumo Talane, Dakalo Nekhumbe and Phindile Mashaba, brought fresh ideas to the redesign of the Denel Machine Gun (DMG-5).

Denel's Investment in Youth

During the past financial year Denel has invested more than R550-million in research and development, reflecting the company's commitment to innovation and to remain at the cutting edge of a rapidly changing defence sector.

One of the projects that is attracting attention is the Small African Regional Aircraft – SARA – an initiative to develop a passenger plane to serve regional destinations that are not served by existing airlines. A demonstrator model of the SARA was unveiled for the first time at AAD 2016.

The SARA project is a collaboration between young engineers at Denel and academics and post-graduate students at local universities.

The programme is creating new horizons for young engineers and artisans entering the industry.

The presence of high school learners at the breakfast highlighted Denel's contributions to programmes designed to improve maths and science at high school level. The company also awards bursaries for university studies, takes in interns and trains young people in technical skills.

Through Denel's talent management programme the company identifies young employees with leadership potential and guides them on a career path that will enable them to assume management positions within the company in the future.



Africa Truck – a New Solution for Military Transport

A new generation military truck designed to provide logistic support and transport cargo to deployed South African Forces was introduced by Denel at the AAD 2016.

Denel's Africa Truck is a demonstrator model developed by Denel Vehicle Systems and can be adapted to meet the requirements of clients in the defence and security environments. The truck is locally designed and Denel intends to manufacture it locally using its existing experience in the production of mine-protected vehicles.

The Chief of the SANDF, General Solly Shoke, says the bulk of the existing Samil fleet has been in operation since 1975 and many of the vehicles have reached the end of their useful life after 40 years of service.

The Military Command Council requested Armscor, Denel and the CSIR to urgently investigate a project to restore the SANDF's capabilities in terms of logistic vehicles and renew the fleet, if required.

The Africa Truck "demonstrates the ingenuity and technical capabilities of the South African defence industry," says Gen Shoke. Following the launch the truck will undergo further testing and evaluation before a final decision will be taken on acquisition.

Advancements on Tried-and-tested Product

The demonstrator model builds on the highly-successful RG31 mine-protected personnel carrier manufactured by Denel Vehicle Systems. "Our vehicles are tried and trusted. They are battle-tested and have withstood the rigours of both combat and peace-keeping operations," says the Acting GCEO of Denel, Zwelakhe Ntshepe.

The Africa Truck has been designed and constructed on a modular basis. The 6X6 version displayed at AAD2016 has a gross vehicle mass of 28 tons but Denel Vehicle Systems is also able to manufacture 4X4 and 8X8 versions.

The vehicle offers high levels of protection for the crew against small-arms fire and against landmines and explosives. It has a hybrid-monocoque design and can be equipped with a range of armour piercing weapons which adds to its protection and self-defence.

The versatility of the truck is demonstrated by the fact that the cargo load can be easily adapted to meet the needs of the clients. It is designed to transport cargo and supplies to forces deployed in operational conditions but can also serve as a troop carrier, a field hospital or a field office. It can also be used during emergency rescues operations, by medical teams and in the agriculture and forestry industries.

"This makes this a family of trucks which give clients an integrated solution and reduces the costs of maintenance, spares and repairs," says Ntshepe.





Integrated System Offers Best Protection Against Attacks

A creative partnership between Denel Dynamics and Rheinmetall Denel Munition has resulted in the development of an effective force protection system that can counter unconventional and terrorist attacks.

The Cheetah C-RAM is an offensive missile that can be used against RAM projectiles – rockets, artillery and mortars – often used by militias and terrorist groups. They are being used in hit-and-run attacks which are challenging to counter and defeat.

Tsepo Monaheng the CEO of Denel Dynamics says that when Cheetah missiles are integrated with the Oerlikon Skyshield of Rheinmetall Air Defence they offer an effective counter against such threats. The systems were on display at AAD 2016.

In modern asymmetric warfare, attacking groups have a wide range of platforms from which they can launch assaults against conventional force bases. Small unmanned aerial vehicles are used by militias to gather information about troops and weapons, and rockets, artillery and mortar projectiles are then launched as disruptive strikes.

Given the changing nature of unconventional warfare it is of vital importance that conventional forces can command and control effective defence systems to counter these threats.

Norbert Schulze, CEO of Rheinmetall Denel Munition says the combination of the Oerlikon Skyshield and the Cheetah C-RAM missile is the solution to this challenge. The combined system provides a defence force permanent airspace surveillance, automated detection and tracking of very small targets, and prior warning of areas under threat. The ability to intercept and defeat incoming RAMs contributes to the effectiveness of the protection system.

The system can protect any vital civilian or military assets from RAM attacks. It is tailored for use in homeland defence and expeditionary missions and offers maximum flexibility in deployment.

Monaheng says the SA National Defence Force and other customers have a need for protection against rocket, artillery and mortar attacks and will contribute to the full-scale development and production of the C-RAM missile system.

The Oerlikon Skyshield gun system is already in operational use by the SANDF and Rheinmetall Denel Munition is a partner with Denel Dynamics in the future development and integration of the system. Denel Dynamics has already concluded a feasibility study and performance demonstrator to confirm the technological capability to develop and produce a cost-effective missile solution to counter mass attacks from rockets, mortars and artillery rounds.



Suna Kotole from Denel PMP.



Mike Dzulane with some of the learners from the Free State.



Richmond Malinga with the learners from the Free State.

Denel Supports Free State Learners Before Final Exams

Rural high school learners in the Free State received a “final push” from Denel to prepare for the year end exams.

Denel’s young engineers spent the October holidays in the Xhariep district to teach and mentor matric students in subjects such as science and mathematics.

This initiative will benefit matric students in towns such as Fauresmith, Olien, Trompsburg and Zastron and follows on a winter school programme offered by Denel in July.

“Many of our young engineers come from rural communities and disadvantaged background and welcome opportunities to give back to society and share their knowledge and experience,” says the Acting Group CEO of Denel, Zwelakhe Ntshepe.

Ntshepe says South African State Owned Enterprises (SOE) exist in a developmental context and are thus expected to play a pivotal role in transforming both the economy and society through this and similar intervention that target mostly the marginalised communities.

Three young Denel engineers provided extra tuition in calculus, geometry and chemistry are Mike Dzulane, from Denel Land

Systems, Suna Kotole from Denel PMP and Richmond Malinga from Denel Dynamics.

The Free State Department of Education approached Denel for assistance in preparing high school learners prior to the start of the matric exams.

Denel regularly contributes to high school learning through bursaries, scholarships and participation in science weeks and enrichment programmes. In the 2015 academic year matriculants who attended Denel’s maths and science enrichment programmes in Gauteng, Mpumalanga and the North West, received a 100% pass rate in the year-end exams. The 230 Grade 12 learners raked in 117 distinctions and more than 60% of the class received exemptions for university studies.

Denel has established a productive relationship with schools in the Free State and some of its engineers have also lectured in the Lejweleputswa district.

“This is another opportunity for Denel to support communities and education authorities in subjects that are vital to the ability of learners to continue with further studies,” says Ntshepe.

Denel Women at Top Women Awards



Vuyelwa Qinga, Group Executive Corporate Communication & Public Affairs with the winner of the Woman in Aviation Award Sponsored by Denel.



Denel Ladies attended the Top Women Awards. From L-R: Pfumelani Mbulayeni, Aviation; Felicia Msiza, Corporate Officer, Preshni Govender, Aviation; Puseletso Matlala, Aviation; Vuyelwa Qinga, Corporate Office; Thandeka Sabela, Corporate Office; Naadira Hassim, Aviation and Elizabeth Albelho, Aviation.



BLOW THE WHISTLE **ON FRAUD AND CORRUPTION**

CALL THE DENEL ETHICS HOTLINE



0800 20 48 80

South Africa Only

ETHICS HOTLINE:

KPMG HOTLINE:
0800 20 48 80 (SA) and
+27 12 543 5418
(Outside South Africa)

KPMG HOTPOST: BNT371, P O
Box 14671, Sinoville, 0129

KPMG HOTFAX:
0800 200 796

KPMG HOTMAIL:
fraud@kpmg.co.za

DEFENCE TECHNOLOGY MADE EASY



Minah Sindane Bloem
Llewellyn Hartnick

