

31 May 2024

Committee Secretary
Joint Standing Committee on Treaties

PO Box 6021, Parliament House, Canberra ACT 2600

Dear Committee Members,

Re: Agreement between the Government of Australia and the Government of the United States of America on Technology Safeguards Associated with United States Participation in Space Launches from Australia

Gilmour Space Technologies Pty Ltd (“Gilmour Space” <https://www.gspace.com/>) is an Australian company based in regional Queensland (Gold Coast and Bowen) that operates across several sectors and government focus areas, including Space, Defence, Advanced Manufacturing, Innovation, Research & STEM.

- Founded in 2013, Gilmour Space has grown to 200 local employees and established an extensive global supply chain, including 300 local companies and foreign primes.
- We are funded primarily by venture capital, with over \$140 million raised from private investors, including Australian venture capital firms Blackbird and Main Sequence, Queensland Investment Corporation (QIC), as well as publicly funded Australian superannuation funds such as HESTA, Hostplus and NGS Super.
- Today, Gilmour Space is the **first sovereign (Australian-owned and operated) aerospace prime offering integrated, full-service space launch services in Australia** – developing, manufacturing, and launching Australian-made orbital launch vehicles and satellites for Civil, Commercial or Defence applications, from a licensed launch site in north Queensland.

With our first orbital rocket launch happening soon (pending launch permit approval), we would like to provide a real-life perspective on the government’s proposed US Technology Safeguards Agreement (TSA).

In a nutshell...

This TSA has been billed as a way for the Australian space industry to get a jumpstart into the global space industry by allowing US launch vehicles and spacecraft to launch from (and return to) Australia. According to the government’s *National Interest Analysis*, this will “*expand the market to Australian companies and uplift the entire space sector... open new doors for high skilled tech jobs and supply chains to support US space launch and return on Australian soil.*”

The reality, however, is very different.

(1) *There would be limited benefits from high-tech jobs and supply chains in Australia*

The TSA is all about protecting US technologies from falling into the hands of foreign countries, including Australia. In fact, orbital launch vehicles are also highly restricted technologies under ITAR and Missile Technology Control Regime (MTCR) Guidelines and have been excluded from the AUKUS technology sharing agreement with Australia.

What does this mean?

- **Technology and information sharing is not permitted.** *Article V Part 1* of the TSA prohibits any technical transfer of launch vehicle technology to Australia, including launch site design and components (e.g. fluid systems, launch tower).
- All US launch-related technology in Australia would need to be segregated from non-US personnel in restricted containers and buildings.
- Any US rocket launch would need to be conducted from a fenced off and separate launch pad, constructed and maintained by US citizens.
- The launch itself would need to be conducted by US citizens who will assemble and launch the rocket. Indeed, any non-US persons would need a permit (authorised by the US government) to even enter their launch pad or vehicle assembly building.

- And what about supply chain opportunities in Australia? Among other things, *Article V Part 1* states that the TSA “shall prohibit, US Participants from providing any assistance to Australian Participants relating to the design, development, engineering, manufacture, production, assembly, testing, repair, maintenance, modification, operation, processing, or use of US Launch Vehicles, US Spacecraft, and/or US Related Equipment, unless this assistance is authorized by the Government of the United States of America.”

So, while we could see jobs created in construction, hosting/hospitality, and logistics... under the terms of the TSA, Australia’s role in any US launch activities conducted here (and hence any resulting high-tech jobs and supply chain opportunities) would be highly limited.

(2) US rocket companies would still need to weigh the costs of launching from Australia

The TSA makes it *possible* for US rockets to launch from Australia. However, it does not follow that they will, or that it will be in sufficient scope or cadence to be economically sustainable.

In fact, US launch vehicle operators can already launch at subsidised prices from US government-funded launch pads in Cape Canaveral (including Kennedy Space Centre), Wallops Island, and Vandenberg Space Force Base.

From an economics point of view:

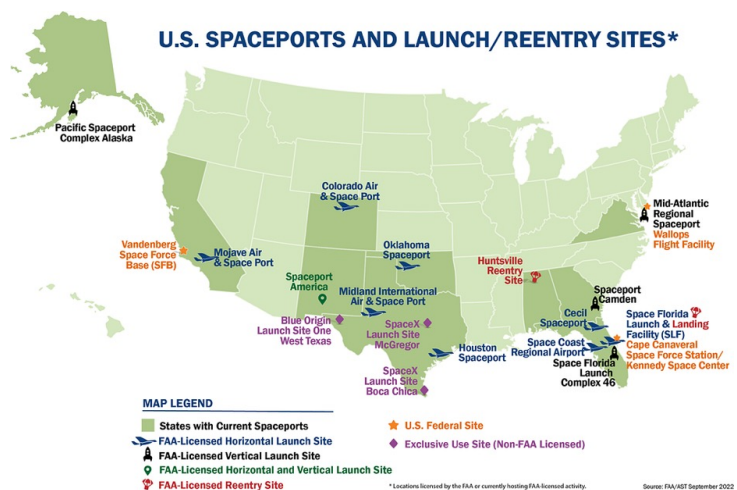
- **Launching from a US government launch site.** The US, in an effort to grow the domestic launch market, has a cost-plus model where they charge roughly “cost plus 12%” for launches from government-operated launch sites. This goes for lease costs as well as other services provided such as range safety, transportation, and supplies. (Gilmour Space was recently quoted less than \$100,000 to launch our Eris rocket from Cape Canaveral.)
- **Launching from Australia.** Under the TSA, US rocket companies would need to fly a team into Australia to prepare and launch the rocket (which could cost, say, \$650,000 for a month-long campaign involving 30-50 US engineers); and transport their completed launch vehicle safely and securely (at approx. \$200,000) ... These costs are before any fees paid to the Australian launch site provider, additional insurance costs, etc.
- The TSA would also require US rocket companies to build their own launch pads/infrastructure in Australia. As a data point, Rocket Lab (the only small launcher in the US to have funded a private launch site) reportedly spent about US\$20 million on its Mahia Peninsula launch complex in New Zealand.
- What’s more, in the four years since the [UK](#) signed its TSA with the US, only one launch (by Virgin Orbit) has taken place... and there have been zero launches from [Brazil](#) in the five years since their TSA.

(3) US spaceports are refurbishing to meet the growing demand for launch

But what about the lack of spaceports in the US? The TSA is said to offer a solution to the soon-to-be crowded US launch corridors and congested launch windows.

And yet...

- The US today has 14 licensed spaceports, including launch and re-entry site operators, with another three sites (two of which are operated by SpaceX, and one by Blue Origin) designated for exclusive use. ([Source](#))



- Cape Canaveral itself (pictured right) comprises more than 20 launch pads.
- NASA has stated a goal to launch twice a day from Kennedy Space Centre.
- SpaceX has Boca Chica, which it is setting up to launch every day.
- Between all these launch sites, the US could soon be launching up to four rockets a day...



So, if not for the lack of spaceports, then will the TSA unlock new launch trajectories for the US?

- While there are a few proposed orbital spaceports in Australia, the only approved orbital launch facility in Australia is the Bowen Orbital Spaceport (pictured below). This site in north Queensland can provide US companies with easier access to some harder-to-reach places in space; however, these orbits are still achievable from US sites, albeit with more fuel.
- Brazil's Alcantara launch site, located just two degrees from the equator, offers better access to space than any existing or proposed Australian site. Yet despite this and its closer proximity to the US, no US launch company has launched from Alcantara since Brazil signed its TSA five years ago.

(4) *The TSA poses significant risks and lost opportunities for local rocket manufacturers and their Australian supply chain*

Unfortunately, the TSA is not good news for Australian launch vehicle companies like Gilmour Space (pictured right with our Eris orbital rocket on the pad in Bowen).



- The TSA will worsen what is already an unequal playing field for Australian launch vehicle companies, who will now have to compete with established and well-funded US competitors on our home ground.
- The TSA allows US rocket companies to launch Australian government satellites and payloads from Australia. However, there is no reciprocal benefit for Australian companies, who are barred by US law from launching US government satellites on Australian rockets.
- The TSA could also put Australian companies at a regulatory disadvantage. E.g., with launch permit approvals, US rockets need their launch approval from the Federal Aviation Administration (usually given within 3-6months) with some kind of rubber-stamp approval from the Australian Space Agency. If our approvals take longer (and to date our ongoing application has taken 18 months), then Australian launchers will be at a severe disadvantage compared to US launchers.
- Without any sovereign procurement requirement, similar with that in all other space nations in the world, the TSA opens the door for the Australian government to effectively fund foreign rocket development at the expense of our own.

At the end of the day, US launch companies, with their US-made rockets, will not integrate Australian companies into their supply chain. As Australia's pioneer launch company, we have created hundreds of high-tech jobs, attracted significant private investment, built an Australian supply chain (300 local companies and counting), and developed critical sovereign technologies aimed at bolstering national security and resilience.

Our government and Space Agency should assess the TSA with clear eyes to see how it can better support, and not risk, **Australian launch vehicles companies that can help to burden share and provide access to space to our US allies in line with our national interests.**

(5) The TSA affects Australia's ability to launch non-US rockets

What about non-US rocket launches? In fact, we are seeing strong interest from Asian and European rocket companies to launch from Australia. These companies do not come with TSA restrictions; and their greater demand for low inclination orbits accessible from Australia means that this business could significantly enhance the chances of achieving Australia's commercial and industrial growth objectives.

Problem is, the TSA in *Article III 3(e)* binds Australia to enforce the same US restrictions on other countries wishing to launch here. This would severely impact the ability of Australian launch site providers to monetise their launch site assets with global customers. Our government should change this.

(6) The TSA, as it stands, is more likely to result in a net negative economic scenario for the space sector

To help the Committee assess the relative economic costs and benefits of the TSA, it's important to have some indicative numbers to consider.

- **Potential revenues from launching US rockets in Australia.** Assuming one rocket launch per month (at revenues of approx. \$200,000 to \$400,000 per launch), we estimate that spaceport operators could generate \$2.4 million to \$4.8 million annually.
- **Potential revenues from non-US rockets.** Launch site fees for non-US countries could be as high as \$600,000 to \$800,000 per launch, utilising more Australian launch site infrastructure and technology. However, that value-add would evaporate if Australia imposed the same TSA restrictions on all launches.
- **Potential revenues of Australian launch vehicle provider.** The revenue from an Australian launch vehicle provider exceeds \$15 million per launch. A launch a month represents \$180 million annually. Revenues from Australian companies go back into more Australian R&D, more high-skilled local jobs, more university research collaborations and training, growing and supporting local supply chains, and more tax revenues to the government.

For all the reasons above, we do not believe the TSA as it stands represents a beneficial deal to Australia.

Recommendations to Amend the TSA

1. Australia should reject the requirement to hold other launch nations to the same restrictions as US launchers. That would impinge on our sovereignty and dealings with other nations.
2. Our government should require a level playing field between US-owned and Australian-owned launch vehicles, for winning Australian and US government contracts.
3. US commercial satellites must be carved out from the TSA's definition of "launch activities", so they do not have the same restrictions as US government satellites.

The next couple of years will be a crucial time for Australian companies like Gilmour Space, as we demonstrate our orbital launch capability, build sovereign industrial capacity in country, and work to burden share our launch capability with our US allies.

We welcome the opportunity to discuss any of these points further with the committee.

Yours truly,

Adam Gilmour

CEO, Gilmour Space Technologies