

Engineering their futures

Innovative work on show at UKZN

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A FLYING car, a rocket display, a pedal bus and a smart home. These were just a few of the engineering projects on show yesterday at the University of KwaZulu-Natal's annual Mechanical Engineering Open Day, which showcases some of the province's most innovative work by final-year engineering students.

Professor Glen Bright, academic leader for UKZN mechanical engineering, said: "The students have to solve fundamental engineering problems. They have to research, design, manufacture and test within a very structured format and within a 10-month period. When they go into industry, they will be required to solve industry-related problems."

Petrolheads around Durban would be impressed with the automotive ingenuity on display, including a rally car built from scratch, a winged flying car, an amphibious vehicle and a collapsible hand-bicycle for paraplegics, as well as a pedal bus and electric trikes.

"There are electric and solar vehicles, these are the vehicles of the future."

Other projects included a smart home which is designed to operate entirely off-grid by using solar energy and incorporates a control system applied to several components.

There was also a Brick Rehabilitation system which takes old and used bricks and puts them through an integrated cleaning mechanism which is capable of refurbishing and/or reshaping bricks,

providing a low-cost alternative to new ones.

The prototype of the Flying Car attracted a lot of interest, with the team explaining that the vehicle had a vertical take-off and landing capability.

"There are other flying cars, but they need a runway. We looked to find a solution to this in that the car can take-off and land vertically.

"We see the end result of being able to drive and fly in a car and that is also electric which is far better for the environment. We spent many late nights up working," said team member Nilan Gounden.

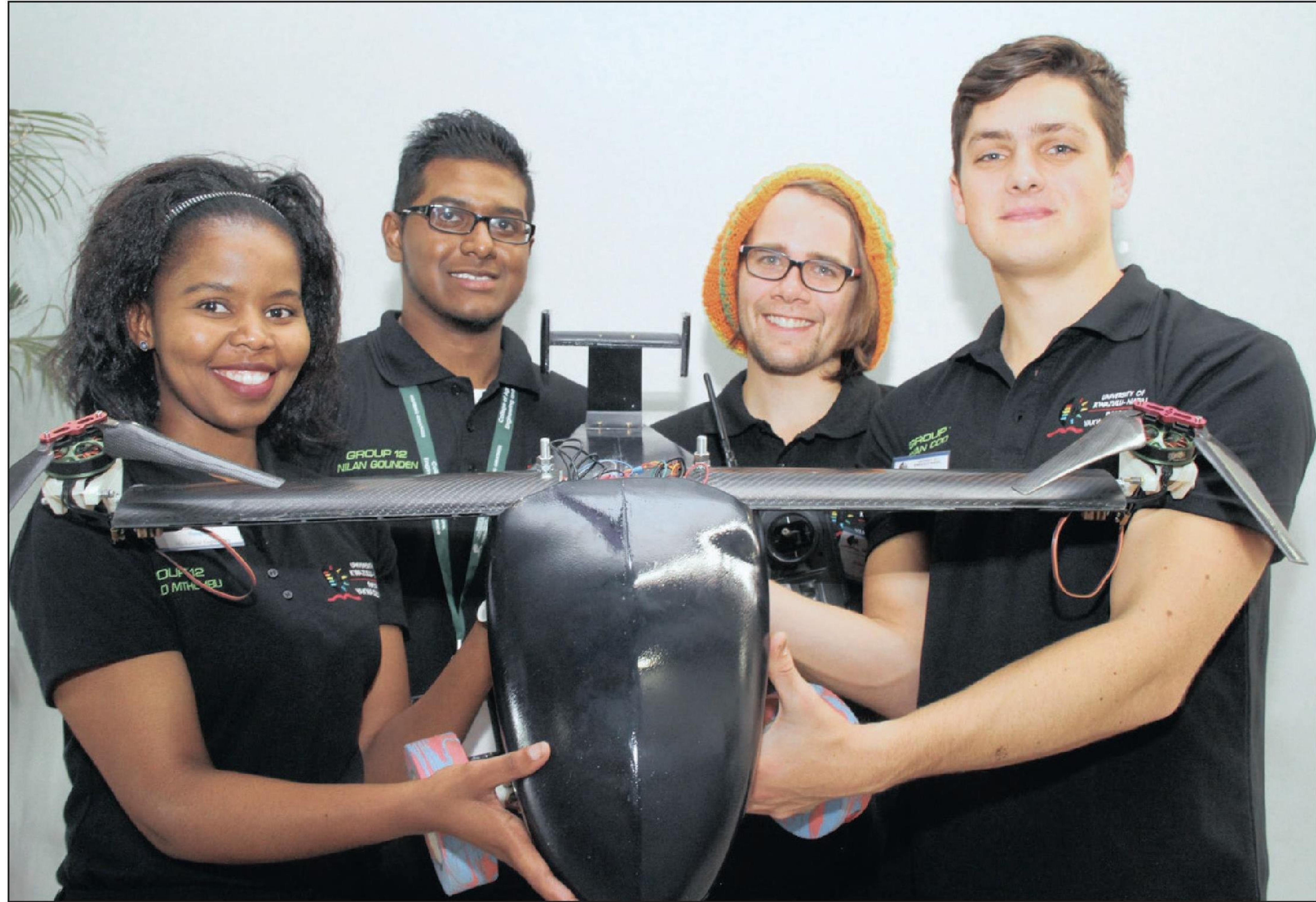
The amphibious car, also described as the "shark car", could have come straight out of a James Bond movie.

The car's team of designers said while the initial use would be recreational, the end goal was to create a search and rescue vehicle.

The off-road rally car was also an impressive feat of engineering, with Vikshay Rampersath saying their team converted an old VW Beetle.

"We kept the front suspension, gearbox and engine and then converted it into a fully functional off-road vehicle," he said.

The projects form part of the final year Design and Research Project modules where students had to achieve specific objectives within budget and the prototypes covered a wide range of engineering sub-disciplines including vehicle design (electric, air, land, water), green energy technologies, renewable energy harvesting systems and industrial machines.



LANDING GEAR: Holding up the prototype of the flying car are final year UKZN engineering students Nxolo Mthembu, Nilan Gounden, Jeremy Crichton and Ryan Cooper.



ALL-TERRAIN: The off-road rally car team: Relwyn Pillay, Salesan Munsamy, Cameron Hofer and Viksjay Rampersath.



WATER BABY: The amphibious car designed by Andrew Isaac, Roshalan Govender, Vivek Naidoo, Muneeb Malik and Keegan Naidoo.