Internet Society Pulse

Internet Resilience Index

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pulse.internetsociety.org

Your Internet Data Dashboard

Pulse tracks

Shutdowns: Where do Internet shutdowns take place?

Netloss: Estimate the economic impacts of Internet shutdowns.

Technologies: Tracking the deployment of technologies critical for the evolution of the Internet.

Concentration: How much are services concentrated in the hands of a few?

Resilience: How robust is the Internet ecosystem?

Pulse tracks

Resilience: How robust is the Internet ecosystem?

A resilient Internet connection is one that maintains an acceptable level of service in the face of faults and challenges to normal operation.

The Internet Resiliency Index (IRI)

The **Index** combines ~30 public datasets that relate to **Four Pillars** of a resilient Internet

Infrastructure

The existence and availability of physical infrastructure that provides Internet connectivity.

Performance

The ability of the network to provide end-users with seamless and reliable access to Internet services.

Security

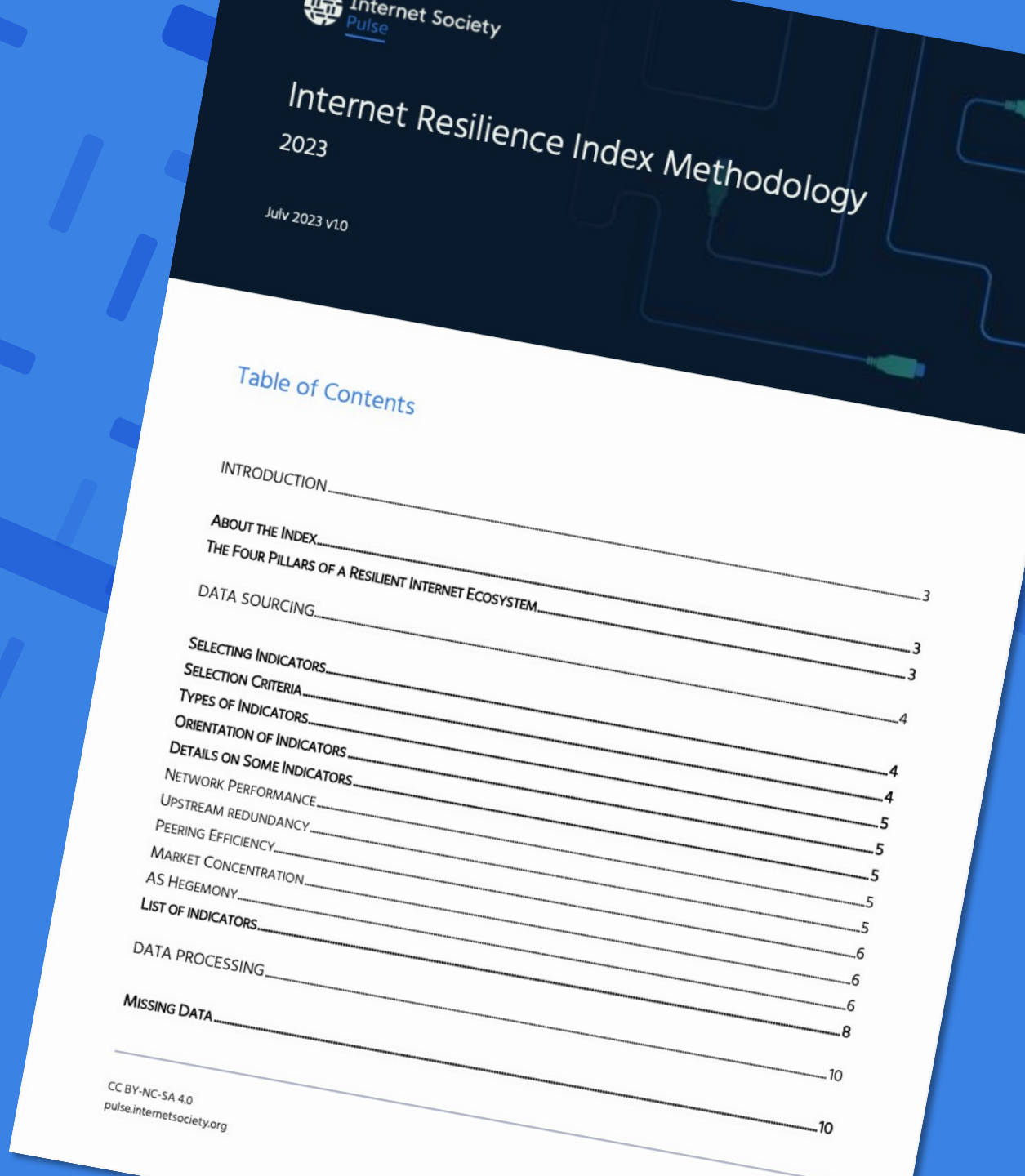
The ability of the network to resist intentional or unintentional disruptions through the adoption of security technologies and best practices.

Market Readiness

The ability of the market to self-regulate and provide affordable prices to end-users by maintaining a diverse and competitive market.

Methodology: https://pulse.internetsociety.org/wp-content/uploads/2023/07/Internet-Society-Pulse-IRI-Methodology-July-2023-v2.0-Final-EN.pdf

IRI Methodology



Pillar 1: Infrastructure

Dimension	Indicator	Unit of measurement	Source
Cable ecosystem	Number of international gateways	Number	ITU
	10-km fibre reach	% of population	ITU
	Power-availability	% of population	World Bank
Mobile connectivity	Network coverage	Calculated %	GSMA
	Spectrum allocation	Calculated %	GSMA
Enabling infrastructure	Number of IXPs	IXPs per city	PCH/PeeringDB
	Number of datacentres	Datacenters per 10 million	Datacentermap

Pillar 2: Performance

Dimension	Indicator	Unit of measurement	Source
Fixed Networks	Median Upload Speed	Mbps	Ookla
	Median Download Speed	Mbps	Ookla
	Median Latency/Jitter	ms	Ookla
Mobile Networks	Median Upload Speed	Mbps	Ookla
	Median Download Speed	Mbps	Ookla
	Median Latency/Jitter	ms	Ookla

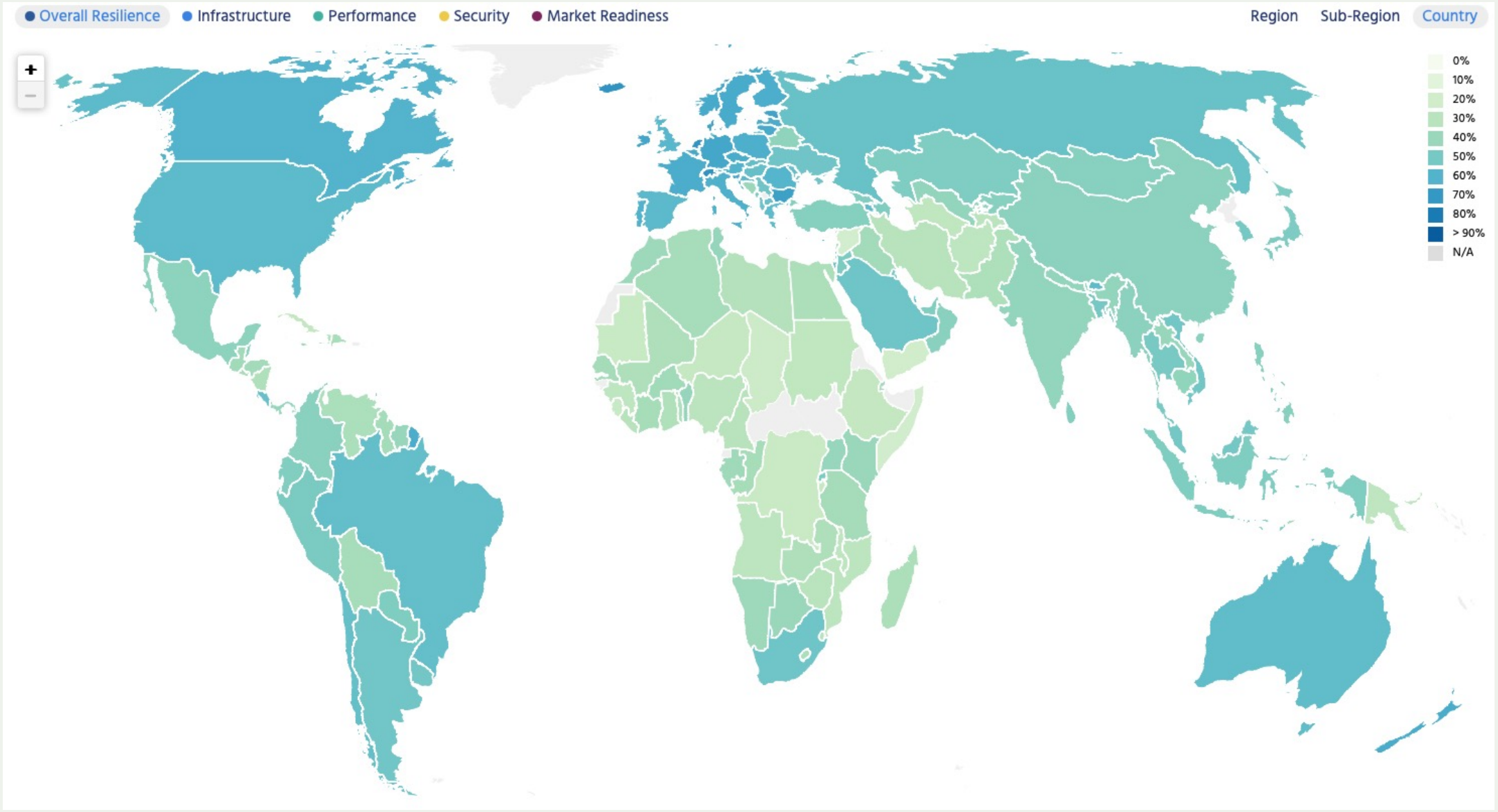
Pillar 3: Enabling Technologies and Security

Dimension	Indicator	Unit of measurement	Source
Enabling technologies	IPv6 adoption	Country %	APNIC
	HTTPS	% of websites	Mozilla
DNS Ecosystem	DNSSEC Validation at country-level	Calculated %	APNIC
	DNSSEC Adoption by ccTLDs	Calculated %	ICANN
Routing Hygiene	MANRS Scores includes: (1) Filtering, (2) Coordination, (3) Global Validation IRR, (4) Global Validation RPKI	Aggregated %	ISOC
	Upstream redundancy	Count	CAIDA
Security Threat	Secure Internet servers	Servers per 1 million	World Bank
	Global Cybersecurity Index	Index %	ITU
	DDOS Potential	TBit/sec	Cybergreen

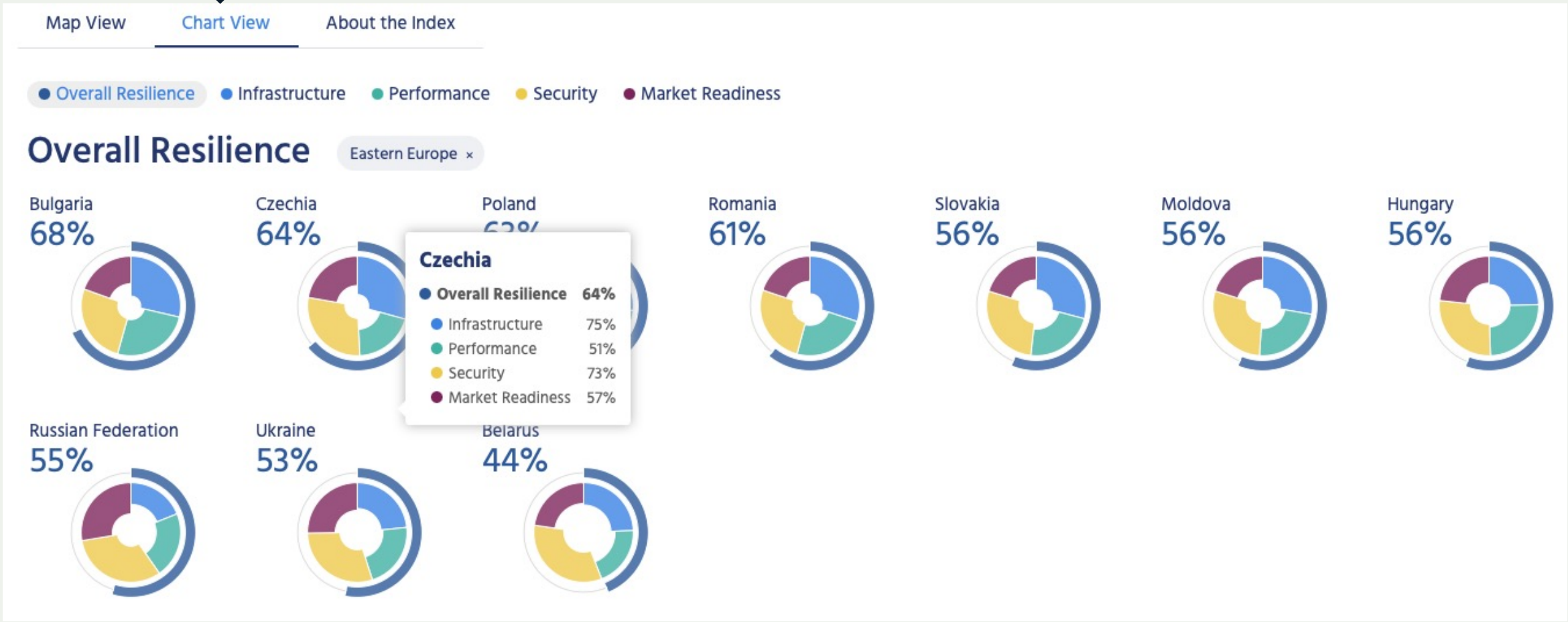
Pillar 4: Local Ecosystem and Market Readiness

Dimension	Indicator	Unit of measurement	Source
Market Structure	Affordability	Country %	ITU
	Market concentration	HHI (Herfindahl–Hirschman Index)	APNIC
	AS Hegemony	GINI coefficient (inequality)	IIJ
Traffic Localization	Peering efficiency	% of ASNs peering	PCH/Peering DB
	Domain count	Domains per 1 million	Zonefiles.io
	E-Government Development Index	Index %	UN

Global Resilience Outlook



Regional Comparisons with Chart View



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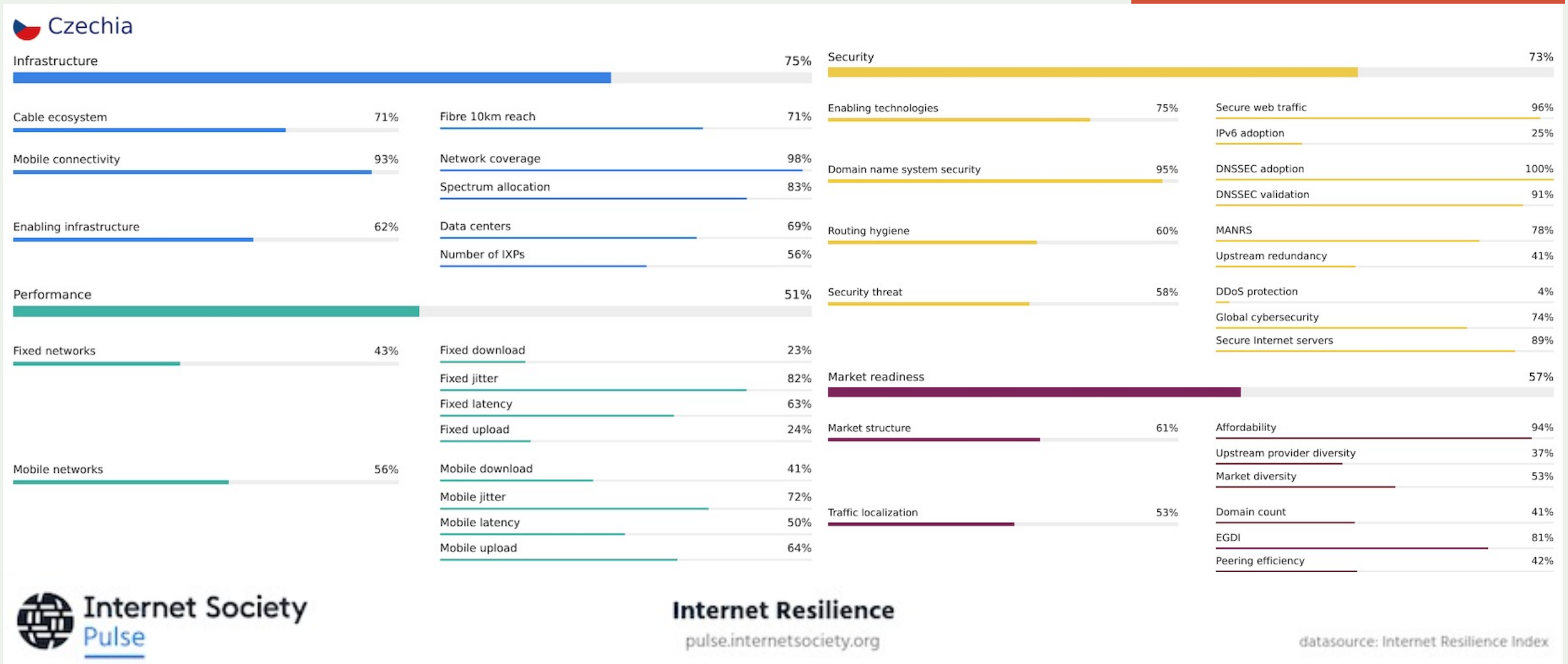

Caveats and Limitations

Data is drawn from external public sources, updated annually

Indicators are not included if more than 25% of countries lack data

Without in-country measurements it's difficult to validate the data

Data undergoes processing, normalization, and weighting, we use a methodology that is reproducible

Ultimately, the Index benchmarks countries with one another and helps decision makers recognize gaps and weaknesses to then conduct further study into validating these and working towards improvements in Internet resilience

API Access

Email pulse@isoc.org to request access to the data underpinning the Internet Resilience Index via our API.

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