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Global Classroom and Fusion Design Hub Comes to South Africa

Collaborative skills training and advanced technology help Diepsloot plumbers build and maintain communal toilet and washing facilities.

Johannesburg, South Africa (July 20, 2016) — The upskilling of artisans and plumbers is high on the national agenda in South Africa. Townships, such as Diepsloot, with poor service delivery and inadequate infrastructure need effective and sustainable sanitation facilities to promote health and improve socioeconomic conditions, and a high percentage of the youth population is looking for work. Effective skills training programs are more important than ever, not only to accelerate economic growth, but to ensure that shoddy workmanship doesn't compromise the health of hundreds of thousands of people. Rand Water has identified a program, the War on Leaks campaign, to train 15,000 unemployed youths to be plumbers and sanitation workers.

The Community Plumbing Challenge (CPC), which took place July 9-15 in Diepsloot, complements the government's efforts to train young plumbers. For some time, the communal toilet and washing facilities in the area have been a serious concern for local residents, who complain that drains keep getting blocked, affecting water supply, with sewage running abundantly in the streets. Some don't want to use the toilets, which are shared by up to 45 households, because they are dirty and often broken.

During the competition, four international student teams (representing Australia, India, the United States, and South Africa) used advanced cloud-based design technology to work on eight defunct communal toilets that had been plucked out of the ground in Diepsloot Extension 1. The teams then collaborated to test their new designs, supporting Diepsloot plumbing organization WASSUP (Water, Amenities, Sanitation Services Upgrade Programme) in reinstalling and reconnecting these communal toilets for local Diepsloot residents.

Local plumbers have traditionally had poor access to technology, but they now have the opportunity to use Fusion 360 by Autodesk. This software, which has not been used before in grass-roots plumbing initiatives, allows teams to connect with — and build on — each others' designs long after the competition is over. The knowledge sharing continues with the development of designs occurring in real time with live interaction, no matter where in the world plumbers are. The software is simple to use, and Autodesk offers on-the-ground support for plumbers on an ongoing basis.

"What's significant about the collaborative nature of the project is that it simulates a commercial project, where multiple stakeholders contribute to the design and implementation of infrastructure. This allows students to see what it's like in a commercial environment," said Lisa Taylor of Educad, Autodesk's educational partner.

"We wanted to ensure that young people within the Diepsloot community had the opportunity to engage with the design element of the activities," said Matthew Bell, Global Strategic Partnerships Manager for Autodesk. "As such, we held a Fusion 360 training camp at the Wot-If center for over 60 Diepsloot residents, to not only ensure they played a critical role in the CPC but also to inspire them to see firsthand the opportunities available to them through the power of design."

An additional element Autodesk brought to the CPC was the Global Classroom, an online platform to enable people around the world to not only follow the daily activities during the CPC, but also engage directly in the design challenges being faced by the teams in Diepsloot. Design is at its most impactful when it is carried out collaboratively, and the Global Classroom offers the perfect platform for this, while also educating about the



importance of considering elements such as design for impact and sustainable design. The Global Classroom's website is academy.autodesk.com/global-classroom.

ABOUT THE COMMUNITY PLUMBING CHALLENGE 2016

The international Community Plumbing Challenge aims to contribute to improvements to public health in regions where communities are still threatened by a lack of basic sanitation and safe drinking water systems. Attitudes will not necessarily change because of targets, health surveys, or editorials and opinions in newspapers, which all too often preach only to the converted. Rather, it is the actions of professionals working in the areas of health and sanitation that will demonstrate to the community how best to build local services, and will educate local communities about the benefits of such an approach.

Community Plumbing Challenge 2016 combined multidiscipline teams, with a cross-section of expertise expanding on the skills pathway and career options for plumbing apprentices and professionals in South Africa, and around the world.

The CPC is organized by the International Association of Plumbing and Mechanical Officials (IAPMO) in association with the World Plumbing Council. It was hosted in Diepsloot by WASSUP (Water, Amenities, Sanitation Services Upgrade Programme) and DACN (Diepsloot Arts & Culture Network), in collaboration with Healthabitat Sanitation Studio and facilitated in South Africa by Sticky Situations. Additional event partners are Autodesk Education Experiences and the Wot-If Trust.

Johannesburg Water has seen the benefits of digital design software, and WASSUP's relationship with the entity has been boosted, improving dialogue around service delivery.

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