



SITA SOC Ltd, 459 Tsitsa Street, Erasmuskloof, Pretoria, South Africa • PO Box 26100, Monument Park, 0105, South Africa
Tel: +27 12 482 3000 • Fax +27 12 367 5151 • Reg. No 1999/001899/30 • www.sita.co.za

MEDIA STATEMENT

SITA AWARDS R2 MILLION IN PRIZES TO TOP SCHOOLS IN ROBOTICS AND STEM CHALLENGE

Date: 03 October 2024

The SITA Coding and Robotics Challenge has successfully concluded, awarding a total of R2 million in prizes to the top three primary and secondary schools across South Africa. The initiative forms part of SITA investment in promoting ICT and STEM subjects to learners, especially from the previously disadvantaged communities.

SITA partnered with the Department of Basic Education to deliver on this initiative which forms part of SITA's Corporate Social Responsibility (CSR) programme, aimed at empowering schools, and young learners' access to ICT. This is in addition to promoting and developing essential 21st-century skills to drive the national digital economy.

The challenge aligns with the goals of South Africa's National Development Plan 2030 (NDP2030), which emphasizes the importance of education, innovation and skills development in driving economic growth, reducing inequality and addressing unemployment. By investing in youth talent through initiatives like the SITA Coding and Robotics Challenge, SITA's commitment to the NDP2030's vision of a more inclusive and innovative future for South Africa. becomes realized through action.

The competition attracted enthusiastic participation from learners in both primary and secondary schools, showcasing their creativity and applied knowledge in STEM (Science, Technology, Engineering, and Mathematics) fields. After a rigorous adjudication process, 10 primary and 10 secondary schools were shortlisted for the final round of the challenge. The finalists were judged on their projects' creativity, technical execution and real-world application in robotics and coding.

Non-Executive Directors:

Ms. M Mosidi (Chairperson), Prof. S Bvuma (Deputy Chairperson), Ms. Z Hill, Ms. O Ketsekile,
Ms. N Pietersen, Mr. R Ramabulana, Mr. M Ratshimbilani

Executive Directors:

Mr. S Dzungwa (Managing Director Acting), Mr. MK Kgauwe (Chief Financial Officer)

Acting: Company Secretary

Ms. N. Green

At an exciting awards ceremony held on 26 September 2024 in Gqebhera in the Eastern Cape, the top three schools at each level were honored for their outstanding achievements:

Primary Schools:

1. Mashupye Tladi Primary School, Limpopo – R500,000
2. Kutung Primary School, Gauteng – R300,000
3. Inkonjane Primary School, North-West – R200,000

Secondary Schools:

1. Cosmo City Secondary School, Gauteng – R500,000
2. Ekangala Engineering Secondary School, Gauteng – R300,000
3. JG Meiring Secondary School, Western Cape – R200,000

"SITA is honored to support these talented learners and their schools," said Mr. Sidima Ntsangani, SITA Executive responsible for Applications Development and Maintenance. He added: "By fostering coding and robotics skills, we are helping to shape the future of South Africa's digital economy while contributing to the socio-economic objectives set out in the NDP2030. Through these CSR programs, SITA remains committed to advancing education and innovation, empowering the youth to thrive in a digitalized future."

The SITA Robotics Challenge is part of SITA's broader strategy to foster education, innovation and training in digital technologies, ensuring that South African youth are well-equipped for the future workforce. Through this initiative, learners are gaining hands-on experience in coding and robotics, helping them develop critical thinking, problem-solving abilities and teamwork – all skills essential for success in the Fourth Industrial Revolution (4IR).

For media inquiries and further information, please contact:

Head: Corporate Affairs: Tlali Tlali (Mr)

Cell: 082 3333 880

Email: Tlali.Tlali@sita.co.za

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Note to Editors

Excerpts from Shortlisted High Schools' Essays

The team from **Amazizi Secondary School** in KwaZulu Natal is addressing the issue of livestock theft in their community by developing a microchip to be implanted in cattle for tracking. The microchip will be solar-powered and programmed to provide precise coordinates of the cattle's location. They also propose the use of a robot to retrieve data and disseminate information to the police, aiding in the recovery of stolen livestock. This initiative aims to create a safer and more secure environment for the community and the country as a whole.

Bredadorp High School team's proposed project is to use drones for delivering HIV medication to rural areas with limited access to healthcare. The team identified the lack of access to treatment and information for HIV-positive patients and proposed a solution using drone technology to provide secure and discreet delivery of medication and information. The team plans to use key codes for secure access to packages and aims to build a drone from scratch to ensure accurate and efficient delivery to rural areas. The proposed solution aims to address the stigma around HIV and improve accessibility to medication and information for HIV-positive individuals.

Cosmo City Secondary School essay discussed the importance of environmental sustainability and the transition to a low-carbon economy, particularly in the context of South Africa. It emphasizes the significance of robotics in promoting environmental sustainability and proposes the development of an Autonomous Solar Panel Cleaning Robot (ASPCR) to aid in the transition. The ASPCR is designed to maximize energy generation, conserve water, save costs, and be scalable for large-scale solar installations. The essay concludes by highlighting the potential of robotics to enhance the efficiency and effectiveness of renewable energy systems, emphasizing the need for innovation, collaboration, and investment in clean technologies for a more sustainable future.

The Ekangala Secondary School team recognizes the importance of transitioning to a low-carbon economy for environmental sustainability. Their proposed solution involves the development and adoption of solar-powered vehicles to reduce reliance on fossil fuels and decrease greenhouse gas emissions. They plan to carry out research, development, manufacturing, and quality control to bring these vehicles to the market. The team emphasizes the need for collaboration among governments, businesses, and individuals to drive this transition and create a green and prosperous future for all.

The project proposed in the **Empangeni High School** essay aims to address the prevalent issue of home invasions in South Africa, particularly due to the lack of affordable security systems. The proposed solution is an affordable, user-operated security system equipped with temperature and motion sensors, aimed at enhancing community safety. The system includes features such as triggering fire alerts, contacting the police in case of a potential intruder, and sending immediate alerts to authorities and chosen contacts. It will be a one-time purchase with no monthly fees, making it budget friendly. The team plans to thoroughly test the system in simulated scenarios before releasing it to the public. The project draws references from various sources to support the need for such initiatives.

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JG Meiring Secondary School focused on Food Security in their submission, highlighting that food poisoning is a significant issue in South African communities, particularly in underserved areas, due to the absence of effective surveillance systems. The proposed solution is the implementation of a robotic system, the Food Poisoning Detection Bot (FPD Bot), which will utilize barcode scanning and advanced sensors to detect harmful bacteria in food products. The implementation will involve design, development, rigorous testing, and collaboration with international organizations and local health management companies. This solution aims to mitigate the risks associated with food poisoning and contribute to a healthier and more resilient South Africa.

Limit Hill Combined School proposed a solution to address the recurring issue of flooding in the region. They plan to deploy flood warning robots equipped with advanced sensing and communication capabilities to provide early warnings to at-risk communities. The robots will monitor river water levels, weather conditions, and other relevant parameters and transmit warning messages via SMS alerts or automated voice calls to residents in flood-prone areas. The team aims to use cost-effective components and open-source hardware platforms for the design and development of the robots. The solution aligns with the objectives of building safer communities and fostering innovation in disaster risk management.

Ntapane J.H.S. in the Eastern Cape province focused on the decline in rural crop farming production due to the lack of interest from youth and the technological gap in the rural agriculture sector. It highlights the impact of youth migration to urban areas and the proposed solution, which involves using robotics and technology to attract young people to rural agriculture. The proposed robotic solution includes a smartphone-controlled tractor for planting and a smart-automated irrigation system. The implementation plan involves designing, engineering, and programming the robots, as well as advertising the solution in relevant books and partnering with local municipalities for training and youth development campaigns.

The Rylands High School focused on the impact of Micro:bit on physical activity. It highlights physical inactivity as a global health concern and proposes the implementation of Micro:bit to track physical activity, remind users to stay hydrated, and monitor sleep schedules. The method section explains the coding and functionality of the fitness tool using two Micro:bits. The conclusion emphasizes the Micro:bit's potential to promote an active lifestyle by providing real-time feedback and empowering individuals to lead healthier lives.

Springs Secondary School focused on the adverse impact of delivery services on the environment due to carbon emissions. To counteract this, the team proposes usage of autonomous delivery robots, specifically the "NanoCourier," powered by sustainable solar energy. The robot is designed to follow a predetermined route and has failsafe security features. The author plans to conduct initial testing in a controlled environment and then forge partnerships with prominent delivery companies to mainstream the use of NanoCourier. The overall goal is to address the challenges posed by escalating carbon emissions and facilitate the transition to a low-carbon economy by integrating robotics and cutting-edge technology. An introduction of NanoCourier, with its technological prowess, signifies a tangible step towards fostering a harmonious coexistence of modern living and environmental responsibility.

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