

Meet Melissa Thorpe, the woman leading the South West space race at Spaceport Cornwall

The P3 hangar just off the runway at Cornwall Newquay Airport has been home all summer long to Spaceport Cornwall's Story of a Satellite Exhibition. Now closed to the public, it will welcome as many schools as possible until the end of September before the exhibition is dismantled and given a new home at the Royal Cornwall Museum in Truro and Eden Project later on this year.

Launcher One, the rocket which will be used by Virgin Orbit to send small clusters of satellites into space from the wing of a Boeing 747 taking off and landing in Newquay, and had to be readied quickly ahead of the [G7 Summit in June](#), is the star of the show. It's huge and while it will never fly as it doesn't have any avionics on board, it is the real thing and many others like it are currently being assembled at Sir Richard Branson's company base in California.

For new boss Melissa Thorpe and everyone at Spaceport Cornwall the aim is to see the manufacturing of the rockets come to Cornwall.

"We have a great launch facility here in Cornwall," she said. "We are in talks with Virgin Orbit to see if they couldn't build it here too. For us it's about having an end-to-end approach to the whole space sector.

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“We already have these amazing assets. All the building blocks are in place from the commercial airport at Newquay to Goonhilly, the education providers working to create the skills needed for the sector to all these companies working in the aerospace sector. Our role is about enhancing what’s here already. We’re here to connect the dots and create a complete sector and help it grow and thrive.”

From satellite assembly, design and programming, to manufacturing or big data analysis, Spaceport Cornwall’s aim is to create 150 jobs by 2025 and another 240 in the supply chain. The public sector organisation believes the spaceport facility could generate £250m into Cornwall’s economy. Already it has helped generate more than £2m in research and development in the space, aerospace and data sectors in the Duchy.

“For me it’s not about Branson and Bezos having their race to space. They’re great for headlines and to generate publicity,” Melissa said. “And yes it’s a bunch of billionaires spending their own money on big toys. But if it also facilitates real scientific experiments to take place and helps fund the science, and projects like what we have here in Cornwall, then so what?”

“If it helps put Cornwall on the world map and attract further investment and jobs, then let them have their p***ing contest.”



Spaceport Cornwall is one of the first in the world to appoint a woman to the top job, Melissa Thorpe. For Melissa, who came to Cornwall 12 years ago and has seen Spaceport Cornwall emerge from a concept to a reality backed by hard cash and big names from the space and aerospace industry, what matters is the role Cornwall has to play in offering answers and solutions to real problems thanks to its emerging satellite and data technology.

That's why [next year's maiden satellite launch](#) out of Cornwall – pencilled in for the Queen's Jubilee – is vital.

It will be an achievement in itself but also the beginning of a new chapter in the Duchy's technological history.

"We're not allowed to launch without a purpose," Melissa explained as she detailed the type of satellites which will fit into the head of Launcher One next year and hopefully for

years to come. “We are a public sector tax-payer funded organisation so this launch next year will have a real value payload. It won’t be firing blanks just for show which would be wasteful.





Kernow Sat 1 will be the first satellite to be launched out of Cornwall. It will be designed and built in Cornwall with real life applications for Cornwall. It has to be sustainable and have as small a carbon footprint impact on the environment as possible. This is also our message to other companies and spaceports around the world. We want to be socially and environmentally responsible. I don’t think there is any other site in the world looking at it like we are.”

The applications the Kernow Sat series could have include crowds and resources management for the tourism sector in the peak season so both Cornwall Council and organisations like Visit Cornwall can better spread the flow of tourists, avoid overcrowding and help reduce the impact such vast numbers of visitors have on localities and their scant resources.

Other applications will be to look at kelp farming which is notoriously difficult to establish without aerial views and a comprehensive analysis of both currents and marine conditions, and of course of the weather. Satellites can help bring in the necessary eagle-eye view and data sets. Kelp helps sequester more carbon out of the atmosphere than trees and can be used to produce animal feed, cosmetics as well as bio fuel – and potentially rocket bio fuel.

As well as [working with Virgin Galactic](#), Spaceport Cornwall is also working with ESA and some big names like Airbus or NASA to see if Cornwall can accommodate their needs for clusters of satellites being fired into space, with both the science and the tech being based here in Cornwall.

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Spaceport Cornwall is also in talks with US-based Dream Chaser, a reusable spaceplane developed by Sierra Nevada Corporation Space Systems. The idea behind Dream Chaser is for its spaceplanes to take payloads into space such as science experiments, fuel or food to the International Space Station and bring experiments results back down to labs anywhere on the planet.

“Our aim,” Melissa explained, “is for Dream Chaser to use the runway at Newquay, land its cargo and deliver it straight to whatever lab or factory off the runway at Aerohub then fly back to Nevada for the next launch. We will have the capacity to do that as our new integration hangar is now coming off the ground and should be ready hopefully before Christmas.”

Medical research is increasingly looking at space science to carry out experiments on cancer or other diseases freed from earth gravity. Experiments or vaccine trials can take just a few weeks to conduct in space when on the planet they may take months. For Spaceport Cornwall, to be able to offer the

facilities and end-to-end sector to go with it will hopefully be an attractive proposition for research labs, universities and global tech and space companies.

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Spaceport Cornwall is already working with Exeter University, Truro and Penwith College and Goonhilly to build the very skills and jobs up which will be needed, whether it is in manufacturing or data science and everything that will sustain and grow around the Duchy's burgeoning space sector.

Melissa Thorpe is not your average space geek. While she can hold a conversation with British astronaut Tim Peake, the 37-year-old mother of two young girls, won't know the answer to questions about the Big Bang or quantum physics.

"I grew up in British Columbia and on Vancouver Island in the middle of the forest," she said. "My dad was a firefighter plane pilot. I have loved planes since and I love wildlife. So for me my dad and others like him were the true heroes, trying to save the forest and wildlife with water planes. I wanted to be a pilot. But I have bad eyesight so that put an end to that.

"I was also interested in astronomy but there wasn't much support for that in an area of Canada where logging and fishing were the main industries. I studied STEMs subjects and economics at university and did a master's degree at the London School of Economics looking at the space clusters created around Boeing or Airbus and the economic and social impact they have on these areas."

It was around that time that Cornwall Council purchased the runway at what is now Newquay airport from the MoD. Melissa, who lives in Truro, was brought in to look at the assets Cornwall had in the aviation and aerospace sector to see how more jobs could be created in the Duchy.



Melissa Thorpe, CEO of Spaceport Cornwall, poses in front of the Virgin Orbit Launcher One rocket on the opening day of the Story of a Satellite summer exhibition at Spaceport Cornwall on Aug 2, 2021 in Newquay, England. Spaceport Cornwall is aiming to launch its first satellites in spring of 2022. (Photo by Hugh Hastings/Getty Images)

She worked with her predecessor Miles Carden for 12 years, on projects such as Bristow taking over search and rescue on behalf of HM Coastguard after the role stopped being carried out by RNAS Culdrose. Then in 2014, the UK Space Agency announced its intention to have spaceports dotted around the country and Newquay became a designated site for horizontal launches with places like Shetlands or the Scottish Western

Isles becoming vertical launch sites.

“I’ve been here from day one,” Melissa said. “It’s been a long journey that has involved a lot of hard work and many conversations with people. Humans are hungry for satellites and the applications they can bring. Whether we like it or not, more of them are going to be launched into space so we might as well do it here in Cornwall, but do it in a way that sets the standard in terms of benefiting our region and its people, in a way that’s socially and environmentally sustainable.

“It’s not about space tourism. That was a bit racy and exciting 10 years ago. But now it’s about science and data. That’s far more exciting. My role is to make sure that tech and data truly helps Cornwall and the people of Cornwall. Otherwise whatever we send up there will be another piece of space junk.

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Melissa is keen to be the face of Spaceport Cornwall, as a woman, as she wants to inspire young people, girls especially, to go into STEM subjects at school.

“I see it very much as my responsibility to engage with young people in schools all round Cornwall. I love it. I never had women come to my school and inspire me to become a scientist when I was a child. I want them to be inspired to become the pioneers of tomorrow.

“That first launch next year will be a fantastic moment after all the years of hard work. It will shine a global spotlight on Cornwall. For us here, this is about Cornwall. We’re all passionate about where we live and developing its potential. This will be a launch for Cornwall’s space technology, skills

and people. It will be a launch for Cornwall's future and something I hope we can all be proud of."

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