**Heathcoat Fabrics recognised with Queen’s Award for Innovation**

**Trio of female textile engineers key to developing parachute fabric for space exploration**

**21 April 2022, Tiverton, Devon**: Tiverton-based textile manufacturer Heathcoat Fabrics has been recognised with a prestigious Queen’s Award for Enterprise for Innovation.

The company developed a high performance parachute fabric that has contributed to outstanding commercial success, including delivery of NASA's Perseverance Rover onto the surface of Mars in February 2021. Heathcoat Fabrics is among a list of 51 companies who have received the innovation award (announced today, April 21).

The innovation has opened the door to other niche space exploration projects, including returning cargo and astronauts from the International Space Station and ensuring the safe splashdown of a capsule containing the first all-civilian team to orbit the Earth.

Heathcoat Fabric’s managing director, Cameron Harvie, said the Heathcoat ‘DecelAir Superlight’ fabric was designed to meet the strictest criteria for space exploration. Innovation underpins the technical textiles that Heathcoat develops, with new opportunities frequently emerging in niche markets where needs are not met by existing methods and products.

“We make hundreds of different fabrics for many markets, from apparel to automotive components. We have been a pioneer in manufacturing parachute fabrics since the 1930s. When we met NASA at a symposium in 2015, they saw the potential of a new fabric we had developed and we began trials a year later.

“NASA’s standards have been challenging to say the least. The fabric needed to be twice the strength of standard fabric, within a tight air-permeability window and able to withstand extended heat treatment. The fabric underwent a series of wind tunnel, land-based mortar and sounding rocket tests after which the fabric was selected and used for the successful Mars mission. The fabric even needed to be baked before any rocket was launched, to avoid sending bacteria or micro-organisms to another planet.

“By the nature of the yarn, it is difficult to weave and finish, and it needs to be perfect. There is no second chance opportunity on landing a multi-million dollar space probe. From our investment in high quality looms to the chemistry developed to give the fabric its specific properties, this has been a huge task over a number of years.

Mr Harvie added: “The Heathcoat brand has historically been recognised for highest quality in textiles. This includes providing the veiling fabric for Queen Elizabeth’s royal wedding in 1947, and it’s fitting in her jubilee year that she has personally approved our Queen’s Award for Innovation.”

Peter Hill, director of woven fabrics at Heathcoat, and Richard Crane, technical director, have steered a team that centred around three female development engineers – Eleanor Newsome, Lotte De Leeuw and Nicola Willey.

**Eleanor Newsome** was instrumental in creating the original concept fabrics for NASA and developing the final product used for Mars2020. She is now leading a development team for automotive and industrial belting fabrics with a focus on achieving energy-saving in drive systems.

**Lotte De Leeuw** is a development engineer in woven fabrics, and is continuing the work in parachute development – working with all of Heathcoat’s space customer development teams for current and planned missions*. [Quote from Lotte in ‘Notes to Editor’ below.]*

**Nicola Willey**’s focus has been on an incredibly challenging project with the NASA/Jet Propulsion Laboratory teams to integrate optical fibre technology for future space mission parachute fabric research.

Peter said: “The team has excelled, working tirelessly with NASA and others to ensure Heathcoat was able to deliver on their requirements. Our development engineers are at the forefront of new and exciting textile technologies in space exploration that have gained global recognition, as well as other developments within our business including sustainable/renewable fabrics, and hydrogen generation for renewable energy systems.”

The Queen’s Award for Enterprise is now in its 56th year and is widely recognised as the most prestigious business award in the UK.

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**Notes to editors – potential for other news items as well as background to further textile innovations:**

Heathcoat Fabrics is the market-leading manufacturer of engineered knitted and woven apparel and technical textiles. The business, based in Tiverton, Devon, currently employs more than 460 staff.

With over 200 years’ experience, the company’s focus on research and development has been a pivotal component in the manufacture of new technical fabrics across multiple industries.

Heathcoat’s 'DecelAir Superlight' fabric has commercial success in the wider aerospace and military industries, such as in emergency chutes and paraglider reserve chutes, parachute recovery for drone delivery systems.

**Sector applications:** Heathcoat made its name in fabrics for apparel including fine English tulle, and is still a leading manufacturer in this area. Heathcoat textiles are used widely around the world in under the bonnet automotive applications such as hoses and timing belts, protective apparel for military and services applications including ballistic protection and firefighter suits, geotextiles, healthcare applications including developing antibacterial Ag+ treatment, textiles for digital printing, and heat and moisture dispersing textiles such as spacer technologies that are used in baby and nursery products.

**Sustainability:** Heathcoat is also working on exciting avenues in recycled and sustainable textiles, including textiles forming the outer skin of commercial vehicles, knitted fabrics made from recycled marine plastics, combining post-consumer waste and coffee grounds in deodorising yarn, and formaldehyde-free dress net made from pre-consumer nylon and polyester. Heathcoat is also developing solutions for hydrogen regeneration by producing textiles to be used in Alkaline Water Electrolysis systems, actively supplying into the hydrogen economy (decarbonising economic sectors which are hard to electrify) across the globe – including in space exploration.

Heathcoat’s growth means they are recruiting, including for new textile development engineers and other graduates. Successful candidates undergo a two-year in-house training programme. Eleanor, Lotte and Nicola are products of this programme.

**Quote from Lotte de Leeuw:** “After completing my Bachelors, and rather than moving into fashion like many do, I was interested to see textiles in areas you wouldn’t expect and followed it with a Masters specialising in technical textiles. At Heathcoat Fabrics we ask ‘what can we do’ with fabric, and our work is heavily calculations based, analysing how fabrics could work in new applications. We’re experimenting with different yarns and weaving patterns, and often this means challenging customers on what they expect from textiles. Can we get them to move their viewpoint from what they know to what could be possible to achieve their objectives.

“As textile engineers we’re unique because we work across technical fabrics in so many areas. We know for example that some of our textiles under the bonnet in automotive applications operate for hours and hours at extremely high temperatures, so we can learn from this to ensure we achieve no loss of strength at high temperatures in other applications such as space.

“I’m now working new developments in parachute fabric for space that are in testing, making chute fabric that is up to twice as strong as the Mars chute fabric without significantly increasing weight and still achieving the required porosity. Our work is in commercial as well as space and military uses. Every day is new.”

Visit www.heathcoat.co.uk for more information.

For full press pack with images, email [marketing@heathcoat.co.uk](mailto:marketing@heathcoat.co.uk)

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