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MEDIA STATEMENT

SITA ROBOTICS CHALLENGE EMPOWERS SOUTH AFRICAN LEARNERS IN CODING AND ROBOTICS

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SITA has announced the final leg of the nationwide SITA Coding and Robotics Challenges for Primary and Secondary Schools, is just days away.

The remarkable ICT challenge, launched in February 2024, will culminate in a prestigious awards ceremony in the Eastern Cape – Gqeberha from 25-26 September.

It will recognise the outstanding achievements and innovative contributions of the top-performing schools and students in the Coding and Robotics challenge.

A total of R2 million in prizes will be awarded to the top 3 schools at each level, highlighting SITA's commitment to nurturing and celebrating young talent in the digital domain.

In line with South Africa's National Development Plan 2030 (NDP2030) goals, the SITA Robotics Challenge is a testament to SITA's dedication to addressing the primary challenges faced by the country. The initiative aligns with the NDP's focus on improving education, training, and innovation, and also contributes to the goal of curbing unemployment and reducing inequality in South Africa by 2030.

The SITA Coding and Robotics Challenge initiative, is an integral part of SITA's Corporate Social Responsibility (CSR), to advance practical knowledge, expertise and skills in the field of coding and robotics amongst learners. It equips learners from various schools with 21st-century skills essential for future employability and participation in the digital economy.

The enthusiastic participation from primary and secondary school learners across South Africa, is showcased in their work; which is full of creativity and applied in the STEM (Science, Technology, Engineering, and Mathematics) fields. Following a rigorous adjudication process, 10 Primary and Secondary Schools (respectively) have been shortlisted to participate in the final leg of the SITA Coding and Robotics Challenge.

The prototypes created by the learners -will be demonstrated – to determine which schools will walk away as the top 3 schools.

"We are immensely proud of the creativity and determination displayed by the participating students in the SITA Coding and Robotics Challenges" said Tlali Tlali, Head of Corporate Affairs at SITA.

"By providing a platform for young learners to actively engage in the robotics space, we aim to empower them to develop innovative solutions that can positively impact their lives and contribute to the overall development of our country. We cannot escape the truth that our continent's digital skills gap is a pressing issue. South Africa, in particular, has demonstrated huge disparities in the quality of education, and at SITA we believe in equal opportunities and access to technological infrastructure and equipment that will assist our future generations from any part of the country to excel in the field of ICT."

Tlali further stated that SITA will continue to contribute toward bridging this digital divide – through among other things, their Cyber labs initiative - by ensuring that the schools in the remotest areas of the country are equipped and get to experience technology, and further learn how to apply it in their daily lives to contribute toward their respective communities and the country at large. "We are impressed by the level of thinking that went into the submissions. The essays were practical and intriguing. It is an exciting time to see how forward-thinking our future leaders are, and how they can delve into the real issues that impact our lives and come up with workable solutions. They demonstrated high comprehension of the task, and they delivered. To the teachers and the learners, we congratulate you," said Tlali.

The entire event and the process leading to the ceremony in Gqeberga - serves as a celebration of the exceptional talent and potential of South African students in the fields of coding and robotics. It also underscores SITA's unwavering commitment to fostering a culture of innovation and technological advancement among the youth in South Africa.

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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 discusses 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.

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.

The team from **Limit Hill Combined School** in South Africa has 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 had the team focus 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 essay discusses 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 discusses 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.