

Intro to Mechatronics Powered by GE Africa

An exciting project is launching in South Africa. Digicate and Ryonic Robotics have partnered up to educate thousands of learners across South Africa in science and technology. The Intro to Mechatronics (i2M) powered by GE Africa uses state of the art technology and was designed by A-team of Mechanical, Electronic and Software Engineers.

The kit uses the latest technologies and additive manufacturing techniques such as 3D printing using high strength composite materials. The Intro to Mechatronics powered by GE Africa kit allows high school learners to understand the fundamentals of how to construct their own rover from the designing stage to the assembling of the unit.

The entire robotics kit is fully pre-designed for learners to get right into fabricating, assembling and programming the unit. Each learner that attends the workshop will be able to take home a branded GUI Programming applications that they'll be able to install their rover and reprogram the rover daily.

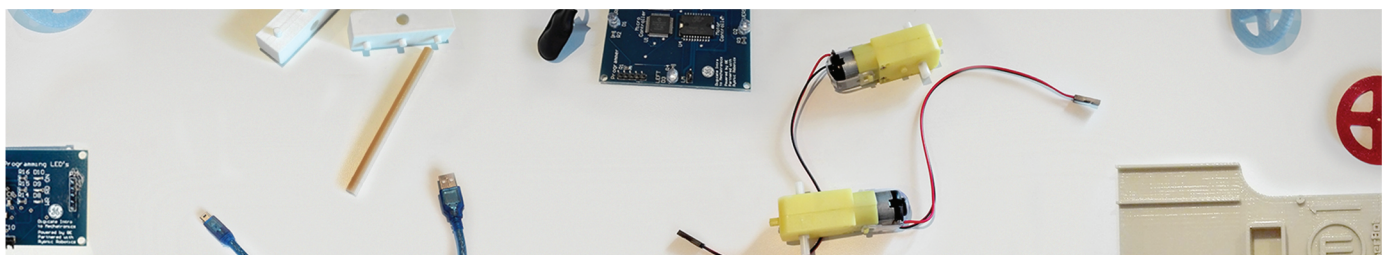
We have over the last couple of months been engaging with the science department at St. Mary's School in Waverley to develop a robotics kit for Gr-8 to Gr-12 students. It was vital for us to engage with them to understand the limitations of students and to obtain constructive goals for the course.

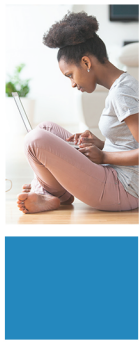
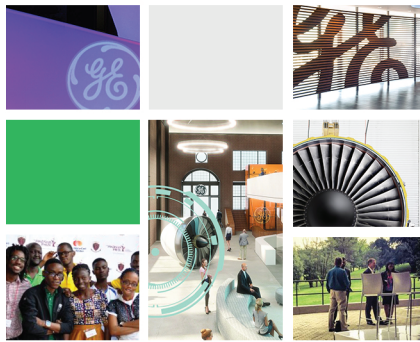
The kit is designed to educate learners in this new and exciting field as well as develop interest in Engineering as a skilled profession; a skill set this country urgently needs.

The goal of the course is to build a Mars Rover using parts included in the kit. This will expose the learners to electronic engineering and mechanical engineering. The course will also expose learners to entry level programming.

Learners will be able to after construction of the rover, program the unit with a basic graphical programming interface to plot a path for the robot's movement.

This kit will eventually evolve for more advanced students and will include 3D mapping and autonomous software and hardware.





The Intro to Mechatronics powered by GE Africa course consists of modules including:

1. Intro & Basics of Engineering and Robotics
2. Intro & Basics of Design and 3D Printing
3. Assembling & Programming Rover Engineering Workshop
4. Learning and Further Discovery
5. Monthly visit to GE Africa Innovation Centre for each registered school's top student

The purpose of this initiative is first and foremost to educate through broadening learners horizons and scope of their potential future careers paths. The secondary function is to put GE Africa in a place where they are able to source and upskill the best talents available.

The top learners from each school will be identified by Ryan Beech of Ryonics Robotics and then be invited to attend a weekly visit to the Innovation centre where they will be exposed to the broader GE African offering/solutions.

The best of the best students could be given scholarships in the future bringing the program full circle from education to employment by GE Africa thus answering the original debrief of unearthing Africa's top talent and not having to look abroad.

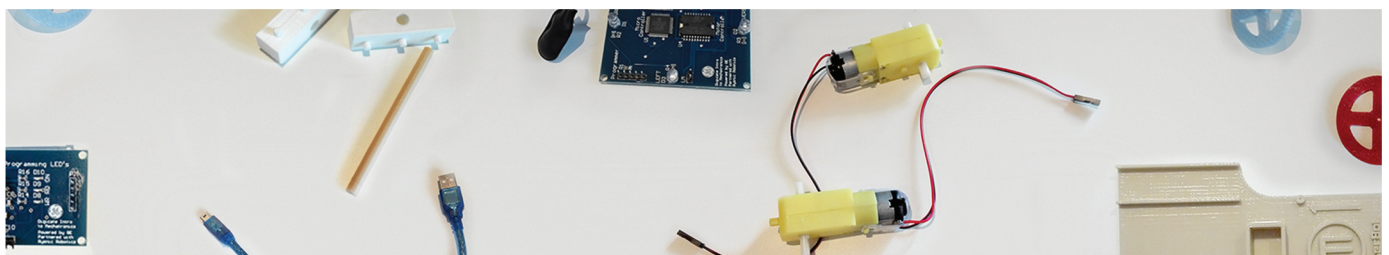
The GE Africa Lab that will accompany the mechanical team to each school. We will create a mobile lab that will have all the required technologies installed allowing children to learn the entire process.

Children will learn how to design and assemble their robotic rover. Once they've worked through their designing workshop – they will learn how to program their newly designed 3D robot through a GUI programming tool. The mobile lab will drive from school to school, scheduling workshops with school children.

About Digicate

Digicate focusses on technology convergence in education, hardware and content to develop new skills in the ever growing technology sphere.

Digicate will bring together local and international, young and seasoned professionals, academics, corporates, city and government to play an active role in facilitating the creation of an environment that fosters innovation in digital technology.



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