East Arnhem Land home to Australia's first Commercial Spaceport

Who is ELA?

ELA stands for Equatorial Launch Australia. ELA is a wholly Australian-owned company focused on launching rockets into space, and bringing them down with safety and reliability.

What does ELA plan to do?

ELA plans to build a spaceport in East Arnhem Land. This spaceport is a site where launch vehicles (rockets) can be sent up to different heights. The first one will go below 100km high. Over time, they may go deep into space.

Why launch rockets?

The rockets ELA plan to launch help science, communication and education. The rockets are small and do not carry humans. The rockets can carry payloads or satellites the size of a loaf of bread. Small satellites, released from larger rockets, answer science questions, improving our understanding of earth and space.

Satellites also link our mobile phones and help Navigation systems (GPS) in cars and other transport. Technology is improving all the time, and satellites are one of the things that help when developing new technology.

What happens to the rocket and satellites?

The rockets and satellites are expensive and carry important information. A lot of effort is put into getting them back with safety and reliability. After a rocket is launched it follows an arc and a parachute helps to bring a smaller-type satellite, and the information it has gathered, back down gently to be retrieved and allow re-use of the rocket.

Where is the site?

The site is on the Gulkula escarpment, south-west of the Garma site. Following consultation in English and Yolngu Matha, a lease was approved by the Northern Land Council (NLC). Before approving the lease, the NLC consulted with impacted and affected Traditional Owners. They talked about rockets, safety and the benefits of this project.

The NLC then approved a 40-year lease for 270 hectares on an area they identified as Gumatj land. Gumatj subsequently sub-leased 60 hectares to ELA.

For this site, ELA is working through government approvals and doing further studies to define how to best care for the environment, and keep working with the people of East Arnhem Land. To plan this site, ELA is also speaking with Gumatj and local rangers.

Are there other launch sites?

There are more than 20 launch sites around the world. These include Canada, Satish Dhawan (India), Florida (USA) and Kiruna (Sweden). There is also a new site in New Zealand.

Australia has a long history with rockets and satellites. We were one of the first nations to launch a satellite from Woomera in South Australia in 1969, but this site has not launched a satellite since 1971.

Why East Arnhem Land?

East Arnhem Land is the best location in Australia. This is because rockets can be launched better to the east, close to the equator.

The stable weather in Northern Australia, especially during the dry season, is the best for launching rockets.

The local population is small in number for such a big area, but it is very innovative and future focused. This means ELA can engage the community in new education and job opportunities over time.

And finally, Australia is a stable and trusted nation that has just announced our own Space Agency.

All of these factors provide ELA's potential customers with interest and confidence in the East Arnhem Land site.

What's so important about being near the equator?

Think about it. If you jump from the side of a river bank you will not travel very far, but if you jump from a rope that is swinging quickly over the river you will travel further. This is the same for a rocket.

The earth spins more quickly at the equator. This means that less energy is required to launch the rocket. This makes East Arnhem Land a very efficient place to launch rockets.

What type of jobs will the spaceport create?

ELA want this to be a sustainable site that provides real local job and education opportunities. Not everyone has to be a rocket scientist. Industries that grow with spaceports include tourism, manufacturing, education, science and technology.

The Northern Territory Government has predicted that there will be many different jobs related to this project over time. For the first stage of construction, there could be up to 10 local jobs. Site-related jobs can include site building and safety, but also much more.

By sharing knowledge with local schools and the community, ELA hopes to see local data collection, as well as professional and technical jobs created over time. Beyond construction, this includes 3D printing of parts, site monitoring, and actual satellite manufacture.

Did you know that East Arnhem school children have already participated in computer programing and robotics classes? These sorts of future jobs are a real possibility.

A spaceport can also bring people to the town; this will include government workers, education and industry workers, business people and tourists from all over Australia and the world. The site location and type of industry (space) is likely to attract visitors which will match the targeted visitors in the East Arnhem Tourism Plan and Yolngu Tourism Master Plan, aligning with industry and ranger group interests.

What about the unlikely chance of launch failure?

Launch failures are possible, but unlikely. The launch vehicles being considered by ELA boast a better than 98 per cent success rate. Due to the regulations, technology, and site location, the most likely damage related to failure would be to the launch pad and the rocket.

What kinds of impacts can a spaceport have?

The possible environmental impacts of launching rockets from a remote spaceport are expected to be limited during and post construction. This is because to start, the build is actually quite small.

Compared to other industries such as mining and agriculture, rocket launches do not contribute as much to our atmosphere.

There are also international, Federal, and Territory rules and regulations that ELA needs to meet for every rocket launched. These include environmental safety and flight standards that government regulators check before each launch. Spaceports are operated under very strict regulation. No launch is conducted without approval. Even before the first rocket is launched there are many response scenarios that are practiced and reviewed by the government authorities.

Construction includes three launch pads, each about the size of a tennis court. An access road, fence and some storage and operation sheds will also be built. These sheds are about the size of a shipping container.

Australia has launched rockets before, being one of the first nations to put a satellite into space over 50 years ago. Based on experience at Woomera, launches are not likely to be heard much beyond the site boundary. There will be little to no vibration felt beyond the immediate launch site due to the relatively small size of the rocket and their fast launch.

Outside of Australia, other spaceports also must meet strict regulations. Some are built near more people, and in *very* sensitive environments.

For example, the NASA launch site in Florida has been the focus of environmental study for more than 10 years and this study shows local flora and fauna is still strong, as is the local fishing setting with over 500 species.

How big is Australia's space industry?

Australia's space industry is already worth an estimated $3-4B. There are over 10,000 people already employed in the industry, 388 companies, 56 education institutions and 24 government groups involved, representing about 0.8 per cent of Australia's GDP.

The Australian Government has recently committed $41M to the development of the Australian Space Agency. The new space agency boss, Dr. Megan Clark, has commented that the space industry has the ability to add jobs and income. A recent report into Australia's space industry also shows the link between the space industry and opportunities to improve communications, government services, mining, agriculture and aquaculture.

When could ELA start?

ELA's schedule looks to meet market demand and provide launches in 2020. To do that, it will first need to meet with regulators, keep talking with the community, start construction, and do an initial launch to open the site.

To take these steps, spaceport safety and planning experts are needed. For construction, ELA will speak with local people and businesses, and community members will be invited to view the first launch.

What are the next steps?

While working with Government and regulators, ELA will keep talking on Yolngu Radio and Gove FM, and be at Garma to answer questions. ELA will keep connecting with local schools and participate in business forums and regional meetings, and will keep talking with local ranger groups.

Watch this space

Equatorial Launch Australia
W: ela.space

Gumatj Aboriginal Corporation
W: www.gumatjcorporation.com

Developing East Arnhem Limited
W: developingeastarnhem.com.au

DEVELOPING EAST ARNHEM