

A Note on Orbital Virtual Corporations/Special Purpose Orbital Corporations

For Better Futures Presentation, 12 October 2022

The thinking behind OVCs/SPOCs is to create a more enabling environment for the new space economy. **The idea is to provide a favourable tax and regulatory environment for space industry corporate entities to operate in.**

The proposal differs from the Zero G, Zero Tax initiatives advanced between 2000 and 2015 by SpaceCorp. ZGZT sought to provide for a 20-year tax holiday for new space products and services¹. Unfortunately, the ZGZT proposal didn't succeed. OVCs/SPOCs differ from the ZGZT approach in two important ways. First, government would be required to enact the tax dispensation as a right, based on principles of tax law and the law relating to the jurisdiction to tax. Rather than a tax holiday it would be seen as and legislated for as an entitlement. Secondly, the dispensation would only apply to a particular kind of company and transaction, both being "off planet". The idea is probably most relevant to the development of ISAM².

In November 2018, NASA and the Departments of State and Commerce submitted a report to the National Space Council which detailed four overarching goals including the creation of a **regulatory environment in LEO that enables American commercial activities to thrive**³. Three years later, the United States Space Priorities Framework of December 2021 called for U.S. regulations to "**provide clarity and certainty for the authorization and continuing supervision of non-governmental space activities, including for novel activities such as on-orbit servicing, orbital debris removal, space-based manufacturing, commercial human spaceflight, and recovery and use of space resources**"⁴ and most recently, the U.S. Department of Commerce Strategic Plan 2022 – 2026 was published, calling for action "**on regulatory issues and opportunities for commercial space businesses to coordinate regulatory functions that promote competitiveness and increase legal certainty for space businesses**"⁵. The OVC/SPOC proposal responds directly to those challenges.

The intention is to help establish a technical, legal and regulatory framework to provide for the incorporation of corporations that are both (i) "resident" in space and that (ii) transact in space, thereby removing them from the jurisdiction to tax ("**There are no restrictions under international law to a legislative jurisdiction to impose and collect taxes. In most countries, the jurisdiction to tax is based on the domestic legislative process, which is an expression of national sovereignty. States apply their jurisdiction to tax, based on varying combinations of (i) income source and (ii) residence principles**" – OECD). Revenues generated by OVCs/SPOCs would only be subject to the jurisdiction to tax when drawn down to Earth.

The exercise first requires **an examination of what the act of incorporation entails** and for these purposes, the concession theory would appear to be the most appropriate⁶.

¹ Zero G, Zero Tax, Enabling Private Space Enterprise Through Tax Incentives, Dennis Wingo, Ad Astra, Volume 19 Number 1, Spring 2007

² <https://www.whitehouse.gov/wp-content/uploads/2022/04/04-2022-ISAM-National-Strategy-Final.pdf>

³ <https://spacepolicyonline.com/news/space-council-gets-human-spaceflight-strategy-report/>

⁴ United States Space Priorities Framework, December 2021

⁵ U.S. Department of Commerce Strategic Plan 2022 – 2026

⁶ Rehabilitating Concession Theory, Stefan Padfield, Oklahoma Law Review Volume 66 Number 2, 2014

The next legal issue that needs to be addressed is that of sovereignty and whilst there is a prohibition against claiming sovereignty over the whole or any part of a celestial body, this would not appear to apply to objects launched from earth into space.

The Estonian/Luxembourg e-Embassy model⁷ could be used to “attach” sovereignty to a server in space (an “OVC/SPOC Platform”) that would incorporate and host OVCs/SPOCs, which would in effect merely be nodes/units of computing power. A number of companies are already installing the necessary capacity in space⁸.

OVCs/SPOCs could be heavily blockchain-enabled. By Regulation, OVCs/SPOCs could be required to be validated by the creation of an NFT as their certificate of incorporation, and again a number of companies already have demonstrable capacity in this area⁹. OVCs/SPOCs could then be required to have a crypto wallet hosted on the OVC/SPOC Platform and to use an associated cryptocurrency for their transactions. Use of the crypto wallets and the cryptocurrency would allow for regulatory transparency. In so doing, the proposal aligns the United States Space Priorities Framework, December 2021¹⁰ and the US. Department of Commerce Strategic Plan 2022 – 2026¹¹ with the Executive Order on Ensuring Responsible Development of Digital Assets of 9 March 2022.

As the Order says “The United States derives significant economic and national security benefits from the central role that the United States dollar and United States financial institutions and markets play in the global financial system. Continued United States leadership in the global financial system will sustain United States financial power and promote United States economic interests”.

Finally and crucially, tax savings derived by OVCs/SPOCs could be part-diverted under statute towards the space market failure of space debris mitigation and clean up as the externality could be internalised into market prices (incorporation fees).¹² In addition, savings could be in part diverted to a “For All Humankind Fund”, whereby the profits of space are shared amongst the wider international community along Article I OST principles¹³, thereby helping to address growing concerns about appropriation of space resources by a select few private enterprises.

An OVC/SPOC tax regime would clearly incentivise investment in the space-for-space sector as it is about to take off and this is however the immediate and primary objective (“**The opportunity presented by the space-for-space economy is huge - but it could easily be missed. To seize this moment, policymakers must provide regulatory and institutional frameworks that will enable the risk-taking and innovation necessary for a decentralized, private-sector-driven space economy**”¹⁴). The ultimate vision is of a **network of hundreds of virtual companies providing on orbit services to each other and occasionally repatriating profits and resources back to earth.**

Kobina Hughes, London, 12 October 2022

⁷ Implementation of the Virtual Data Embassy Solution Report, 2015

⁸ <https://medium.com/blogspacechain/decentralised-satellite-infrastructure-5f6396c63fd3>, <https://www.datacenterdynamics.com/en/news/stealthy-startup-lonestar-plans-moon-based-data-centers/>

⁹ <https://nft.axiomspace.com/>, <https://www.techinasia.com/spacechain-launch-payload-space-velas-network>

¹⁰ United States Space Priorities Framework, December 2021

¹¹ U.S. Department of Commerce Strategic Plan 2022 – 2026

¹² OECD Environmental Taxation, A Guide for Policy Makers

¹³ The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.

¹⁴ The Commercial Space Age Is Here, Matt Weinzierl and Mehak Sarang, Harvard Business Review, February 12, 2021