



SPACE: THE FINAL FRONTIER PROVIDES AN EXCITING FUTURE FOR OUR GLOBAL COMMUNITY - BIZTECH HUÌHUÀ CHAT

Nick Flitterman, Managing Partner, Portland Advisers

Du Chongzhuang, Deputy Director, China Aviation Industrial Base

Webinar

Monday, 22 February 2021, 08:30am GMT

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A Word From Today's Chairman



Professor Michael Mainelli

Executive Chairman

Z/Yen Group



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Today's Agenda



- 08:30 – 08:35 Chairman's Introduction
- 08:35 – 08:50 Keynote Address - Nick Flitterman
- 08:50 – 09:05 Keynote Address - Du Chongzhuang
- 09:05 – 09:25 Questions & Answers

Today's Speakers



Nick Flitterman

Managing Partner

Portland Advisers



Du Chongzhuang

Deputy Director

China Aviation Industrial Base



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Space:
The Final Frontier & Future of
Global Connectivity

22 February 2021



PORTLAND

PROJECT & STRUCTURED FINANCE ADVISORY

Portland Advisers – A little about us..



Founded in 2008, Portland has become a trusted and recognized brand through consistent delivery of high-quality, direct and independent financial advice in project & structured finance

Committed

Senior industry professionals

Focussed

100+ years of Project Finance experience

Leadership

Global expertise in the Satellite, Infrastructure, Conventional & Renewable Energy & Mining sectors

Market leading advice recognised consistently through industry “deal of the year” awards

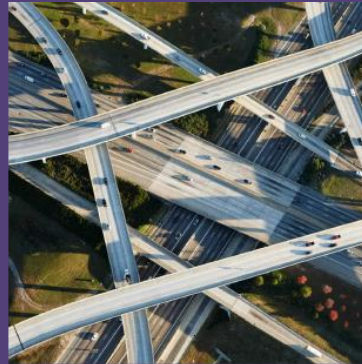


Our Sectors



Infrastructure

including social infrastructure, waste treatment, water and large-scale transport projects



Mining

including financing for mining and metals project in core mining geographies across the world



Sports Stadia

including sports stadia and arenas across Europe and beyond



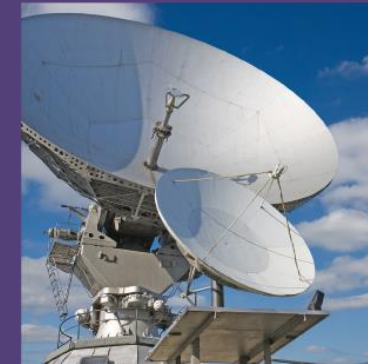
Renewables

including power generation from wind, solar, landfill methane gas, biomass/biofuel and waste-to-energy scheme



Telecoms

Covering fixed, wireless, cable and satellite infrastructure in the global telecommunications market



Telecommunications



Helping deliver global communications infrastructure

The procurement and financing of telecommunications infrastructure continues to be a key priority for the developed and developing world alike. The desire to implement the latest technology remains common across borders and the link between robust and widespread communications infrastructure and GDP growth has never been greater.

Covering fixed, wireless, cable and satellite infrastructure on a global basis, the services Portland Advisers provide in the sector include:

Financing/Refinancing advisory

- Planning, structuring and raising finance for new communication infrastructure investments
- Structuring and negotiation of vendor financing
- PPP/PFI bid-side financial advisory
- General financial consultancy

Government advisory

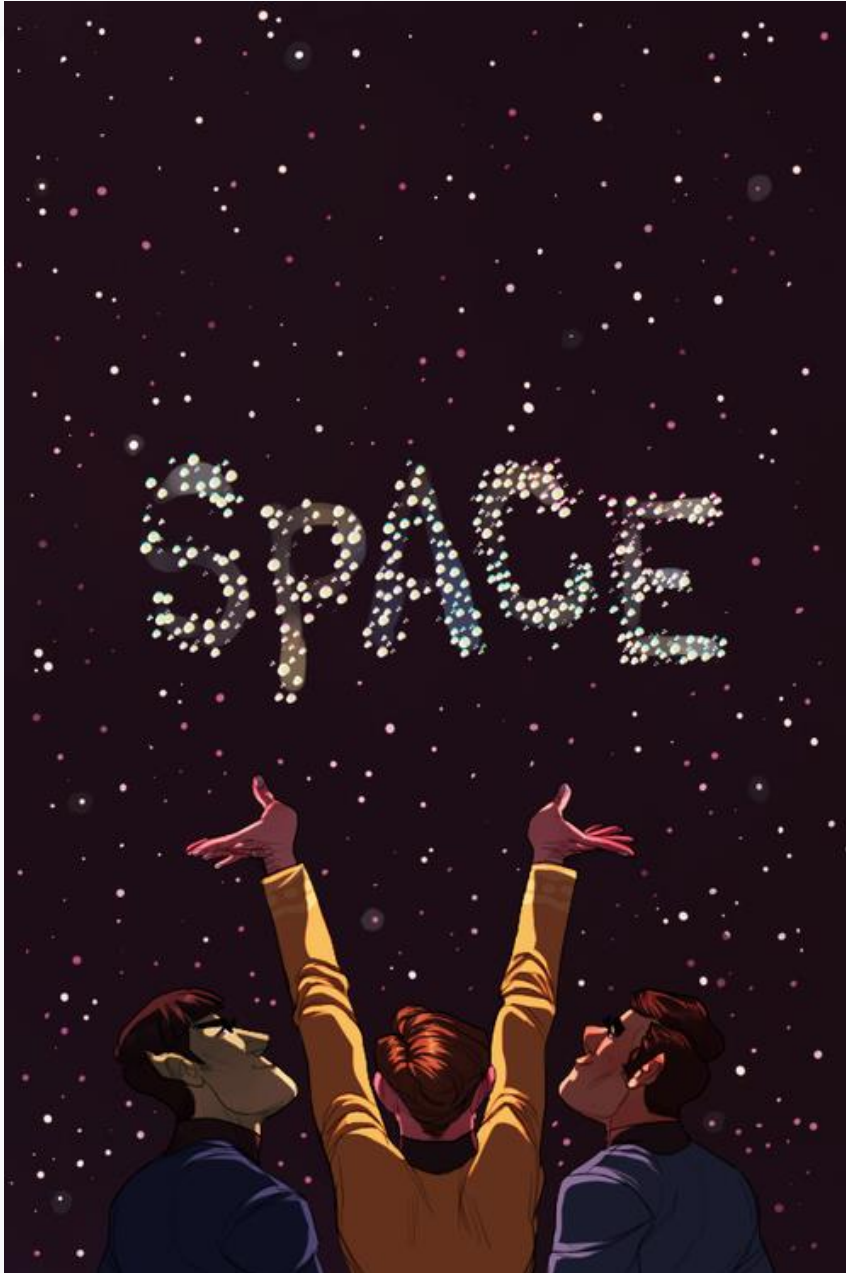
- Agency / ECA advisory
- PPP lead financial or strategic advisory
- Procurement Advisory
- Post-procurement / contract implementation financial advisory
- Sector-specific studies

- Fixed Line
- Wireless
- **Satellite**
- IT
- Subsea Cables

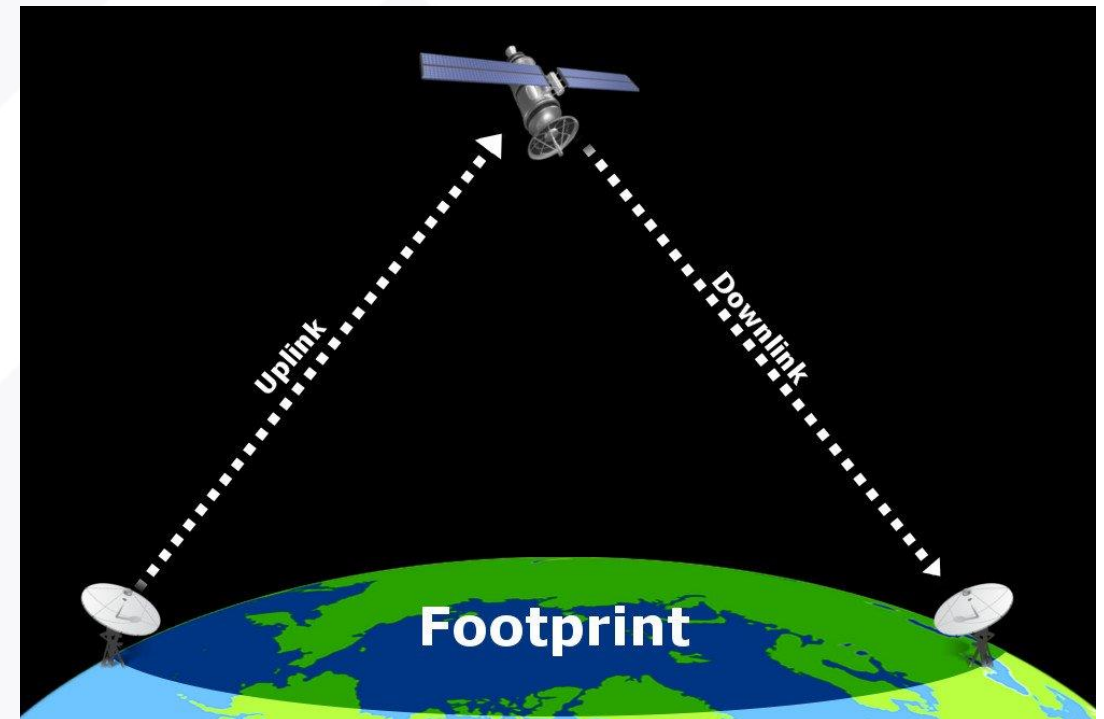
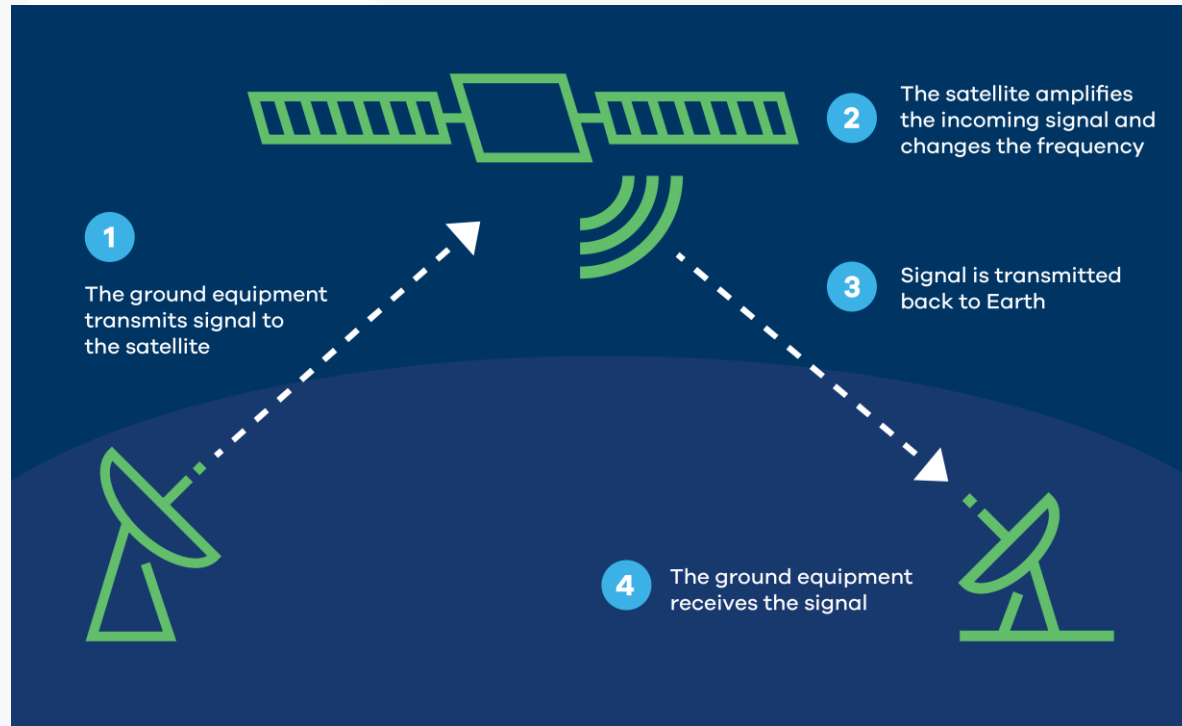


The Final Frontier

- How space works for us and the different space services
- How space touches our lives
- The space community
- Sources of funding & risks
- The future for global connectivity
- Q&A

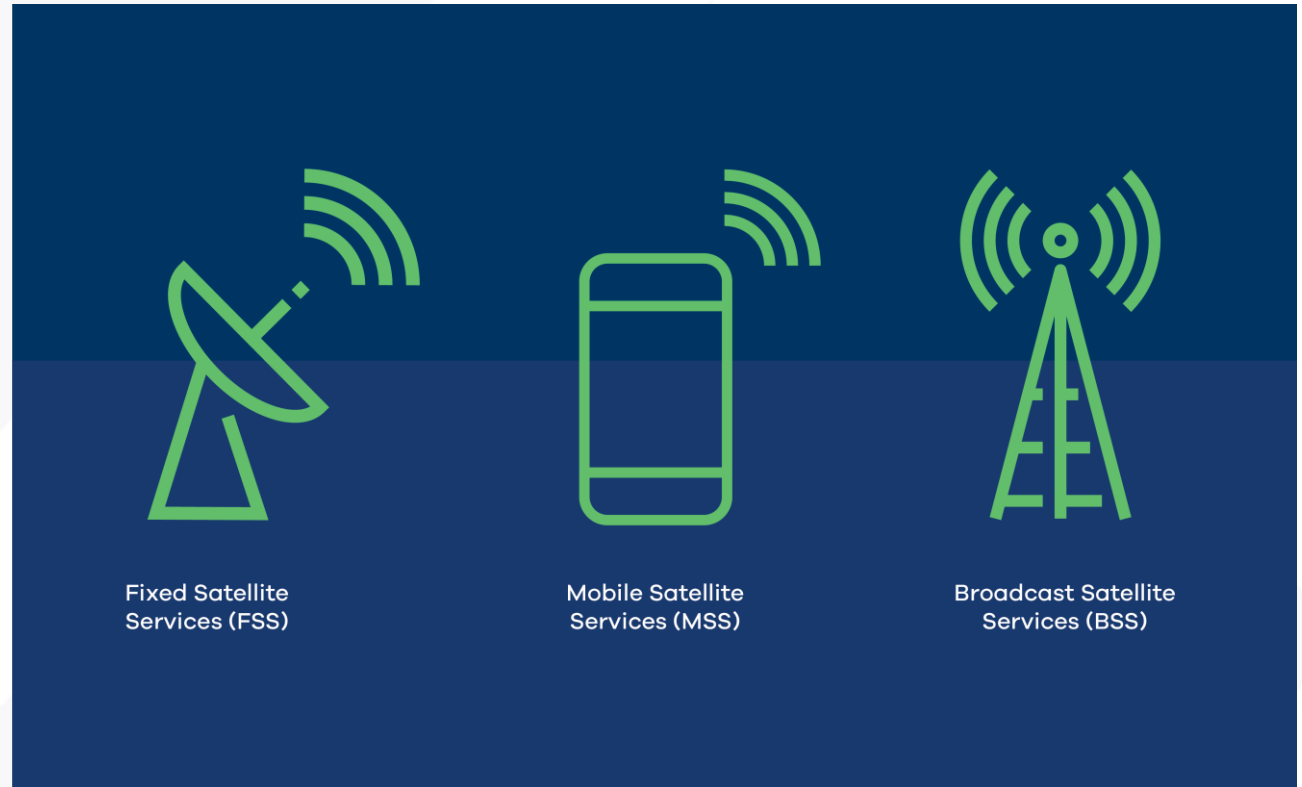
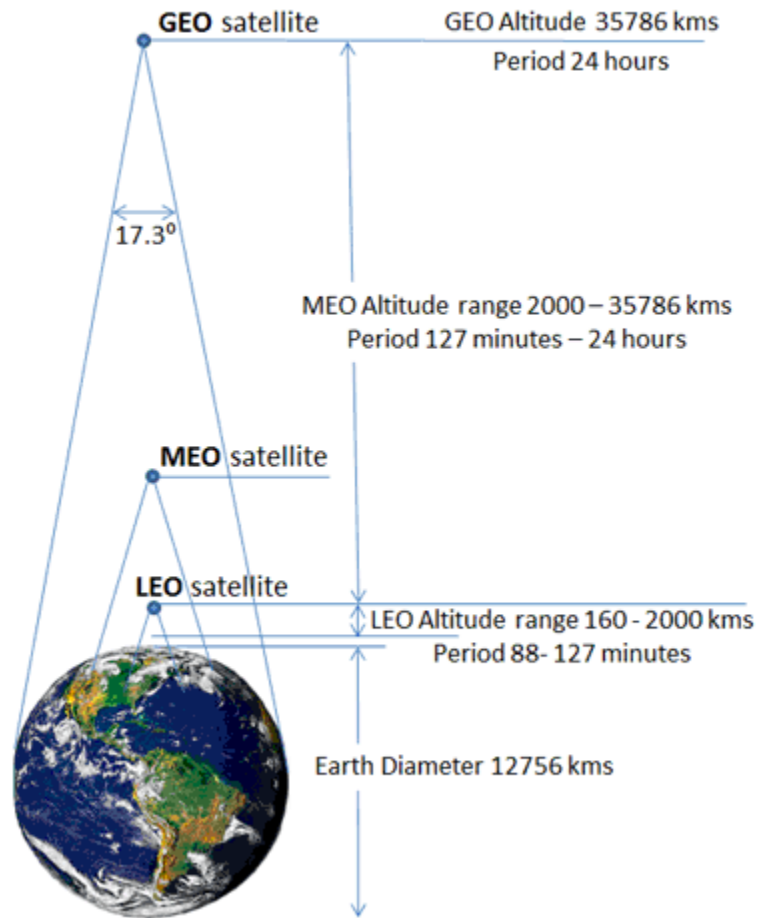


Space: How it all works



Space: Orbits & Services

Satellite Orbits, Periods and Footprints



Space: What's going on up there...?

Source: The Union of Concerned Scientists (UCS), Business Insider, Euroconsult, European Space Agency

Satellites with a Purpose

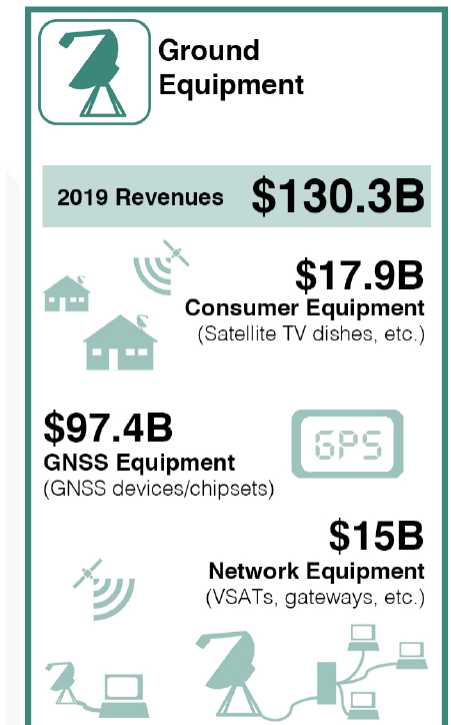
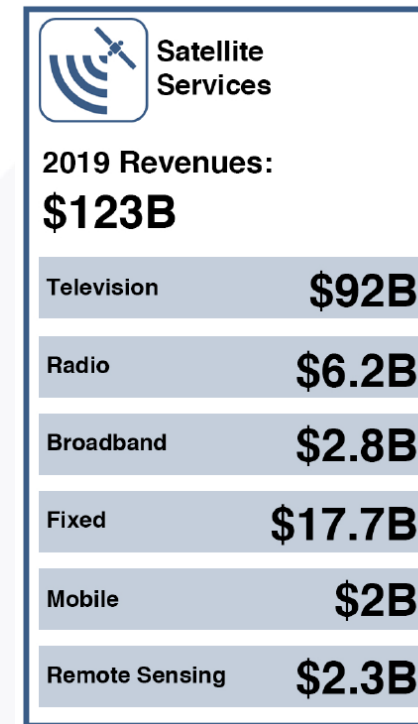
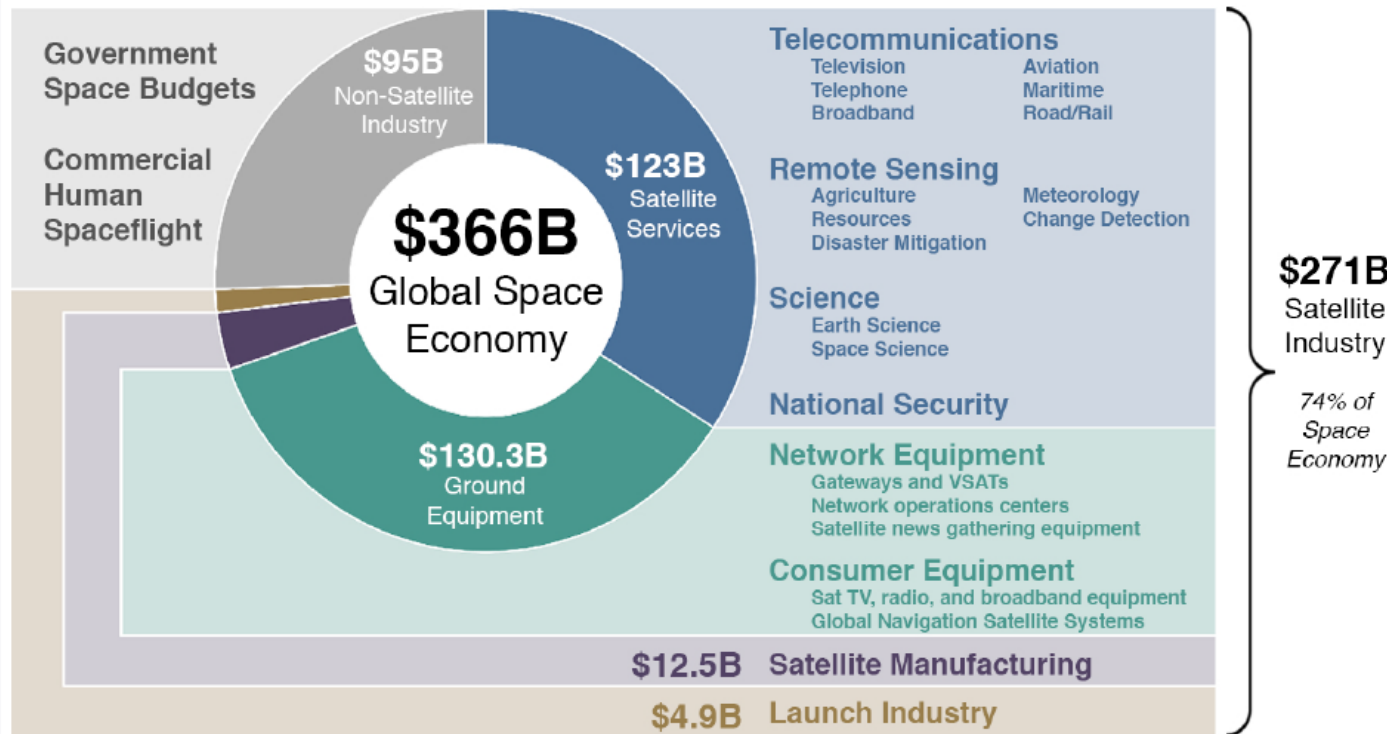


amazon
In July of 2020, Amazon was granted approval by the FCC to launch and operate an internet constellation* of 3,236 satellites.
*Constellation = a group of satellites

Space: It's big business

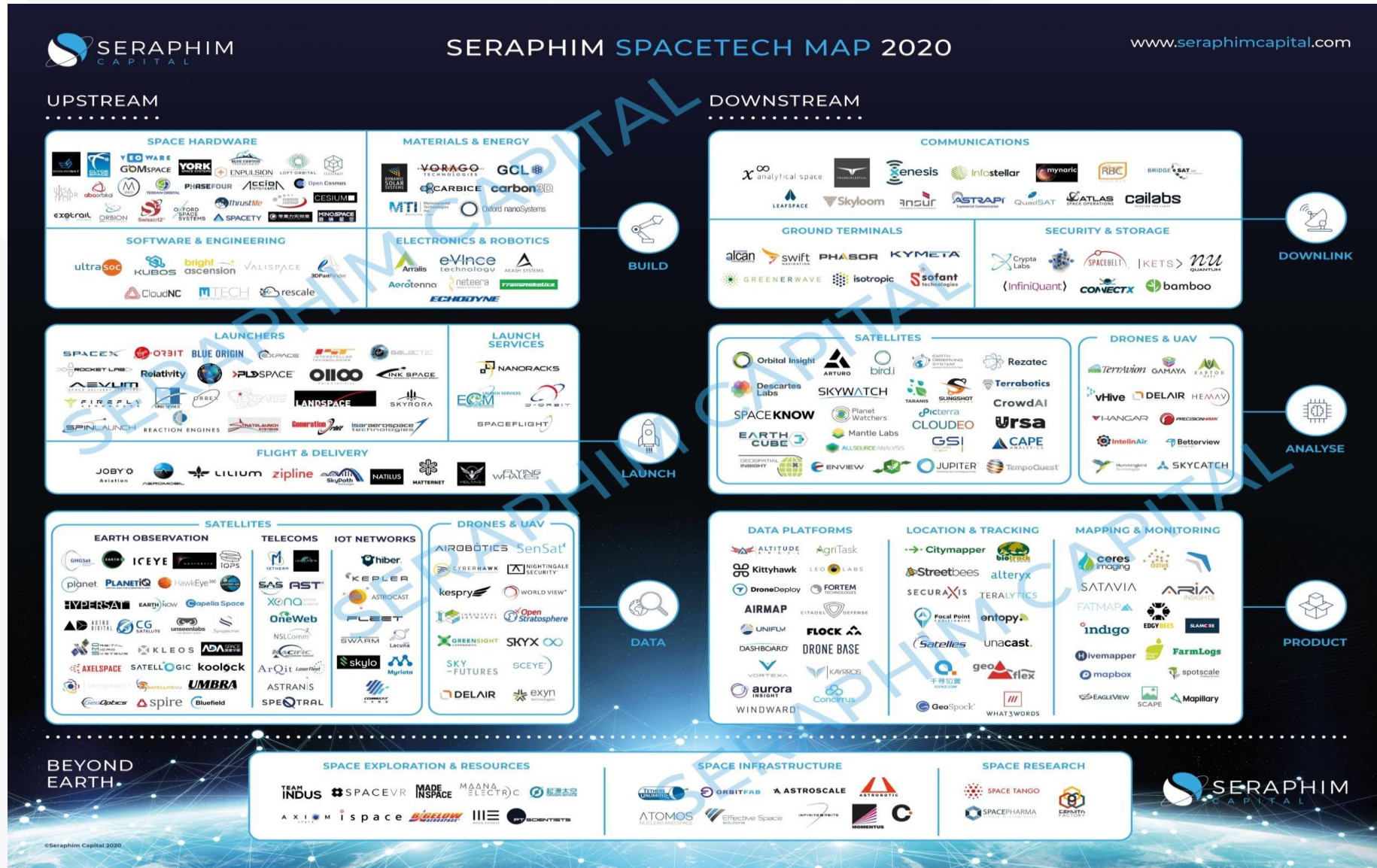
The Satellite Industry in Context

(2019 revenues worldwide, in billions of U.S. dollars)



Source: Bryce Space & Technology, June 2020

Space: The Community



Space: Where is the money coming from?

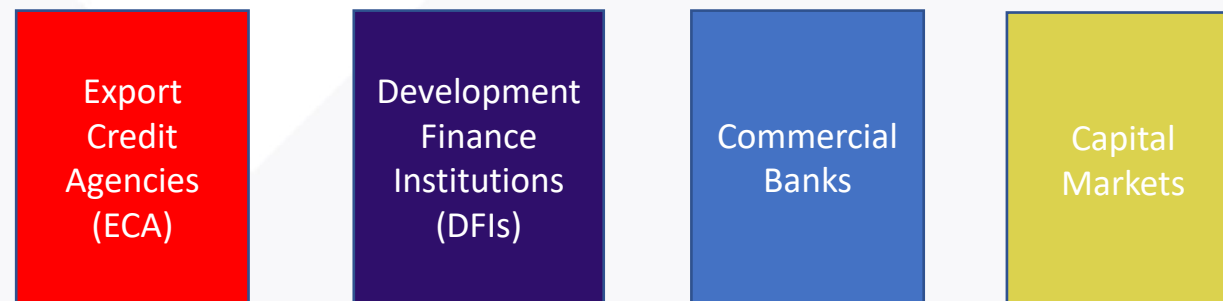
Equity

A spectrum of risk/return and stage of business



Debt

Public and Private sector Lenders



Space: – isn't it all a bit risky?

Yes.. but transactions are typically well structured to mitigate risk...

- **Technical**
 - Heritage
 - Testing
 - Design controls
 - Redundancy
 - Warranties
- **Market**
 - Business plan
 - Pre-contracted sales
 - Independent assessment
- **Regulatory**
 - ITU
 - Coordination
- **Insurance**
 - Launch
 - In-orbit
 - Revenue assurance
- **Financial**
 - Conservative gearing
 - Highly structured
 - Contingency
 - Covenants
 - Shareholder restrictions

Space: Covid-19 support

- Pandemic has shown space can help solve big and pressing problems.
- As COVID-19 sweeps the world, governments and businesses embraced satellite data to track the spread of coronavirus and support first responders.
- Satellite IoT and Remote Sensing make remote asset inspection, tracking and monitoring possible, and enable essential services with limited staff on-site.
- Autonomous drones enabled “contactless” delivery of much needed medical supplies around the world.
- In 2021, the trends from the pandemic will likely accelerate as these use cases become integrated into normal workflow.
- In addition to being foundational to our everyday activities, space technologies are demonstrating their unique capabilities to solve pressing and high value problems.

Space: What's next?

Satellites Skyrocket

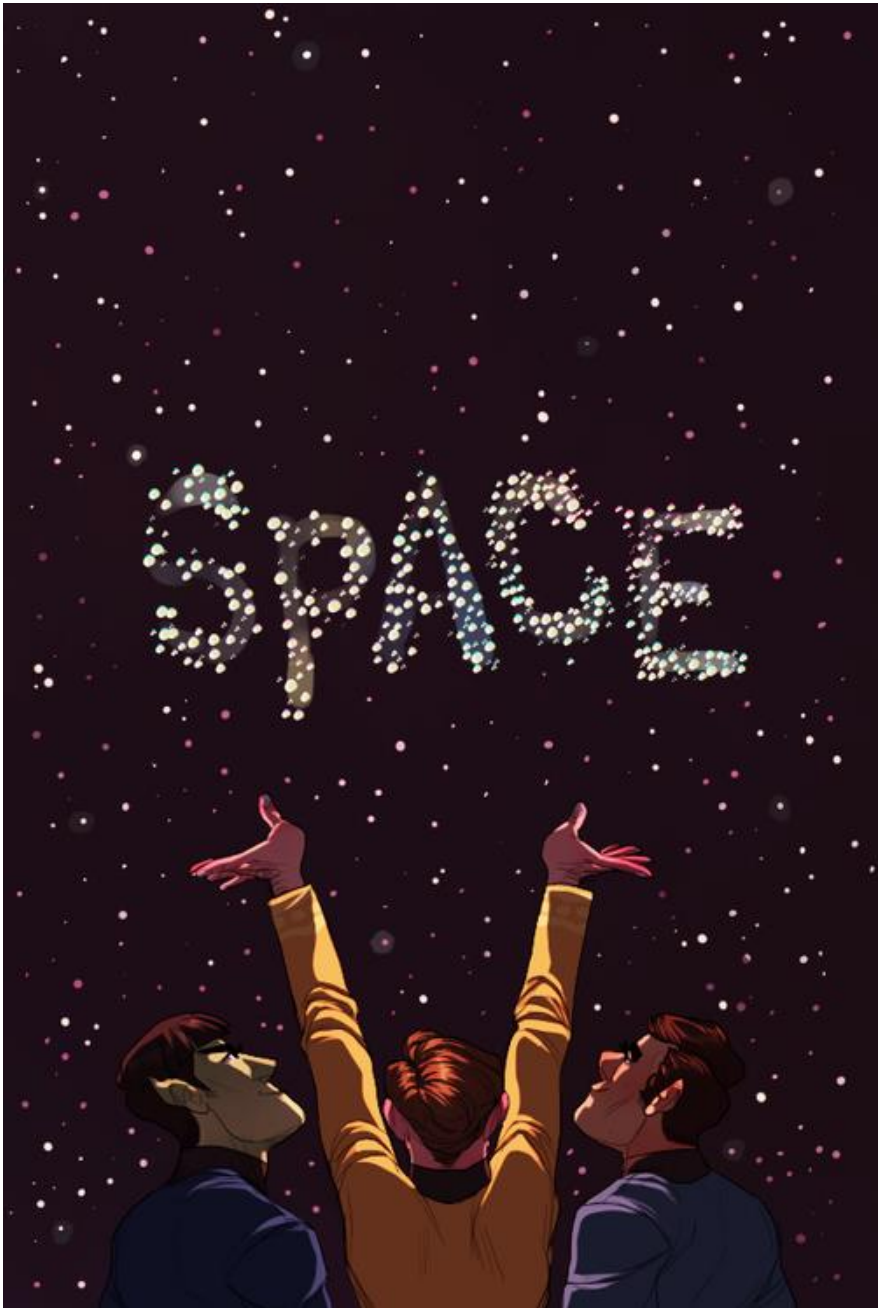
Past, Present, and Future Satellites Launched



An average of 990 satellites will be launched yearly by 2028.



Source: Euroconsult, 2019



Space: A bright future with help from the Final Frontier



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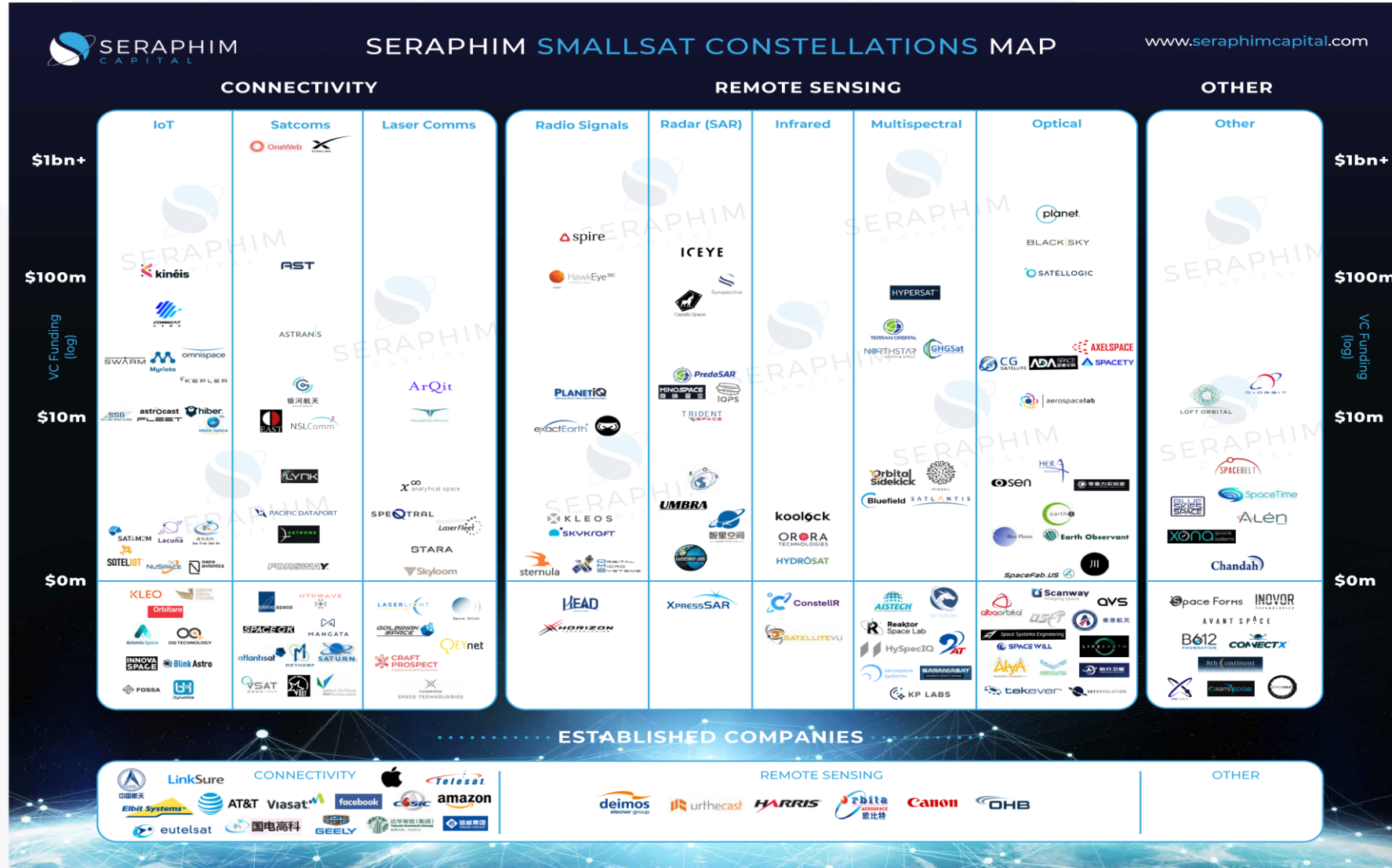
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Space: New Space by Investment Size



Portland Advisers

Nick Flitterman – Managing Partner, Head of Telecoms

Nick has over 20 years experience acting in senior advisory and lending roles across the spectrum of communications, technology and satellite sectors. He previously held senior roles at the Royal Bank of Scotland, PricewaterhouseCoopers and, most recently, as Head of Telecoms for the Project & Export Finance team at HSBC.

His recent corporate clients include OneWeb, Mangata Networks, Kacific, Effective Space, Seaborn Networks, O3b Networks, Skybox Imaging, Cable & Wireless, Indosat, Yahsat, Etisalat, Huawei and Digicel.

Nick's recent Government clients include the Ministry of Communications of Azerbaijan (Azerspace), the Welsh Government (Next Generation Broadband Network), the UK Department of Health (Ambulance Radio), UK Foreign Office (Global Telecom Network), Norwegian Ministry of Justice (Tetra project), the European Commission (Galileo Satellite Navigation project) and the European Space Agency (GMES, Satellite Broadband).

Nick has a BA (Hons) in International Economics and a Maitrise in International Commerce. He is also an associate of the Chartered Institute of Management Accountants (ACMA, CGMA) and a regular speaker on the telecom & satellite sector conference circuit.

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Questions And Answers

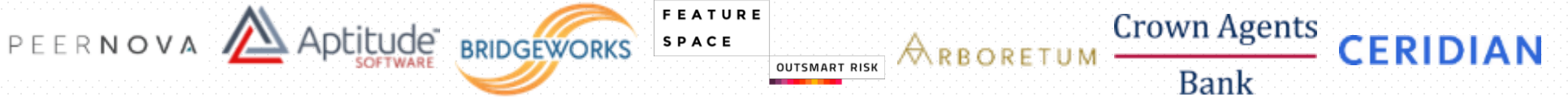


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Thank You For Listening



Forthcoming Events

- Monday 22 Feb (15:15) Tuttle All The Way Down – Digital Plumbing Upgrades Essential For Financial Services To Progress
- Wednesday 24 Feb (11:00) Beyond Brexit: EU-UK Social Security Contribution Rules
- Monday 01 Mar (15:00) Money For Nothing
- Tuesday 02 Mar (10:00) A Fresh Approach To Risk Management
- Thursday 04 Mar (10:00) Switzerland's Wealth Management Industry: Winning Or Losing Ground In Times Of Covid-19?

Visit <https://fsclub.zyen.com/events/forthcoming-events/>



Next BizTech Huìhuà Chat – Carbon Markets

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- Z/Yen Group