

Our IT / Tech Community is one big family.

**We don't think in colors, we don't think in races or
genders, we don't think in borders.**

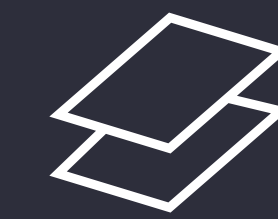


Keep Ukraine Connected

February 24, 2022

This was the day everything began.
War started in Ukraine.

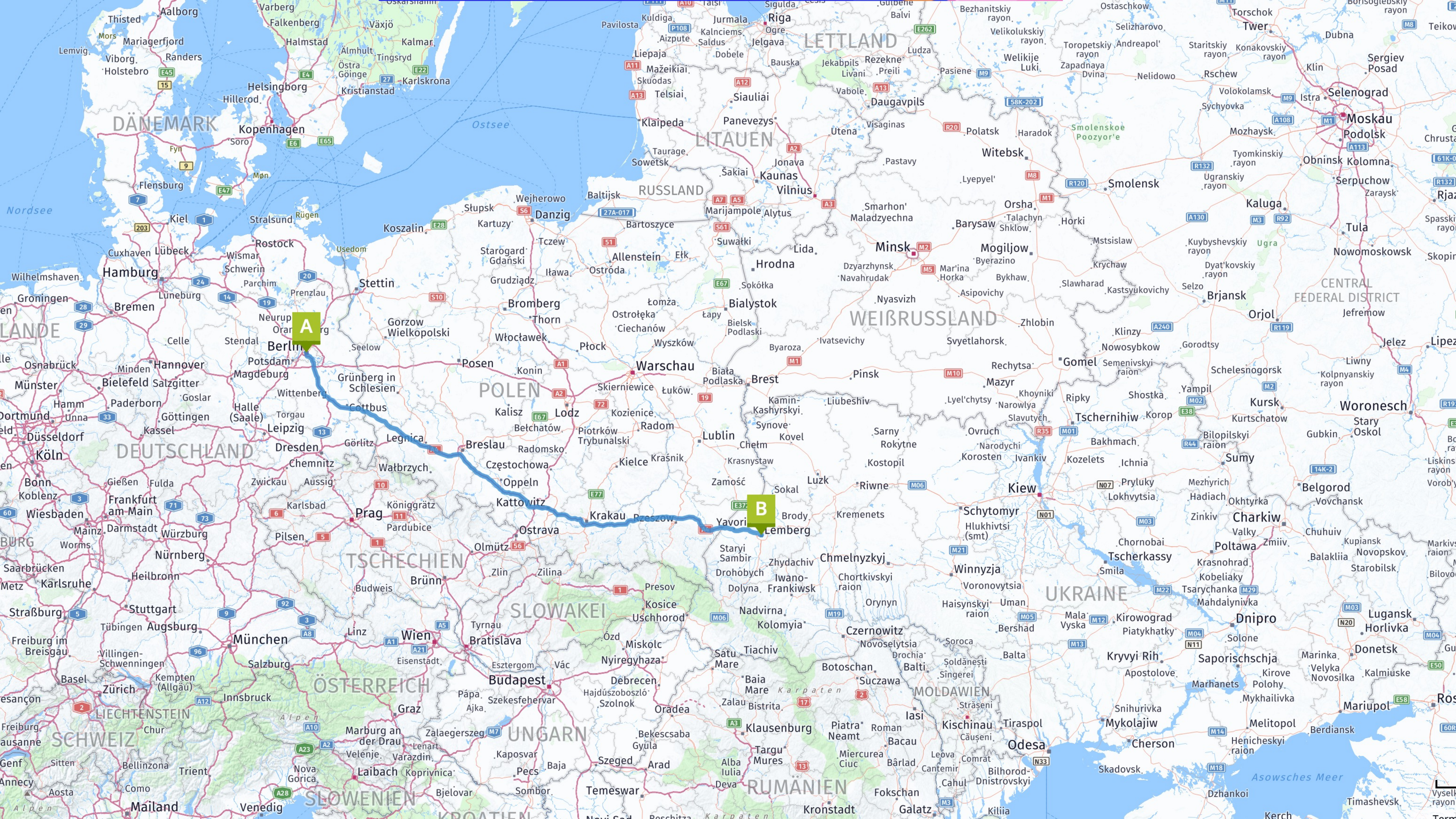
Dark days for Ukrainian people,
but also for Internet Service Providers in the region.



The beginning...

When Russia invaded Ukraine, our chair René Fichtmüller didn't want to stand idly by. He first got together with his friend Patrick, and helped organise two truck's worth of relief, which they dropped off at the Ukrainian border in the second week of March 2022.

However, of course, this was not enough.



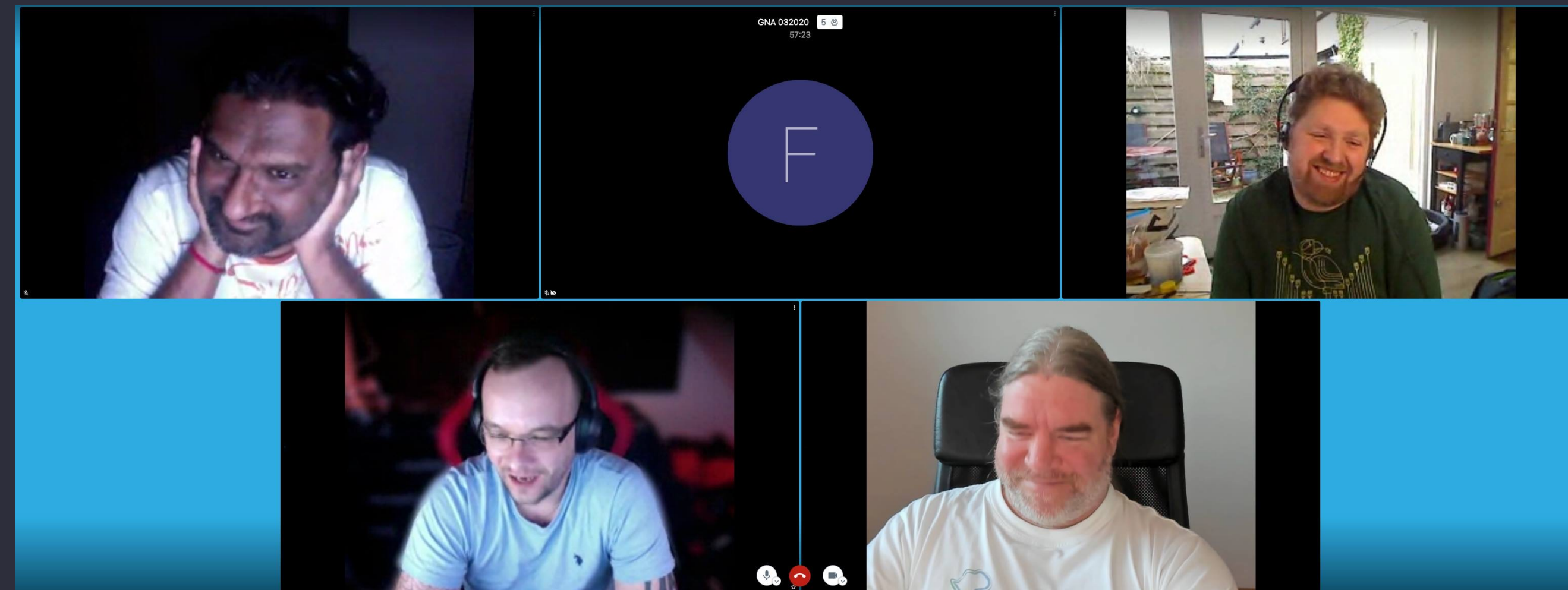
The next day...

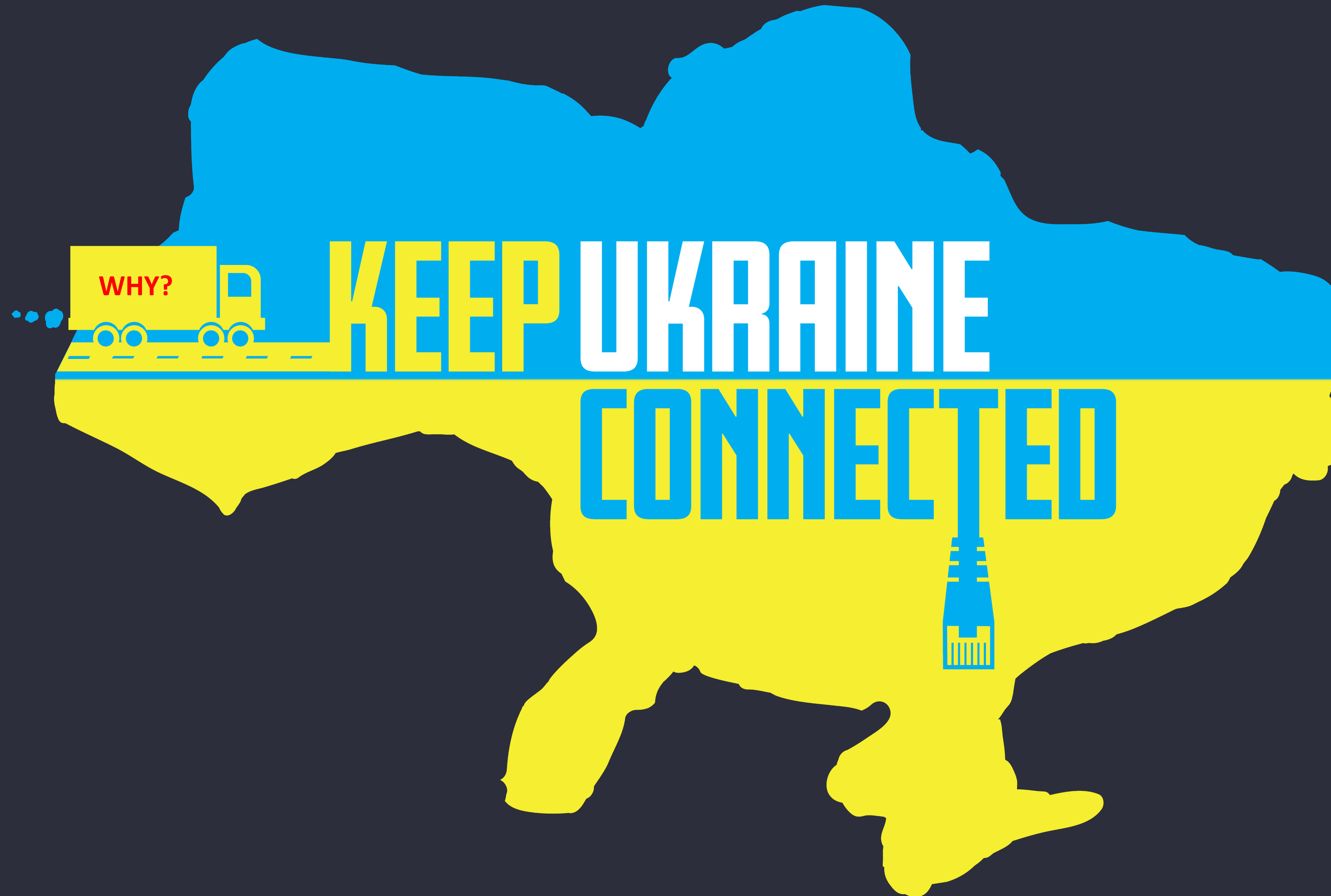
At the Global NOG Alliance Board Meeting

Rene shared his thoughts on the next steps, and we all agreed that it was time to do exactly what the Global NOG Alliance was founded to do.

Help Network Operators.

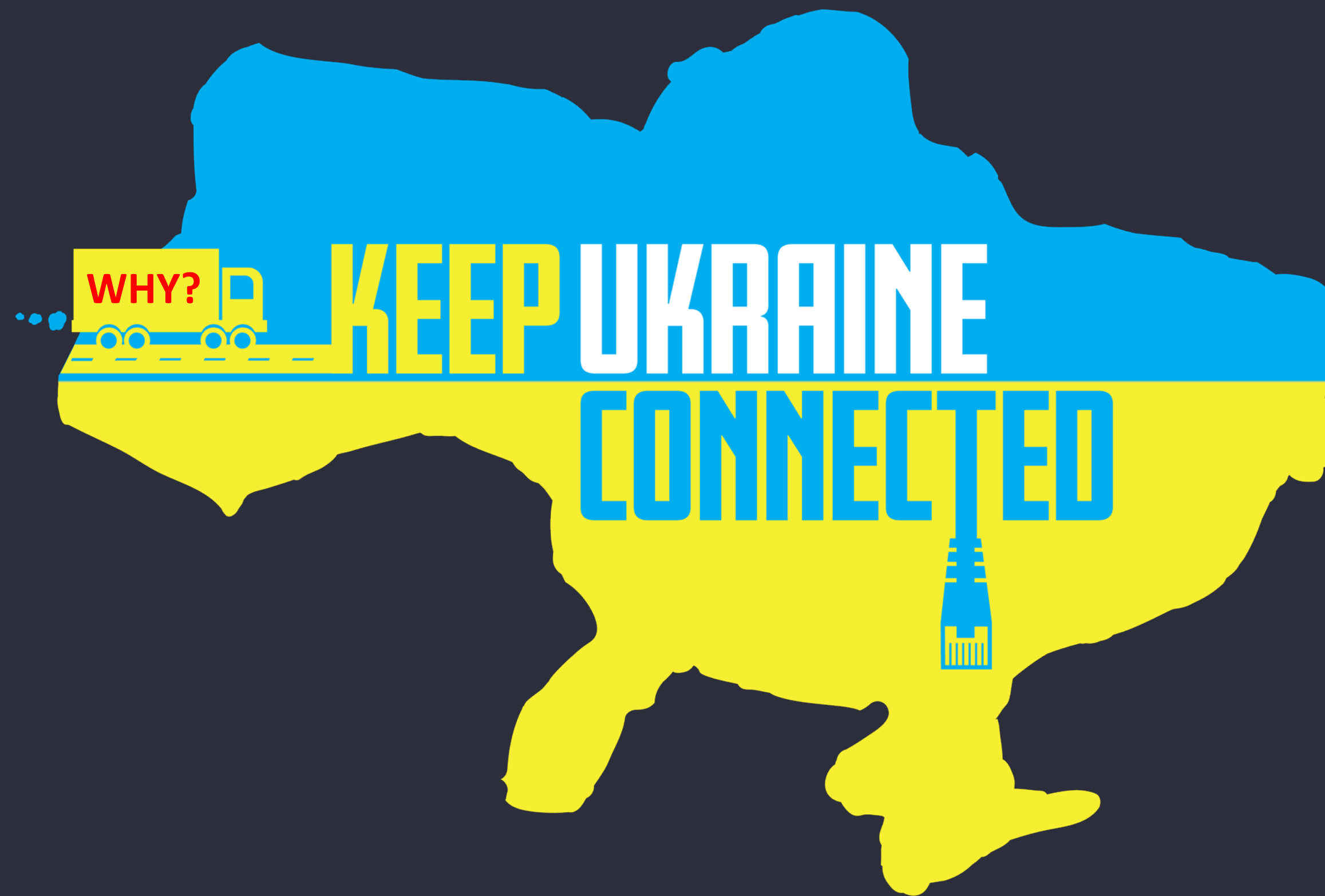
We called this task force:



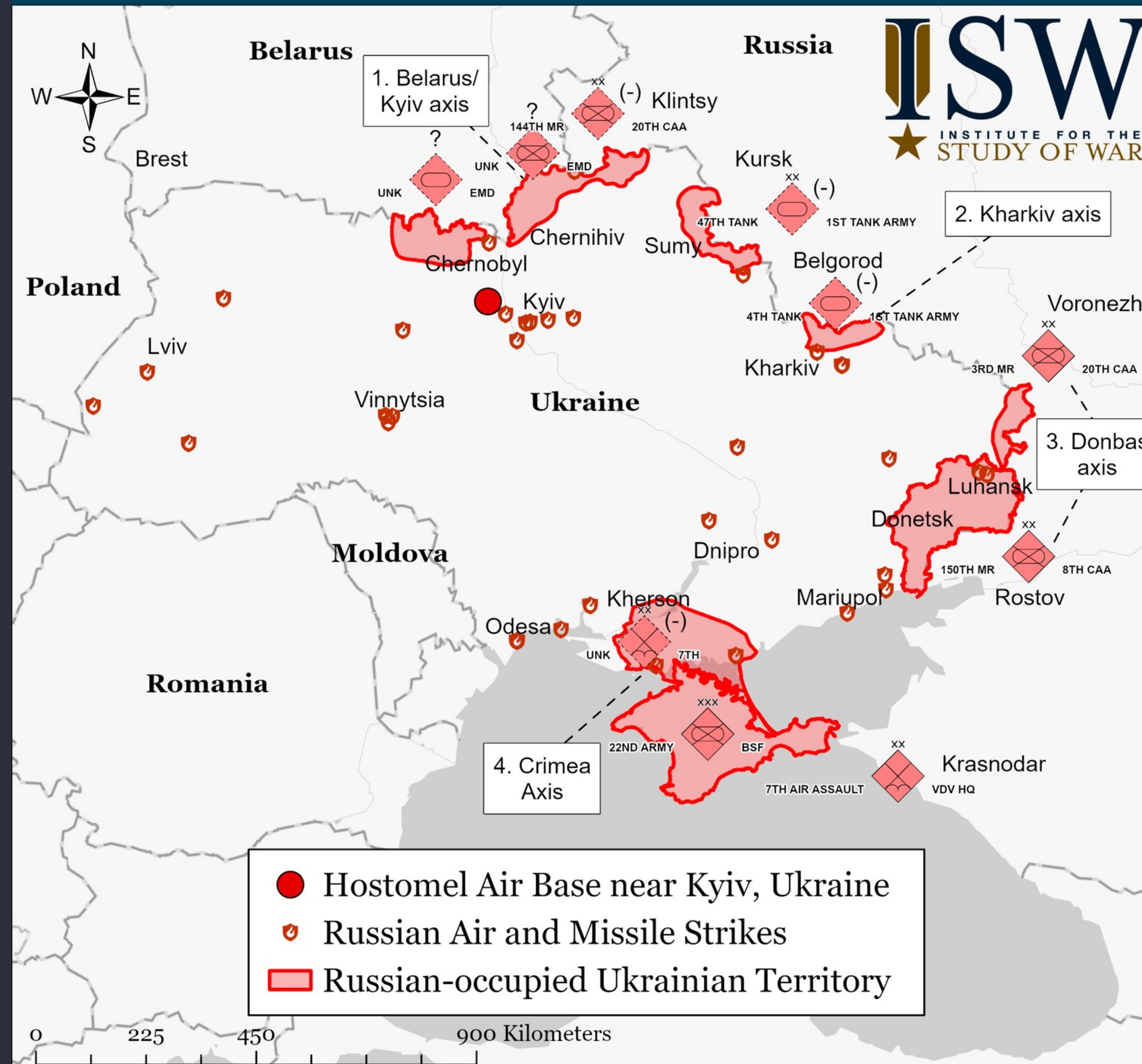


...so why are we doing this? (Part I)

Infrastructure perspective



Assessed Control of Terrain in Ukraine and Main Russian Maneuver Axes as of February 24, 2022, 2:00 PM EST



Map by George Barros, Kathryn Tyson, and Thomas Bergeron
Institute for the Study of War © 2022

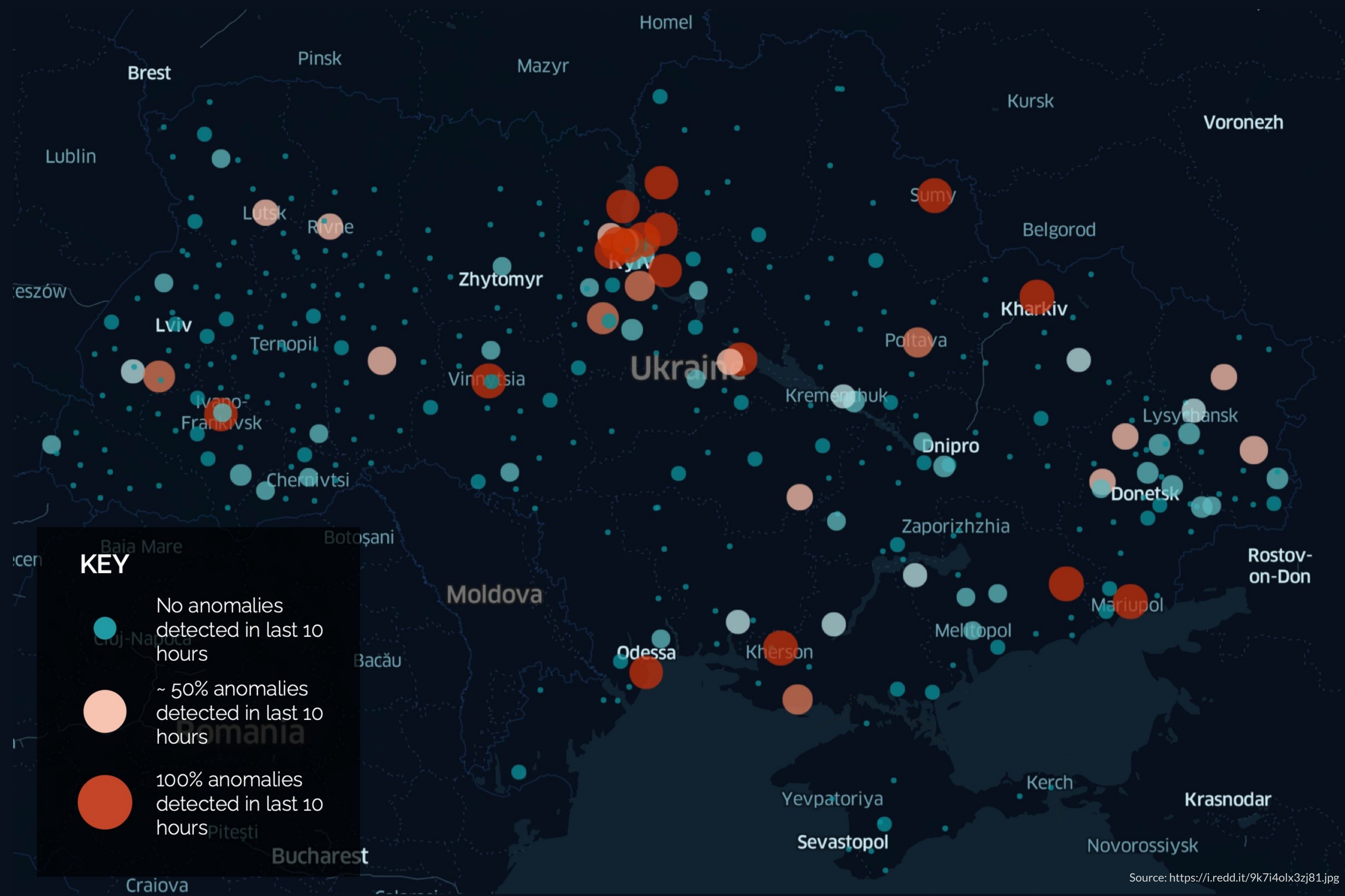
Current ICT Connectivity Anomalies

UKR // 11h 25 Feb 2022 (GMT +2h)

25-Feb-2022 01:00:00 to 25-Feb-2022 11:00:00 (GMT +2H)

Map shows number of ICT connectivity anomalies (degraded internet) in last 10 hours for the given district

powered by
KASPR Datahaus



Source: <https://i.redd.it/9k7i4olx3zj81.jpg>



May 29

Source: <https://www.nytimes.com/interactive/2022/08/09/technology/ukraine-internet-russia-censorship.html>



June 1

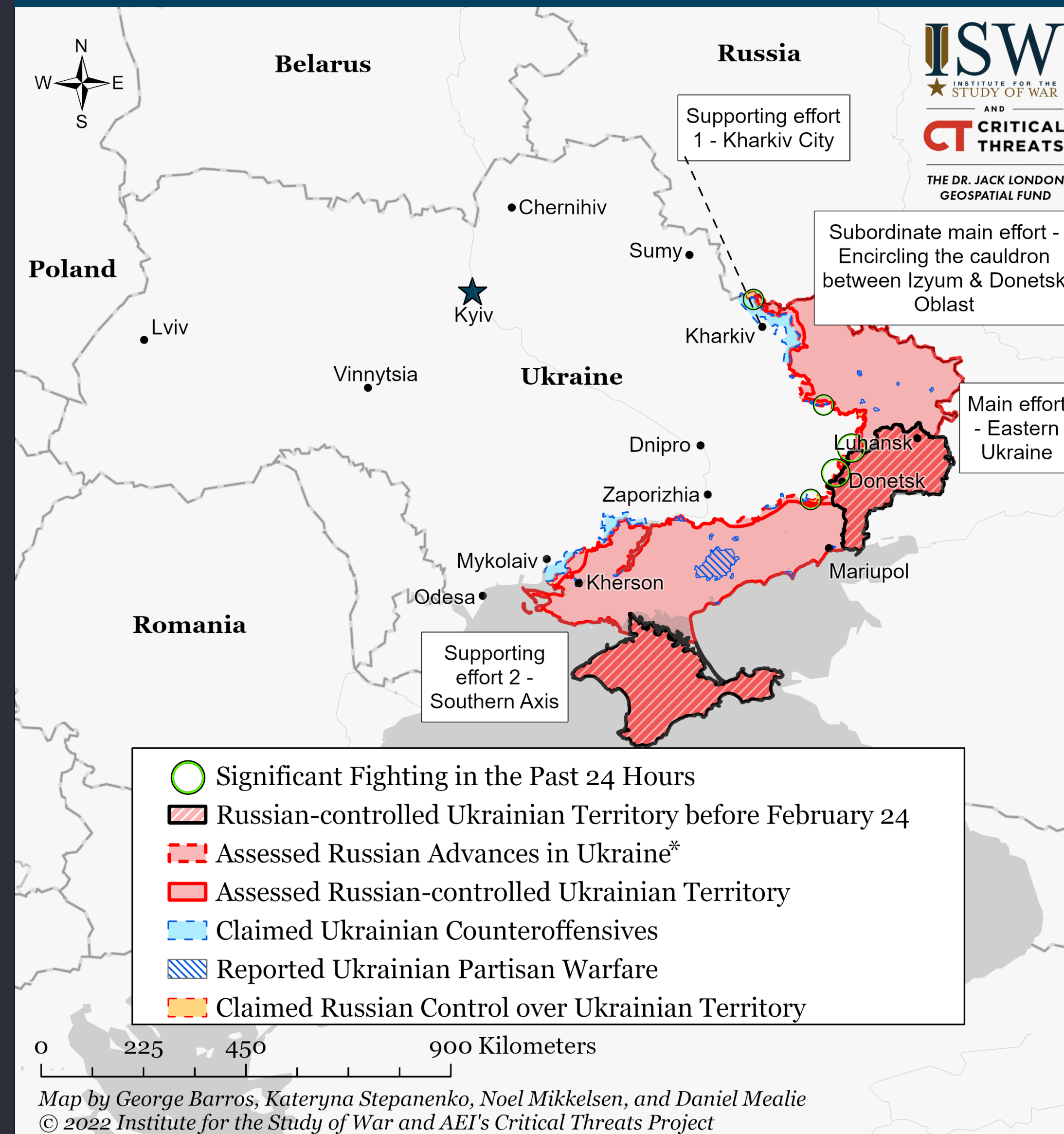
Source: <https://www.nytimes.com/interactive/2022/08/09/technology/ukraine-internet-russia-censorship.html>



June 5

Source: <https://www.nytimes.com/interactive/2022/08/09/technology/ukraine-internet-russia-censorship.html>

Assessed Control of Terrain in Ukraine and Main Russian Maneuver Axes as of August 28, 2022, 3:00 PM ET

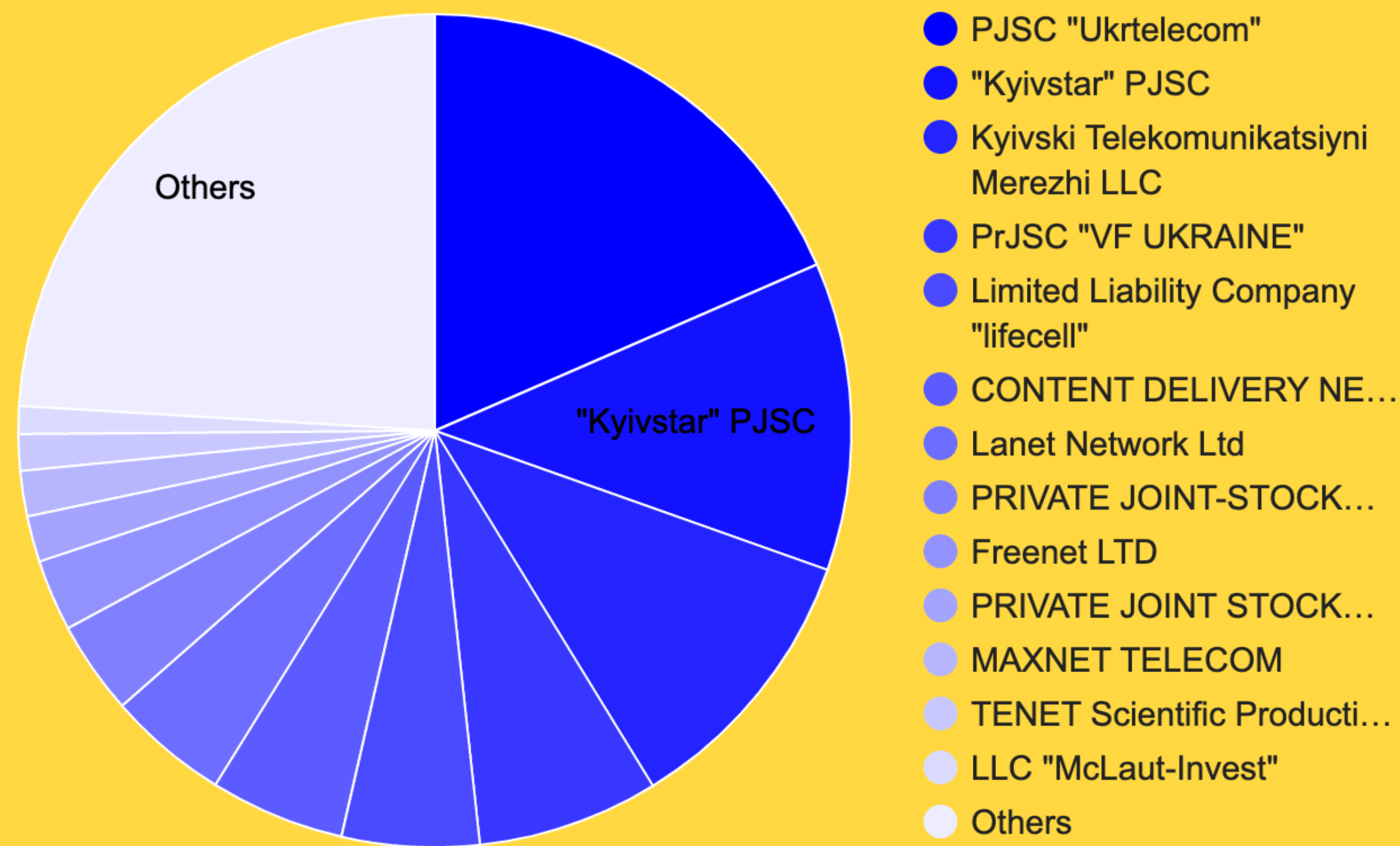


Ukraine (UA) - IPv4 address statistics - Sorted by number of addresses

Data from RIPE NCC website as of: Mon Aug 29 2022

Total number of addresses: 7 858 944

Ukraine: IPv4 Statistics by LIR for RIPE NCC Allocations

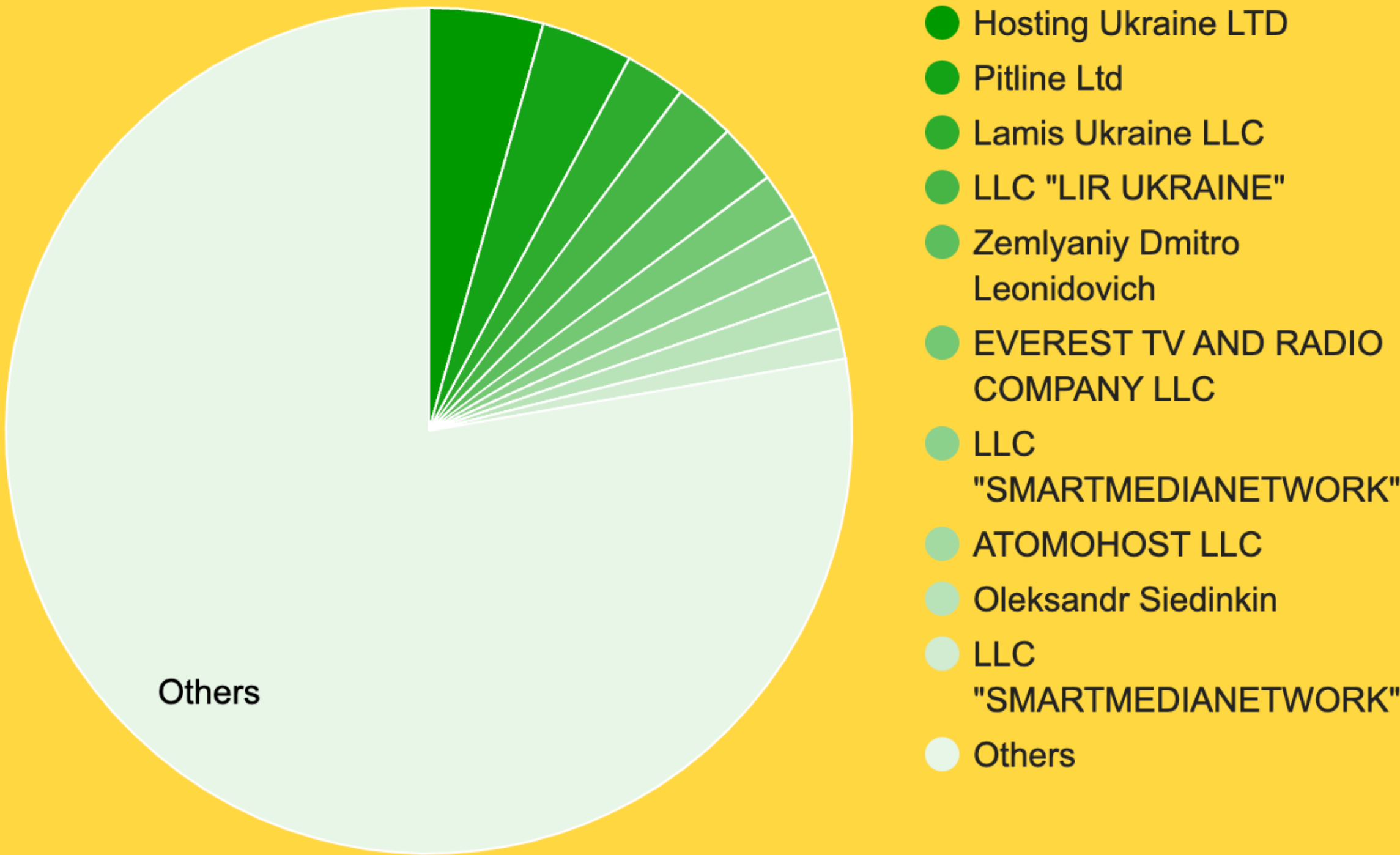


Ukraine (UA) - IPv6 address statistics (in /32 blocks) - Sorted by number of addresses

Data from RIPE NCC website as of: Mon Aug 29 2022

Total number of addresses: 2 774

Ukraine: IPv6 Statistics by LIR for RIPE NCC Allocations



RIPE Atlas Probes in Ukraine



- Slow decline

Connected RIPE Atlas probes



<https://observablehq.com/@ripencc/internet-outages-as-seen-by-ripe-atlas>

Source:

emile.aben@ripe.net | RIPE84 | 2022-05-16

Emile Aben emile.aben@ripe.net - RIPE 84

[https://ripe84.ripe.net › uploads › presentations](https://ripe84.ripe.net/uploads/presentations)

IXP UA

Source:

https://www.peeringdb.com/advanced_search?country_in=UA&reftag=ix

Name ↓	Media Type	Country	City	Networks
1-IX Kyiv 1-IX Internet Exchange	Ethernet	UA	Kyiv	49
BGP.Exchange - Kyiv	Multiple	UA	Kyiv	2
CLOUD-IX KHA	Multiple	UA	Kharkov	4
CLOUD-IX KIEV CLOUD-IX KIEV	Multiple	UA	Kiev	10
Crimea-IX Crimea-IX	Ethernet	UA	Simferopol	7
DN-IX Donetsk Internet eXchange	Ethernet	UA	Donetsk	2
DTEL-IX Digital Telecom Internet Exchange	Ethernet	UA	Kiev	167
Filanco-IX	Ethernet	UA	Kiev	2
GigaNET Kharkov GigaNET Kharkov local exchange	Ethernet	UA	Kharkov	7
GigaNET Kyiv Giganet Internet exchange network	Ethernet	UA	Kyiv	172
GigaNET Lviv	Ethernet	UA	Lviv	2
GigaNET Odessa GigaNET Odessa local exchange	Ethernet	UA	Kiev	11
GigaNET Zaporizhia	Ethernet	UA	Zaporizhia	0
IF-IX IVANO-FRANKIVSK INTERNET EXCHANGE	Ethernet	UA	Ivano-Frankivsk	8
Kherson Traffic Exchange Kherson Traffic Exchange	Ethernet	UA	Kherson	4
KM-IX Khmelnitskiy Internet Exchange Point	Ethernet	UA	Хмельницький	3
KM-IX UA	Ethernet	UA	Khmelnitskiy	0
kremen-IX	Ethernet	UA	Kremenchuk	7
LVIV-IX Lviv Internet Exchange	Ethernet	UA	Lviv	10
MESH-IX Mesh Internet Exchange	Ethernet	UA	Mariupol	4
PITER-IX Kiev PITER-IX Kiev	Ethernet	UA	Київ	63
RUDAKI-IX RUDAKI INTERNET EXCHANGE	Ethernet	UA	Kyiv	9
RV-IX	Ethernet	UA	Rivne	2
SerinIX IX SerinIX Internet Exchange	Ethernet	UA	Kiev	1
UA-IX Ukrainian Internet Exchange	Ethernet	UA	Kiev	127

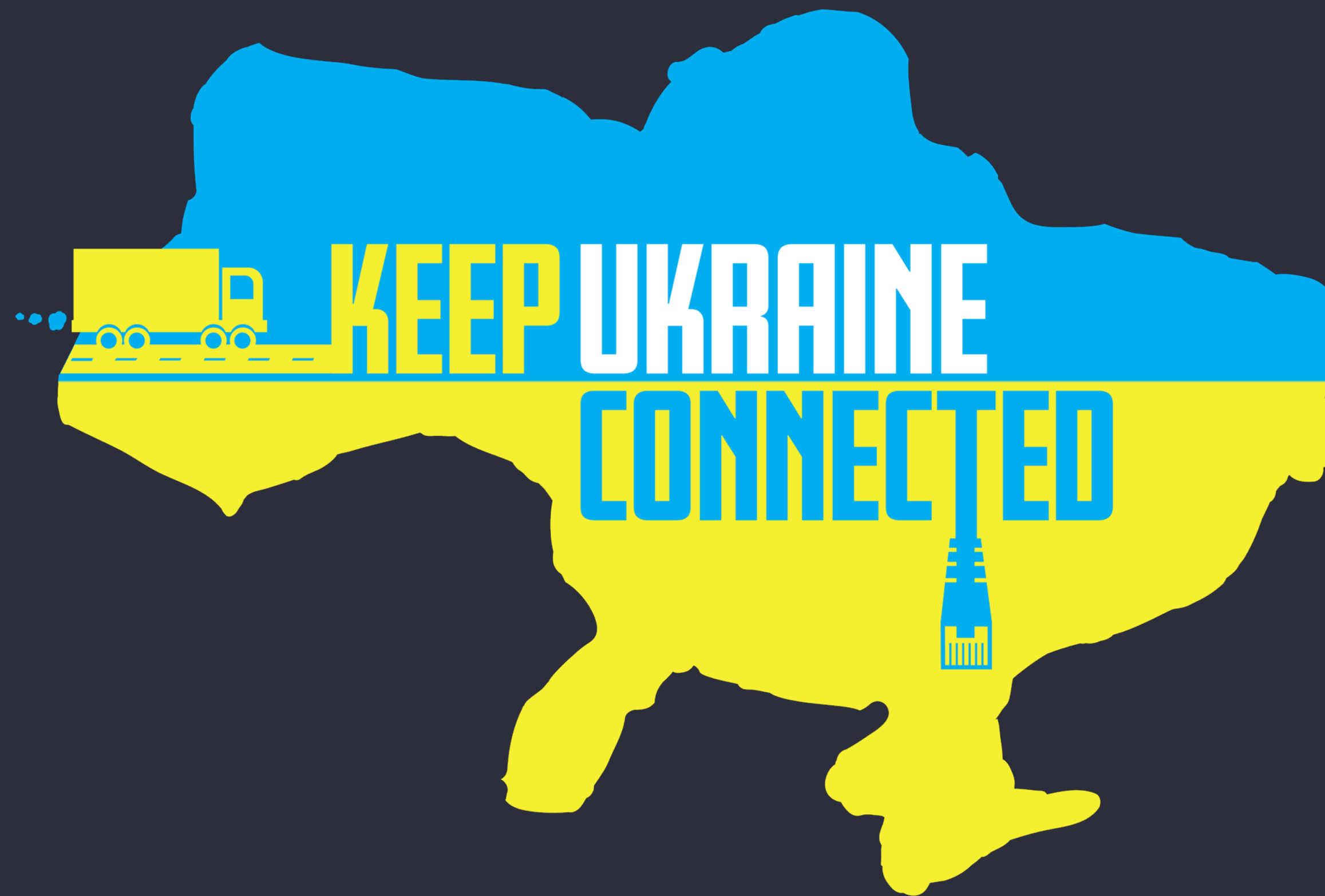
Name	Media Type	Country	City	Network...
<u>GigaNET Kyiv</u> Giganet Internet exchange network	Ethernet	UA	Kyiv	172
<u>DTEL-IX</u> Digital Telecom Internet Exchange	Ethernet	UA	Kiev	167
<u>UA-IX</u> Ukrainian Internet Exchange	Ethernet	UA	Kiev	127
<u>PITER-IX Kiev</u> PITER-IX Kiev	Ethernet	UA	Київ	63
<u>1-IX Kyiv</u> 1-IX Internet Exchange	Ethernet	UA	Kyiv	49
<u>GigaNET Odessa</u> GigaNET Odessa local exchange	Ethernet	UA	Kiev	11
<u>CLOUD-IX KIEV</u> CLOUD-IX KIEV	Multiple	UA	Kiev	10
<u>LVIV-IX</u> Lviv Internet Exchange	Ethernet	UA	Lviv	10
<u>RUDAKI-IX</u> RUDAKI INTERNET EXCHANGE	Ethernet	UA	Kyiv	9
<u>IF-IX</u> IVANO-FRANKIVSK INTERNET EXCHANGE	Ethernet	UA	Ivano-Frankivsk	8
<u>Crimea-IX</u> Crimea-IX	Ethernet	UA	Simferopol	7
<u>GigaNET Kharkov</u> GigaNET Kharkov local exchange	Ethernet	UA	Kharkov	7
<u>kremen-IX</u>	Ethernet	UA	Kremenchuk	7

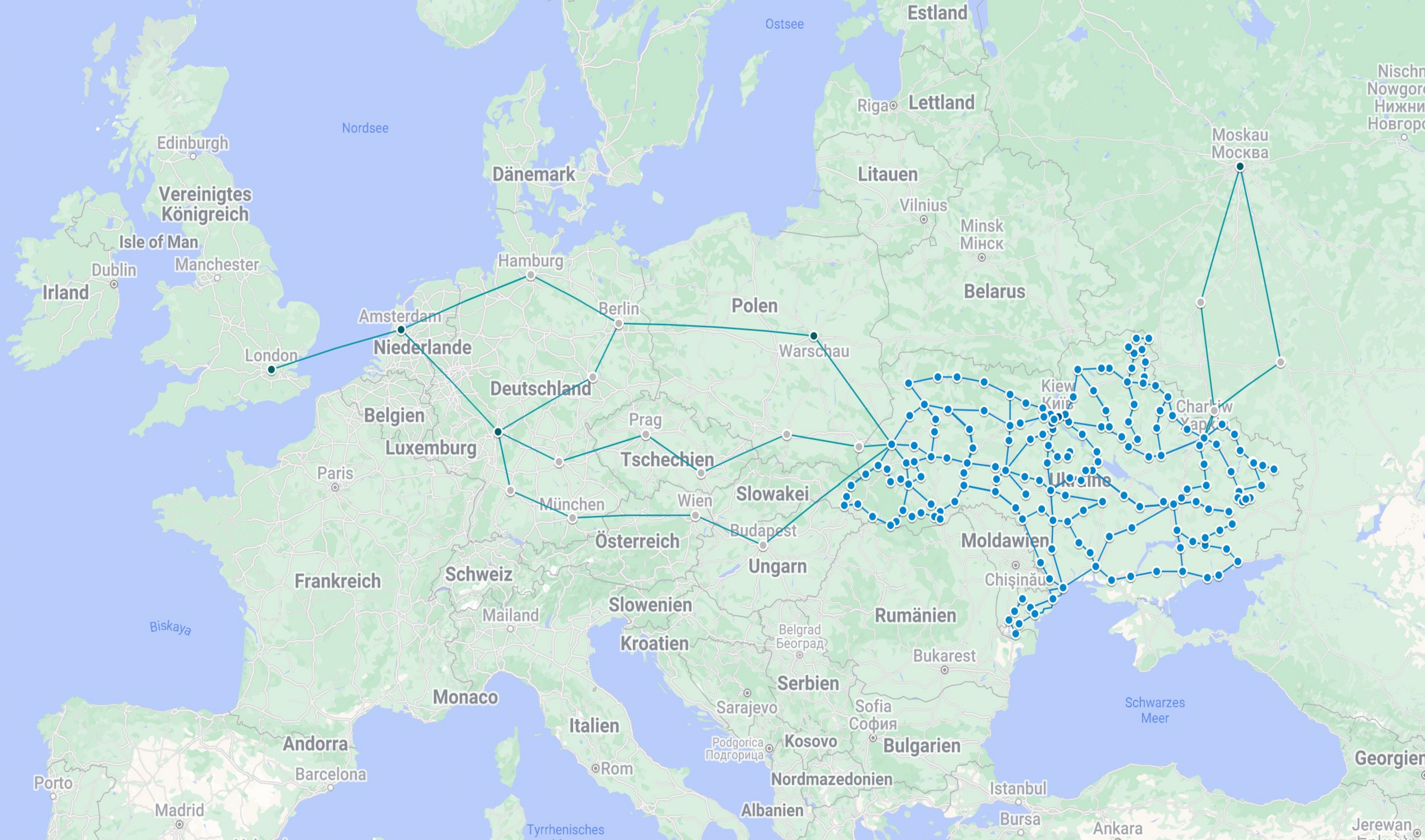
Name Management	CLLI NPA-NXX	City Country	State Postal Code	Networks ↓ ⁹
<u>NewTelco Kiev</u> NewTelco Ukraine	- -	Kiev UA	- 1033	146
<u>Ucomline Kiev</u> Ucomline (Digital Generation)	- -	Kiev UA	- -	62
<u>9 Leontovicha</u> NetAssist LLC	- -	Kiev UA	- 01030	26
<u>Giganet</u> GigaNET IXN	- -	Kiev UA	- 03037	23
<u>OD-IX</u> GigaNET IXN	- -	Odessa UA	- 65020	19
<u>BeMobile</u> BeMobile	- -	Kyiv UA	- 02000	17
<u>TSUA</u> TSUA	- -	Kiev UA	- 01030	15
<u>Omega Telecom Kyiv</u> Omega Telecom LLC	- -	Kyiv UA	- 03067	13
<u>Datagroup Kiev</u> Datagroup JSC	- -	Kiev UA	- 03005	12
<u>TOPNET/UA/Leontovicha9</u> TOPNET	- -	Kiev UA	- 03037	10
<u>UARNet Lviv</u> UARNet	- -	Lviv UA	- 79007	9
<u>Datasfera</u> Datasfera	- -	Dnipropetrovsk UA	- 49000	9
<u>KievNet/L9</u> Kyiv Optic Networks ltd	- -	Kyiv UA	Kyiv region 01030	7
<u>Data Center Ukr-Com</u> UKRCOM LLC	- -	Kiev UA	- 01033	6
<u>Data Center G50</u> Data Center G50	- -	Kiev UA	- 01033	6
<u>WNET DC2 Kiev</u> WNET Global IP network	- -	Kiev UA	- -	5
<u>Parkovyi DC</u> Ante Mediam LLC	- -	Kyiv UA	Kyiv 01601	5
<u>Data Center Uniteddc</u> United DC Data Center	- -	Kyiv UA	Kyiv 03110	5
<u>Maxnet</u> Maxnet	- -	Kharkov UA	- 61003	4
<u>WNET DC Kiev</u> WNET Global IP network	- -	Kiev UA	- 01030	3
<u>TOPNET/UA/Krivososa27</u> TOPNET	- -	Kiev UA	- 03037	3
<u>SerinIX Kiev (KV01)</u> SerinIX Inc.	- -	Kiev UA	- 04119	3

<u>Omega Telecom Dnipro</u>	-	Dnipro	-	3
Omega Telecom LLC	-	UA	4900	
<u>DATALINE/UA/Leontovich9</u>	-	Kiev	-	3
United systems	-	UA	03037	
<u>Data Center DE NOVO</u>	-	Kyiv	Kyiv	3
De Novo Limited Liability Company	-	UA	04136	
<u>Adamant, LLC</u>	-	Kyiv	-	3
Adamant, LLC	-	UA	02096	
<u>WNET Kiev Leo</u>	-	Kiev	-	2
WNET Global IP network	-	UA	-	
<u>Vizit-net</u>	-	Kremenchuk	Poltava Oblast	2
PE Vizit-Service	-	UA	39600	
<u>SerinIX Lvov (LV01)</u>	-	Lvov	-	2
SerinIX Inc.	-	UA	-	
<u>SerinIX Kiev (KV02)</u>	-	Kiev	-	2
SerinIX Inc.	-	UA	03067	
<u>RV-IX</u>	-	Rivne	Rivnenska Oblast	2
PUBLIC ASSOCIATION "RIVNE REGION INTERNET A...	-	UA	33000	
<u>GTS</u>	-	Dnipropetrovsk	-	2
GTS	-	UA	49000	
<u>DCTel DC Zaporizhzhia</u>	-	Zaporizhzhia	Zaporizka Oblast	2
DCTel Ltd	-	UA	69005	
<u>WiCOM DC Kyiv</u>	-	Kyiv	Kyiv	1
The national operator of wireless communication "WiM...	-	UA	04112	
<u>SerinIX Dnepropetrovsk (DK01)</u>	-	Dnepropetrovsk	-	1
SerinIX Ukraine	-	UA	49000	
<u>KIEVLINE Kyiv</u>	-	Kyiv	Kyiv	1
Zayo Group	-	UA	03040	
<u>Infocom</u>	-	Kyiv	n/a	1
Infocom Trusted Security	-	UA	01001	
<u>IF-IX</u>	-	Ivano-Frankivsk	Ivano-Frankivsk	1
Suchasni informatsiyni merezhi, Ltd	-	UA	76018	
<u>Freehost DC Kiev</u>	-	Kiev	-	1
PE Freehost	-	UA	01032	
<u>DTEL-IX K21</u>	-	KYIV	-	1
Digital Telecom IX LLC	-	UA	04073	
<u>Data Centers (SERVER.UA)</u>	-	Mykolayiv	Mykolayivska	1
SERVER.UA LLC	-	UA	54001	

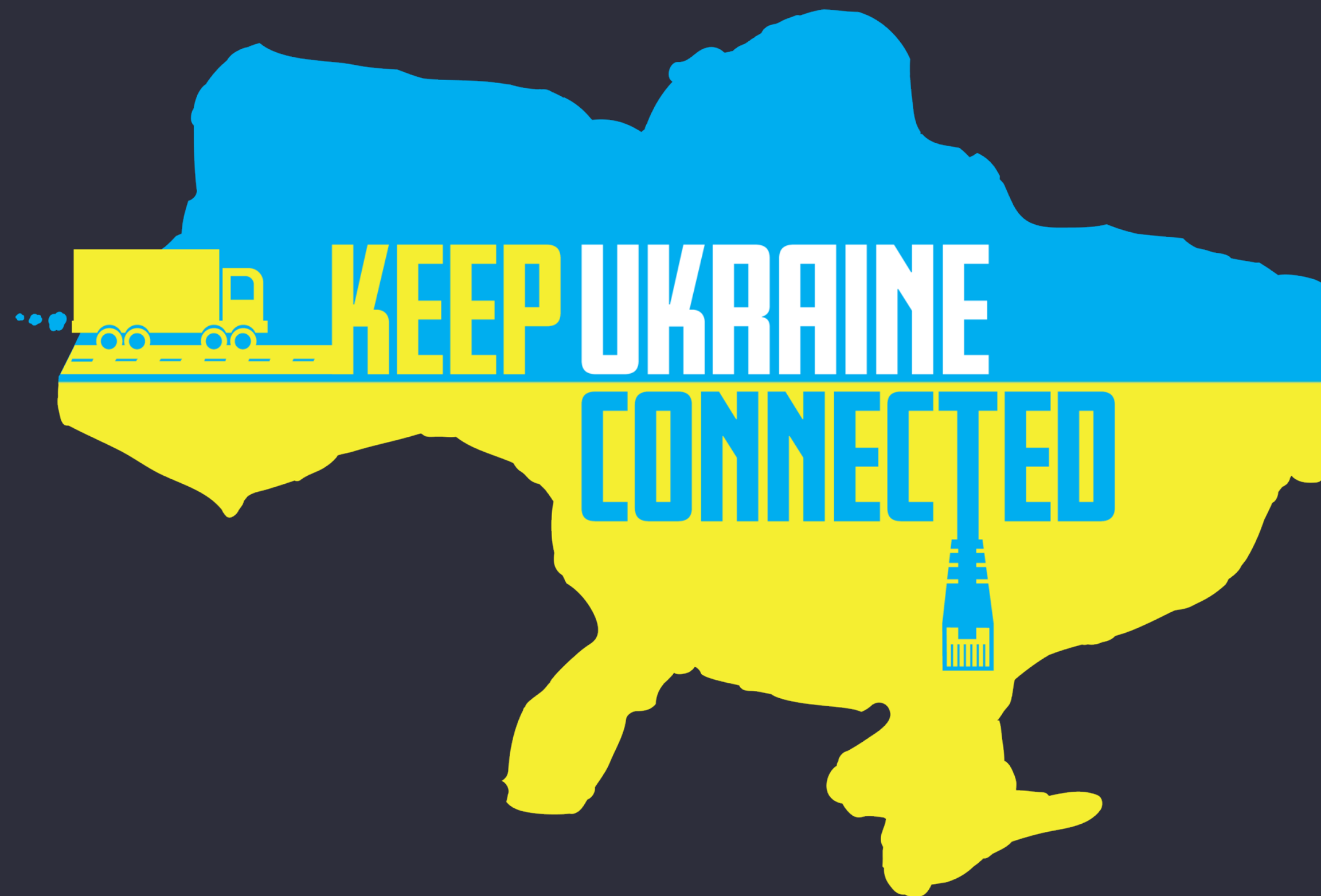
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<u>OD-IX</u> GigaNET IXN	- -	Odessa UA	- 65020	19
<u>BeMobile</u> BeMobile	- -	Kyiv UA	- 02000	17
<u>TSUA</u> TSUA	- -	Kiev UA	- 01030	15
<u>Omega Telecom Kyiv</u> Omega Telecom LLC	- -	Kyiv UA	- 03067	13
<u>Datagroup Kiev</u> Datagroup JSC	- -	Kiev UA	- 03005	12
<u>TOPNET/UA/Leontovicha9</u> TOPNET	- -	Kiev UA	- 03037	10

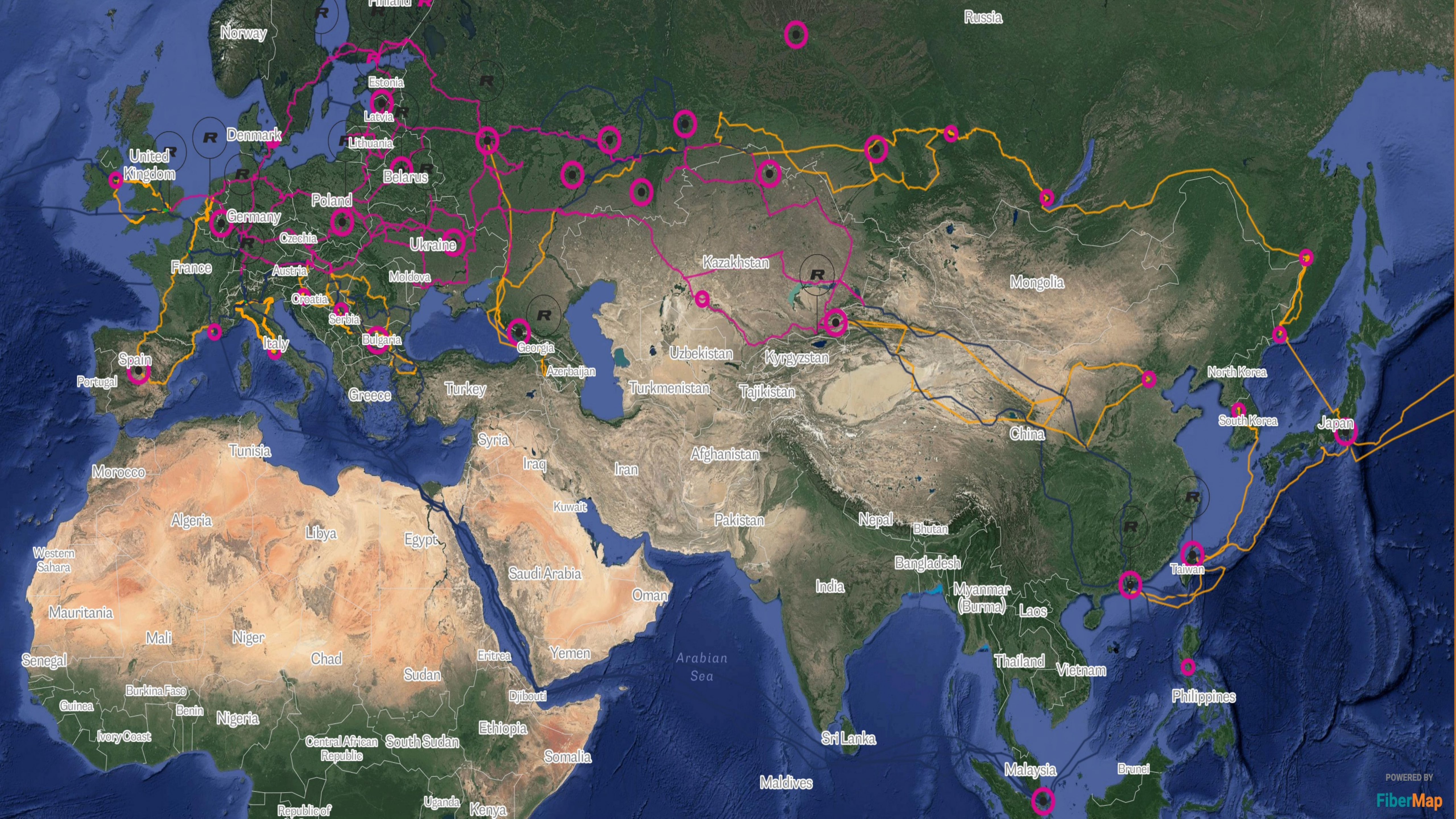
Mapping Backbone Dataline





Backbone Mapping from RETN





„They came to them and put guns to their head and just said:“

„Do this“

said Maxim Smelyanets, who owns an internet provider that operates in the area and is based in Kyiv.

„They did that step by step for each company.“

Source: <https://www.nytimes.com/interactive/2022/08/09/technology/ukraine-internet-russia-censorship.html>

„The first thing that an occupier does when they come to Ukrainian territory is cut off the networks“

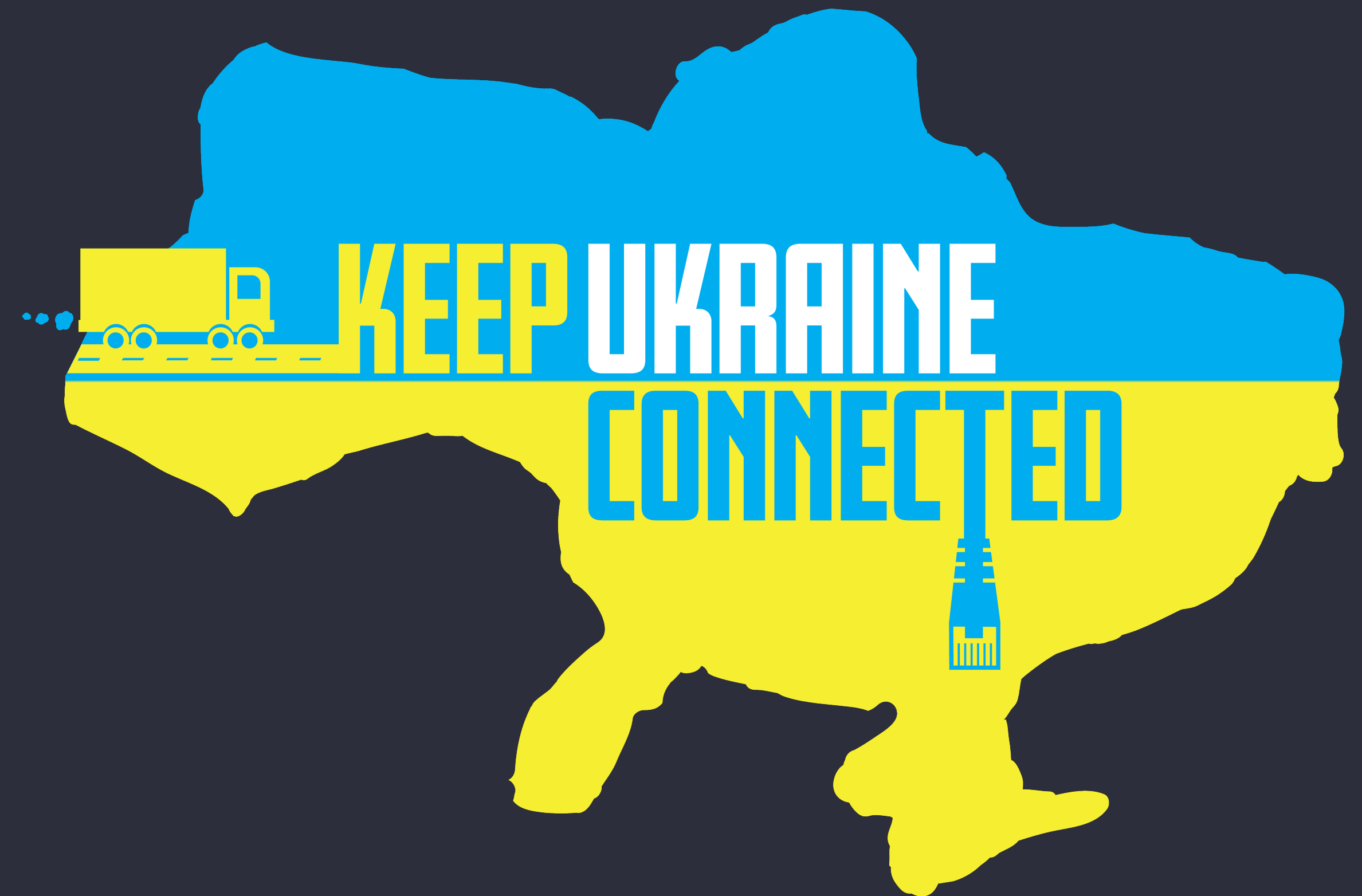
said Stas Prybytko, who leads mobile broadband development in Ukraine's Ministry of Digital Transformation.

„The goal is to restrict people's access to the internet and block them from communicating with their families in other cities and keep them from receiving truthful information.“

Our vision & mission

We are the Link between the Disaster Region and the global community.

We have contacts in the community and with the manufacturers. We wanted to use these contacts to do good things.



From a simple idea,
to supply chain managers...

The GNA Supply & Demand Database works very well. Anyone who wants to donate equipment can get a login from us, and can specify what they want to donate.

Using this database, we can manage which donations we've received. This makes it easier for us to keep track of everything, and means we can show people from Ukraine who need equipment what we have in the system.



Supply & Demand Tool

v1.0

Start typing to filter...	
AUTHENTICATION AND AUTHORIZATION	
Groups	+ Add
CONTACTS	
Contacts	+ Add
Organisations	+ Add
SUPPLY & DEMAND	
Changes	
Offers	+ Add
Requests	+ Add

<input type="checkbox"/>	Network Automation & Config Management Software	Multiple Unimus Unlimited Licenses
<input type="checkbox"/>	Network equipment	1x Advocent Mergepoint Unity 2016 1x Brocade Brocade FastIron Edge 648P 1x Brocade Brocade FastIron Edge 648P-POE 3x Brocade Brocade FastIron Edge GS 624P 2x Brocade FCX-4XG 1x Brocade FWS 624G 1x DeLL Powerconnect 5324 8x Foundry FastIron Edge 2402 2x Foundry FastIron Edge 4802-POE 1x Foundry FastIron Edge GS 624P 3x Foundry FastIron Edge X424 2x Foundry FastIron Edge X448 1x Foundry FastIron GS 648-POE 1x Foundry FastIron GS 648P 1x Juniper EX 3200 series 1x Juniper J4350 1x Juniper M5 Backbone Router 1x MRV Optiswitch 906 1x Open Gear IM 4208-2-DAC-X2
<input type="checkbox"/>	Power Generator	1x Pramac P2000
<input type="checkbox"/>	Power Generators	10x IMOTO 5000 Watt
<input type="checkbox"/>	Power Generators	10x Misc Power Generator 5KW
<input type="checkbox"/>	Rack	1x Unknown 27U rack

Supply & Demand Tool

(Donor View)

v2.0

Select offered item to change

Search

Action:

Go

 0 of 100 selected

<input type="checkbox"/>	TYPE	BRAND	1 <div>▲</div>	MODEL	2 <div>▲</div>	NOTES	# OFFERED	CLAIMED	REJECTED	RECEIVED
<input type="checkbox"/>	Hardware			27U rack			1	0	<div>✖</div>	<div>✖</div>
<input type="checkbox"/>	Hardware			2900 mAh rechargeable Batteries			8	8	<div>✖</div>	<div>✔</div>
<input type="checkbox"/>	Hardware			8+2+2SFP All Gigabit POE Switch	PoE Switch with 2 SFP		1	1	<div>✖</div>	<div>✔</div>
<input type="checkbox"/>	Hardware			Mini Smart Switch			1	1	<div>✖</div>	<div>✔</div>
<input type="checkbox"/>	Hardware			PS2 keyboard			22	0	<div>✖</div>	<div>✖</div>
<input type="checkbox"/>	Hardware			UPS	Various UPS, without batteries		10	0	<div>✖</div>	<div>✖</div>
<input type="checkbox"/>	Hardware			USB/PS2 Optical mouse			10	0	<div>✖</div>	<div>✖</div>
<input type="checkbox"/>	Hardware			XENPAK 10G DWDM Single Mode Fiber	variety of DWDM channels, can be used without DWDM MUX. You need to add attenuation for short distance links		31	0	<div>✖</div>	<div>✖</div>
<input type="checkbox"/>	Hardware			XENPAK 10G Multi Mode			5	0	<div>✖</div>	<div>✖</div>

Supply & Demand Tool

(Requester View)

v2.0

Select requested item to change

Search

Action:

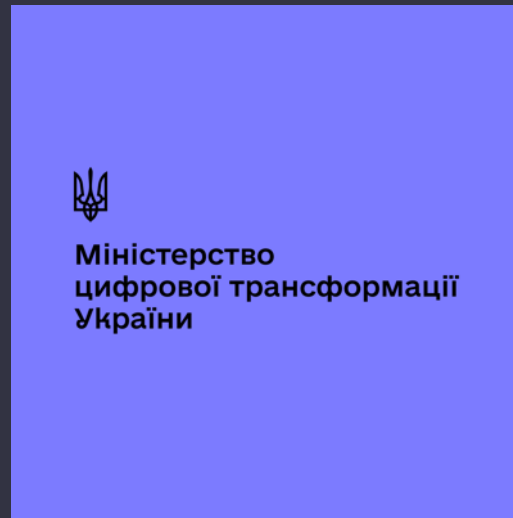
Go

 0 of 100 selected

<input type="checkbox"/>	TYPE	BRAND	1 <div>▲</div>	MODEL	2 <div>▲</div>	# REQUIRED	UP TO	ASSIGNED	DELIVERED	CREATED AT	IT
<input type="checkbox"/>	Hardware			100G-CFP2-LR4		8	10	<div>✖</div>	<div>✖</div>	April 2, 2022, 6:46 p.m.	UA
<input type="checkbox"/>	Hardware			24 port switch with SFP uplinks		11	-	<div>✖</div>	<div>✖</div>	April 18, 2022, 9:01 a.m.	Ho
<input type="checkbox"/>	Hardware			Anchor clamp H3 (D)		1252	-	<div>✖</div>	<div>✖</div>	April 18, 2022, 9:08 a.m.	Ho
<input type="checkbox"/>	Hardware			Anchor clamp H3 (D)		4092	-	<div>✖</div>	<div>✖</div>	April 18, 2022, 9:05 a.m.	Ho
<input type="checkbox"/>	Hardware			any model		1	3	<div>✖</div>	<div>✖</div>	April 13, 2022, 2:22 p.m.	UA
<input type="checkbox"/>	Other			Catch-all		1	-	<div>✔</div>	<div>✔</div>	April 21, 2022, 11:52 a.m.	DE Di sh
<input type="checkbox"/>	Hardware			Coupler PLC-1x8-split-0-SC/UPC-0.9mm		360	-	<div>✖</div>	<div>✖</div>	April 18, 2022, 9:05 a.m.	Ho
<input type="checkbox"/>	Hardware			Coupler SC-1x2-1310/1490/1550-50/50-0-		32	-	<div>✖</div>	<div>✖</div>	April 18, 2022, 9:05 a.m.	Ho

Our Friends & Partners in Ukraine

We are currently working with the organisations listed below. They are helping us with paperwork, permits, and local distribution of the donated equipment.



Ministry of Digital
Transformation



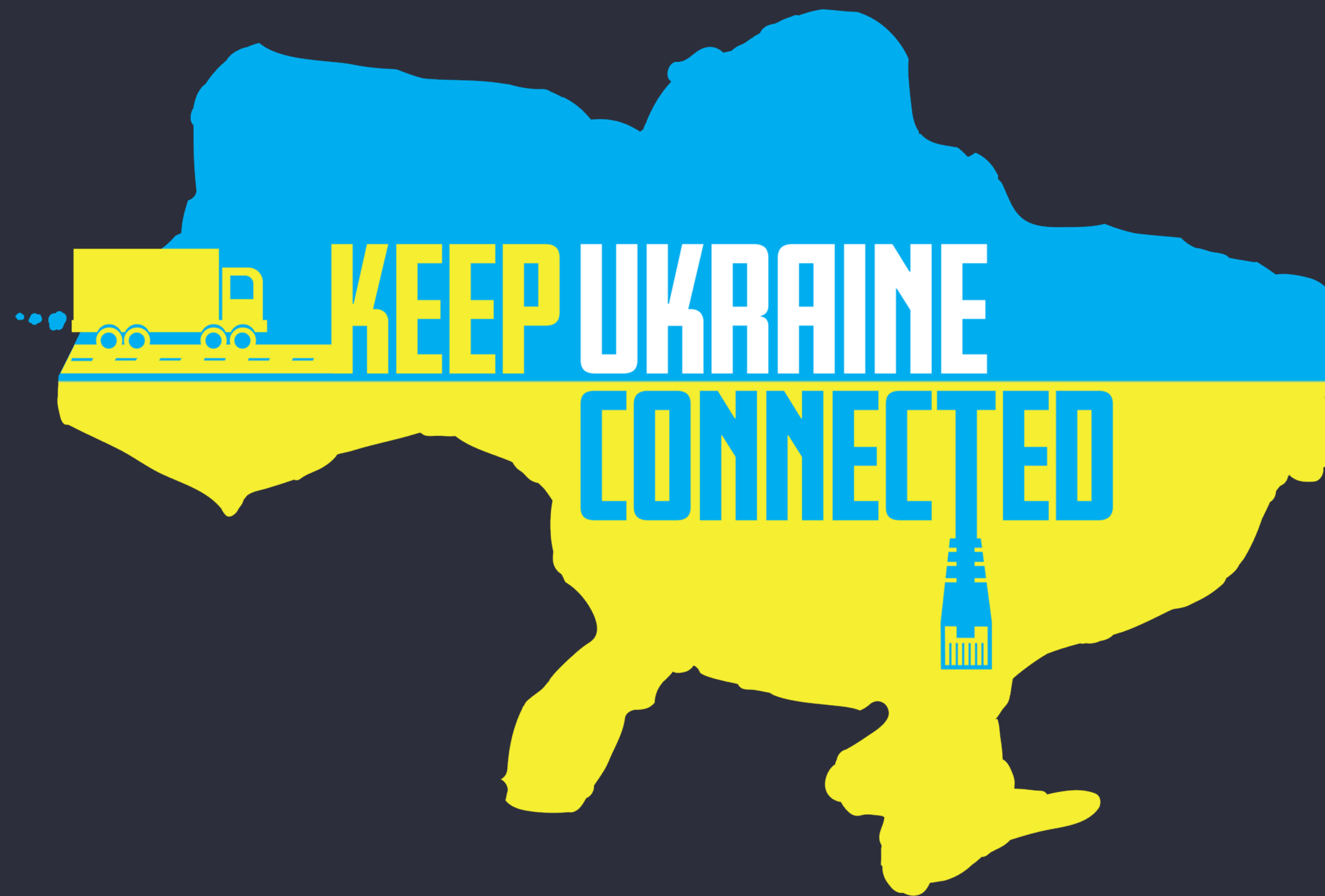
DEPS
(local distribution)



Ukrainian Internet
Association

...so why are we doing this? (Part II)

Human/ 2nd Family perspective



















verleih - verkauf - service
ton-, licht-, av-technik, Bühnen, traversen & dj equipment

Prenzlauer Promenade 44
13089 Berlin

tel: +49 (0) 30 - 81 61 60 360

fax: +49 (0) 30 - 81 61 60 380



Events
Veranstaltungstechnik

wemme-events.de

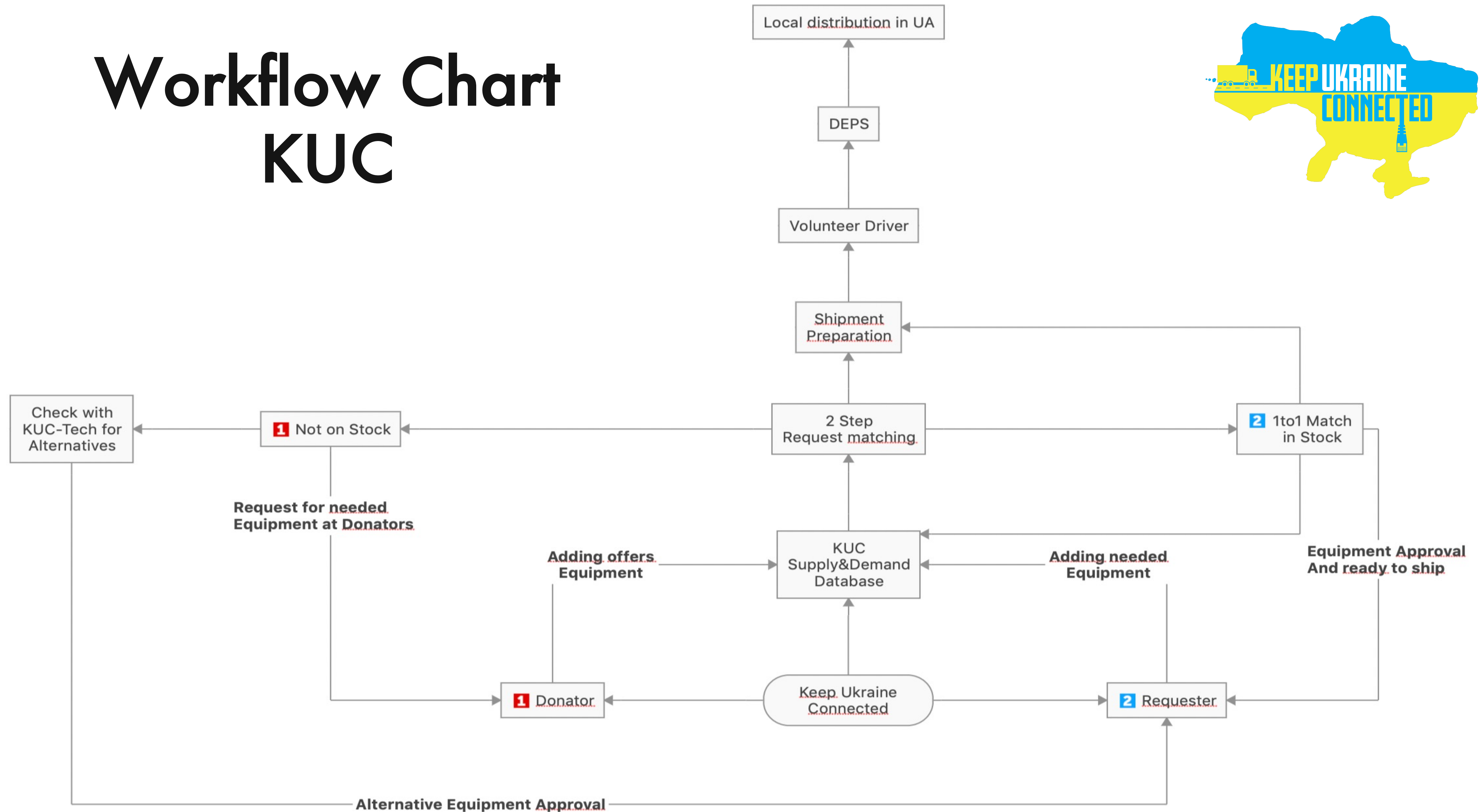








Workflow Chart KUC



PROCESSES IN UKRAINE







WAREHOUSE AND PROCUREMENT TEAMS








CLIENT RELATIONS AND CARE TEAMS






1st KUC Delivery to DEPS: 13th of April

Shipment 	Number of SKU 	Quantity of SKU 	Dates of delivery 	Company received 
Shipment 1	114	1163	13.04.22	29






2nd KUC Delivery to DEPS: 16th of May

Shipment 	Number of SKU 	Quantity of SKU 	Dates of delivery 	Company received 
Shipment 2	59	228	16.05.22	16






3rd KUC Delivery to DEPS: 3rd of June

Shipment 	Number of SKU 	Quantity of SKU 	Dates of delivery 	Company received 
Shipment 3	16	159	03.06.22	21

4th KUC Delivery to DEPS: 26th of June

Shipment 	Number of SKU 	Quantity of SKU 	Dates of delivery 	Company received 
Shipment 4	27	127	26.06.22	-

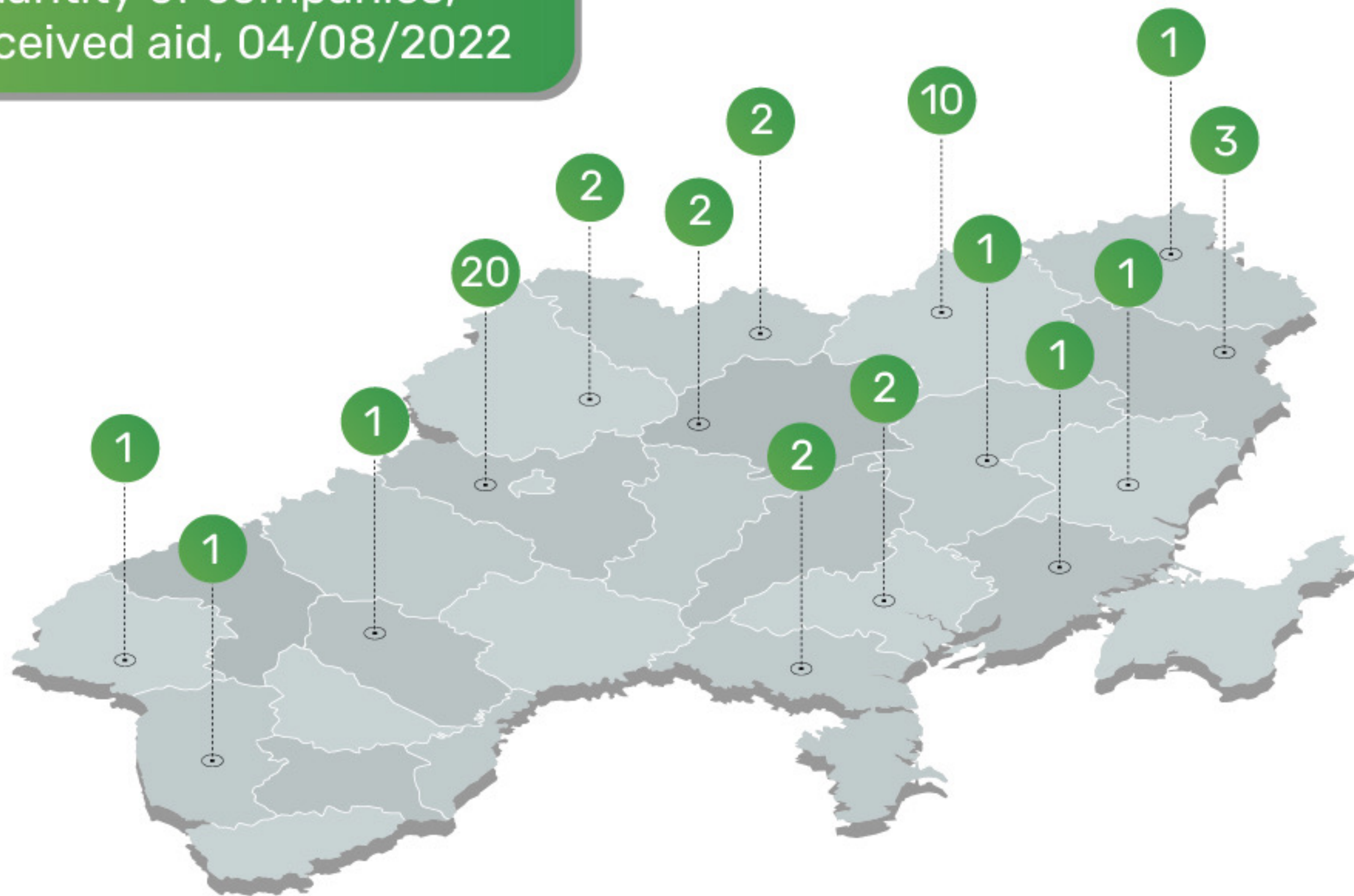
Overview all Shipments

Shipment 	Number of SKU 	Quantity of SKU 	Dates of delivery 	Company received 
Shipment 1	114	1163	13.04.22	29
Shipment 2	59	228	16.05.22	16
Shipment 3	16	159	03.06.22	21
Shipment 4	27	127	26.06.22	-
Total	216	1677		66

Overview

- 6 Deliveries (around 1mio€)/ 6 Tons
- 17 Splicers (around 85.000€) more ordered incl. OTDR Gear
- 100.000,00€ Donation from SES Satelites

Quantity of companies,
received aid, 04/08/2022



Type of Equipment	Brans	Quantity	Approximate cost
SFP trancievers and SFP configurators	FlexOptic, Nortel, Avaya	More than 500	> 50 000 \$
Optical Splicers	Inno Instrument , Fujikura	17	> 60 000 \$
Switches and routers	Cisco, Juniper, HP, D-link	More than 1000	> 500 000 \$
Wireless equipment	Turris, Ubiquiti, IgniteNet	More than 400	> 100 000 \$
Other			> 50 000 \$
Total			> 750 000 \$

	Number of SKU	Quantity of SKU	Dates of delivery	Company received
Shipment 1	114	1163	4/17/22	29
Shipment 2	59	228	5/16/22	16
Shipment 3	16	159	6/3/22	21
Shipment 4	37	370	6/26/22	in the process of giving
Shipment 5	7	68	7/10/22	in the process of giving
Total	233	1988		66

Who is behind the Task Force “Keep Ukraine Connected”

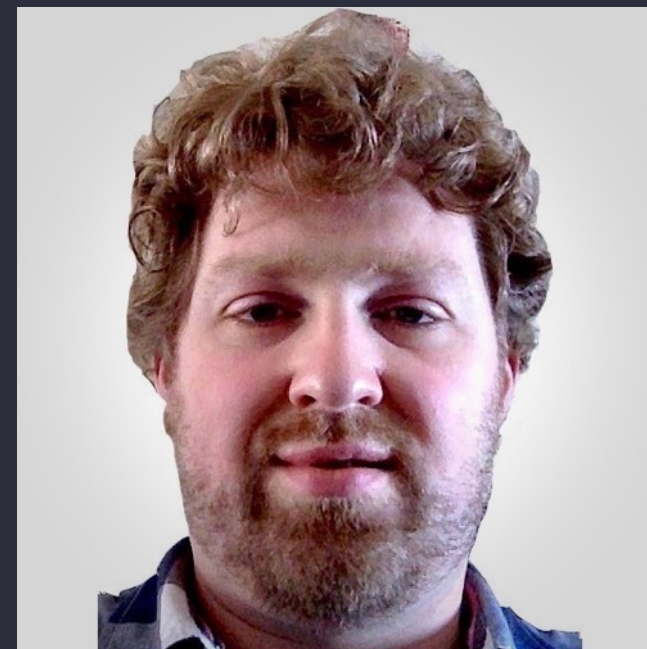
Who is behind the Task Force “Keep Ukraine Connected”



Corinne Pritchard



Nathalie Trenaman



Sander Steffann



Rene Fichtmueller



Jan Žorž

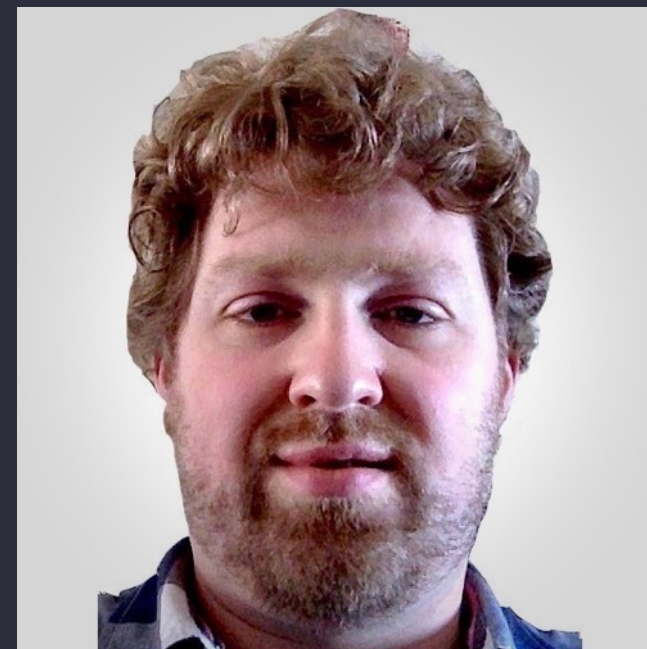
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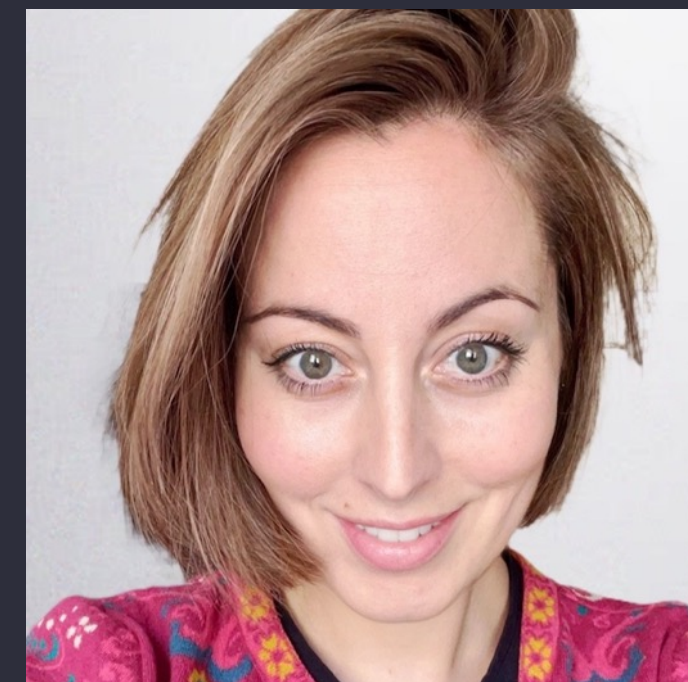
Jan Žorž



Erik Bais



Daniel Houben



Ester Paál



Marcin Kuczera

With extra special thanks to:



For giving their employees the time to invest in this task force.

Thank you!

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