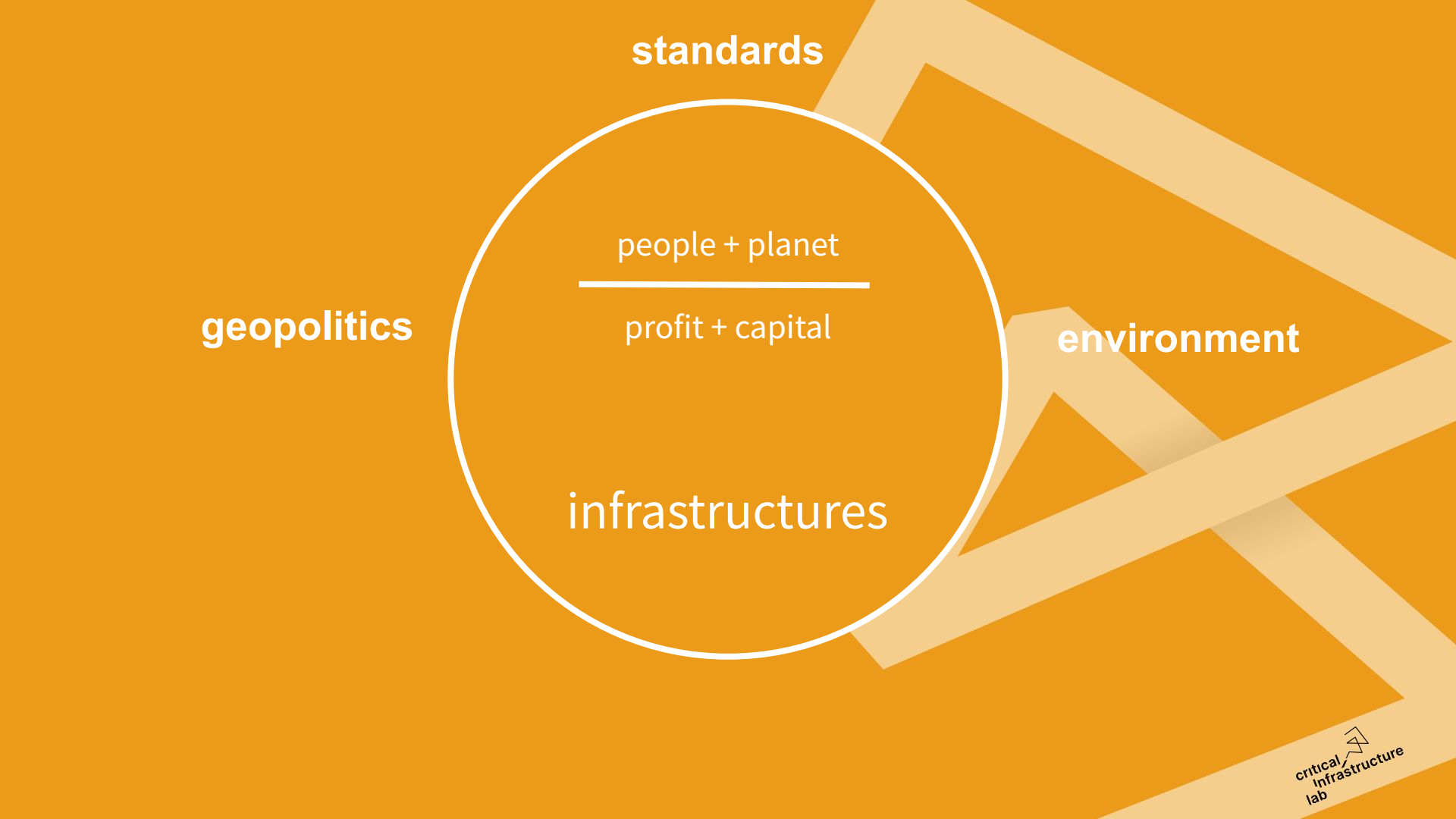

critical
Infrastructure
lab

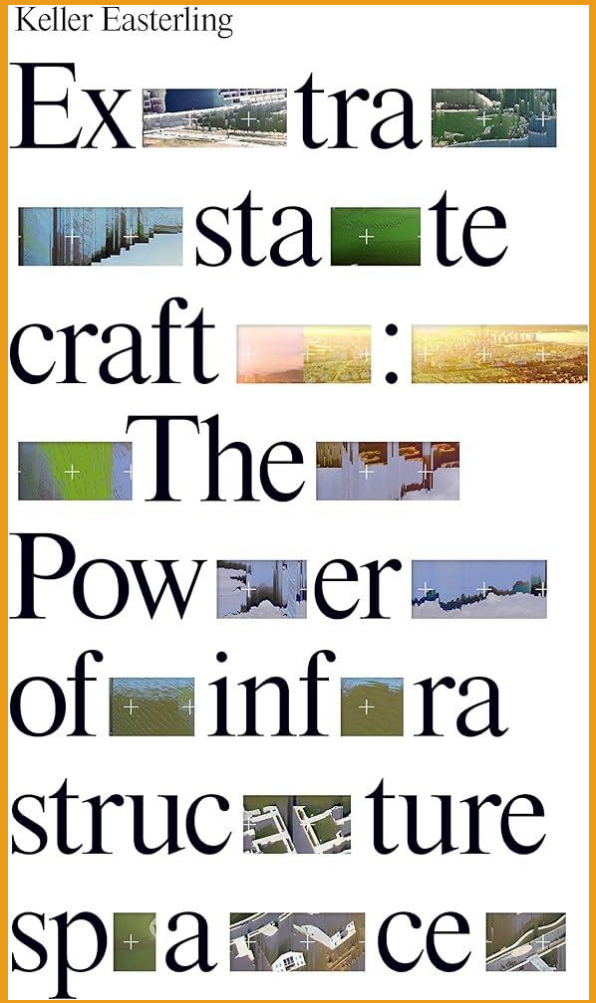
Infrastructure ideologies in China, Russia, and the European Union

Standards,
Sanctions,
and
Products

Berlin, december 10, 2024

critical infrastructure lab


standards
geopolitics
people + planet
profit + capital
environment
infrastructures
critical infrastructure lab



‘Infrastructure sets the invisible rules that govern the spaces of our everyday lives’

‘changes to the globalising world are being written, not in the language of law and diplomacy, but rather in the language of infrastructure’

Keller Easterling 2014. Extrastatecraft: The Power of Infrastructure Space. Verso Books.

critical infrastructure lab

The Transnational Governance of the Internet Infrastructure

INTERCONNECTION LAYER

PROTOCOLS AND STANDARDS
(IETF AND W3C)

UNIQUE NAMES
(DOMAIN NAMES)
(ICANN AND DOMAIN REGISTRIES)

UNIQUE NUMBERS
(IP ADDRESSES AND AS NUMBERS)
(ICANN AND RIRS)

PHYSICAL LAYER

SATELLITES

ANTENNAS

UNDERSEA CABLES

ROUTERS

WIFI

NETWORKS

ACTORS

- IETF — Internet Engineering Taskforce
- RIRs — Regional Internet Registries
- ICANN — Internet Corporation for Assigned Names and Numbers
- W3C — World Wide Web Consorium

Domain Registries for Top Level Domains

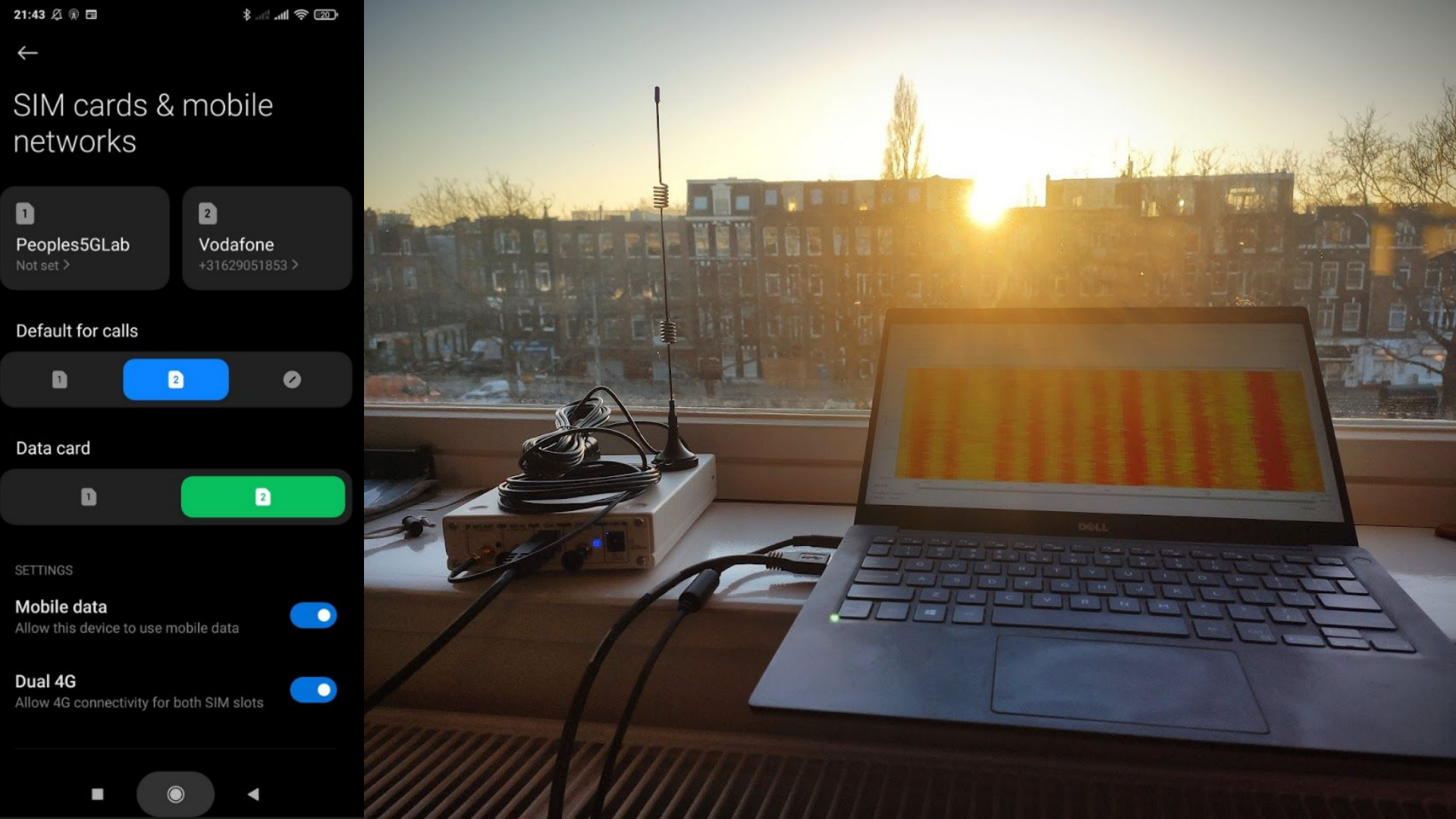
ACTORS

- IEEE — Institute of Electrical and Electronics Engineers
- 3GPP — 3rd Generation Partnership Project
- ITU — International Telecommunications Union

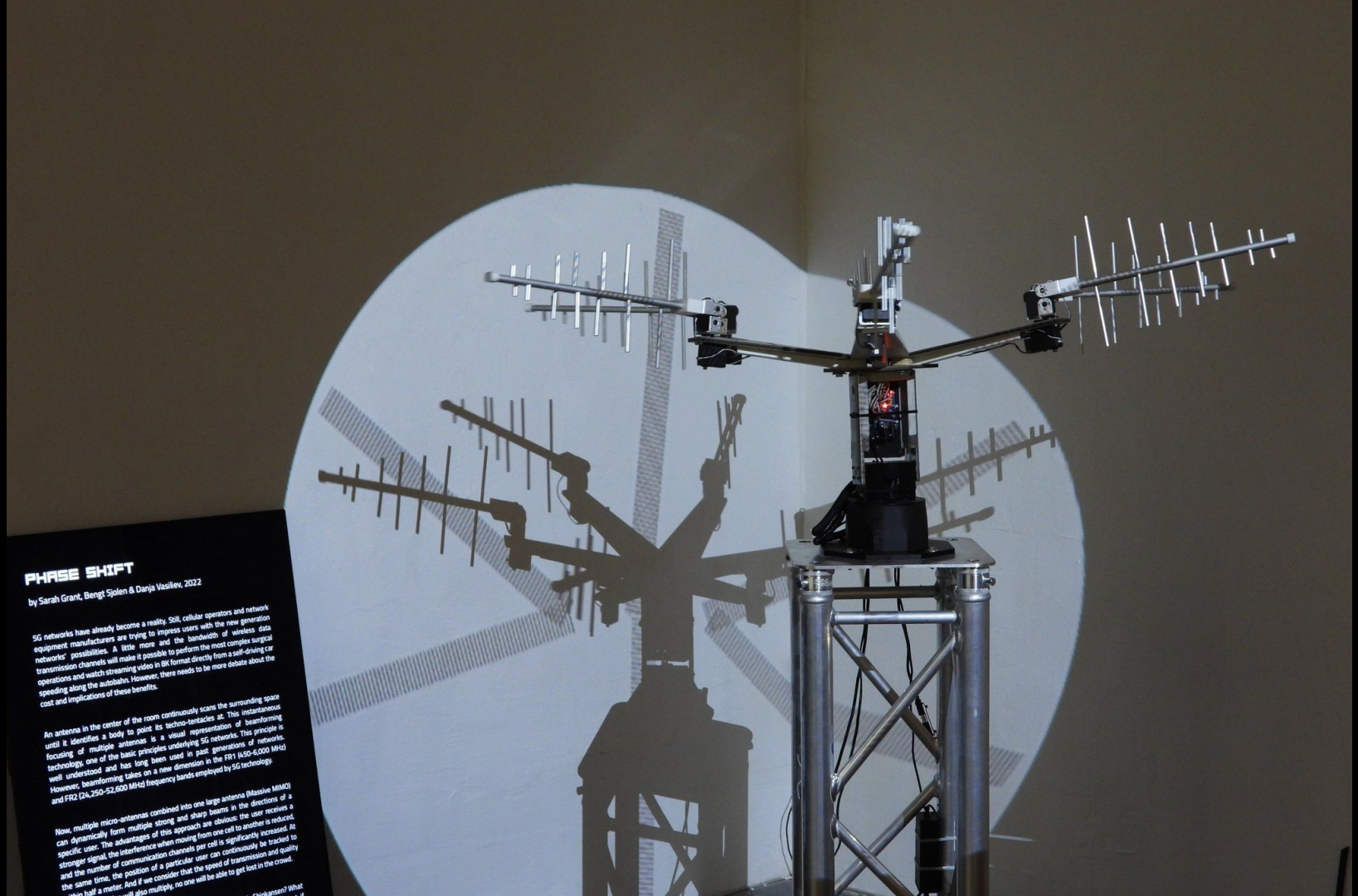
(Inter)governmental regulators

Network operators

Made by @nielstenoever @lomba_gio


21:43
SIM cards & mobile networks
1
Peoples5GLab
Not set >
2
Vodafone
+31629051853 >
Default for calls
1
2
Data card
1
2
SETTINGS
Mobile data
Allow this device to use mobile data
Dual 4G
Allow 4G connectivity for both SIM slots


SHADOWS
0
terugbrengen & lenen


PHASE SHIFT
by Sarah Grant, Bengt Sjolen & Danja Vasiliev, 2022
5G networks have already become a reality. Still, cellular operators and network equipment manufacturers are trying to impress users with the new generation networks' possibilities. A little more and the bandwidth of wireless data transmission channels will make it possible to perform the most complex surgical operations and watch streaming video in 8K format directly from a self-driving car speeding along the autobahn. However, there needs to be more debate about the cost and implications of these benefits.
An antenna in the center of the room continuously scans the surrounding space until it identifies a body to point its techno-tentacles at. This instantaneous focusing of multiple antennas is a visual representation of beamforming technology, one of the basic principles underlying 5G networks. This principle is well understood and has long been used in past generations of networks. However, beamforming takes on a new dimension in the FR1 (450–6,000 MHz) and FR2 (24,250–52,600 MHz) frequency bands employed by 5G technology.
Now, multiple micro-antennas combined into one large antenna (Massive MIMO) can dynamically form multiple strong and sharp beams in the directions of a specific user. The advantages of this approach are obvious: the user receives a stronger signal, the interference when moving from one cell to another is reduced, and the number of communication channels per cell is significantly increased. At the same time, the position of a particular user can continuously be tracked to within half a meter. And if we consider that the speed of transmission and quality


JOHAN CRUIJFF
ARENA
ZUID H
IMPART


BLVD 020
IMPART


E T F®
LEADERSHIP

BigBang - Mailing Lists Dashboard

Welcome to the BigBang Dashboard

BigBang is an open source toolkit for studying pro
collaboration and deliberation via analysis of the
You can analyse different mailing lists with the Big
daily activity, interaction graphs and the top send

Privacy Statement

Select one of the archives to analyse it (eg. tls-reg-review)

Analyse archive with BigBang

httpbisa

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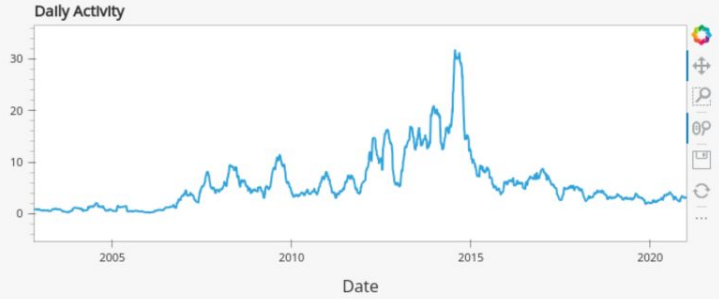

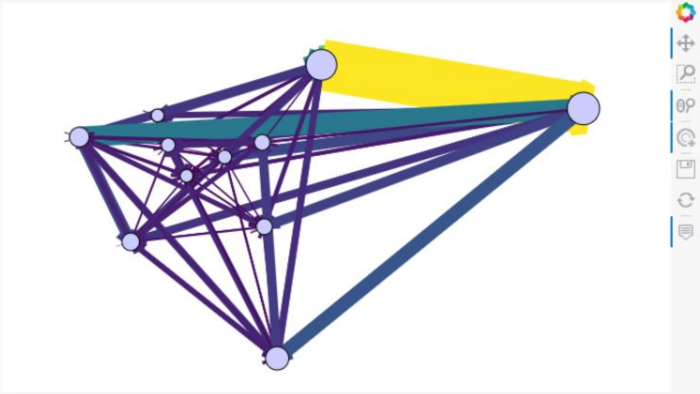

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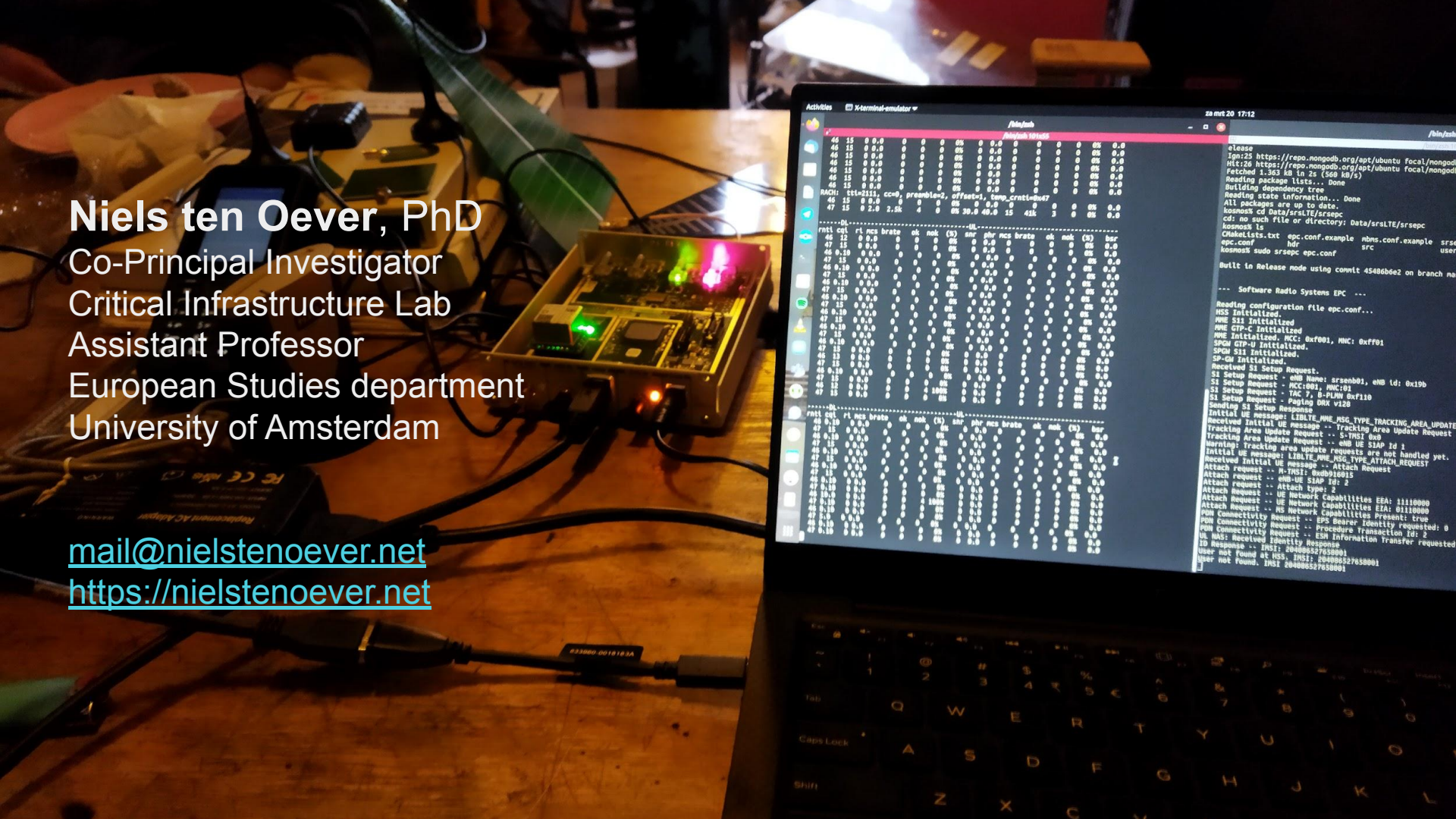
From	Number of Emails
Mark Nottingham <mnot@mnot.net>	4190.0
Julian Reschke <julian.reschke@gmx.de>	3730.0
Martin Thomson <martin.thomson@gmail.com>	2021.0
Willy Tarreau <w@1wt.eu>	1567.0


M. ANSARI
N. TEN OEVER
T. ENGELHARDT



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(Another step is to choose leaders that we trust to exercise their good judgement and do the right thing. But we're already trying to do that.)

4. Issues with Scoping the IETF's Mission

4.1. The Scope of the Internet

A very difficult issue in discussing the IETF's mission has been the scope of the term "for the Internet". The Internet is used for many things, many of which the IETF community has neither interest nor competence in making standards for.

The Internet isn't value-neutral, and neither is the IETF. We want the Internet to be useful for communities that share our commitment to openness and fairness. We embrace technical concepts such as decentralized control, edge-user empowerment and sharing of resources, because those concepts resonate with the core values of the IETF community. These concepts have little to do with the technology that's possible, and much to do with the technology that we choose to create.

RFC 8280

Informational

Internet Research Task Force (IRTF)
Request for Comments: 8280
Category: Informational
ISSN: 2070-1721

N. ten Oever
ARTICLE 19
C. Cath
Oxford Internet Institute

October 2017

Research into Human Rights Protocol Considerations

Abstract

This document aims to propose guidelines for human rights considerations, similar to the work done on the guidelines for privacy considerations (RFC 6973). The other parts of this document explain the background of the guidelines and how they were developed.

This document is the first milestone in a longer-term research effort. It has been reviewed by the Human Rights Protocol Considerations (HRPC) Research Group and also by individuals from outside the research group.

RFC 9620

Informational

Internet Research Task Force (IRTF)
Request for Comments: 9620
Updates: 8280
Category: Informational
Published: September 2024
ISSN: 2070-1721

G. Grover
N. ten Oever
University of Amsterdam

Guidelines for Human Rights Protocol and Architecture Considerations

Abstract

This document sets guidelines for human rights considerations for developers working on network protocols and architectures, similar to the work done on the guidelines for privacy considerations (RFC 6973). This is an updated version of the guidelines for human rights considerations in RFC 8280.

This document is a product of the Human Right Protocol Considerations (HRPC) Research Group in the IRTF.

Table of Contents

8. Human Rights Considerations

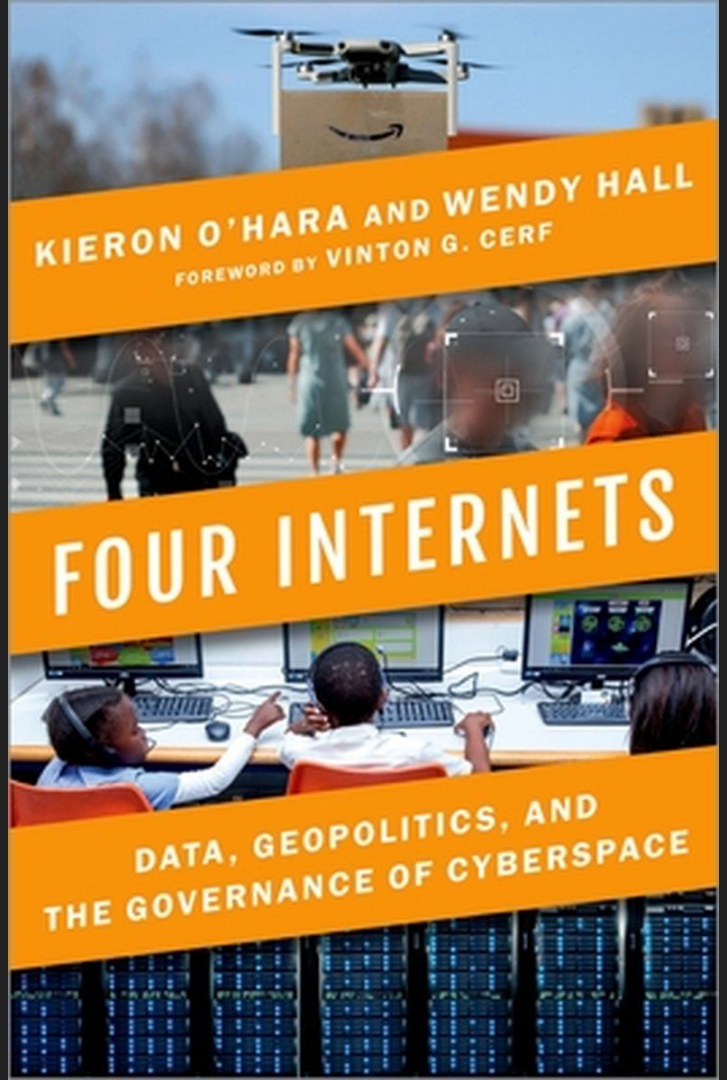
At the time of publication of this document, there was a growing interest in considering the impacts that IETF (and IRTF) work can have on human rights; some related research is discussed in [RFC8280]. As such, the human rights considerations of TLS-PWD are presented here.

The key exchange underlying TLS-PWD uses public key cryptography to perform authentication and authenticated key exchange. The keys it produces can be used to establish secure connections between two people to protect their communication. Implementations of TLS-PWD, like implementations of other TLS ciphersuites that perform authentication and authenticated key establishment, are considered "armaments" or "munitions" by many governments around the world.

The most fundamental of human rights is the right to protect oneself. The right to keep and bear arms is an example of this right. Implementations of TLS-PWD can be used as arms, kept and borne, to defend oneself against all manner of attackers -- criminals, governments, lawyers, etc. TLS-PWD is a powerful tool in the promotion and defense of universal human rights.

UITGAVE SECTIE VLIEG- EN BEDRIJFSVEILIGHEID LUCHTMACHTSTAF

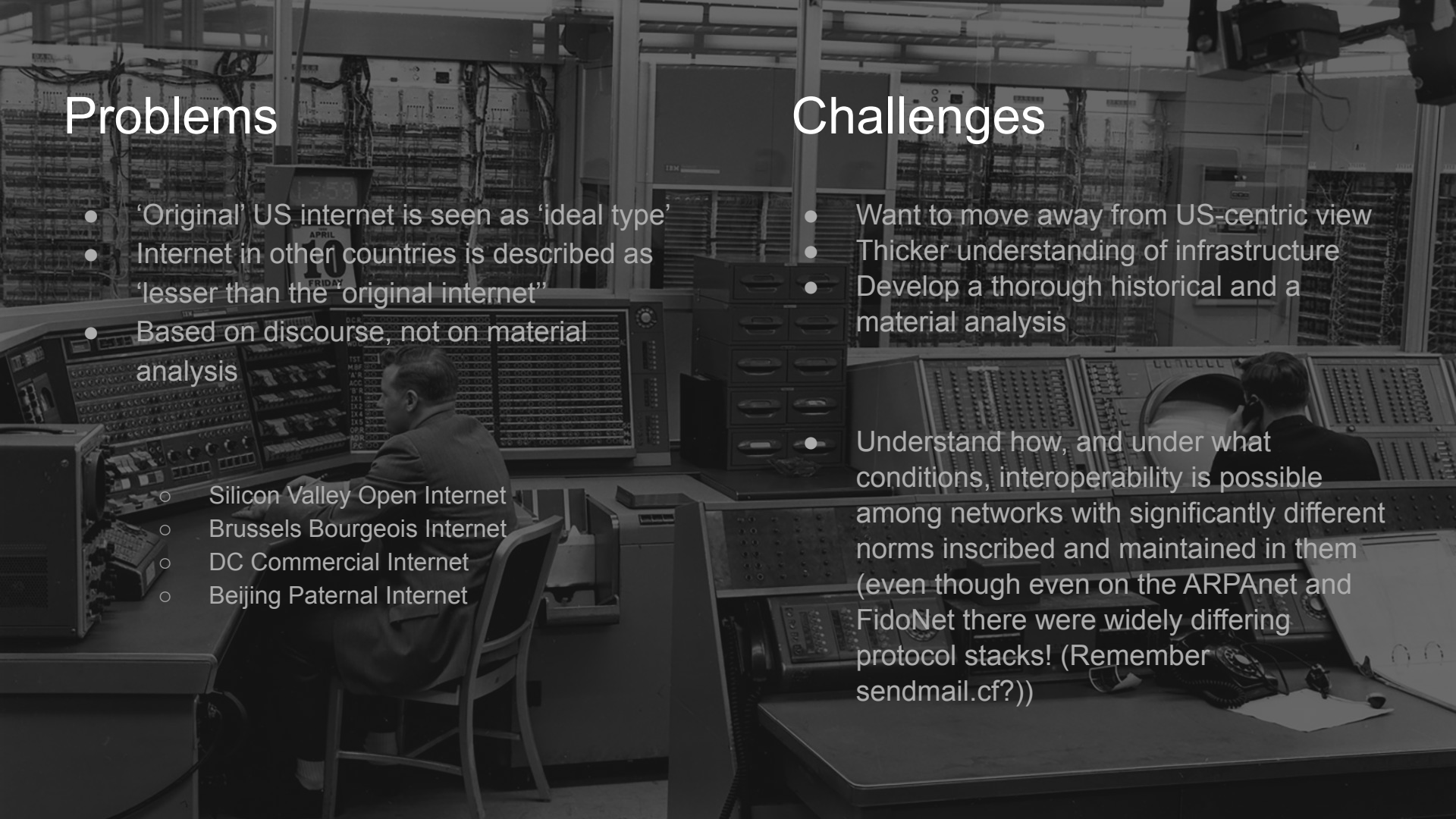
ontwerp t. ten geusendam / druk imabs



DIGITAL EMPIRES

THE GLOBAL BATTLE
TO REGULATE TECHNOLOGY

ANU BRADFORD



Problems

- ‘Original’ US internet is seen as ‘ideal type’
- Internet in other countries is described as ‘lesser than the ‘original internet’’
- Based on discourse, not on material analysis
    - Silicon Valley Open Internet
    - Brussels Bourgeois Internet
    - DC Commercial Internet
    - Beijing Paternal Internet

Challenges

- Want to move away from US-centric view
- Thicker understanding of infrastructure
- Develop a thorough historical and a material analysis
- Understand how, and under what conditions, interoperability is possible among networks with significantly different norms inscribed and maintained in them (even though even on the ARPAnet and FidoNet there were widely differing protocol stacks! (Remember sendmail.cf?))

Sociotechnical imaginaries

- “collectively held, institutionally stabilized, and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology” - (Jasanoff 2015 p.6)

- Discursive
- Non-material
- Does not account for power

Infrastructural ideologies

- Infrastructural ideologies help to analyse power:
  - Who can act on who through the medium?
  - Who do affordances serve?
  - Who is aware of them?
  - How does the medium shape its environment?
  - Is the materiality of the medium
    - observable,
    - accountable,
    - contestable?

Who can exercise what power *through* infrastructure?

The theoretical framework can help to analyse power and contestation, leading to actionable technical and policy recommendations.

case 1: 5G

5G is consolidation of standardization

ITU - 3G

TD-SCDMA (China)

CDMA 2000

UMTS

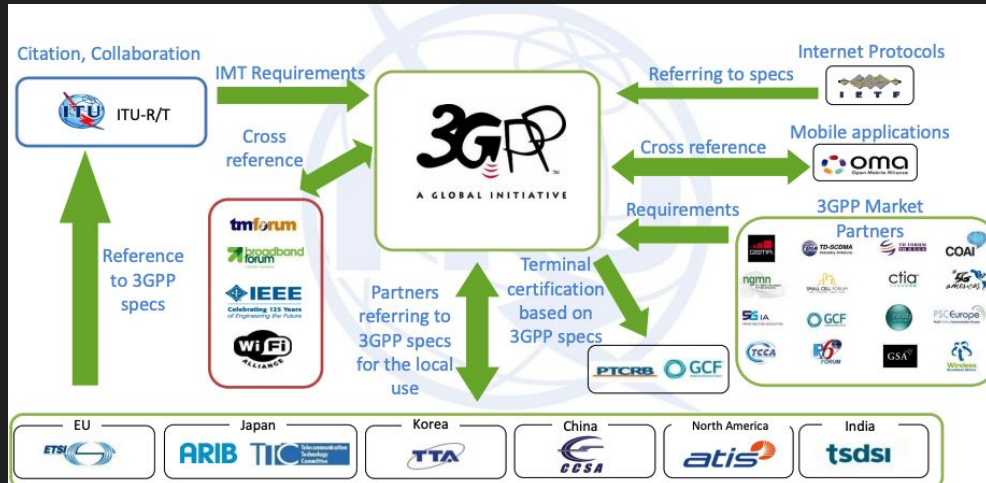
ITU - 4G

LTE

LTE-TDD (China)

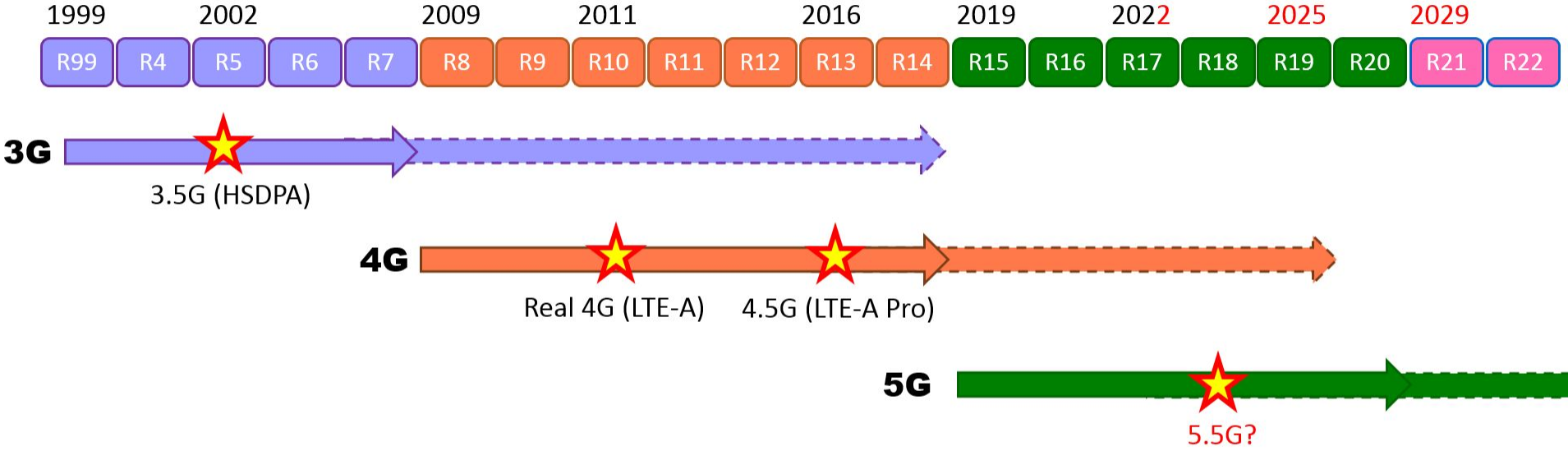
ITU - 5G

3GPP

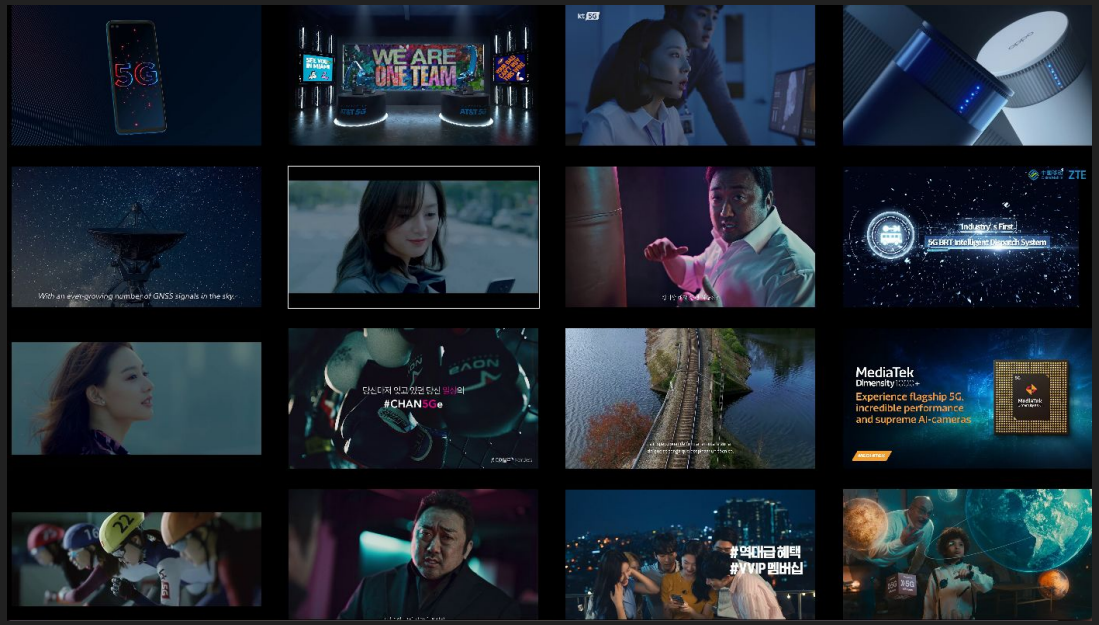


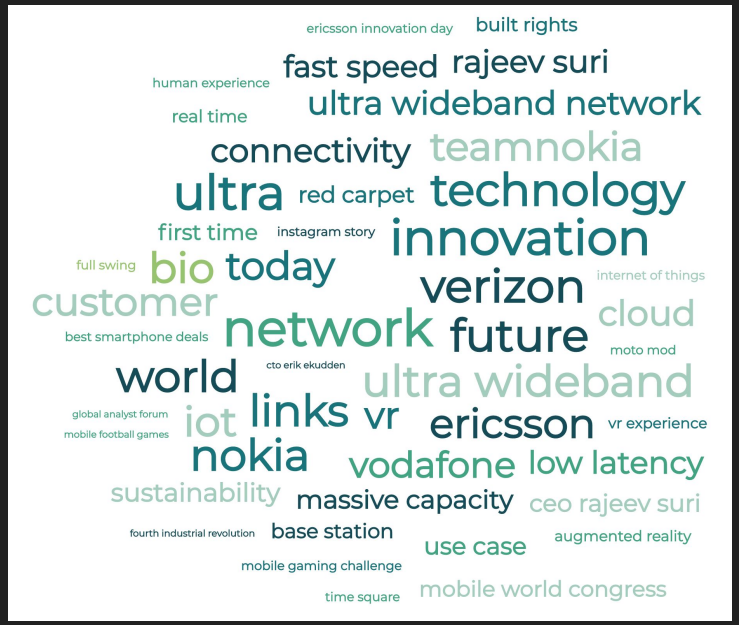
5G is a standardization period

3GPP Releases Timeline

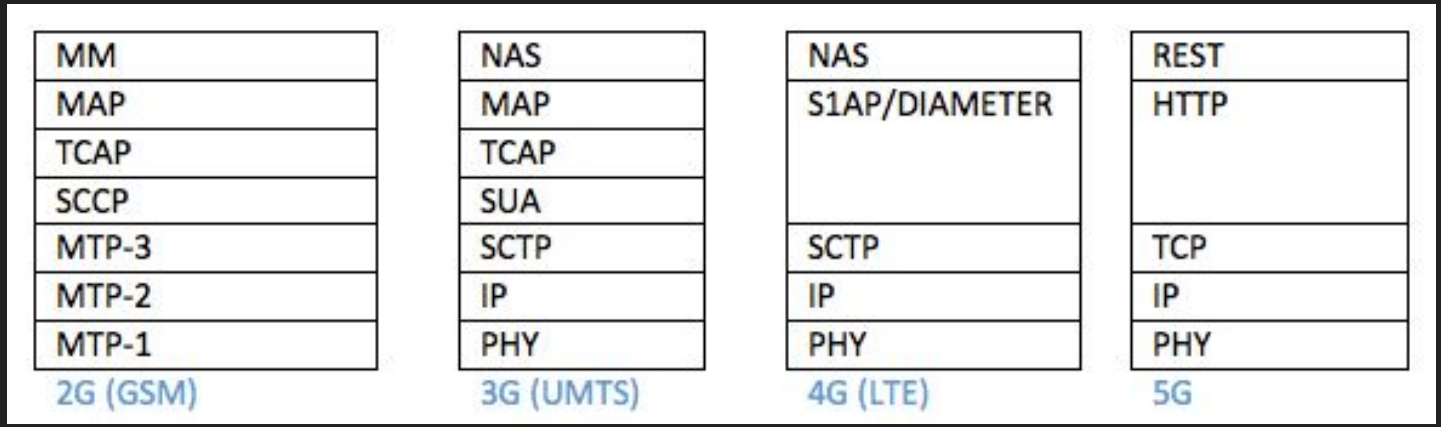


5G is a product





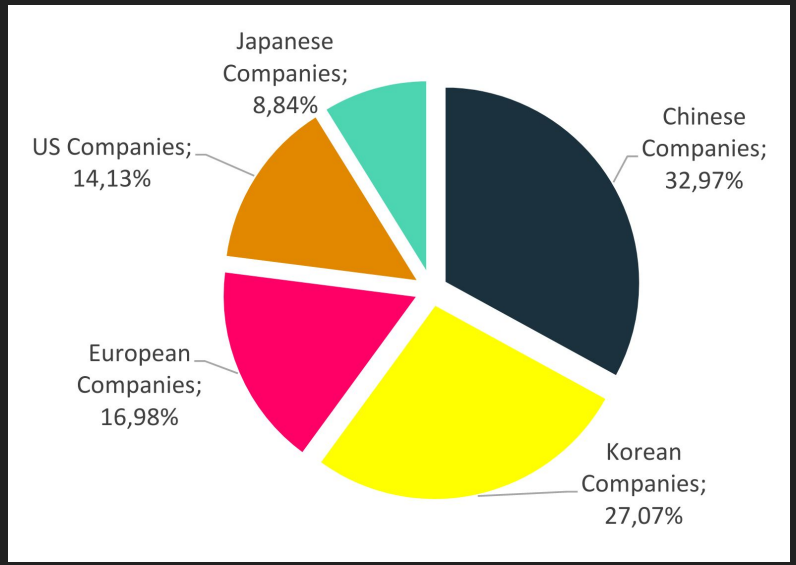
5G is a convergence of the internet and telecommunications



5G is a transnational infrastructural contention

The China-U.S. 5G Battle Upends a Telecom Industry Consortium

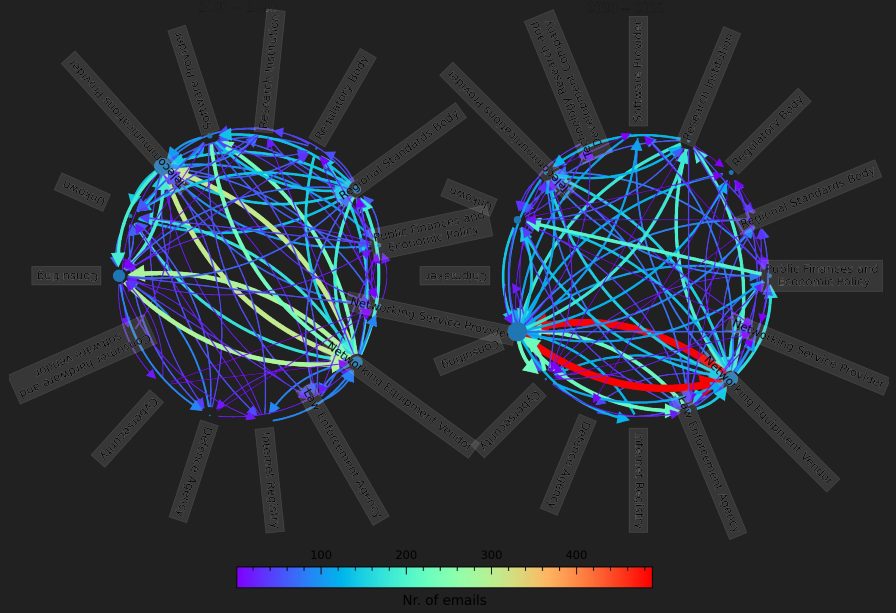
The mundane process of setting technical specifications becomes a player in a geopolitical drama

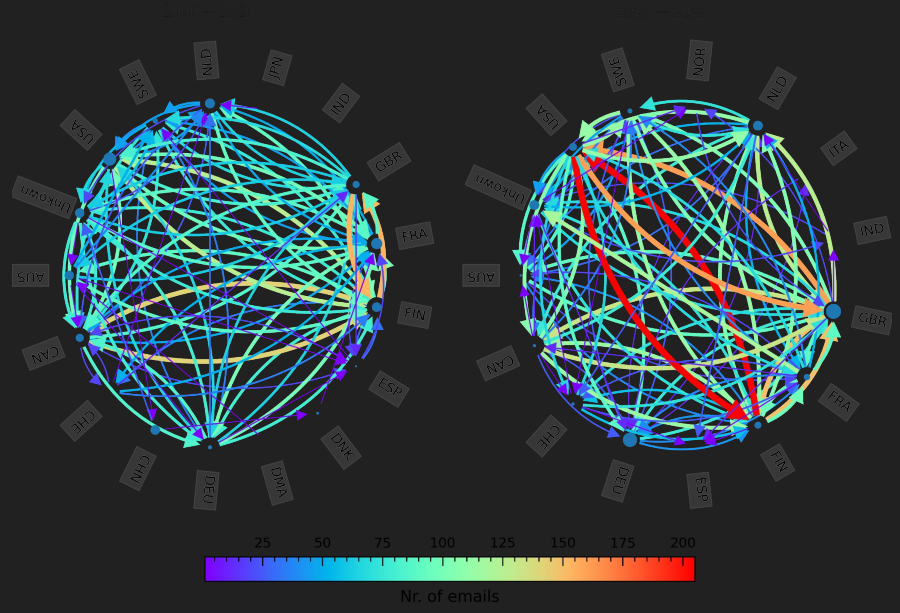


Facebook Enters the Race to Build 5G Networks

In announcing its Telecom Infra Project, Facebook is positioning itself to disrupt the global telecommunications industry—and get us all wearing VR goggles.

5G is a tool for ‘lawful intercept’ (aka targeted surveillance)





5G is also a standard with maintained infrastructural insecurities

In this paper we look at responses in the 3GPP to three cases of telecommunication vulnerabilities:

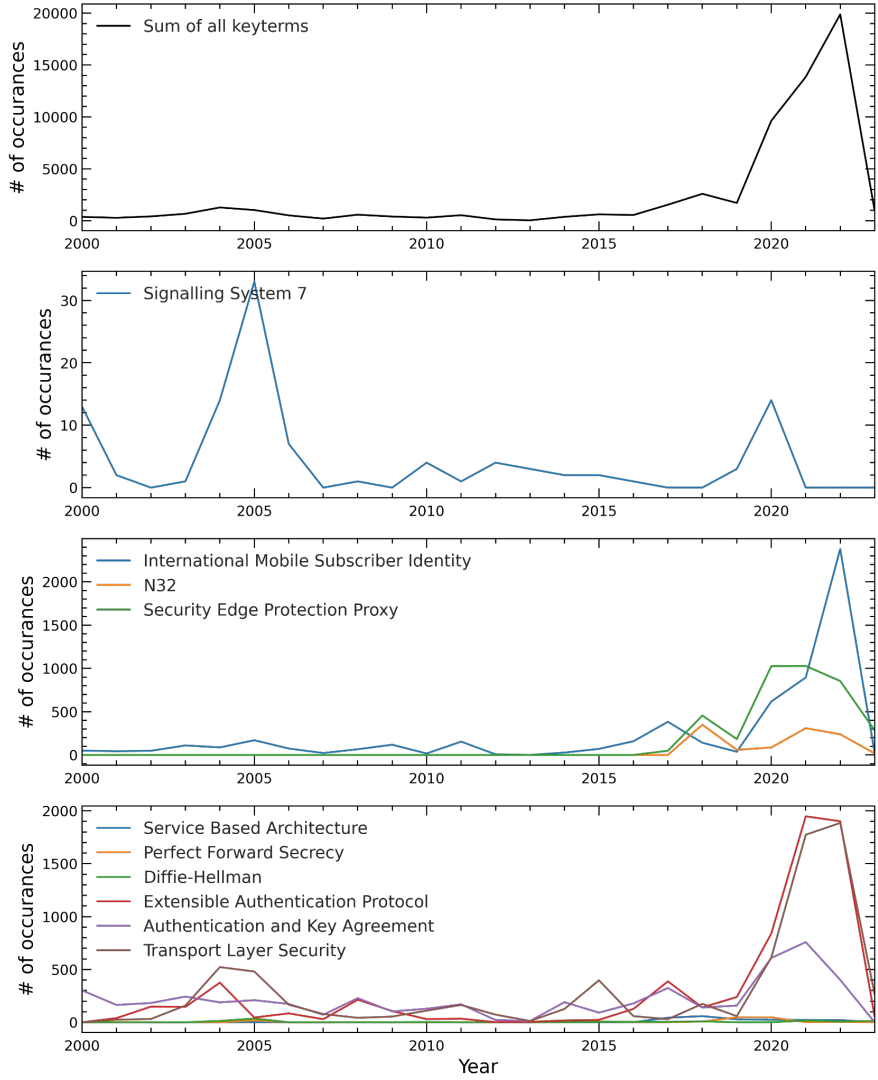
1. **SS7**
   a security flaw in Signaling System No. 7 (SS7) that allows for data interception and surveillance, SMS interception and location tracking by third parties
2. **IMSI catchers**
   the lack of encryption of permanent identifiers that allowed for the deployment of rogue base stations, which allowed for man-in-the-middle attacks, resulting in interception of all voice and data traffic in a physical signal vicinity, and
3. **Resistance to Static Key Exfiltration**
   the lack of forward secrecy (PFS) between user equipment and the home network, which allows for the decryption of current encrypted data stream if credentials were obtained in the past.

Coordinated Vulnerability Disclosure (CVD)

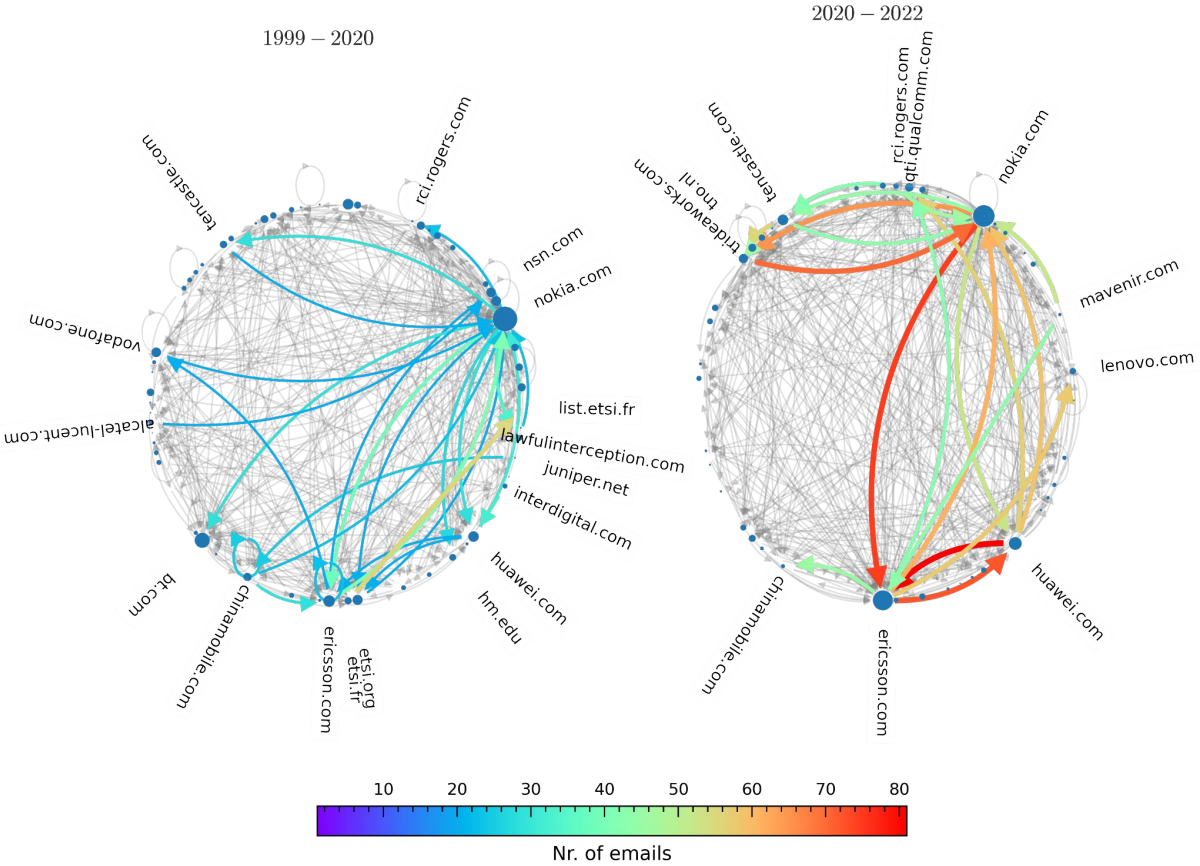
In conjunction with other Standards Development Organizations and related bodies, 3GPP has put in place a mechanism by which individuals or organizations can notify us of suspected or proven vulnerability caused by errors, omissions or ambiguities in our Technical Specifications, particularly those which could give rise to security breaches or loopholes which could compromize components of 3GPP networks, terminal equipment connected to those networks, or to other interworking networks or equipment.

We take such threats seriously and will do our utmost to resolve any vulnerabilities notified to us so that users of our Technical Specifications can do so with confidence that they do not present opportunities for malicious third parties to discover and exploit any shortcomings in our Specs.

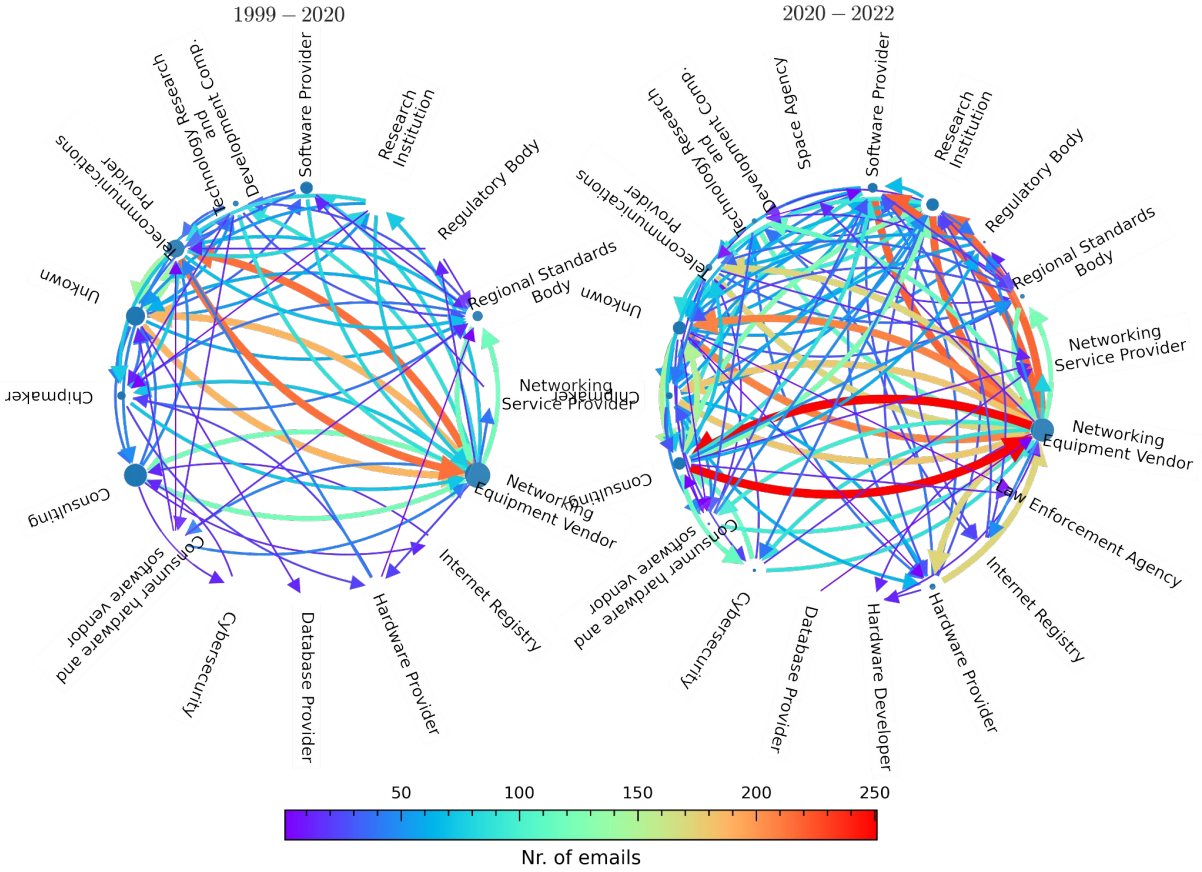
First we established people were discussing vulnerabilities on the selected mailinglists



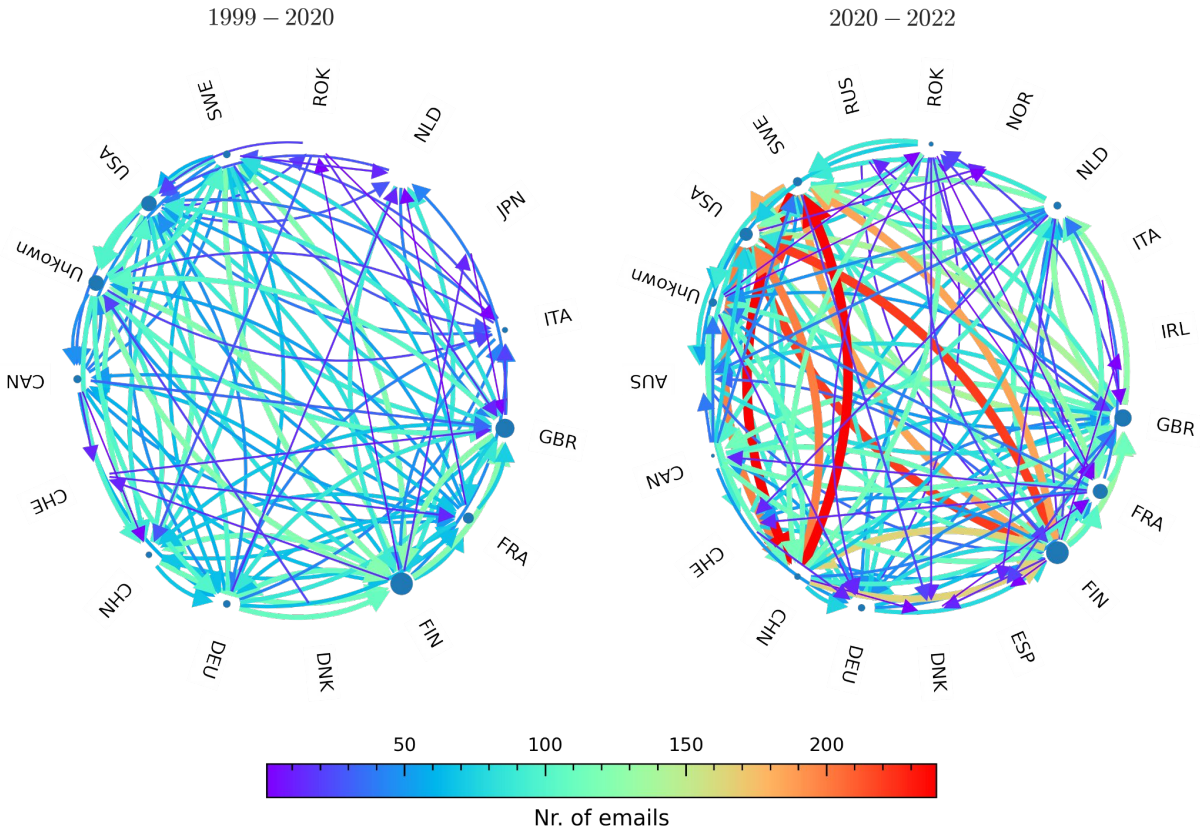
Then we sought to understand who were talking about this



We classified the actors into stakeholder groups, to understand whether a significant part of industry was represented

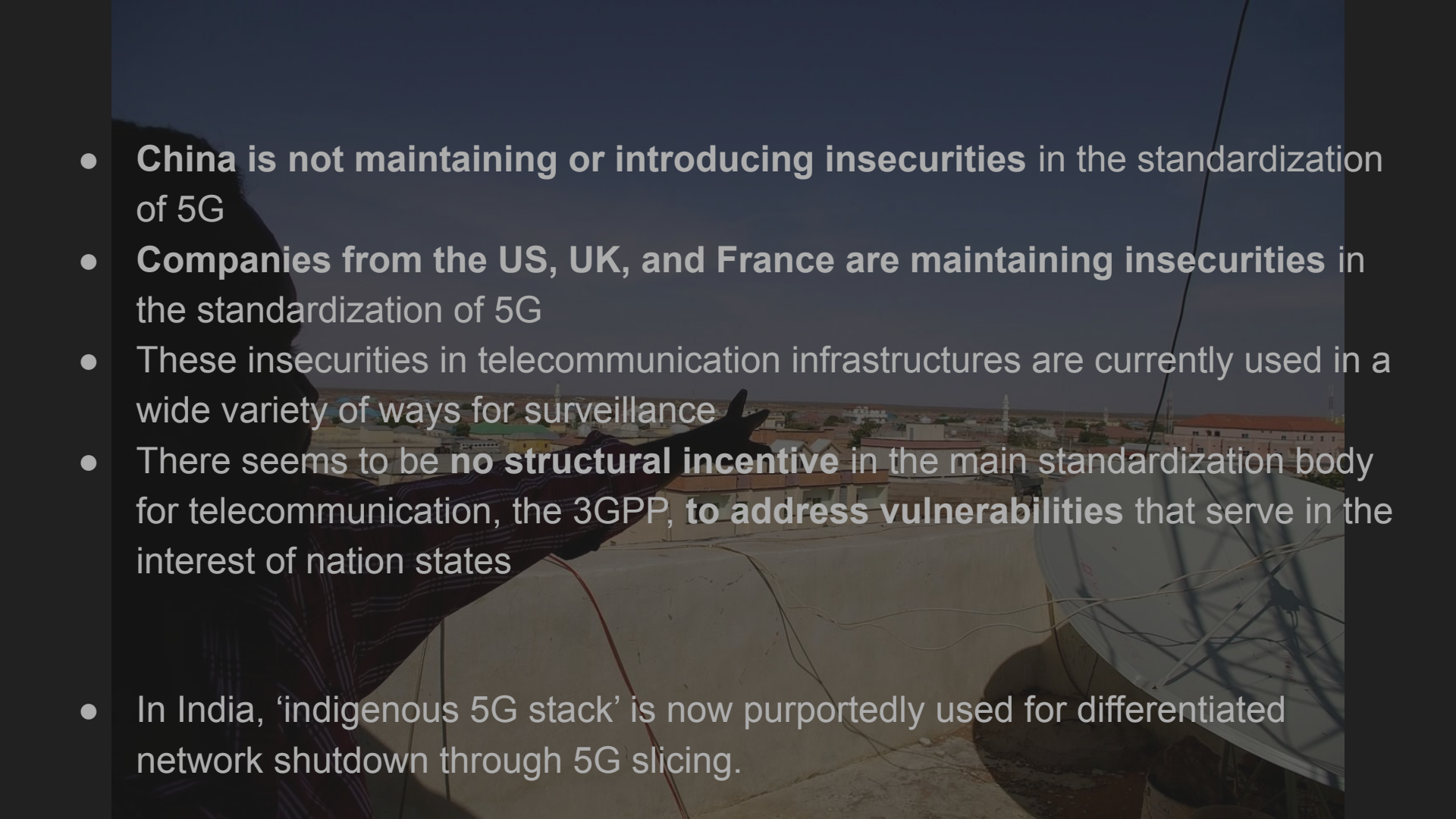


And then analyzed the actors according to the nationality of the companies they represented.



Findings

- **Insecurities are structurally discussed** in the 3GPP (are are mandated to address them)
- Direct fixes are **postponed**
- Insecurities are **only addressed when a technology is phased out**
  - In the case of SS7 through the diameter protocol (which is taking 20+ years)
  - In the case of Stingrays / IMSI catchers only with the deployment of 5G (through the introduction of encrypted identifiers in 5G, but only works in SA mode!)
- Other fixes are **outright rejected**
  - Perfect Forward Secrecy (PFS)
  - A solution to the vulnerability of static key exfiltration from the world's largest SIM card manufacturer Gemalto by the United States and Great Britain,
  - **Structurally rejected by companies from the United States, the United Kingdom, and France**
  - The inclusion of this security feature was supported by companies from China, Europe, and the United States.
  - This insecurity is of the nature that it can only be used by significantly resourced actors - and has in the past been exploited by the secret services of the United States and the United Kingdom.



- **China is not maintaining or introducing insecurities** in the standardization of 5G
- **Companies from the US, UK, and France are maintaining insecurities** in the standardization of 5G
- These insecurities in telecommunication infrastructures are currently used in a wide variety of ways for surveillance
- There seems to be **no structural incentive** in the main standardization body for telecommunication, the 3GPP, **to address vulnerabilities** that serve in the interest of nation states

- In India, ‘indigenous 5G stack’ is now purportedly used for differentiated network shutdown through 5G slicing.

recent addition: the imperial boomerang

case 2: EU sanctions against Russian media


How do sanctions aimed at Internet infrastructure align with the EU's approach to Internet governance and its digital sovereignty aspirations?

Methodology (1)

- Network measurements
  - We used venture points from the following networks:
    - RIPE Atlas
    - EduVPN
    - Dataplane.org
    - NLNOG RING
    - OONI
  - We measured for:
    - reachability (ICMP, TCP, and UDP traceroute probes)
    - Domain Name System (DNS) response (A and AAAA DNS queries over UDP transport)
    - Transport Layer Security (TLS) handshake (Handshake to the IP addresses associated with port 443 on the targets and perform TLS certificate verification)
    - Hypertext Transfer Protocol (HTTP) connection. (HTTP GET request for the / resource. We issue requests over both HTTP (80) and HTTPS (443) where applicable.)

Three concepts

a new combination?

- Sanctions
- Digital Sovereignty
- Network Filtering

Sanctions in the Europe Union

- Sanctions in the European Union are proposed by the The High Representative of the Union for Foreign Affairs and Security Policy
- The High Representative introduces sanctions to the European Council. The European Council consists of government ministers from each EU member state.
- When sanctions are adopted, it is the responsibility of the individual member states to implement the sanctions.
- The European Commission oversees and evaluates the uniform application of sanctions.

European Digital Sovereignty

"'In French we say "qui fait la norme, détient le marché": "who makes the standard holds the market". [...] If we want to ensure Europe's technological sovereignty in crucial disruptive sectors such as 5G, batteries, hydrogen or quantum technology, we must occupy the field of standard-setting. We must become standard-makers, and not just standard-takers.'" .

"We were too naive. We were open by default in the belief that things would go our way. But we can't be open at any price."

Thierry Breton – February 2022, Brussels.

Thusfar European Digital Sovereignty policy impacts are ‘uncertain’ at best.

(Clement Perarnaud)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Quick timeline

February 2014 - Russia invaded Ukraine
Annexation of Crimea and illegal military operations in Ukraine's eastern Donbas region by the Russian state.

EU creates two sanctions packages:

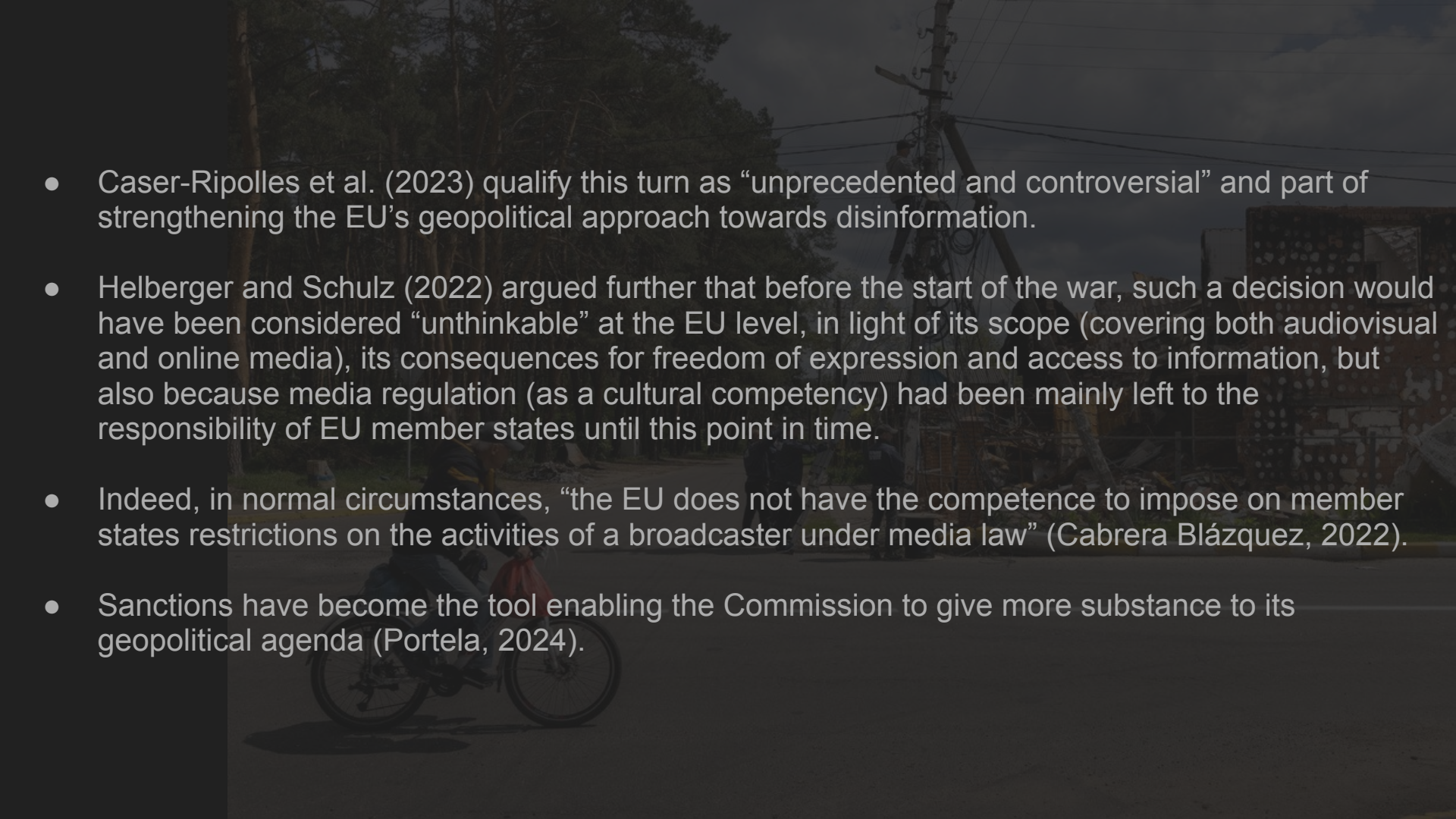
- "Council Regulation (EU) No 833/2014 of 31 July 2014 concerning restrictive measures in view of Russia's actions destabilizing the situation in Ukraine"
- "Council Regulation (EU) No 269/2014 of 17 March 2014 concerning restrictive measures in respect of actions undermining or threatening the territorial integrity, sovereignty and independence of Ukraine"

February 2022 - Russia started a full scale invasion attempt of Ukraine.

Updates to the sanction packages

Council Decision 2022/351

“it shall be prohibited for operators to broadcast or to enable, facilitate or otherwise contribute to broadcast, any content by the legal persons, entities or bodies listed in Annex XV, including through transmission or distribution by any means such as cable, satellite, IP-TV, Internet service providers, Internet video-sharing platforms or applications, whether new or pre-installed”



- Caser-Ripolles et al. (2023) qualify this turn as “unprecedented and controversial” and part of strengthening the EU’s geopolitical approach towards disinformation.

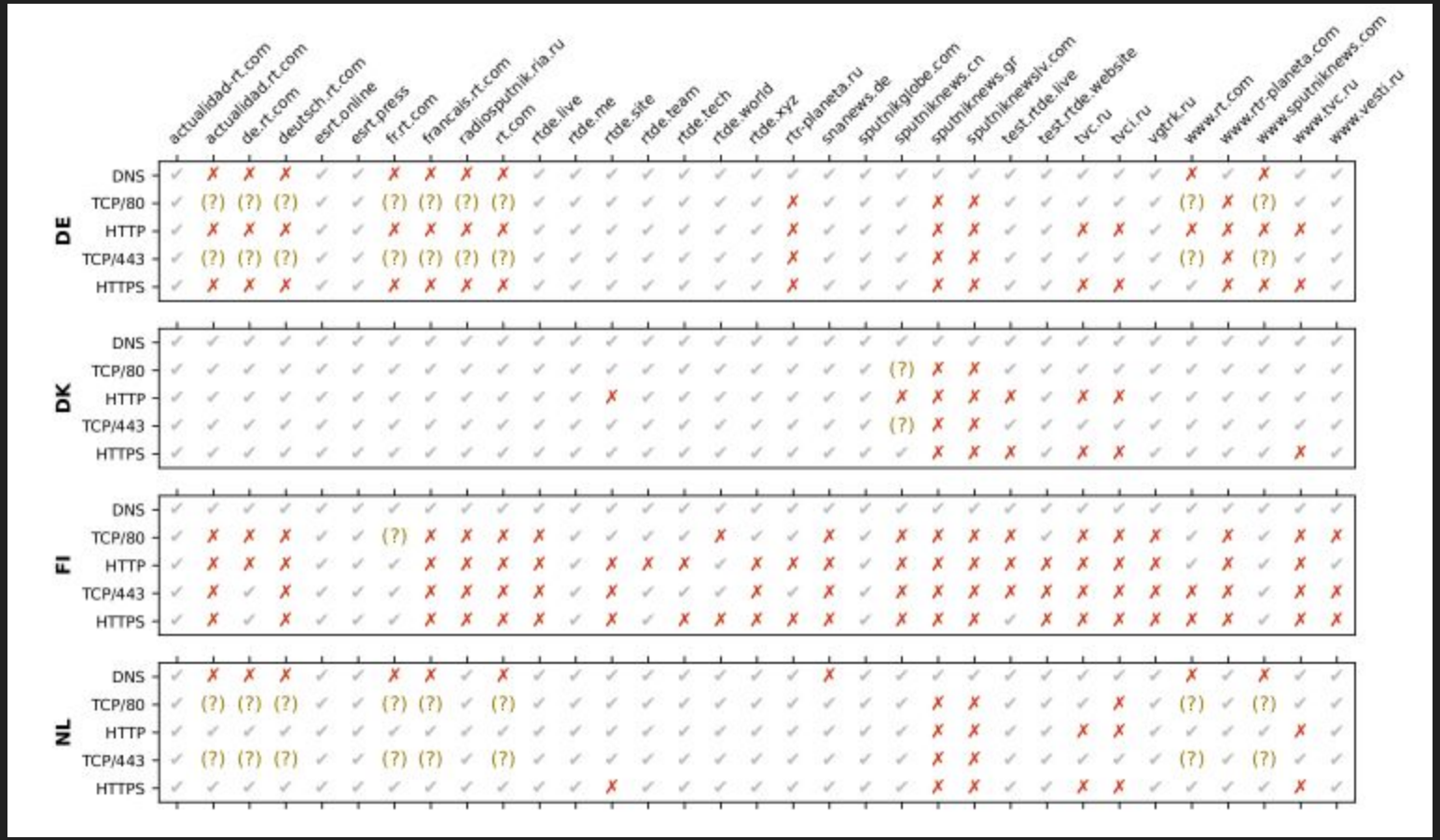
- Helberger and Schulz (2022) argued further that before the start of the war, such a decision would have been considered “unthinkable” at the EU level, in light of its scope (covering both audiovisual and online media), its consequences for freedom of expression and access to information, but also because media regulation (as a cultural competency) had been mainly left to the responsibility of EU member states until this point in time.

- Indeed, in normal circumstances, “the EU does not have the competence to impose on member states restrictions on the activities of a broadcaster under media law” (Cabrera Blázquez, 2022).

- Sanctions have become the tool enabling the Commission to give more substance to its geopolitical agenda (Portela, 2024).

Sanctioned organisation	Hostname	Source	Remark/Date added
Russia Today English	www.rt.com	Council Decision 2022/351 [11]	1 March 2022
Russia Today UK	www.rt.com	Council Decision 2022/351 [11]	1 March 2022
Russia Today Germany	de.rt.com	Council Decision 2022/351 [11]	1 March 2022
	deutsch.rt.com	Council Decision 2022/351 [11]	1 March 2022
Russia Today France	francais.rt.com	Council Decision 2022/351 [11]	1 March 2022
	fr.rt.com	Council Decision 2022/351 [11]	1 March 2022
RT en español	actualidad.rt.com	Council Decision 2022/351 [11]	1 March 2022
	actualidad-rt.com	Council Decision 2022/351 [11]	1 March 2022
Sputnik	www.sputniknews.com	Council Decision 2022/351 [11]	1 March 2022
	sputniknewslv.com	Council Decision 2022/351 [11]	1 March 2022
	sputniknews.gr	Council Decision 2022/351 [11]	1 March 2022
	sputniknews.cn	Council Decision 2022/351 [11]	1 March 2022
	radiosputnik.ria.ru	Council Decision 2022/351 [11]	1 March 2022
	sputnikglobe.com	Council Decision 2022/351 [11]	Registered 29 March 2023, sputniknews.com now redirects to this domain name.
Rossiya RTR / RTR Planeta	www.rtr-planeta.com	Council Decision 2022/884 [12]	3 June 2022
	rtr-planeta.ru	Council Decision 2022/884 [12]	3 June 2022
	vgtrk.ru	Council Decision 2022/884 [12]	3 June 2022
Rossiya 24 / Russia 24	www.vesti.ru	Council Decision 2022/884 [12]	3 June 2022
TV Centre International	www.tvc.ru	Council Decision 2022/884 [12]	3 June 2022
	tvci.ru	Council Decision 2022/884 [12]	3 June 2022
NTV/NTV Mir	ntv.ru	Council Decision 2022/2478 [9]	16 December 2022
Rossiya 1	smotrim.ru	Council Decision 2022/2478 [9]	16 December 2022
REN TV	ren.tv	Council Decision 2022/2478 [9]	16 December 2022
Pervyi Kanal	1tv.ru	Council Decision 2022/2478 [9]	16 December 2022
RT Arabic	www.rtarabic.com	Council Decision 2023/434 [13]	25 February 2023
Sputnik Arabic	sputnikarabic.ae	Council Decision 2023/434 [13]	25 February 2023
RT en español mirror	esrt.online	Liwest Blocklist [32]	Registered 8 April 2022
	esrt.press	Liwest Blocklist [32]	Registered 8 April 2022
RT Germany mirror	rtde.site	Bundesnetzagentur [6]	Registered 5 March 2022
	rtde.xyz	Bundesnetzagentur [6]	Registered 5 March 2022
	rtde.team	Bundesnetzagentur [6]	Registered 5 March 2022
	test.rtde.live	Bundesnetzagentur [6]	Registered 6 April 2022
	rtde.live	Bundesnetzagentur [6]	Registered 6 April 2022
	test.rtde.website	Bundesnetzagentur [6]	Registered 6 April 2022
	rtde.tech	Liwest Blocklist [32]	Registered 6 April 2022
	rtde.world	Liwest Blocklist [32]	Registered 6 April 2022
	rtde.me	Liwest Blocklist [32]	Registered 6 April 2022
A-Russia	a-russia.ru	Bundesnetzagentur [6]	Russian TV streaming site
WWITV: World Wide Internet TV	wwitv.com	Bundesnetzagentur [6]	TV streaming site
glaz.tv	www.glaz.tv	Bundesnetzagentur [6]	TV streaming site
Russisches Fernsehen	www.russisches-tv-fernsehen.de	Bundesnetzagentur [6]	TV streaming site
On TV Time	ontvtime.tv	Bundesnetzagentur [6]	TV streaming site
SPB TV World	spbtv.online	Bundesnetzagentur [6]	TV streaming site
Coolstreaming	www.coolstreaming.us	Bundesnetzagentur [6]	TV streaming site
Live HD TV	www.livehdtv.net	Bundesnetzagentur [6]	TV streaming site
Rossiya Segodnya Group	snanews.de	Liwest Blocklist [32]	German news site
State Duma	duma.gov.ru	OFAC Sanctions list [42]	
Sberbank	www.sber-bank.by	Council Decision 2022/327 [10]	25 February 2022, Not part of Annex IX
	www.sberbank.ru	Council Decision 2022/327 [10]	25 February 2022, Not part of Annex IX
Gazprombank	www.gazprombank.ru	Council Decision 2022/2478 [9]	16 December 2022, Not part of Annex IX

	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czechia	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom	Switzerland	Russian Federation	United States
ASes	9	6	6	3	2	11	11	2	10	16	36	5	3	6	16	3	2	1	1	9	6	5	5	3	4	6	11	27	18	47	45
Upstream resolvers	28	23	10	3	6	38	17	3	15	107	190	8	5	16	37	4	3	2	4	48	18	16	15	6	9	14	38	109	61	84	253
VPs	66	131	18	8	5	56	33	6	71	675	657	22	21	57	106	5	3	2	4	224	30	312	16	8	15	69	66	196	225	116	687
www.rt.com	10	0	45	0	0	53	63	0	4	3	19	0	0	30	19		0	0	0	9	19	0	0	0	0	32	80	75	99	100	98
de.rt.com	12	3	45	0	0	56	54	0	0	4	22	9	0	31	100	50	0	0	0	6	21	1	0		12	66	81	75	100	100	99
deutsch.rt.com	3	47	33	0	0	50	63	0	4	2	24	0	0	29	100		100	0	0	67	25	100	0		0	71	83	75	100	94	99
francais.rt.com	0	3	33	0	0	50	70	0	2	5	25	8	0	27	28	50	0	0	0	6	31	1	0		0	68	80	71	100	95	98
fr.rt.com	11	50	45	0	0	47	63	0	0	2	94	9	0	26	100		100	0	0	70	25	98	0		22	71	88	73	100	100	99
actualidad.rt.com	14	1	25	0	0	37	58	0	2	4	24	0	0	27	98		0	0	0	7	23	1	0	0	16	68	79	74	100	95	99
actualidad-rt.com	18	100	100	83	100	100	100	100	100	99	99	100	100	100	100	100	100		100	99	100	100	100	100	100	100	100	100	100	100	100
www.sputniknews.com	8	51	42	0	0	50	60	0	4	4	26	0	58	27	22	50	0		0	8	100	10	100	0	14	100	83	72	99	96	99
sputniknewslv.com	100	6	42	100	0	52	60	0	0	57	60	100	38	27	28	25	100	100	0	44	100	100	100	0	14	100	81	100	100	100	99
sputniknews.gr	100	3	25	66		46	72	0	0	57	61	11	41	21	34	50	100	100	0	43	100	100	100	0	0	100	95	98	100	100	99
sputniknews.cn	100	3	33		0	53	72	0	4	55	57	100	33	31	31	50	100	100	0	42	100	100	100		11	100	93	99	100	100	100
radiosputnik.ria.ru	13	35	55	100	100	75	100	0	4	99	100	100	100	100	100	50	100	0	0	100	21	100	100		100	100	84	99	100	97	100
sputnikglobe.com	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98		100	100	100	100	100	100	100	60	100	100	100	100	100	98
www.rtr-planeta.com	26	58	100	66	100	100	100	100	51	93	99	100	100	50	100		100	100	0	46	35	1	100	100	100	100	100	100	100	100	100
rtr-planeta.ru	4	100	100	100		100	100	100	100	100	100	100	100	100	100		100	100	100	100	100	99	100	100	100	100	100	100	100	100	100
vgtrk.ru	100	100	100	100	100	100	90	100	52	100	37	100	100	100	100		100	100	0	100	25	99	100		100	100	100	100	100	100	100
www.vesti.ru	13	60	100	60		100	91	0	85	56	99	100	100	44	98	50	100	100	0	100	19	87	100		100	100	100	100	100	100	100
www.tvc.ru	4	16	100	66		100	90	0	86	56	81	100	100	100	100	50	100	100	0	46	100	87	100	100	100	100	100	100	100	100	100
ntv.ru	13	41	100	0	100	100	90	0	51	100	33	100	100	90	100	50	100	100	100	100	35	13	100	100	100	100	100	100	100	100	100
smotrim.ru	100	59	100	19	100	90	90	0	52	60	30	100	100	35	100		100	100	0	100	19	12	100		100	100	100	98	100	100	100
ren.tv	15	3	100	0		100	92	0	52	99	30	100	100	43	100		100	100	0	100	30	12	100	66	100	100	100	100	100	97	99
1tv.ru	24	1	100	0	100	100	90	0	47	99	37	100	100	100	100	50	100	100	0	100	23	98	100	100	100	96	100	100	100	100	100
ww.rtarabic.com	15	100	100	100	100	100	100	0	83	59	85	100	100	100	100		100	100	100	99	100	100	100	66	100	100	96	100	100	100	99
sputnikarabic.ae	17	100	100	100	100	100	100	0	51	58	48	100	100	100	100	100	100	100	100	47	100	88	100		100	100	100	100	100	100	99
esrt.online	18	100	100	100		100	100	100	100	99	99	100	100	100	100		100	100	100	99	100	99	100	100	100	100	100	100	100	100	99
esrt.press	21	100	100	100	100	100	100	100	100	99	99	100	100	100	98		100	100	100	100	100	100	100		100	100	100	100	100	97	100
rtde.site	12	100	100	100		100	100	100	100	100	26	100	100	100	98	50	100	100	100	99	100	99	100	100	100	100	100	100	100	97	100
rtde.xyz	8	100	100	100	100	100	100	100	100	100	29	100	100	100	100	50	100		100	100	100	99	100	66	100	100	100	100	100	100	100
rtde.team	17	100	100	100	100	100	100	100	100	99	28	100	100	100	98	0	100		100	99	100	53	100	100	100	100	100	99	100	100	100
test.rtde.live	18	100	100	100	100	100	100	100	100	100	25	100	100	90	100	50	100	100	100	99	100	47	100	100	100	100	100	99	100	100	100
rtde.live	17	100	100	100	100	100	100	100	100	100	99	100	100	100	100	50	100	100	100	100	100	40	100	100	100	100	100	99	100	100	100
test.rtde.website	100	100	100	100	100	100	100	100	100	99	25	100	100	100	100		100	100	100	100	100	99	100		100	100	100	100	100	100	99
rtde.tech	8	100	100	100	100	100	100	100	100	100	99	29	100	100	100	100	100	100	100	100	100	100	100	66	100	100	100	100	100	97	100
rtde.world	16	100	100	100	100	100	100	100	100	100	32	100	100	90	100	100	100	100	100	100	100	56	100		100	100	100	100	100	100	100
rtde.me	16	100	100	100	100	100	100	100	100	100	27	100	100	100	98		100	100	100	100	100	100	100	66	100	100	100	100	100	100	99
a-russia.ru	100	100	100	66	100	100	100		100	99	30	100	100	90	97	25	100	100	100	100	100	99	100	100	100	100	100	99	100	100	99
wwitv.com	100	100	100	100	100	100	92		100	99	30	100	100	100	100	25	100	100	100	100	100	89	100	100	100	100	100	99	100	100	100
www.glaz.tv	100	100	100	66	100	100	100	0	100	100	41	100	100	100	100		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
www.russisches-tv-fernsehen.de	100	100	100	60	100	100	100	100	100	100	100	100	100	100	100		100	100	100	100	100	100	100		100	100	100	100	100	100	99
ontvtime.tv	100	57	100	60	100	100	92	0	100	99	39	100	100	38	100	100	100		100	100	100	100	100		100	100	100	100	100	100	100
spbtv.online	100	100	100	100	100	100	100	0	100	99	31	100	100	90	100		100	100	100	100	100	86	100	100	100	100	100	100	100	100	100
www.coolstreaming.us	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		100	100	100	100	100	100	100		100	100	100	100	100	99	99
www.livehdtv.net	100	100	100	100	100	100	100	0	100	100	44	100	100	100	98		100	100	100	100	99	100	100	100	100	100	100	100	100	100	100
snanews.de	16	1	62	50	0	66	69	100	0	55	25	100	0	27	92	100	100		0	99	100	99	100		33	100	100	100	100	100	98
duma.gov.ru	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
www.sber-bank.by	100	100	100	100		100	100	100	100	99	100	100	100	100	96		100	100	100	99	100	100	100		100	100	100	98	100	100	99
www.sberbank.ru	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98		100	100	100	100	100	99	100	100	100	100	100	100	100	100	100
www.gazprombank.ru	100	100	100	100	75	100	100	100	100	99	99	100	100	100	100		100	100	100	100	100	100	100		100	100	100	100	99	100	99


actualidad-rt.com
actualidad.rt.com
de.rt.com
deutsch.rt.com
esrt.online
esrt.press
fr.rt.com
francais.rt.com
radiosputnik.ria.ru
rt.com
rtde.live
rtde.me
rtde.site
rtde.team
rtde.tech
rtde.world
rtde.xyz
rtr-planeta.ru
snanews.de
sputnikglobe.com
sputniknews.cn
sputniknews.gr
sputniknewslv.com
test.rtde.live
test.rtde.website
tvc.ru
tvci.ru
vgtrk.ru
www.rt.com
www.rtr-planeta.com
www.sputniknews.com
www.tvc.ru
www.vesti.ru
DE
DNS
TCP/80
HTTP
TCP/443
HTTPS
DK
DNS
TCP/80
HTTP
TCP/443
HTTPS
FI
DNS
TCP/80
HTTP
TCP/443
HTTPS
NL
DNS
TCP/80
HTTP
TCP/443
HTTPS

Bohužel / Unfortunately

Přístup na požadovanou internetovou stránku byl zablokován na základě povinností vyplývajících z legislativy České republiky / Evropské unie.

Access to requested website was blocked based on obligations arising from legislation of the Czech Republic / European Union.

Šiuo metu nėra galimybės pasiekti šios svetainės, nes joje buvo nustatyta neteisėtai vykdoma veikla – apie joje vykdomą televizijos programų ir (ar) atskirų programų platinimo internete Lietuvos Respublikos vartotojams veiklą nebuvo pranešta Lietuvos radijo ir televizijos komisijai teisės aktų nustatyta tvarka.

Informaciją apie asmenų, neteisėtai vykdančių televizijos programų ir (ar) atskirų programų platinimo internete Lietuvos Respublikos vartotojams, veiklą galite rasti čia.

Dėl išsamesnės informacijos prašome kreiptis į Lietuvos radijo ir televizijos komisiją,

tel. (8 5) 233 0660, faks. (8 5) 264 7125, e. p. lrtk@rtk.lt.

You have been redirected to this website, because at present there is no access to the website you are trying to reach because of illegal services detected on that website, i.e. the services of the distribution of television programmes and (or) individual programmes on the Internet for the users of the Republic of Lithuania were not notified to the Radio and Television Commission of Lithuania in accordance with the procedure established by legal acts.

Information on the illegal services of the distribution of television programmes and (or) individual programmes on the Internet for the users of the Republic of Lithuania is provided here.

For more information, please contact the Radio and Television Commission of Lithuania,

tel. +370 5 233 0660, fax. +370 5 264 7125, e-mail: lrtk@rtk.lt.

Η πρόσβαση στο συγκεκριμένο domain έχει προσωρινά ανασταλεί

Ανατρέξτε στον κανονισμό (ΕΕ) 2022/350 του Συμβουλίου σχετικά με περιοριστικά μέτρα ενόψει των ενεργειών της Ρωσίας που αποσταθεροποιούν την κατάσταση στην Ουκρανία

Access to the specific domain has been temporarily suspended

Please refer to Council Regulation (EU) 2022/350 concerning restrictive measures in view of Russia's actions destabilizing the situation in Ukraine

Request by Ukraine to ICANN and RIPE

- Permanent or temporary revocation of the country code top-level domains “.ru”, “.рф” and “.su”.
- Revocation of SSL certificates associated with those domains.
- Disablement of DNS root servers situated within the Russian Federation.
- Withdrawal of the right to use IPv4 and IPv6 addresses by Russian networks.

The Executive Board of the RIPE NCC believes that the means to communicate should not be affected by domestic political disputes, international conflicts or war. This includes the provision of correctly registered Internet numbering resources.

The Executive Board of the RIPE NCC is committed to taking all lawful steps available to ensure that the RIPE NCC can provide undisrupted services to all members across our service region and the global Internet community.

The RIPE NCC will publicly document all its efforts to ensure that the registry is not negatively affected by laws, regulations or political developments.

```
organisation:   ORG-TFGS1-RIPE
org-name:       The Federal Guard Service of the Russian Federation
country:        RU
org-type:       LIR
address:        Bolshoi Kiselny per. 4
address:        107031
address:        Moscow
address:        RUSSIAN FEDERATION
phone:          +74956062863
fax-no:         +74956060333
e-mail:         noc@gov.ru
abuse-c:        AR16670-RIPE
mnt-ref:        tfgs-mnt
mnt-ref:        RIPE-NCC-HM-MNT
mnt-by:         RIPE-NCC-HM-MNT
mnt-by:         tfgs-mnt
created:        2008-12-30T14:07:36Z
last-modified:  2020-12-16T12:29:29Z
source:         RIPE
```

Article 1

Regulation (EU) No 269/2014 is amended as follows:

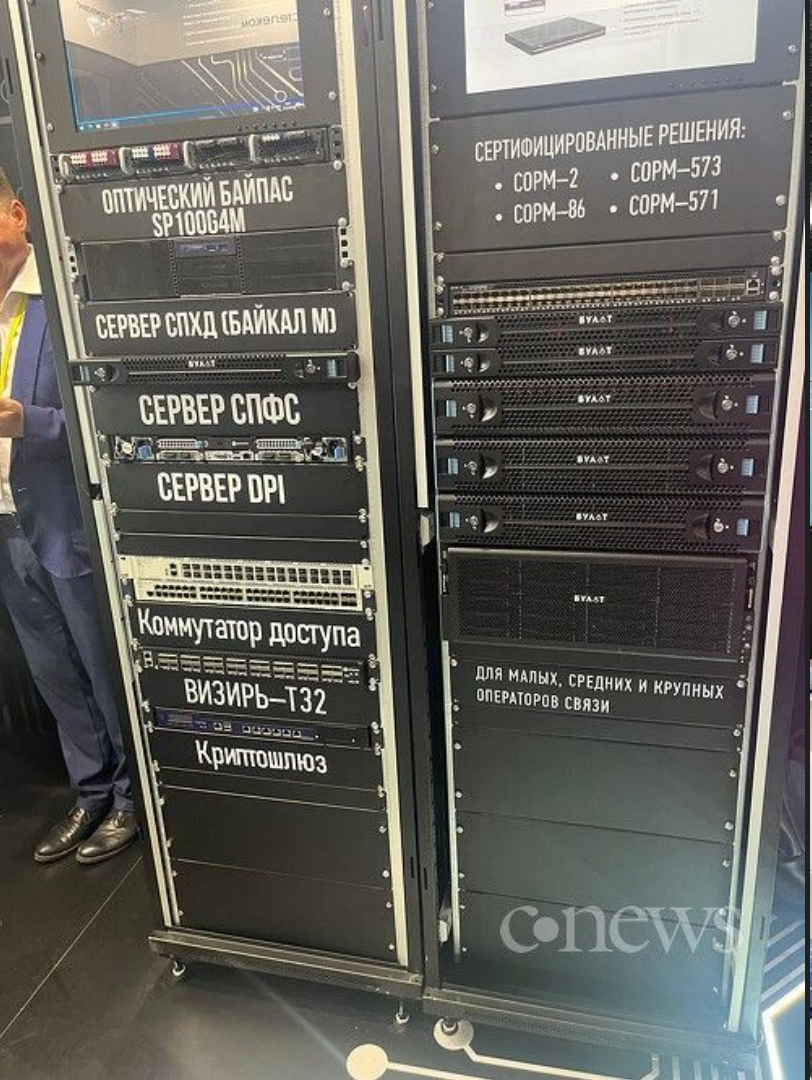
(1) the following article is inserted:

'*Article 6c*

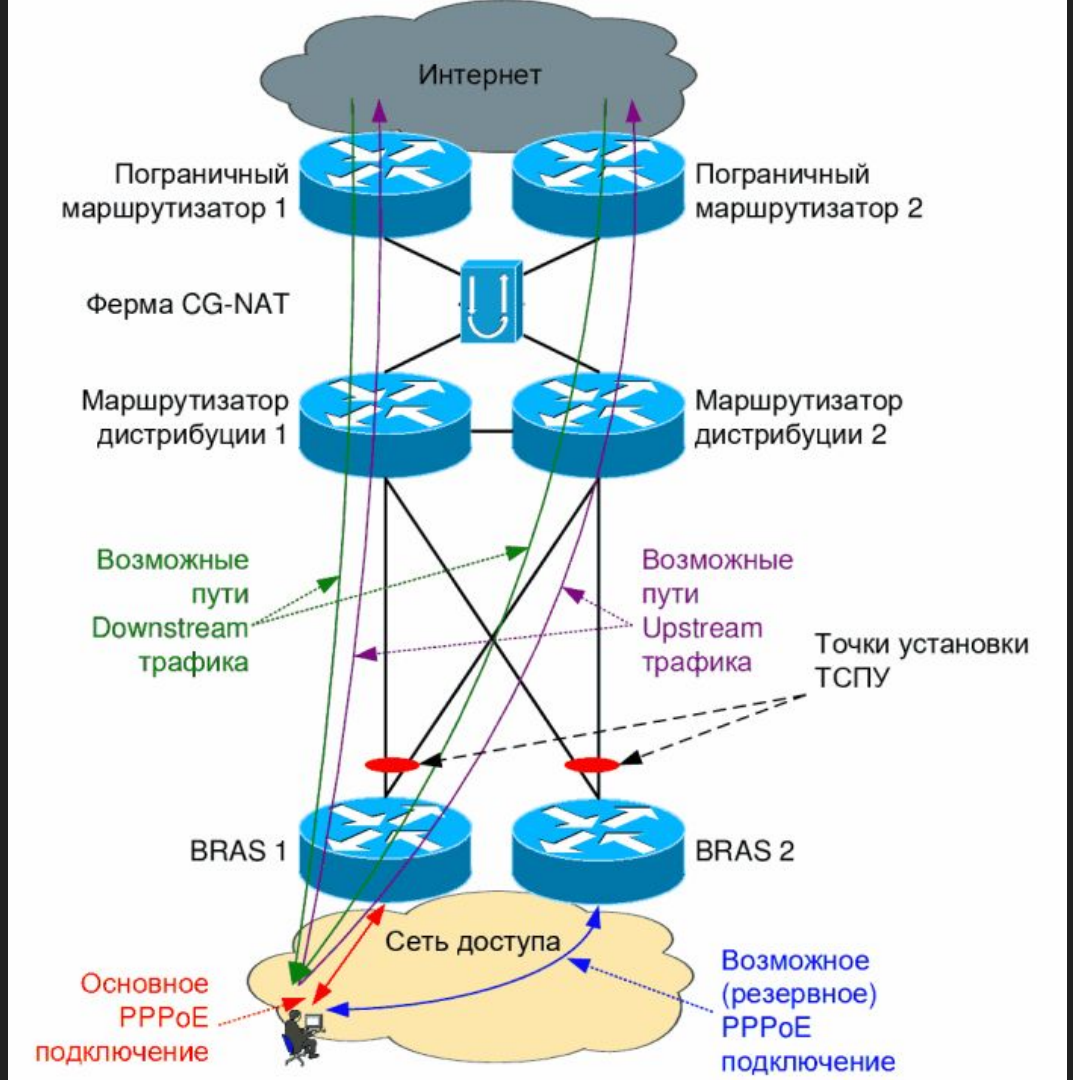
Article 2 shall not apply to funds or economic resources that are strictly necessary for the provision of electronic communication services by Union telecommunication operators, for the provision of associated facilities and services necessary for the operation, maintenance and security of such electronic communication services, in Russia, in Ukraine, in the Union, between Russia and the Union, and between Ukraine and the Union, and for data centre services in the Union.';

June 3, 2022

case 3: Russia's infrastructural approach to DPI


ОПТИЧЕСКИЙ БАЙПАС SP10064M
СЕРВЕР СПХД (БАЙКАЛ М)
СЕРВЕР СПФС
СЕРВЕР DPI
Коммутатор доступа
ВИЗИРЬ–Т32
Криптошлюз
СЕРТИФИЦИРОВАННЫЕ РЕШЕНИЯ:
• СОРМ–2 • СОРМ–573
• СОРМ–86 • СОРМ–571
БУЛАТ
ДЛЯ МАЛЫХ, СРЕДНИХ И КРУПНЫХ ОПЕРАТОРОВ СВЯЗИ
CNEWS


СИГНАЛТЕК
БУЛАТ
RDP
Ростелеком
СЕРВЕР DPI


Интернет
Пограничный маршрутизатор 1
Пограничный маршрутизатор 2
Ферма CG-NAT
Маршрутизатор дистрибуции 1
Маршрутизатор дистрибуции 2
Возможные пути Downstream трафика
Возможные пути Upstream трафика
Точки установки ТСПУ
BRAS 1
BRAS 2
Сеть доступа
Основное PPPoE подключение
Возможное (резервное) PPPoE подключение

Как мы прожили 2022 год

5 стадий импортозамещения

Отрицание

Российское сетевое оборудование? Не, не слышал

Гнев

Оно ещё и работает? Ну-ну...

Торг

Эффективная сеть на RDP? Невозможно!

Депрессия

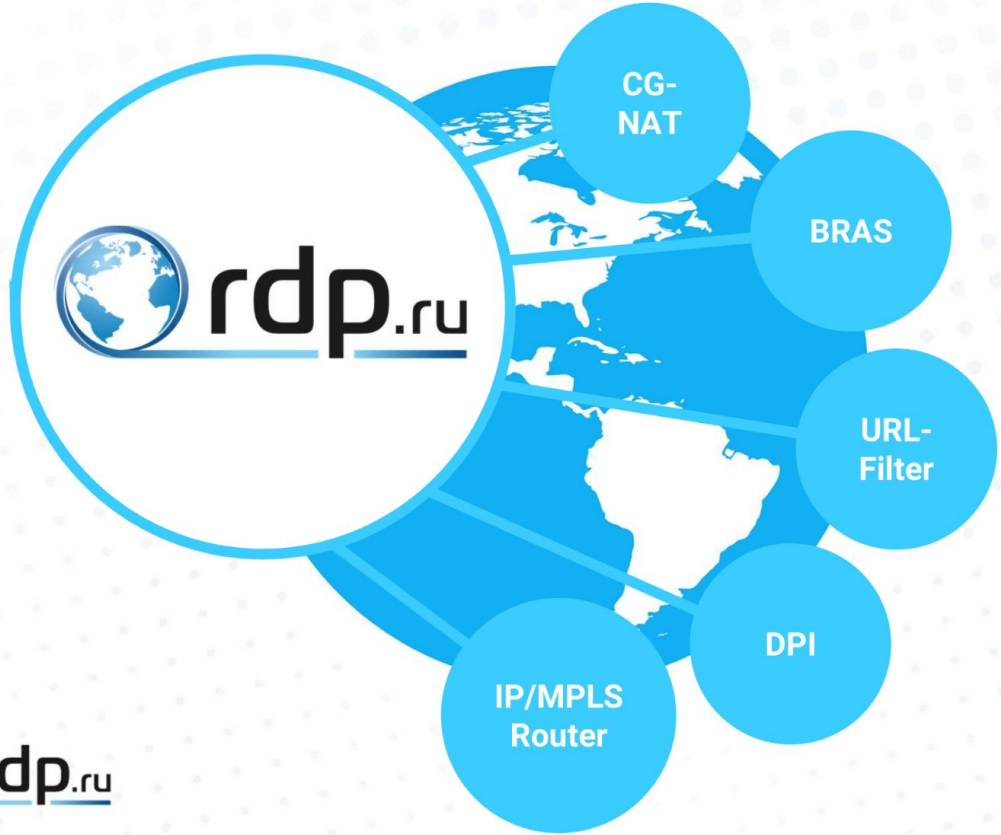
А может подождём и импортозамещение отменят?

Принятие

Производительности хватает с запасом! Переходим на RDP!

RDP

Technology market segments



Alternative:

A10 Networks
CISCO
JUNIPER NETWORKS
HUAWEI
AllOt communications
PROCERA
sandvine

rdp.ru

Про 12 систем Фильтрации

Таблица анализа размещенных на сайте РКН заключений по Системам Фильтрации (тест проходил у (от) 10 до 30 Операторов из 5- 7 Фед.Округов)[1]

Наименование "продукта"	% тест.Операторов Без нарушений	%неблокировок экстремизм	% неблокировок Прочее
ADM filter	64	0,04	0,03
Carbon Reductor DPI	64	0,04	0,3
CyberFilter	64	0,001	0,003
EcoFilter	40	0,0265	0,21
Ideco	44	0,03	0,01
SkyDNS Zapret ISP	37	0,1	0,22
Ubic	65	0,06	0,13
ZapretService	59	0,06	0,07
Барьер	1	0,16	0,37
СКАТ DPI	68	0,03	0,002
Тикси Блокировка	42	0,09	0,004
Equila	40	0,03	0,02

Выводы: 1) Лучший - СКАТ (ВАС Эксперте), CyberFilter, худший- Барьер (МТС)

ordercom.ru

Contact us

If you have any questions or need any assistance please get in touch with us.

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+31 20 889 33 88

+55 11 95619-7538

E-mail

sales@vas.expert

Address

Herikerbergweg 292,

Amsterdam, 1101

concluding: infrastructural ideologies and material futures

	United States	European Union	China	Russia
Gov’t Policy	Standardization Strategy, US-EU TTC	Standardization Strategy, US-EU TTC,	Five Year Plan, China Global Standards 2035, BRI, National Standardisation Development Outline	Roskomnadzor (blacklist)
Gov’t Funding	Infrastructure Law, Partnership for Global Infrastructure and Investment, Chips act, FABS act, NSF, DARPA, AFRL	StandICT, Horizon, EU Recovery plan, NextGenerationEU	Government guidance funds [政府引导基金], Central Government Funding System for Basic Research (Ministry of Science and Technology, Ministry of Education, NSFC5 and Chinese Academy of Sciences)	Universal Service Fund (Rossvyaz)
Gov’t Regulation	FTC act, COPA, COPPA, DMCA, HIPAA, CFAA, CDA, CIPPA, TWEA, CISA,SAVE, ADA, FOSTA-SESTA, Chip act	OIAR, GDPR, Data act, DSA, DMA, NIS1, NIS2, CRA, E-commerce regulation, AI act, CRMA, Chips act	China’s National Information Security Technical Committee (TC-260), China’s Standardisation Law, CN/CERT,	Bloggers law, Yarovaya, Law on Mass Media, Sovereign internet law, On Communications law (Rostel monopoly)
Academic Research	Stanford, MIT, University of California, Berkeley, Carnegie Mellon , University of Washington, Cornell, Georgia Institute of Technology	ETH Zurich, Ecole Polytech Lausanne, Delft University, Technical University of Munich, Aalto University, Polytech Milan, EPITA	China Academy for ICT, CNCERT/CC, Chinese Academy of Sciences, Institute of Information Engineering, National Engineering Laboratory for Information Security Technologies	Moscow Institute of Physics & Technology, Moscow State University
Industry Development	Cisco, Juniper	Nokia, Ericsson, Ciena	Huawei, ZTE, Futurewei, Tencent, Foxconn	RDP, Garda Group, VAS Experts, NTC Protey, KNS Group/Yadro/ICS Holding
Industry Implementation	AT&T, Verizon, Comcast, T-Mobile, Google, Facebook, Amazon	Deutsche Telekom, Vodafone, Orange, Telefonica	China Unicom, China Telecom, Alibaba, Tencent	Rostelecom, MTS, Megafon, Beeline

Preliminary findings: Regional policy, funding, regulation, research, development, implementation pipelines

EU: Funding and regulation have primacy. Development and implementation does not happen in-line with (diffuse) funding and policy objectives.

US: Industry development and implementation has primacy, policy and funding is co-designed by industry. Industry self-regulation happens through standardization.

China: Policy sets direction of industry development, research, and implementation, implementation was delegated, costs externalised, compliance achieved through fines (or selective enforcement). Funding, research, and policy is used to shape global standardization.

Russia: Policy and regulation have primacy, but were often not implemented. After February 2022, significant direct state involvement in coercion of ideology through financing and enforcement. Russia's objectives and values currently seem more reactive.

Careful preliminary conclusions

- Differing divisions of labor between state, research, industry, and operators in China, EU, US, and Russia produce different infrastructural orderings
- The outcome of the process is not clear in advance by any party
- This happens through anticipatory and experimental governance - which is more susceptible for feedback than earlier industry policies
- Infrastructural ideologies instruct actors
- Infrastructural ideologies are dialectically shaped among actors and the material (both the technology and conditions)

Next Steps

- Natural Language Processing on Chinese and Russian policy, technical, and research documents to understanding the flow, prevalence, and dissemination of topic and strategies
- Analysis of infrastructural responses to external actors (ie Cloudflare eSNI)
- Analysis of symmetries in export of information control infrastructures

- Translate findings into clear infrastructural ideologies and trajectories
- Produce reports with insights for toolmakers

Japanese. This book thus confirms that control is always contested, not just between the controlling and the controlled, but among all those who seek to wield that control. Ultimately, Japan's experience with telecommunications as its technology of empire confirms "the paradoxical fact," namely, communications technologies simultaneously bring enormous enhancements of control to governments, corporations, consumers, and voters, and a quite new order of chaos and uncontrollability—which brings, in turn, a sense that control is unachievable.[16] Technology can produce unintended consequences, and the technology of empire was no exception.

Daqing Yang in: Technology of Empire: Telecommunications and Japanese Expansion in Asia, 1883–1945

Work, read, research with us!

criticalinfralab.net

critical infrastructure lab

we research power and contestation in transnational media infrastructures. the critical infrastructure lab aims to create space to co-develop alternative infrastructural futures that center people and planet over profit and capital. we aim to do this by establishing a community around three infrastructural subtopic (geopolitics, standards, environment), producing a sound body of research, and developing actionable policy recommendations and strategic insights. do you want to know more? have a look at our slide deck or send us a message.

upcoming activities

- *open reading group* **infrastructure reading group** ↓ #
- *open reading group* **environment reading group** ↓ #
- *event* **sanctions, standards, and sovereignty: examining power in communication networks with infrastructural ideologies, centre internet et société (cis), paris** april 2024 ↓ #
- *vacancy* **postdoc infrastructural ideologies in the eu, russia, and china** may 2024 ↓ #
- *vacancy* **phd position in infrastructural ideologies in the eu, russia, and china** may 2024 ↓ #

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Only teamwork makes the dream work!

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