

The Rapid Foundation, putting technology in the hands of the people who need it

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CULTURAL



ACADEMIC



SOCIAL



SCIENTIFIC



TECHNOLOGICAL

SUMMARY

The Rapid Foundation aims to empower people around the world by giving them training and access to disruptive technologies – particularly 3D printing – and thereby inspiring and enabling them to innovate and create solutions to solve their problems and improve their quality of life. Field trials in India, Rwanda, Uganda, as well as in Ireland have shown the power and cost-effectiveness of the approach. The real impact is giving those in need the informal education and tools to continuously grow and fix their problems, rather than trying to create solutions for them.

The Rapid Foundation empowers people around the world by giving them access to disruptive technologies so they can create and innovate to solve their own problems.

RESEARCH DESCRIPTION

The Rapid Foundation is a charitable project led by Dr Shane Keaveney and Colin Keogh from UCD School of Mechanical and Materials Engineering. Recent developments in engineering technologies such as low-cost electronics and 3D printing (which allows people to print out or build 3-dimensional objects) has brought new opportunities for people to innovate cheaply and locally.

The Rapid Foundation, which was founded in 2014, aims to empower people around the world by giving them access to and training in these disruptive technologies so they can create and innovate to solve their own problems.

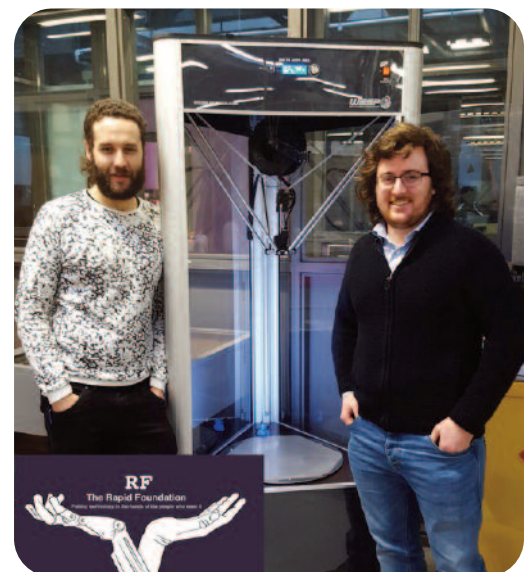
The project shifts the status quo of aid delivery. Traditional aid projects typically send technology and expertise to a location for a short period of time, implement ideas then leave, thus removing most of the technology and expertise until the next trip.

The Rapid Foundation changes this completely, by supplying technology and training directly to local people, facilitated by a volunteer, the projects are then allowed to be fully run by local people, encouraging them to spread their knowledge, train other locals and use technologies to create, innovate and develop solutions to their own problems.

To date, the Rapid Foundation has run number of successful trials overseas. The overall goal is to empower people to improve their educational and training levels, to engage in a global world and hopefully to create employment for themselves and others in developing countries.



Fitting a 3D Printed Enable hand in Ireland



Project Founders, Colin Keogh and Dr Shane Keaveney

RESEARCH IMPACT

The Rapid Foundation's projects and events have already reached more than 5,000 people through education and outreach events and have trained more than 50 people in 3D Printing, modelling and innovation.

India 2015 – Teaching aids for children in an orphanage

The first Rapid Foundation trial took place in June 2015, in “Daddy’s Home” orphanage in the Andhra Pradesh region of southern India. During the project, which was supported by UCD Volunteers Overseas, children and carers in the facility attended educational workshops over the course of a month. The participants were trained in the use of 3D modelling systems, 3D printing technologies and the design process. The idea was to encourage them to develop their own educational tools and supplies using free open-source technology. As a result, teaching staff at the orphanage were able to design and develop custom aids to teach sighted and visually impaired children in their care.

Uganda 2015 – An easier way to model prosthetics for patients

During the summer of 2015, an engineer who collaborates with the Rapid Foundation visited the Kisiizi Hospital in southwest Uganda. He worked with a local prosthetist to look at how accessible technology can change how assistive technology is developed. They focused on the 3D scanning of stumps, via smartphones, in order to generate 3D models to prepare for prosthetics, reducing the need for patients to travel long distances for appointments. This project has gained significant interest in the area, resulting in the Rapid Foundation working with a division of the UN disability group to investigate the national provision of these technologies to Rwanda, Uganda, Tanzania and Kenya. This work is ongoing, with plans for more trials in Uganda via the Catholic hospital network.

Rwanda 2016 – Supporting females in STEM in Rwanda

In June 2016, the Rapid Foundation supported eight female engineering students from University of Glasgow’s FemEng who travelled to Kigali and stayed at the University of Rwanda. There they combined their skills and innovation with a team of Rwandan counterparts with a view to encouraging, educating and inspiring Rwanda’s female STEM students of the future. The Foundation provided 3D printing training and equipment to this project.

Ireland 2016 and 2017 – Spreading awareness and skills

A major aspect of the Rapid Foundation’s work is public engagement through informal workshops and seminars. The Foundation teaches technology to non-experts and experts alike and we take part in numerous technology events, science fairs and other public engagement activities. The Foundation provided 3D printing training and equipment to this project.



First Project trial with UCD Volunteers Overseas in Vijayawada, India

AWARDS

The work of the Rapid Foundation has had significant impact, which has been widely recognised. They won the IMechE Fritz Schumacher Award for 2016. Then in 2017, co-founder Colin Keogh was named on the Forbes 30 Under 30 list for Europe, both co-founders were listed as Junior Chamber International (JCI) Dublin Ten Outstanding Young Persons (TOYP) 2017 and both were award as national winners for JCI TOYP Ireland 2017. Dr Keaveney was nominated for the global JCI TOYP award and reached the final 20.

THE FUTURE

The Foundation now wants to grow their numbers of partners and projects in developing countries in Asia, East Africa and South America, as well as expanding initiatives in India, Uganda, Rwanda and Ireland.



REFERENCES

Website:

www.therapidfoundation.com

IMechE Fritz Schumacher Award 2016:

The Rapid Foundation was awarded the IMechE Fritz- Schumacher Award 2016 for overseas work, given to recognise individuals for their outstanding contribution to alleviating poverty in the developing world through innovative, simple and sustainable engineering and technology solutions

Forbes 30 Under 30:

Colin Keogh was named as one of Forbes 30 Under 30 (Europe 2017) in the Science and Healthcare category for the work of the Rapid Foundation.

www.forbes.com/30-under-30-europe-2017/science-healthcare/#2b2026561f7b

www.ucd.ie/mecheng/newsandevents/forbes30under30europefeaturesucdengineercolinkeogh/

JCI Top Outstanding Young Persons 2017:

Both Founders were winners of JCI Dublin Ten Outstanding Young Person (TOYP) 2017 and national winners for JCI TOYP Ireland 2017 with Dr Keaveney reaching the final 20 of the JCI TOYP world award.