

SPACE POLICY & LAW COURSE

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CHARLES CLORE HOUSE, RUSSELL SQUARE, LONDON

THE POLICY REGIME OF SPACE

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The session

This session will take a practical look at the emerging space policy system. With heritage as a governmental body, Inmarsat is a consequence of forty years' of space policy change. The organization will be presented in order to illustrate the sort of commercial entity that has emerged over this period and to illustrate the contemporary policy issues that face the organization. The intention is that this section will encourage participants to consider the impact of policy in a practical setting.

The second part of the session will be interactive and will illustrate the dynamic nature of policy development, whilst also encouraging participants to identify how policy paradigms become institutionalized. Presently, the UK has adopted a position to implement a powerful National Space Council – however, that is all that has been decided. Who are the participants? What are the essential terms of reference? How will it work in practice? What choices can and will be made as the institutions fix? Where is power in the system? Does the NSC make or reflect a paradigmatic consensus?

Framing

Now is a precipitous time in the hitherto sleepy world of space policy. From foundations as a government directed, owned and utilized cottage industry, the space community has imported more general policy paradigmatic norms into its mode of operation and organization. The inexorable trend of governments to cede ownership and control of the means of production, the quest for market lead innovation, overlaid with new arenas of contest, security challenges, as well as technological advance and the general melee inherent to complex systems (a probable explanation for the Silicon Valley space race) have each played a role in reshaping the system.

Government, capitalists and the financial markets are all regime participants, dancing to their own tunes. In her book 'The Entrepreneurial State', and in other writings, Mariana Mazzucatto focused extensively on the essential government endowment that created the opportunity for the modern space economy to exist. In related writings, Bill Janeway wrote of the three player game, whereby deep state investment creates opportunities for entrepreneurs (individuals or companies) to funnel risk capital into high TRL technologies – the third player being the financial markets, which allow profitable exit opportunities for investors. Very often the financial markets are fundamentally disinterested in and unexposed (directly) to vicissitudes in the system of space but they are a critical enabler of commercial exploitation, which, with the shift in government policy towards the acquisition of commercial systems, makes them as both dependent and independent variable in the space ecosystem.

Not a wholly self-referential story, the space sector has been influenced by changes in the external environment beyond space. To take one example, access to regulated spectrum assets has become contested as a function of policy change in telecoms and

radio spectrum management. Telecoms governance is one of the few unquestioned triumphs of the WTO GATS and with the creation of a tripartite governance arrangement, so the space sector has had to dance to a tune predominantly concerned with fiber deployment and high capacity mobile systems – how does it position to sustain itself? What is the impact on the sector? These are not abstract questions. Right now, there is a proceeding in the US which may see satellite operators cede their satellite spectrum in return for a cash windfall. In the EU, there is a satellite/4G aviation network, which exists only because of a political decision to make satellite spectrum available in a particular and enabling way. Every four years the international community creates a new Treaty following the WRC – this sets the fundamental terms on which spectrum can be accessed, which creates winners and losers.

In a particular instance of institutional fix, the Satellite Applications Catapult decided to orientate itself fully towards delivery of the Sustainable Development Goals. Contemporaneously the UK government made an allocation from the ODA (aid) budget towards dedicated space projects. At the same time, the World Bank was examining the use of space as an innovative capability for the delivery of more effective development interventions. ESA was also conducting ODA programmes through its earth observation activities. Whilst space has always been considered as a tool of public policy enablement, this shift towards having the sector included within another story – that of the formal international development community - marked a qualitative shift and was certainly a surprise to many from within the international development community, who saw space as an interloper and, initially, as a frivolity. What caused this concerted shift and in such a definite direction? Leadership by several individuals certainly played an essential role.

Brexit is again both a cause and a consequence of change within the space policy regime. As a direct consequence, the UK will no longer be able to participate in EU space programmes as an EU Member; abstracted one level, this impacts the relationship with ESA, which becomes, as a non-EU body, more important to the UK, in a dynamic complicated by ESA's increasing reliance on EU funding (and a more assertive EU in space to boot). To address an assumed symptom of the Brexit vote, the UK has adopted a policy shift towards greater strategic focus on key sectors, of which space is one – this is causing a political focus on the National Space Programme and is promoting activity to generate international partnerships beyond the EU, particularly with friendly strategic nations. The UK may build a national PNT system, which would represent a major project and focus for the entire UK space community.

The many emerging space powers and economies have not been properly included in this short framing document. India, with ISRO as a direct concern of the Prime Minister, is a respected and leading space nation. China is an established actor with deep international links – ASAT is a space capability that both have. Australia, the UAE and others have established national space agencies and Luxembourg, an established space player, in concert with the US, has disturbed the consensus on asteroid mining. Japan's major space ambitions and successes should not be forgotten from this story, too.

Describing policy developments as a regime story acknowledges that systems thinking is the most appropriate way in which to properly capture the shifting interdependencies, emergence of new actors and the formation of purposeful communities. Recognizing that the space system is changing, many research and analytic responses have emerged. Notwithstanding the ISPL's contributions, these range from the excellent work undertaken by the OECD in its flagship space economy series, through to institutes such as ESPI and the International Space University, independent organisations, such as RUSI, Chatham House and the Secure World Foundation. Attached is a bibliography, which contains links to additional readings.

CASE STUDY: National Space Council role playThree tasks:

- Draw up essential Terms of Reference (3-5 objectives).
- Agree participation (essential composition).
- Have a first meeting and produce minutes.
- Provide critical reflection on the outcome:
 - o What choices were made (or do you anticipate need to be made)?
 - o Where is power within the system and how can it be leveraged and controlled?
 - o In ten years' time, do you think that the NSC will have been a success based on your Terms of Reference?

Teams of 5-6:

- Space agency/economic interest.
- Treasury.
- Defence department.
- Chair.
- Industry body.

UK government press release:*National Space Council*

The UK can use its space capabilities to promote security, prosperity and science, as well as trade, international partnerships and global influence.

A new National Space Council, to be established later this year, will provide strategic leadership on space across government, coordinating all aspects of the UK's space strategy, investment and use of space through a new National Space Framework.

Science Minister Chris Skidmore said:

As we approach the 50th anniversary of the Apollo 11 moon landing, these announcements demonstrate the UK government's commitment to space. Satellite technology is crucial to our daily lives, for observing the Earth and gathering vital climate change data, and the space industry is growing rapidly with 42,000 jobs across the country. Establishing a National Space Council is a landmark occasion and will help put space at the heart of government policy.

The UK will remain a leading member of the European Space Agency and is also considering a national investment programme to forge new international partnerships, position the sector to access more than £70 billion of emerging commercial opportunities and foster crucial industrial capabilities.

Andy Green, President of UKspace, said:

We welcome the government's announcement to establish a National Space Council. Around the world governments act as key customers, enablers and regulators of space.

The creation of a National Space Council is critical step to a more joined up approach across government to support the growth of the UK space sector and mirroring the approach taken in the United States.

<https://www.gov.uk/government/news/leading-the-new-space-age-government-backs-ambitious-plans-for-the-uk-in-space>

Research and analysis references:

Chatham House (<https://www.chathamhouse.org/about/structure/international-security-department/cyber-and-space-security-project> - well informed international security perspective)

ESPI (<https://espi.or.at/publications/espi-public-reports> - rich set of space briefs addressing emerging trends)

OECD (excellent international assessment of the space economy – the Space Economy at a Glance paper is particularly important) <http://www.oecd.org/innovation/inno/space-forum/>

Policy Exchange (<https://policyexchange.org.uk/space/> think tank political manifesto for the UK)

Politico Space (weekly roundup of all US space developments, including Silicon Valley and defence) <https://www.politico.com/newsletters/politico-space>

RUSI (<https://rusi.org/UKSpace19> space security focus)

Secure World Foundation (independent analysis of space policy – the Handbook for New Space Actors is a thorough guide to operation of the space regulatory setup) <https://swfound.org/resource-library/>

The Three Body Problem, Cixin Liu (neither research nor analysis; Chinese ‘hard’ space fiction. Helpful in imaging futures and a balance to the prevailing western focus on the list)

World Economic Forum (<https://www.weforum.org/communities/the-future-of-space-technologies> future looking assessment of space)

Additional reading and on the institutional history of Inmarsat

Mazzucato, Mariana. 2015. The entrepreneurial state: debunking public vs. private sector myths.

Entrepreneurship and Innovation - Doing Capitalism in the Innovation Economy - by William H. Janeway
GNSS Galileo

Richard A. Morgan, Military Use of Commercial Communication Satellites: A New Look at the Outer Space Treaty and Peaceful Purposes, 60 J. Air L. & Com. 237 (1994) <https://scholar.smu.edu/jalc/vol60/iss1/4>

Bloom (2016), '*Eccentric Orbits The Iridium Story*', Atlantic Monthly Press New York retrieved on 8th March from <http://cms.marketplace.org/sites/default/files/Bloom%20ECCENTRIC%20ORBITS--Prologue%20%28non-excl%20promo%29.pdf>

Butrica, A. (1997), '*Beyond the Ionosphere: Fifty Years of Satellite Communication*', Washington, DC: National Aeronautics and Space Administration.

LMC (2001), '*COMMENTS OF LOCKHEED MARTIN CORPORATION Before the NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION Washington, D.C. 20230 In the matter of Market for Satellite Communications and the Role of Intergovernmental Satellite Organizations, Docket No. 000410098-1077-02 RIN 0660-ZA12*', retrieved on 3rd March 2019 from <https://www.ntia.doc.gov/legacy/ntiahome/occ/oecd2001/LM.htm>

McCormick P (2008) 'The demise of intergovernmental satellite organisations', *Journal of International Communication*, 14:2, 48-65, DOI: 10.1080/13216597.2008.9674732

McCormick P (2013), '*Neo-Liberalism: A Contextual Framework for Assessing the Privatisation of Intergovernmental Satellite Organisations*', in *The Transformation of Intergovernmental Satellite Organisations. Policy and Legal Perspectives*, Series: Studies in Space Law, Volume: 9
Publisher: Brill | Nijhoff, Online Publication Date: 10 Oct 2013

Morgan Stanley (2004), 'Inmarsat Case Study', in 'Discovering Investment Banking', presentation to 23 April, 2004 – Solvay Business School retrieved on 2nd March 2019 from <http://dev.ulb.ac.be/~dekeulen/if/fichiers/slides/MorganStanley2004.ppt>

Sagar D (1999), '*The privatisation of INMARSAT: Special problems*', *Journal: International Organisations and Space Law, Proceedings of the Third ECSL Colloquium, Perugia, Italy, 6-7 May 11 1999*. Edited by R.A. Harris, 477 pages. ESA SP-442. ESA/ESTEC, 1999., p.127 Bibliographic Code: 1999ESASP.442..127S.

UiO (2019), '*Operating Agreement on the International Maritime Satellite Organization (INMARSAT)*', retrieved on 2nd March 2019 from <https://www.jus.uio.no/english/services/library/treaties/07/7-06/international-maritime-satellite.xml>

United Nations (2019) '*No. 17948 MULTILATERAL Convention on the International Maritime Satellite Organization (INMARSAT) (with annex and Operating Agreement). Concluded at London on 3 September 1976 Authentic texts: English, French, Russian and Spanish. Registered by the Inter-Governmental Maritime Consultative Organization on 20 August 1979*', United Nations. Retrieved on 2nd March 2019 from <https://treaties.un.org/doc/Publication/UNTS/Volume%201143/volume-1143-I-17948-English.pdf>

United Nations (2019a), '*No. 18961. INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974. CONCLUDED AT LONDON ON 1 NOVEMBER 1974*', United Nations, retrieved on 2nd March 2019 from <https://treaties.un.org/doc/Publication/UNTS/Volume%201226/volume-1226-I-18961-English.pdf>

United States (2000), '*PUBLIC LAW 106–180—MAR. 17, 2000 OPEN-MARKET REORGANIZATION FOR THE BETTERMENT OF INTERNATIONAL TELECOMMUNICATIONS ACT*', United States, retrieved on 2nd March 2019 from <https://www.congress.gov/106/plaws/publ180/PLAW-106publ180.pdf>