

THE SAXA VOICE

Newsletter 01 DECEMBER 2022

Construction proceeding ahead of schedule



Aerial view of the site. ▲

Construction of the SaxaVord Spaceport, where the UK's first vertical rocket launches will take place next year, is ahead of schedule.

A piece of space history was made this month when the first concrete base for a launch stool at the Lamba Ness site in Unst was completed. Rocket stage testing is expected to begin on site early next year.

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Welcome!

On behalf of myself and the SaxaVord Spaceport team, I would like to welcome you to the first edition of *The SaxaVoice*, or rather the reincarnation of *The SaxaVoice*. When we were searching for a name for our newsletter one of our staff, Bryden Priest, suggested we acknowledge the past history of the site and take the title of the old RAF newsletter that kept serving personnel and their families, as well as the local community, informed of news about the base and Unst.

Given the heritage of the former RAF sites and Baltasound Airfield – both RAF Skaw and RAF SaxaVord were at the cutting edge of aerospace and radar technology in their respective eras – and taking into account where we now sit as the space industry leader in the UK, I think it is very appropriate we bring back *The SaxaVoice*. The "Camp", as it is still known locally, is remembered with a great deal of affection and not only did it bring a huge amount of economic prosperity to the North Isles, it bequeathed a vast legacy of stories, adventures and tall tales. Most of which are true!

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SaxaVord Spaceport has very large boots to fill, but I am confident that we will succeed and leave a legacy equally as valuable to Unst and Shetland (and also to the UK and Europe), and one that is just as long lasting.

I sometimes have to pinch myself when I look at what we have achieved over the last five years, and not only that, but what our team has delivered on the ground. It may seem very much the stuff of science fiction and at times implausible, but Unst is now home to an international spaceport and attracting exciting businesses from all over the world.

Of course, this is not the first time Unst has been a launchpad to the stars! Julian May, the award-winning US science fiction author, wrote about Unst in her novel *The Many Coloured Land* and identified "the Starport on Unst as the Gateway to Planet Earth ..." Fiction has a strange habit of becoming fact in this 21st century.

Over the course of the last 12 months the team has been active in both sponsoring and promoting a wide range of activities ranging from launching our Education Strategy with Shetland Islands Council to sponsoring all the sports clubs in Unst, the Methodist Church and the children's Ukulele Group as well as other good causes. Our Radio SaxaVord Podcasts and the SaxaVord Sessions hosted by Emily Strang, Bryden Priest, Peter Wood and Brian Nicholson have attracted audiences from all over the world. Our Gifted Stars initiative supporting children diagnosed as neuro-divergent will be our core charity endeavour next year. Mike Mongo's Astronaut Training Camp was a huge success and we are already planning next year's. And huge congratulations to Mike for being picked to go into Space with Blue Origin next year. It's pretty cool having an astronaut on our team and as a role model for SaxaVord. I know all the kids just love him and even their parents have written to me telling me how inspirational he has been. Our Unstronauts just ooze enthusiasm and most of them know more about space than I do!

Much of our time this past few years has been spent dealing with securing planning permission and purifying the associated conditions as well as applying for our spaceport and range licences that are crucial to our status as a licenced spaceport.

We have been working very closely with Shetland Islands Council which as the local authority has been very supportive of the space sector and share our vision to build a vibrant new space related economy alongside oil and gas, renewables, aquaculture, fishing and decommissioning. The Shetland economy has traditionally been based on its geography and space is no exception. I have absolutely no doubt that in

Shetland we will be a global leader in the new space economy. We are already home to the first vertical launch pad in Europe, Launch Pad Fredo, and we have several European clients on site at the moment, all at different stages of their development.

Over the course of the past year we have hosted visits from VIPs all coming to see for themselves what is being created in the North Isles. They all arrive not knowing what to expect and all leave completely converted and very complimentary. They include Under-Secretaries of State in the form of Iain Stewart and John Lamont, very senior civil servants such as Sue Gray from the Cabinet Office, the CEO of the UK Space Agency, the Director of Space for the Ministry of Defence and numerous others.

Of course, the development of the spaceport is not for everybody and I fully understand the concerns of those who are opposed to the project. What I would say is that we see space as a force for good and in a recent discussion with Professor Brian Cox he was firmly of the belief that best way to save our planet was via the medium of the space sector and associated sciences. My team are very passionate about the environment and as such we are very fortunate to have one of the world's biggest and most passionate re-wilders, Anders Holch Povlsen and his Wildland Group, as a significant shareholder to help us achieve our vision of creating a green exemplar as a working spaceport, and not just by talking – but by doing. We can't get everything right, but with a balanced and sensible approach it is our belief that space will become a major factor within the Shetland and UK economies as represented by the many millions of pounds we have already spent locally via road improvements, using the local supply chain and employing local contractors.

These are just a few of the highlights and initiatives that have been driven by members of a passionate and committed spaceport team. There is a lot that I have missed and there is a lot more hard work ahead but over the coming months and years we will do our best to keep you informed about everything that we are doing.

So on behalf of all of us at SaxaVord Spaceport enjoy our first edition of the *The SaxaVoice* have a wonderful Spacemas and New Year and thank you for all your interest and continued support as we head into 2023. It is going to be a very exciting year for us all including the first ever vertical sub orbital and orbital launches from the UK and Europe respectively.



Frank Strang CEO of SaxaVord Spaceport

"Construction work, which is employing more than 60 people on-site..."

Last of the concrete being poured.

Deputy CEO Scott Hammond and COO Debbie Strang at the launch stool base.



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Preparation work is now underway on the first integration hangar, where rockets will be assembled and their small satellite payloads for low earth, sun-synchronous or polar orbits, be integrated.

A total of £19 million, all privately raised, has been spent on the project to date, including £9 million on public road improvements from the community of Haroldswick up towards the 81-hectare site.

Construction work, which is employing more than 60 people on-site, started at the end of March this year.

Britain's Civil Aviation Authority (CAA) this month launched a consultation to seek views on SaxaVord's assessment of the environmental effects of the spaceport. The consultation closes on 8th December.

Anders Povlsen, Elizabeth Johnson and the work crew at launchpad Fredo for the first concrete pour. ▼



SaxaVord Spaceport CEO Frank Strang said: "Our progress has been phenomenal, despite major constraints and significant challenges on a daily basis. It is a testament to the huge efforts of our spaceport team, main contractor DITT and sub-contractors such as Unst Plant, a local company created specifically to work on our project."

"More new space history will be made here in Shetland next spring and summer, with the first sub-orbital vertical launches from the UK, followed by vertical orbital launches later in the year. Alongside the eagerly anticipated horizontal launch from Cornwall, this will put the UK firmly on the international spaceflight stage."

"We now have seven clients all vying for launch windows – and the good news is that we are ahead of schedule, meaning 2023 is going to be a hugely exciting year."

Two of the three approved launchpads – Fredo and Elizabeth – are being developed in the first phase of construction, with the third, Calum, to be built in phase two.



EDUCATION
STRATEGY

September 2022

Educating the future workforce

SaxaVord Spaceport has published its Education Strategy in partnership with Shetland Islands Council's Shetland Space Education Employment and Skills Pipeline working group.

The strategy aims to encourage learning in STEAM subjects to a tertiary level, with the view of creating a skilled and enthusiastic workforce across the UK. It will also inform audiences of the exciting opportunities in the nation's growing space sector.

Our mission is to build on Shetland's heritage of exploring, innovating and collaborating to make the UK the premier European base for New Space. We hope to maximise the educational and societal benefits for the UK, while caring for the environment and promoting a skilled and diverse workforce.

The strategy confirms partnerships with international academic bodies, such as Strathclyde University and the University of Alaska, to promote STEAM subjects. We will work with governments, and agencies, including Shetland Islands Council, the Department for Education, the Department for Business, Energy and Industrial Strategy and the UK Space Agency as well as industry partners like HylImpulse to achieve our goals.

Current initiatives planned at SaxaVord include Mike Mongo's Astronaut Job Clubs for children as well as internships for young people at the spaceport.

Mason Robbins, Education and Innovation Officer at SaxaVord, said: "Our Education Strategy will ensure that everyone from one to 101 is inspired by space and increase engagement with STEAM subjects. Space has the power to motivate and invigorate and the whole of the UK should be able to benefit from the industry."

The strategy document can be viewed in the education section of our website
www.saxavord.com

Radio Sxa Vord podcast

If you want to find out more about SaxaVord Spaceport, why not tune in to our weekly podcast, Radio Sxa Vord?

It began in May 2021 and has recently come to the end of its third season. While covering a range of topics linked to both Shetland and the space industry, hosts Emily Strang and Bryden Priest have conducted interviews with many SaxaVord Spaceport employees including CEO Frank Strang, Deputy CEO Scott Hammond and COO Debbie Strang.

The podcast has been very popular with a range of people interested in Shetland and its involvement in the space industry, with Paul Bate, CEO of the UK Space Agency, saying in our Christmas Special that he listened to all the episodes prior to being interviewed about his role.

The most recent season has had interviews with some of our newest members of staff - Mason Robbins (Education Officer), Sorcha Leavey (Sustainability Officer) and Duncan Swainston (Spaceport Operations Manager). This offers a fresh perspective into the diverse careers that the staff at SaxaVord have had before starting with the company.

This podcast is a valuable resource for anyone who would like to learn more about the company with several of the episodes giving a great description of how SaxaVord Spaceport has developed and what the company aims to do in the future

You can find the episodes on Spotify, Apple Podcasts and our website.

Emily and Bryden, who are also accomplished musicians,
▼ playing at a recent Saxa event at Dover House.



Mike Mongo chosen as Blue Origin astronaut

Mike Mongo, a long-standing friend and partner to SaxaVord Spaceport, has announced that he has been selected to travel to space on the Blue Origin mission. The Blue Origin mission was first unveiled by Jeff Bezos in May 2019.

Mike hosted the second edition of the Astronaut Job Camp in Shetland last summer.

It allowed children aged 11-14 in Shetland and virtually across the UK and North America to foster their STEAM and teamwork skills and get a taste for a career in the space industry.

Mike lead a series of interactive space mission-themed workshops designed to teach children about tomorrow's jobs in space, the skills needed in space missions, inclusivity in the cosmos, how space connects us across the globe and its impact on sustainability.

Frank Strang, CEO of SaxaVord Spaceport, said: *"What could be more exciting for children than to learn about a trip into space from a real-life astronaut? Mike's vision of encouraging space education aligns with our own mission of championing STEAM skills across Shetland and beyond. We're thrilled for Mike and his team. The Blue Origin mission marks another exciting chapter in space exploration."*

Astronaut Mike Mongo ▶

Graduates step up

We have appointed two new recent graduates to important roles within the spaceport, with support from Highlands and Islands Enterprise.

Bryden Priest, from Unst, and Callum Ward, who first came to Saxa Vord four years ago for a summer job working on maintenance and hospitality, have taken up roles of Community Projects Officer and Client Liaison Officer.

Bryden, one of the co-hosts of the SaxaVord podcast, has a first-class honours degree in Education from the University of Aberdeen and completed his probationary teaching year at Elmvale Primary School in Springburn, Glasgow.

He said: "This job is well suited to me as I have always played an active role in the community on various committees including UnstFest, Uyeasound Hall and having previously worked at the Unst Boat Haven, Care Centre and local shops prior to going to university."

Bryden is also a talented musician, having been Young Fiddler of the Year 2015. He has performed at the Royal Edinburgh Military Tattoo since 2015 including trips to Australia, Germany and Norway.

Callum said: "After my first year I returned to the job every year, apart from the Covid lockdown, and have been lucky enough to watch SaxaVord evolve into a spaceport.

"After graduating this summer with a BSc in Mathematics, I was offered a permanent job, putting my degree to good use working on the operations side of the spaceport.

"My main job is being in contact with the companies who are visiting and staying with us, making sure they are comfortable and resolving any issues they have, if there are any.

"The other 'maths based' aspect of my job involves checking all the calculations which the companies we are working with have provided, to see if they fit within our regulations and ensuring there are no errors."



Radome is sustainability exemplar



Seven out of a planned 15 solar panels have been installed by our team at the Baltasound airfield ground station radome.

They will eventually provide up to 4.9kW of renewable energy to the antenna in line with our plans vastly to reduce our overall carbon footprint. Depending on solar irradiance, the solar panels could provide power for half the year.

As well as the solar panels, we have planted wildflowers in the plot of land surrounding the radome.

Now, only a few months later, there are already 11 different species of wildflowers growing on the land.

We're hoping insects and pollinators will be attracted to the wildflowers, promoting a thriving ecosystem on the land.

School visits

Under the leadership of Education and Innovation Officer Mason Robbins, SaxaVord Spaceport is committed to involvement with Shetland Schools.



One of these engagements has been the Astronaut Job Camp with Mike Mongo which will be entering its third year in 2023. This has been a great success with children coming away from the sessions feeling empowered that they can "live, work and play in space".

While these bigger events are happening, members of the team have also been out visiting schools in Shetland to speak to children and young people about the company and also deliver and support sessions which link to the curriculum which they are learning.

Alongside these sessions, we have also started attending careers events to talk to children about possible future employment opportunities. At present these have all been in Shetland but we have been invited to attend an event of this type in mainland Scotland.

It is great to see the excitement of the space industry arriving in Scotland being recognised beyond Shetland.

◀ A visit to North Roe Primary School.



ABL all set for rocket launch

The US rocket company ABL Space Systems, which will be conducting the UK Pathfinder mission from SaxaVord Spaceport for Lockheed Martin, has secured all the requisite permissions for a test launch of its RS1 rocket from the Pacific Spaceport Complex on Kodiak Island, Alaska.

The company cut short three launch attempts in late November due to technical issues, but will attempt again in December to send the 27m rocket into orbit.

Members of the SaxaVord team visited Kodiak and ABL in California earlier this year to engage on a whole host of issues. It followed a visit to Unst by ABL in late 2021.

Unst Show rocket competition

The annual Unst Show is held on the last Saturday in August each year and returned this year after a two-year absence.

The show should have celebrated its 150th year in 2020, but these celebrations have been put on hold until 2025 when the 155th year will be marked in style.

This year brought the inaugural Unst Show rocket competition supported by SaxaVord Spaceport. It was a resounding success with around 10 rockets on display. The winners came from Richard and Archie Mouat and the Unst Brownies.

◀ Richard and Archie Mouat's winning entry.

Fun in Florida

Lockie and Signe Bullough, then aged eight and 10, were the winners of the SaxaVord Spaceport art competition back in 2020, and their prize was a trip to Cape Canaveral in Florida which they took in October this year. Here, they report back on the “experience of a lifetime”.

Florida and the Kennedy Space Centre already seems like a long time ago, so it was good to think about what we saw and remember the sun beaming down on us. It was such an incredible place. We spent two days at Kennedy Space Center and two more in the Merritt Island Nature refuge around the centre. We still felt like we could find more to see. It was breathtaking seeing the scale of the rockets and the crawler, and then really poignant visiting the memorial to those lost in the Apollo program.

It was really cool seeing the actual Saturn V rocket and the real space shuttle Atlantis. The Saturn V rocket was much bigger than we expected. The SLS Artemis is even bigger but, we didn't see it. We drove past the VAB (a very, very big building) on a bus tour. The SLS Artemis was inside.

It was also really cool doing the simulators as well. We went on the shuttle simulator and the Mars rover simulator. We had to try to land and then drive to places on the Mars surface. Landing was hard and driving was difficult – we got spun around and upside down. We had to get X and Y co-ordinates from mission control and then navigate across Mars.



We could see SpaceX and Blue Origin buildings near the visitor centre. While we were in Florida four astronauts came back from the Space Station. They landed in the sea off Florida from and the next day (15th October) there was a launch of a Falcon 9 rocket into space from Cape Canaveral. We watched it online.

We got to sit in model capsules. There was not much space. All around the space centre was a wildlife refuge. We saw lots of things like manatees, gopher tortoises, wild boar, raccoons and alligators. There were lots of birds like herons, woodpeckers, ospreys and bald eagles. The gators were our favourite. There was a beach there too and we went swimming and body surfing. We could see the launch pads where the Saturn Vs and Apollo launched, from the beach.

Thank you again for this amazing and inspiring opportunity that you were able to give us. It was an experience of a lifetime.

Community Funding

Here at SaxaVord Spaceport, we are fully committed to supporting and being involved with the local community.

Over the last year we have been able to support all sports groups in Unst with funding. These groups include Unst Football Club, North Isles FC, Unst Netball Club, Unst Badminton Club and Unst Squash Club. The funding provided to these clubs is used for transport to games, hiring facilities and equipment purchases.

One of the groups that we have assisted, Unst Football Club, is celebrating its 100th anniversary this year and recently held a dinner in the North Unst Public Hall to mark the occasion. SaxaVord Spaceport would like to wish Unst FC many successful years to come.

Redd-Up at Ward of Norwick

Members of the SaxaVord Spaceport team recently carried out a clean-up at the Ward of Norwick, which overlooks the launch site.

It is the site of a derelict RAF building that we often take visitors to so they can view the Lamba Ness site in its entirety. It had become littered with debris from the building, such as old guttering, glass, rusty metal and wood.

Sustainability officer Sorcha Leavey said: "The clean-up was a great success and we are committed to looking after the environment around us."

