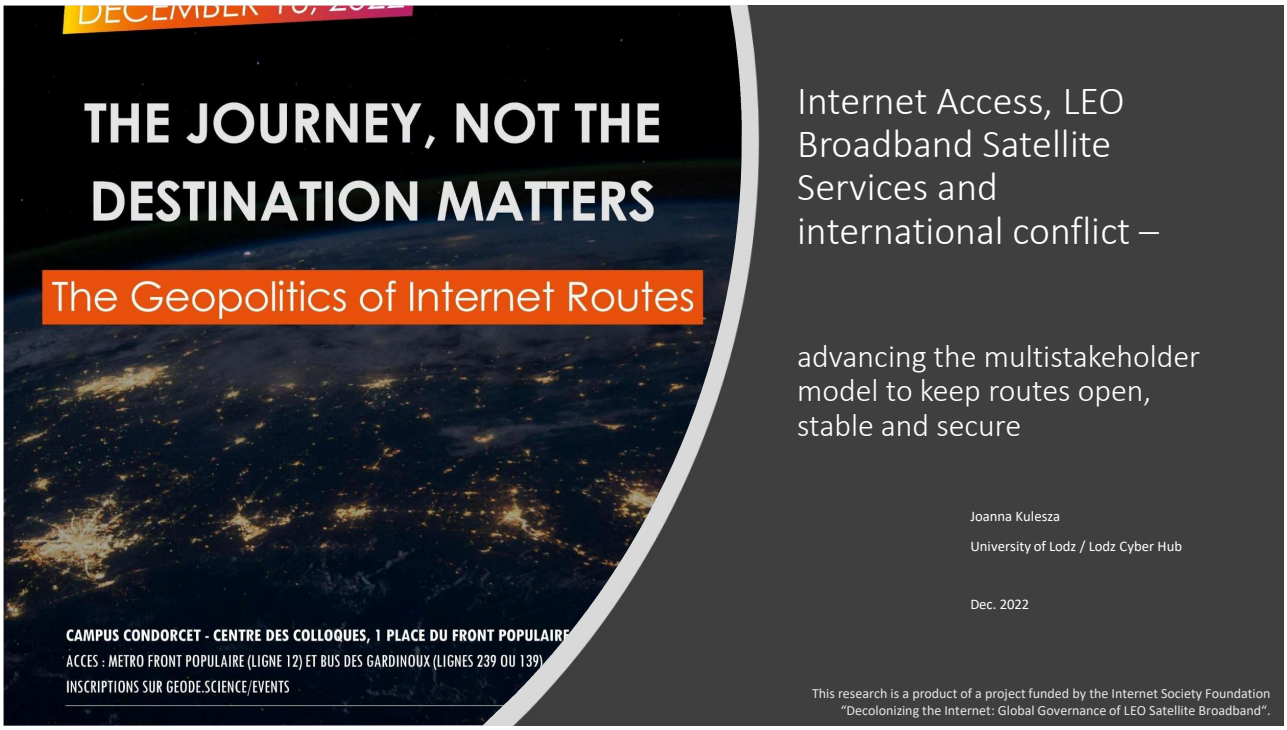
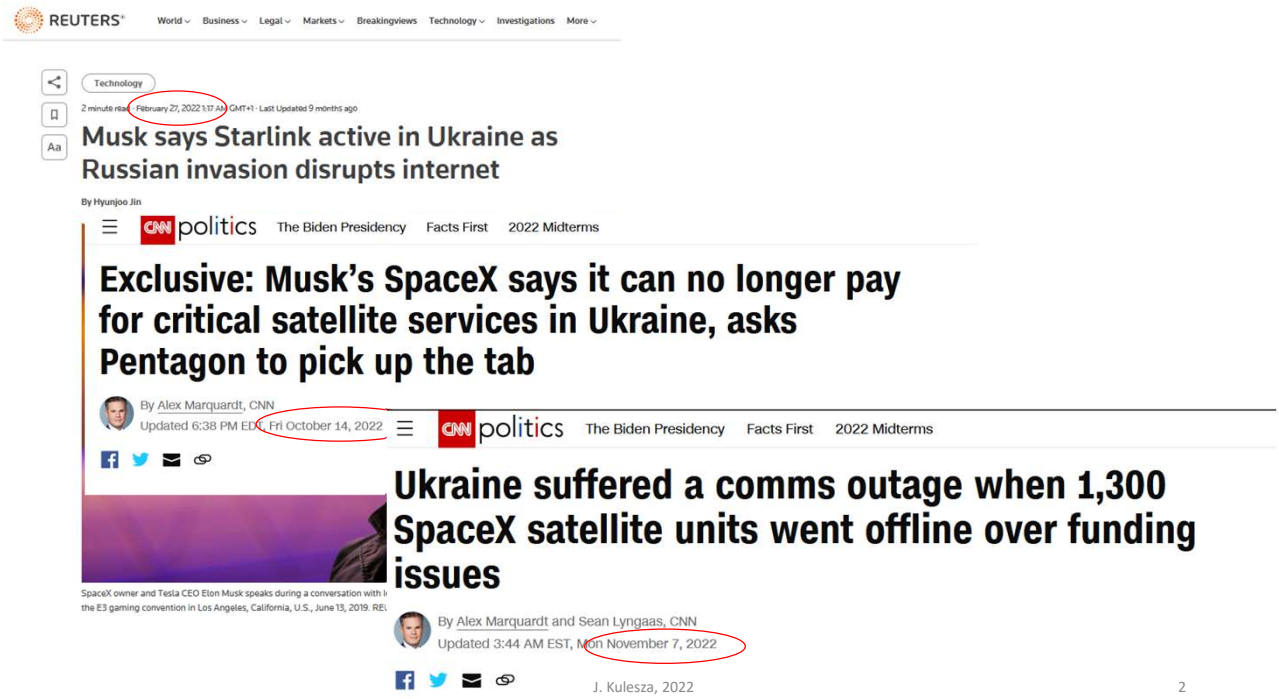

THE JOURNEY, NOT THE DESTINATION MATTERS
The Geopolitics of Internet Routes
CAMPUS CONDORCET - CENTRE DES COLLOQUES, 1 PLACE DU FRONT POPULAIRE
ACCES : METRO FRONT POPULAIRE (LIGNE 12) ET BUS DES GARDINOUX (LIGNES 239 OU 139)
INSCRIPTIONS SUR GEODE.SCIENCE/EVENTS
Internet Access, LEO Broadband Satellite Services and international conflict –
advancing the multistakeholder model to keep routes open, stable and secure
Joanna Kulesza
University of Lodz / Lodz Cyber Hub
Dec. 2022
This research is a product of a project funded by the Internet Society Foundation "Decolonizing the Internet: Global Governance of LEO Satellite Broadband".

1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Musk says Starlink active in Ukraine as Russian invasion disrupts internet
By Hyunjoo Jin
CNN politics The Biden Presidency Facts First 2022 Midterms
Exclusive: Musk's SpaceX says it can no longer pay for critical satellite services in Ukraine, asks Pentagon to pick up the tab
By Alex Marquardt, CNN
Updated 6:38 PM EDT, Fri October 14, 2022
CNN politics The Biden Presidency Facts First 2022 Midterms
Ukraine suffered a comms outage when 1,300 SpaceX satellite units went offline over funding issues
By Alex Marquardt and Sean Lyngaas, CNN
Updated 3:44 AM EST, Mon November 7, 2022
J. Kulesza, 2022
2

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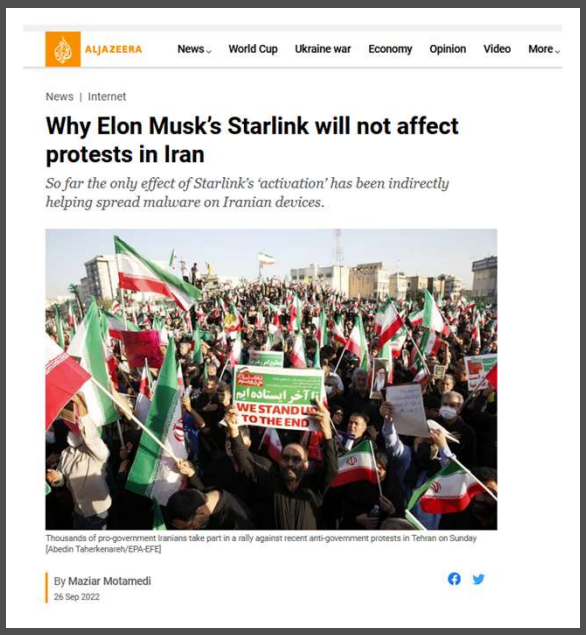
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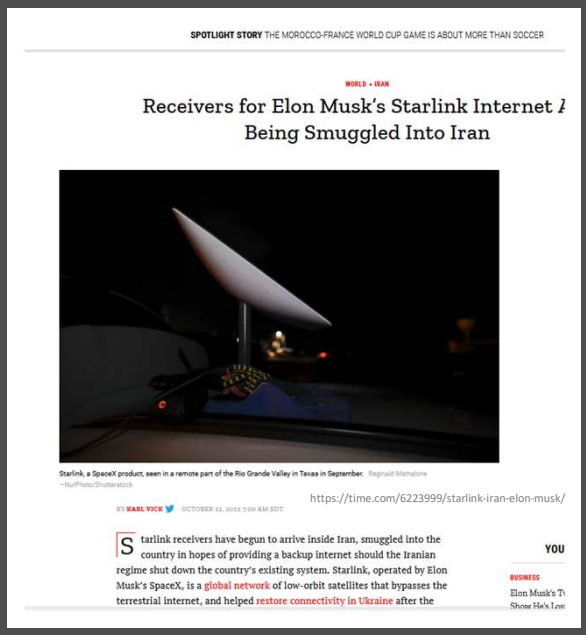
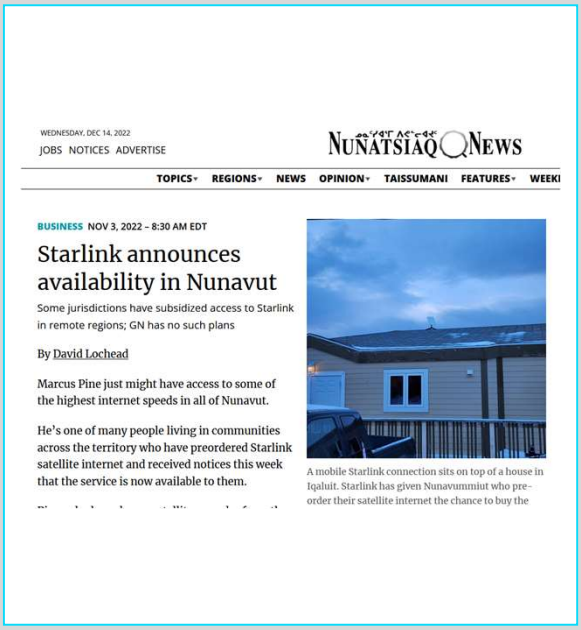
Why Elon Musk's Starlink will not affect protests in Iran
So far the only effect of Starlink's 'activation' has been indirectly helping spread malware on Iranian devices.
WE STAND U
TO THE EN
Thousands of pro-government Iranians take part in a rally against recent anti-government protests in Tehran on Sunday
By Maziar Motamedi
26 Sep 2022


SPOTLIGHT STORY THE MOROCCO-FRANCE WORLD CUP GAME IS ABOUT MORE THAN SOCCER
WORLD + IRAN
Receivers for Elon Musk's Starlink Internet
Being Smuggled Into Iran
Starlink, a SpaceX product, seen in a remote part of the Rio Grande Valley in Texas in September.
https://time.com/6223999/starlink-iran-elon-musk/
Starlink receivers have begun to arrive inside Iran, smuggled into the country in hopes of providing a backup internet should the Iranian regime shut down the country's existing system. Starlink, operated by Elon Musk's SpaceX, is a global network of low-orbit satellites that bypasses the terrestrial internet, and helped restore connectivity in Ukraine after the
YOU

3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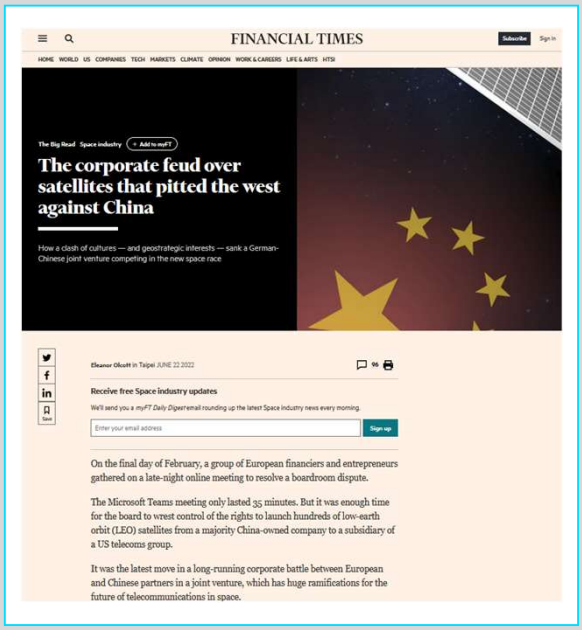
TOPICS REGIONS NEWS OPINION TAISSUMANI FEATURES WEEKI
BUSINESS NOV 3, 2022 - 8:30 AM EDT
Starlink announces availability in Nunavut
Some jurisdictions have subsidized access to Starlink in remote regions; GN has no such plans
By David Lochead
Marcus Pine just might have access to some of the highest internet speeds in all of Nunavut.
He's one of many people living in communities across the territory who have preordered Starlink satellite internet and received notices this week that the service is now available to them.
A mobile Starlink connection sits on top of a house in Iqaluit. Starlink has given Nunavummiut who pre-order their satellite internet the chance to buy the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Eleanor Olcott in Taipei JUNE 22 2022
96
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On the final day of February, a group of European financiers and entrepreneurs gathered on a late-night online meeting to resolve a boardroom dispute.
The Microsoft Teams meeting only lasted 35 minutes. But it was enough time for the board to wrest control of the rights to launch hundreds of low-earth orbit (LEO) satellites from a majority China-owned company to a subsidiary of a US telecoms group.
It was the latest move in a long-running corporate battle between European and Chinese partners in a joint venture, which has huge ramifications for the future of telecommunications in space.

4

SCIENCE | GLOBAL ISSUES

EU to launch its own communications satellite network

Clare Roth
11/18/2022

The European Union hopes to have its own communications satellite system up and running by 2027. The importance of the project became clear after Russia's invasion of Ukraine.

Negotiators from the European Parliament and EU member states agreed on Thursday to greenlight the satellite communications internet system IRIS2 (Infrastructure for Resilience, Interconnection and Security by Satellites).

The €6 billion ($6.2 billion) project is part of an initiative to wean the EU off a bloc-wide reliance on foreign suppliers like China and Russia. EU agencies will contribute €2.4 billion to the project, which lawmakers project will enable secure communication services by 2027. The private sector is expected to

SPACENEWS

Europe reaches funding deal for sovereign broadband constellation

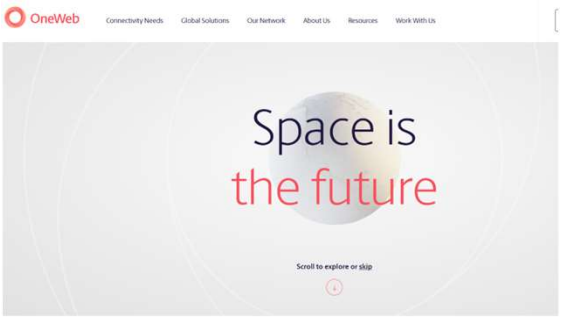
by Jason Rainbow — November 18, 2022

Thierry Breton, E.U. commissioner for the internal market, said in February that the planned constellation was a "Galileo moment" for Europe. Credit: European Commission

TAMPA, Fla. — The European Union reached a provisional agreement Nov. 17 to cover nearly half the 6 billion euro ($6.2 billion) cost of deploying a secure connectivity constellation by 2027.

The European Parliament and member states agreed on a deal to contribute 2.4 billion euros from 2023-2027 for a sovereign network of satellites called IRIS², or Infrastructure for Resilience, Interconnectivity and Security by Satellite.

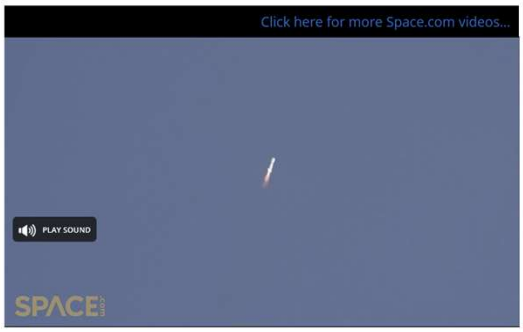
5



China launches 3 communications test satellites to low Earth orbit (video)

By Andrew Jones published May 23, 2022

The nation is looking to build its own version of SpaceX's Starlink broadband network.



China launched three new test communication satellites to low Earth orbit as the country looks to build its own version of SpaceX's Starlink broadband

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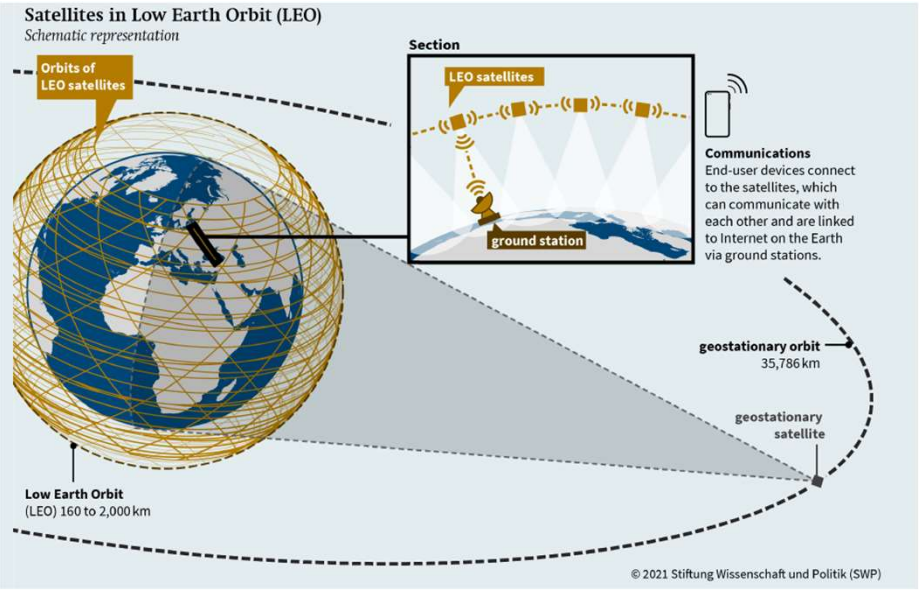
Satellites in Low Earth Orbit (LEO)
Schematic representation
Orbits of LEO satellites
Section
LEO satellites
ground station
Communications
End-user devices connect to the satellites, which can communicate with each other and are linked to Internet on the Earth via ground stations.
geostationary orbit
35,786 km
geostationary satellite
Low Earth Orbit
(LEO) 160 to 2,000 km
© 2021 Stiftung Wissenschaft und Politik (SWP)

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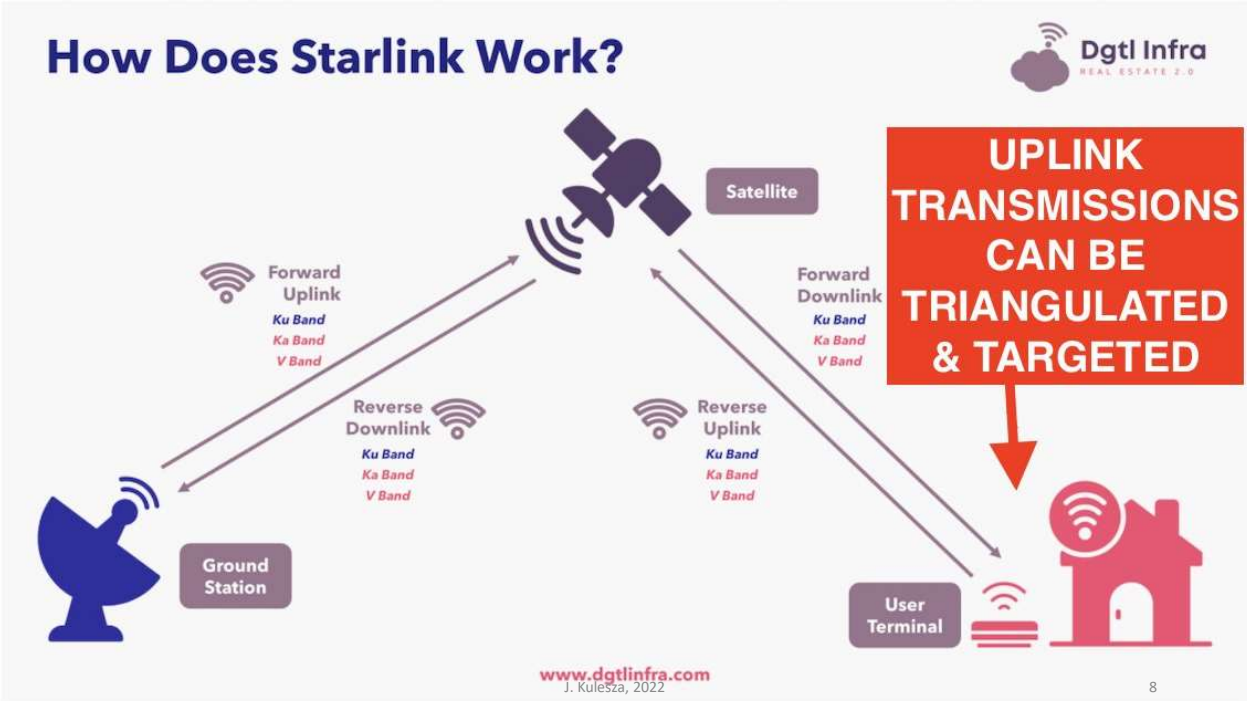
How Does Starlink Work?
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REAL ESTATE 2.0
Satellite
UPLINK TRANSMISSIONS CAN BE TRIANGULATED & TARGETED
Forward Uplink
Ku Band
Ka Band
V Band
Forward Downlink
Ku Band
Ka Band
V Band
Reverse Downlink
Ku Band
Ka Band
V Band
Reverse Uplink
Ku Band
Ka Band
V Band
Ground Station
User Terminal
www.dgtlinfra.com

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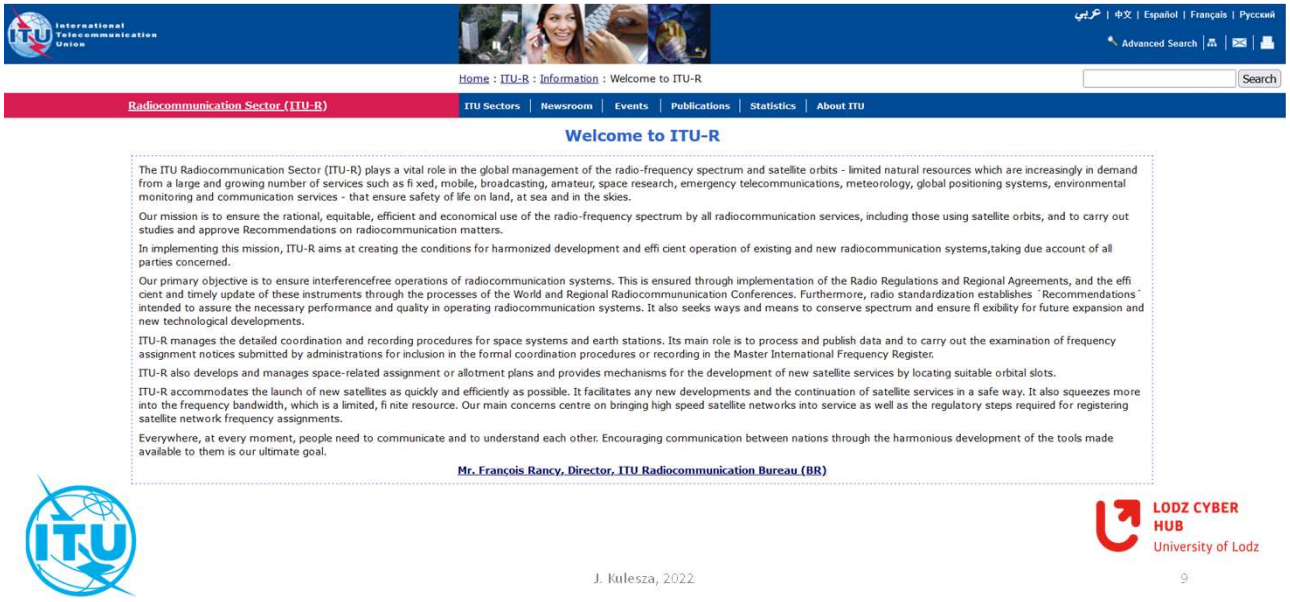

9

world summit on the information society
Geneva 2003 - Tunis 2005

Promise of the Tunis Agenda

Agenda for the Information Society – Tunis 2005

C. Internet Governance

29. **We reaffirm** the principles enunciated in the Geneva phase of the WSIS, in December 2003, that the Internet has evolved into a global facility available to the public and its governance should constitute a core issue of the Information Society agenda. The international management of the Internet should be multilateral, transparent and democratic, with the full involvement of governments, the private sector, civil society and international organizations. It should ensure an equitable distribution of resources, facilitate access for all and ensure a stable and secure functioning of the Internet, taking into account multilingualism.

30. **We acknowledge** that the Internet, a central element of the infrastructure of the Information Society, has evolved from a research and academic facility into a global facility available to the public.

31. **We recognize** that Internet governance, carried out according to the Geneva principles, is an essential element for a people-centred, inclusive, development-oriented and non-discriminatory Information Society. Furthermore, **we commit** ourselves to the stability and security of the Internet as a global facility and to ensuring the requisite legitimacy of its governance, based on the full participation of all stakeholders, from both developed and developing countries, within their respective roles and responsibilities.

10

Internet Governance

"the joint development and application by

- *Governments,*
- *the private sector and*
- *civil society,*

in their respective roles,

of shared principles, norms, rules, decision-making procedures, and programmes

that shape the evolution and use of the Internet."

Report of the Working Group on Internet Governance (2005)

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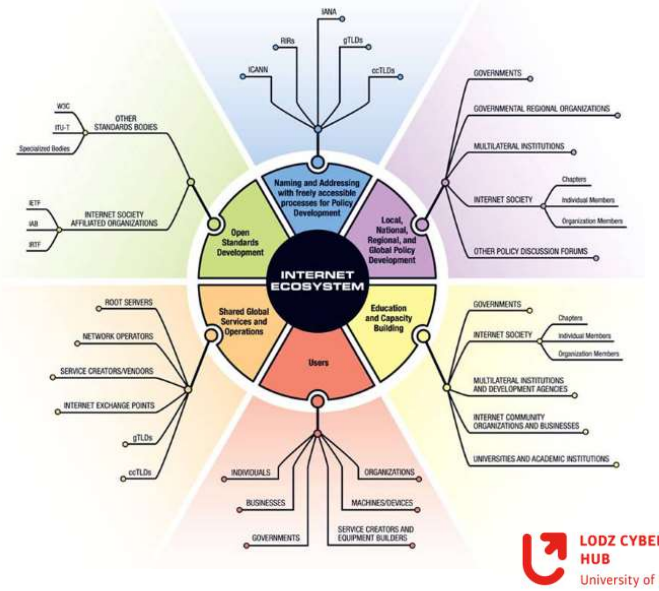
11

MULTISTAKEHOLDER GOVERNANCE



Source: Internet Society
https://www.internetsociety.org/resources/doc/2016/internet-governance-why-the-multistakeholder-approach-works/

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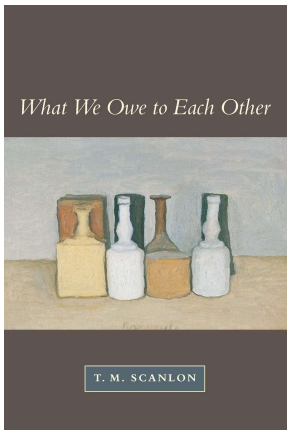

What DO we owe to each other?

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Image source: https://www.vox.com/future-perfect/2019/9/26/20874217/the-good-place-series-finale-season-4-moral-philosophy / https://www.amazon.pl/What-We-Owe-Each-Other/

13

Policy questions to consider

- LEO Satellite Constellations and **Sustainable Development Goals**:
  - **Meaningful Connectivity** / Regulatory Limitations and Concerns?
- **Equitable Access** to Space and Space Resources?
- **International Telecommunications Law** and Satellite Broadband?
- Equitable Access Principle in **Internet Governance**
  - Multistakeholder governance
  - **Second-order Internet governance** - lessons learnt from multistakeholderism
  - **Privatized Internet governance?**

- cybersecurity
- supply chain security and critical infrastructure protection (5G relevance?)
- privacy and data protection
- space debris and int. liability

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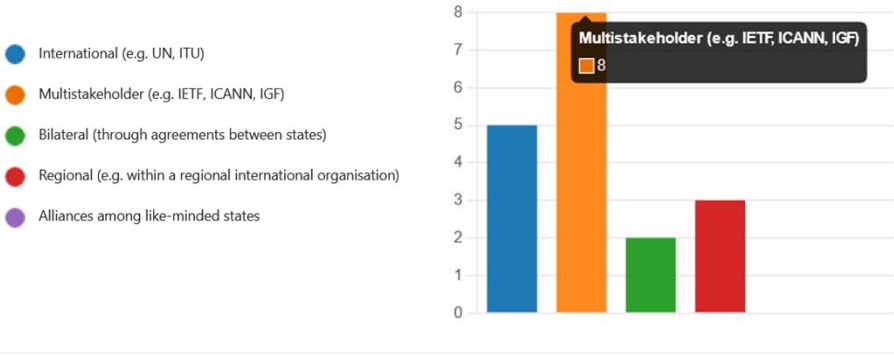
Second-order Internet governance
- lessons learnt from multistakeholderism

3. **What system is most appropriate way of engagement to resolve differences?**



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Thank you

Joanna Kulesza / University of Lodz

Please send your feedback to
LEOsISOCstudy@gmail.com

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This research is a product of a project funded by the Internet Society Foundation "Decolonizing the Internet: Global Governance of LEO Satellite Broadband".

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