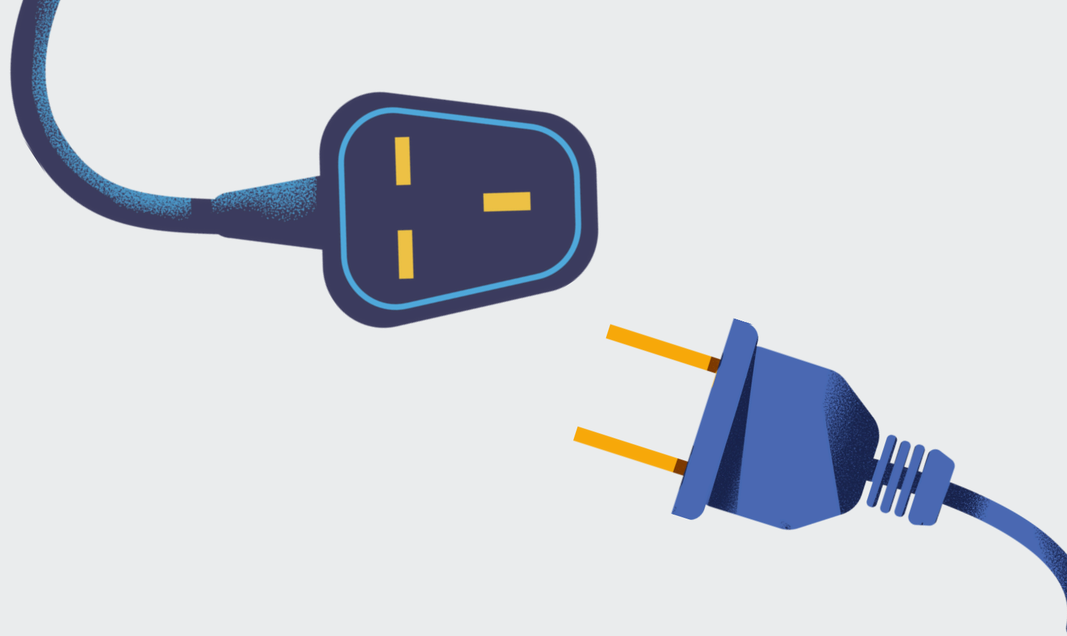
ISPs in Ukraine: Lessons to Learn

Today, we'll be covering:

- Internet connection in Ukraine
- 3 (11) years of war influence
- Networks and equipment damage and losses
- Power outages and blackouts
- The most important insights
- Best business practices
- What makes ISPs stand. Is there a way out?
- What did Ukraine learn

Internet Connection in Ukraine



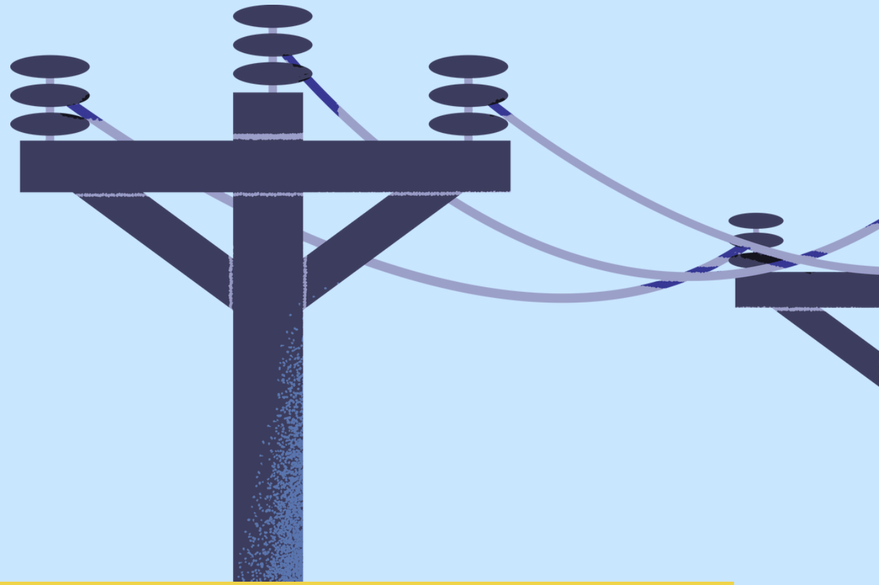
Interviews with Internet Service Providers

PROVIDERS	PROVIDERS' LOCATION
• **8 NOG UA interviews** with local (small and medium-sized) providers; • **Topics covered**: war and its influence on Internet providers, blackouts, war challenges, current state of a provider	• Irpin, Kyiv oblast • Nikopol, Dnipropetrovsk oblast • Sumy oblast (3 providers) • Kherson oblast (2 providers) • Kramatorsk, Donetsk oblast Close to frontline/deoccupied

Networks and equipment damage and losses

Severe fiber optic network damage	2-40 km per month is renewed
Subscriber losses	Constantly changing number
Equipment & power infrastructure loss	The cables, pillars and coouplings suffer the most
Regional-specific damages	From 3-second artillery strikes to full airstrikes

Power outages and blackouts



WHAT WE GO THROUGH	CONSEQUENCES
Min 2 hours without electricity	Burned-out nodes Destroyed telecom bases Lack of equipment → No Internet, cellular service, or signal → An information vacuum
Max 8 hours without electricity	
No real maximum during blackouts	

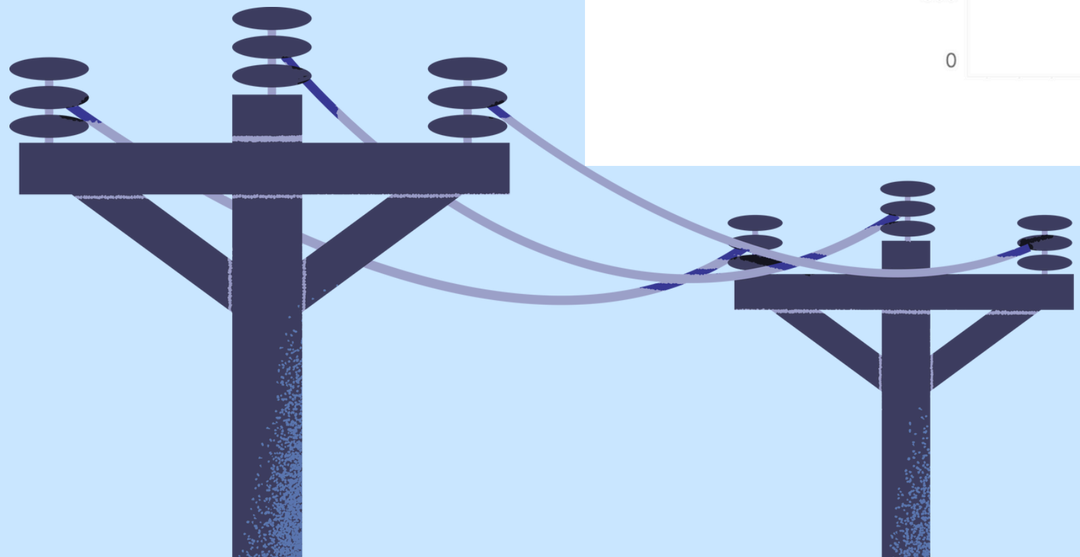
The most important insight

Diversification is key. Ukrainian Internet has been resilient and viable during the full-scale invasion and blackouts due to its high level of diversification and interconnectivity

The connection of the backbone data networks is decentralized.

Most Ukrainian Internet service providers manage their communication networks independently.

To enable ISPs to exchange traffic from their networks and connect to the global Internet, there are at least 23 Internet Exchange Points (IXPs) in Ukraine.



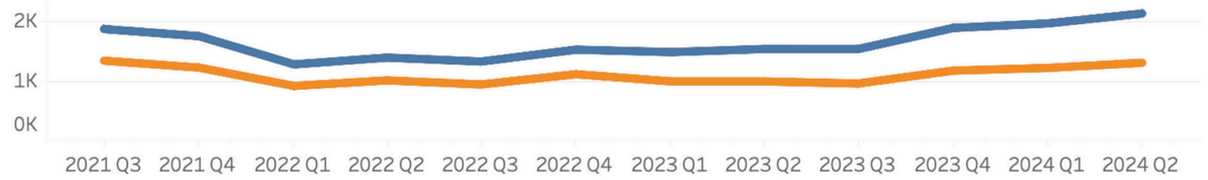
ISPs in Ukraine

Fixed-line Internet access market in Ukraine for the period Q3 2021 - Q2 2024: https://public.tableau.com/app/profile/brdo.ict.sector/viz/uabroadbandInternentaccess-Q32021-Q22024/0_Intro

Кількість учасників ринку

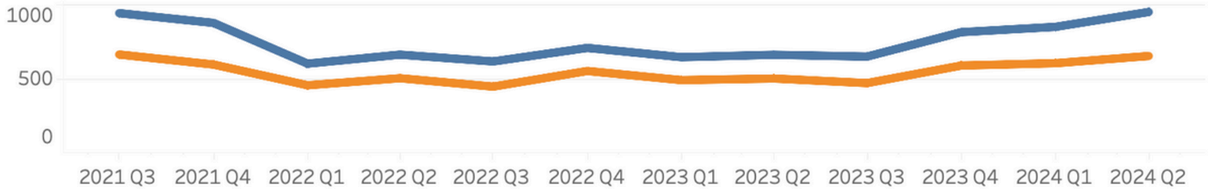
Фізичні особи-підприємці
Юридичні особи

Загальна кількість учасників ринку — за типом суб'єктів підприємницької діяльності



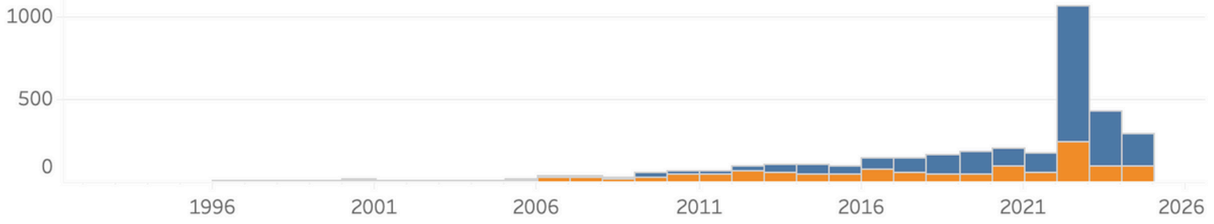
Джерело: форма 1-Т, 2021-2024

Кількість учасників ринку у сільській місцевості:



Джерело: форма 1-Т, 2021-2024

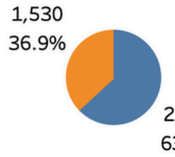
Початок діяльності нових учасників ринку



Реєстр НКЕК, "Початок діяльності", станом на Вер2024

Всього видимих учасників ринку* на Q2 2024:

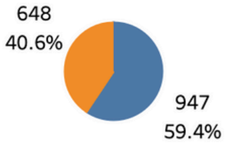
4,148



* див. вкладку "Методологія"

Всього учасників ринку у сільській місцевості:

1,595



форма 1-Т, Q2 2024

Interview Quotes

What is happening in Sumy region in the telecom industry?

“There is a lot of interaction. Providers help each other and share equipment despite the competition. **The more players are in the market, the stronger the connection is**”.

ISP PSTS (Sumy region)

Interview Quotes

If there is no help from the government/donors or volunteers, how long will it take for your work to stop?

“We will keep going and enduring. **Others will help us.** We have invested a lot in our work, so it will be very painful to lose it.”.

ISP Viner Telecom (Kherson region)

Ukrainian legislation

Providers of electronic communication networks and/or services **shall immediately ensure the provision of electronic communication services** in compliance with the established quality indicators for the list of facilities, taking into account the possible absence of power supply at such facilities **for at least three days**.

In September-October 2024, the State Tax Service (STS) began to abolish the simplified taxation system for small business providers of fixed Internet access.

Operators under the simplified taxation system provided Internet access to 41% of all subscribers, including 51% in rural areas.

IPs comply with the standard thanks to:

Diversification

Respondents mentioned that diversification is necessary as well as support for small providers, since they are the ones who work close to the frontline cities.

Interconnection

Small providers shall unite and help each other with equipment and other things to continue their work

Bravery

Many respondents mentioned they'll continue their operations until the very last moment and do not plan to stop despite the obstacles

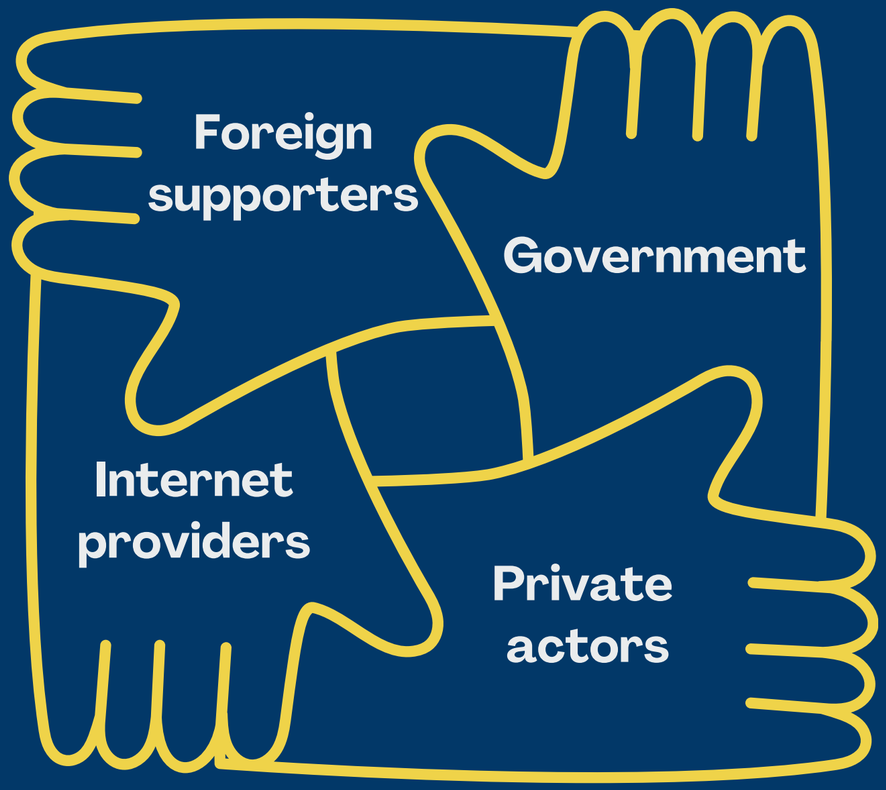
Is there a way out?

$$\text{Way out} = \frac{\text{Effort}}{\text{Assistance}}$$

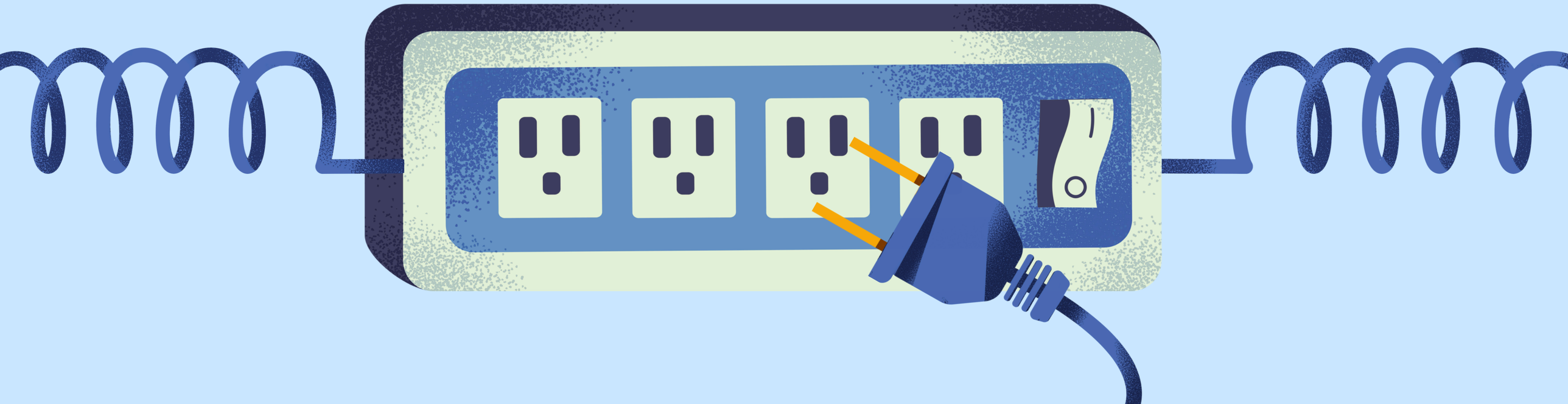
- **E** Effort put (leave it to Ukrainian ISPs!) (**E**)
- **A** State- and non-state actors support (**A**)
- **W** Our today, world's tomorrow (**WA**)

What we learned

- Legislation review
- The power of unity
- Being seen and heard



Our call to action

1. Foresee
2. Forestall
3. Foster

Let’s keep Ukraine connected