



Royal Academy
of Engineering

THIS IS
ENGINEERING

DEPLOYABLE STRUCTURES CASE STUDY

VERONIKA KAPSALI

VERONIKA STARTED OFF IN FASHION, BUT NOW FINDS MORE CREATIVITY AND DESIGN IN ENGINEERING.

She studied at the London College of Fashion and after graduating worked as a designer for various fashion houses. For several years, she designed clothes for London Fashion Week before realising that the design challenges in fashion failed to keep her interested. She wanted something more from design, beyond simple clothes and textiles.

Veronika returned to university to combine her passion for textiles and design with the maths and science she was good at during her school days. She started to work in biomimetics, a type of engineering that draws inspiration from nature – taking ideas from the natural world and using engineering to introduce them into products and materials.

For her research, Veronika looked at how pine cones close when the weather is wet and open when it is dry. Pine cones do this to give their seeds the best chance of flying far away from the tree so that they can grow into new trees far away. In the rain, the seeds will not fly as far and will end up competing with the mother tree for soil and rain.

After years of research into how pine cones open and close depending on humidity in the air, Veronika made her own synthetic fibres mimic these properties. Those fibres were then woven into textiles. She has now started a company making sportswear with this new material. The new material can stay tightly woven when a runner is cold, but when they get hot the textile's weave opens up to let air in to cool the runner down.

Veronika's career path was not a straight line into engineering. She says:

'Some people's career paths are straightforward, but most are not. When navigating your way through your own career, you need to have the courage to seek out what you are truly interested in and have the drive and determination to see it through.'

She now feels her work in biomimetics combines her interest in design and creativity with science and maths to give her something extra special in her work.



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