



Cyber Risk Index



2020

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Cyber Risk Index

From 0 to 1, the Cyber Risk Index (CRI) predicts the risk of becoming a victim of cybercrime depending on the country of residence. The higher the index, the higher the risk.

Countries with the highest cyber risk

No	Country	CRI
1	 Iceland	• 0.839
2	 Sweden	• 0.809
3	 United Arab Emirates	• 0.774
4	 Norway	• 0.729
5	 United States	• 0.713
6	 Singapore	• 0.670
7	 Ireland	• 0.664
8	 New Zealand	• 0.660
9	 Denmark	• 0.657
10	 United Kingdom	• 0.647

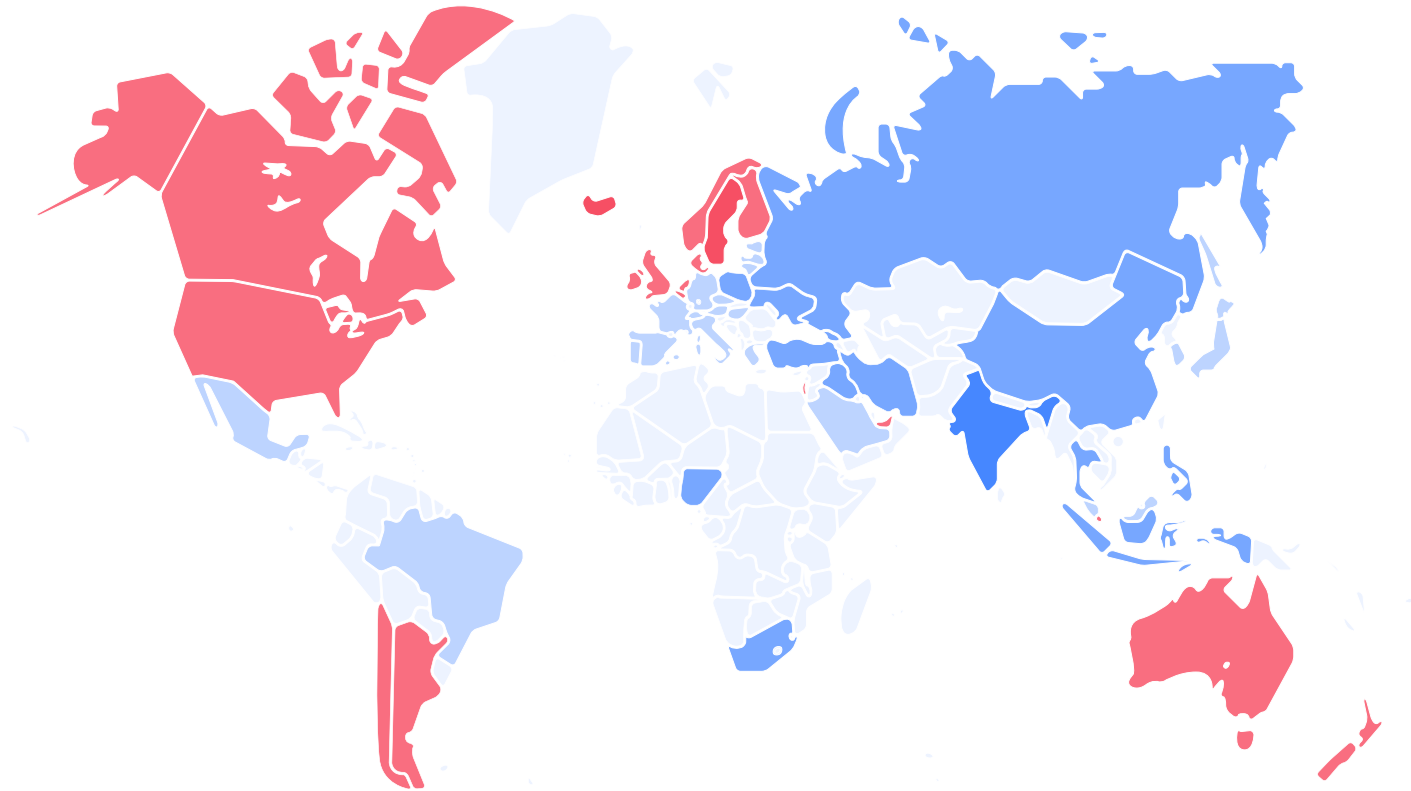
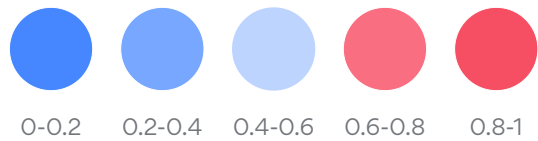
Countries with the lowest cyber risk

No	Country	CRI
41	 Ukraine	• 0.361
42	 Iran	• 0.349
43	 Philippines	• 0.337
44	 Thailand	• 0.334
45	 China	• 0.326
46	 South Africa	• 0.300
47	 Indonesia	• 0.291
48	 Iraq	• 0.290
49	 Nigeria	• 0.239
50	 India	• 0.186



Developed countries are more vulnerable to cybercrime

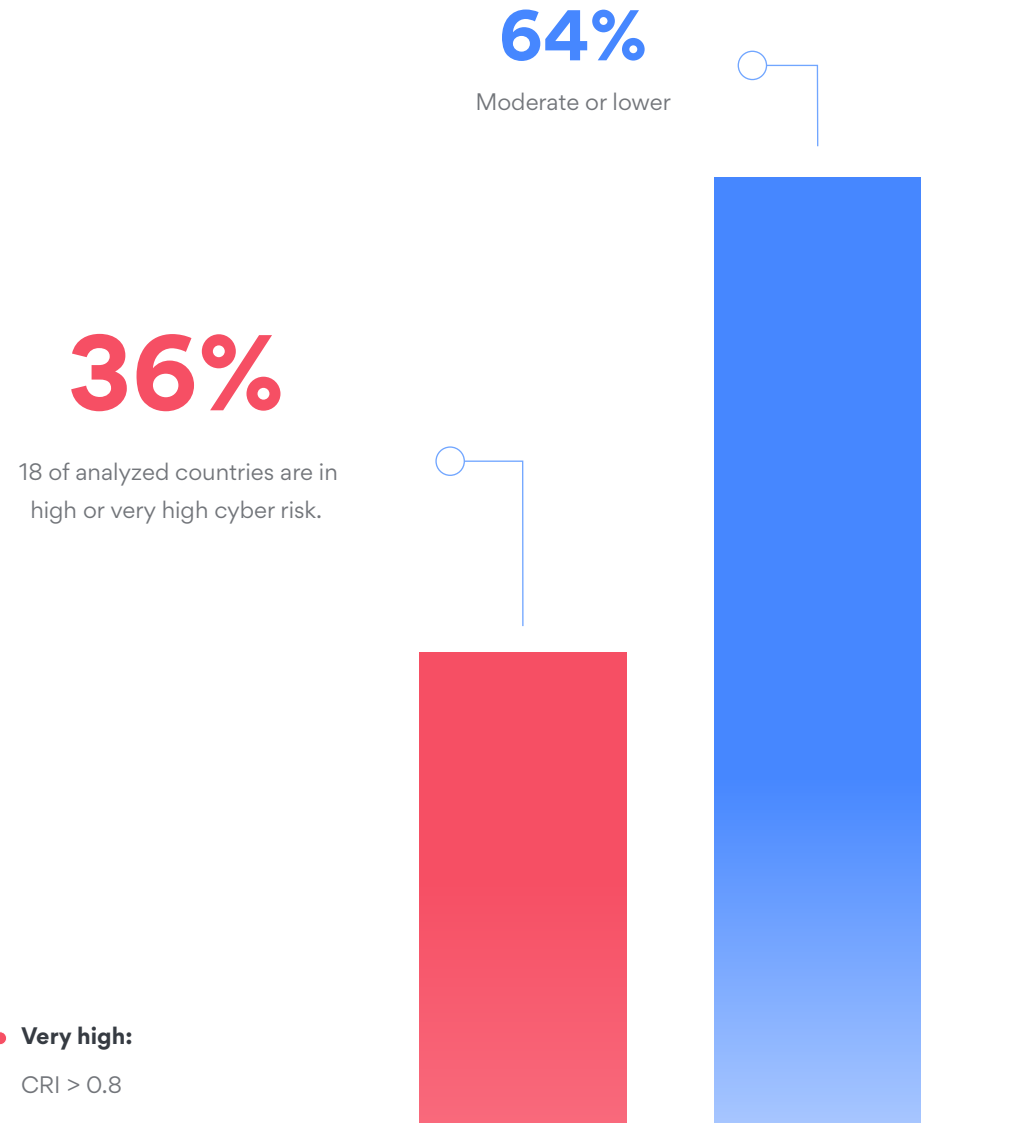
From USA to India — 50 countries comprising 70% of world population analyzed



The 5 levels of risk

Risk level	Countries	%
Very high	2	4%
High	16	32%
Moderate	19	38%
Low	12	24%
Very low	1	2%

- **Very low:**
CRI < 0.2
- **Low:**
CRI 0.2-0.4
- **Moderate:**
CRI 0.4-0.6
- **High:**
CRI 0.6-0.8
- **Very high:**
CRI > 0.8



From USA to India

50 countries comprising 5.4 billion people ranked according to 14 factors:

The factors:

No	Factor
1	Urban population
2	Monthly average wage
3	Tourism
4	Internet penetration
5	Smartphone penetration
6	Time spent on the internet
7	E-commerce penetration

No	Factor
8	Online games penetration
9	VoD penetration
10	Public Wi-Fi availability
11	Facebook penetration
12	Instagram penetration
13	Crime Index
14	Global Cybersecurity index

Factors #1-13 indicated a higher risk, while factor #14 lowered the risk in a given country.



NordVPN's research partner was Statista, world's leading business data provider. Statista collected the data used in analysis and approved the methodology used to create the Cyber Risk Index.



Residents of developed countries are more likely to become victims of cybercrime

- Developed countries are defined by high-income economies, advanced technological infrastructure, urbanization, and digitalization.
- These same factors determine a higher level of cybercrime. Furthermore, higher mobility together with a higher overall crime rate increase cyber risk.
- Low level of digitisation and income are unfavorable conditions for cybercrime.



Both the US and UK landed in the TOP 10 of riskiest

These countries have a lot in common

	US 	UK 
Urbanization level	82%	83%
Percentage of population using Facebook	70%	66%
Percentage of population using Instagram	36%	35%
Crime index	47	43
Global Cybersecurity Index	0.926	0.931

But it's the differences that matter

Compared to the UK, the US has:

- 30% higher monthly average wage
- Higher density of public Wi-Fi
- 30% higher share of online gaming
- Double the VoD penetration
- Higher smartphone usage

These same factors put US residents at a greater cyber risk.

Cybercriminals are opportunistic by nature and US residents get more exposed due to higher online services usage and public Wi-Fi connections, which are famously unsecure. Due to higher income, US residents are also more enticing targets.

In the Top 10 of the riskiest countries:

The US took the 5th place with (CRI: 0.713).

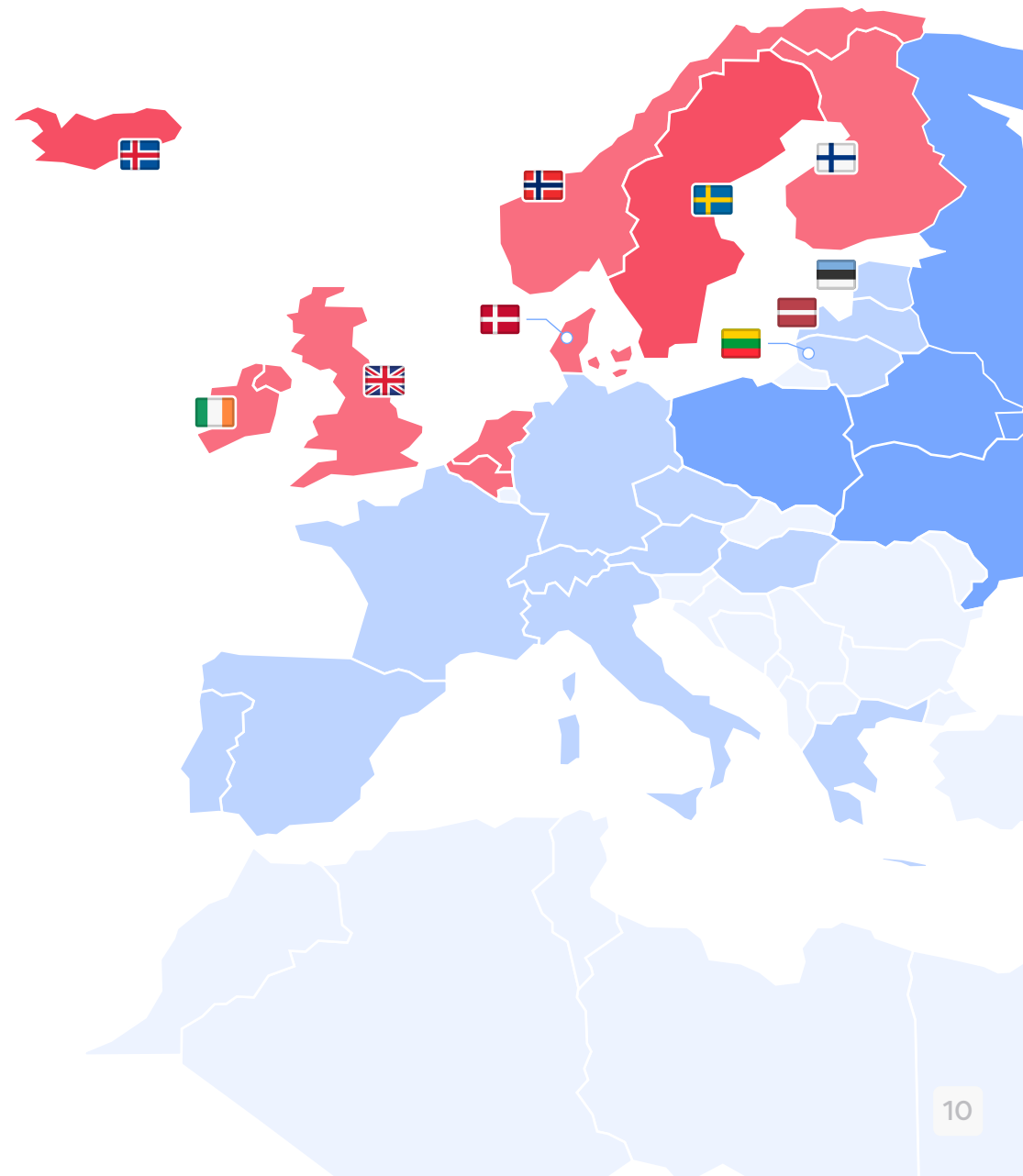
The UK landed in the 10th spot (CRI: 0.647).

Counterintuitively, the UK ranks 1st and the US 2nd according to the Global Cybersecurity Index, which is calculated based on legal, technical, organizational, and capacity building factors on a country level. As we see, these factors have a limited impact on cyber risk when we get down to the individual level. Exposure to online threats and income are more important factors.



Northern Europe: the most dangerous place in the world (to be online)


- Highest penetration of the internet, smartphones and Instagram.
- Highest average monthly wages in the world.
- First in e-commerce.
- Northern Europeans travel abroad the most.
- Baltic States (Estonia, Latvia, Lithuania) are the outliers, landing in the moderate cyber risk category.





Here's why Iceland leads in cyber risk (CRI: 0.839)

- 1st among all analyzed countries in internet, smartphone, and Instagram penetration.
- 2nd highest average monthly wage after Switzerland.
- 2nd after the UAE on Facebook penetration.
- 3rd in urban population.
- Among top 10 in international tourism, e-commerce, public Wi-Fi density, and VoD.
- Only 48th according to the Global Cybersecurity Index.

	Average	Iceland 
Internet penetration	79%	99%
Smartphone penetration	65%	95%
eCommerce penetration	69%	86%
Facebook penetration	58%	79%
Instagram penetration	29%	48%
VoD penetration	29%	40%
WiFi per 100 urban inhabitants	2.7	4.3
Urban population (share of total population)	76%	94%
Monthly average wage in US\$	2,600	6,397
Departures per capita	0.7	1.8
Global Cybersecurity Index	0.767	0.449

North America isn't far behind Northern Europe when it comes to cyber risk

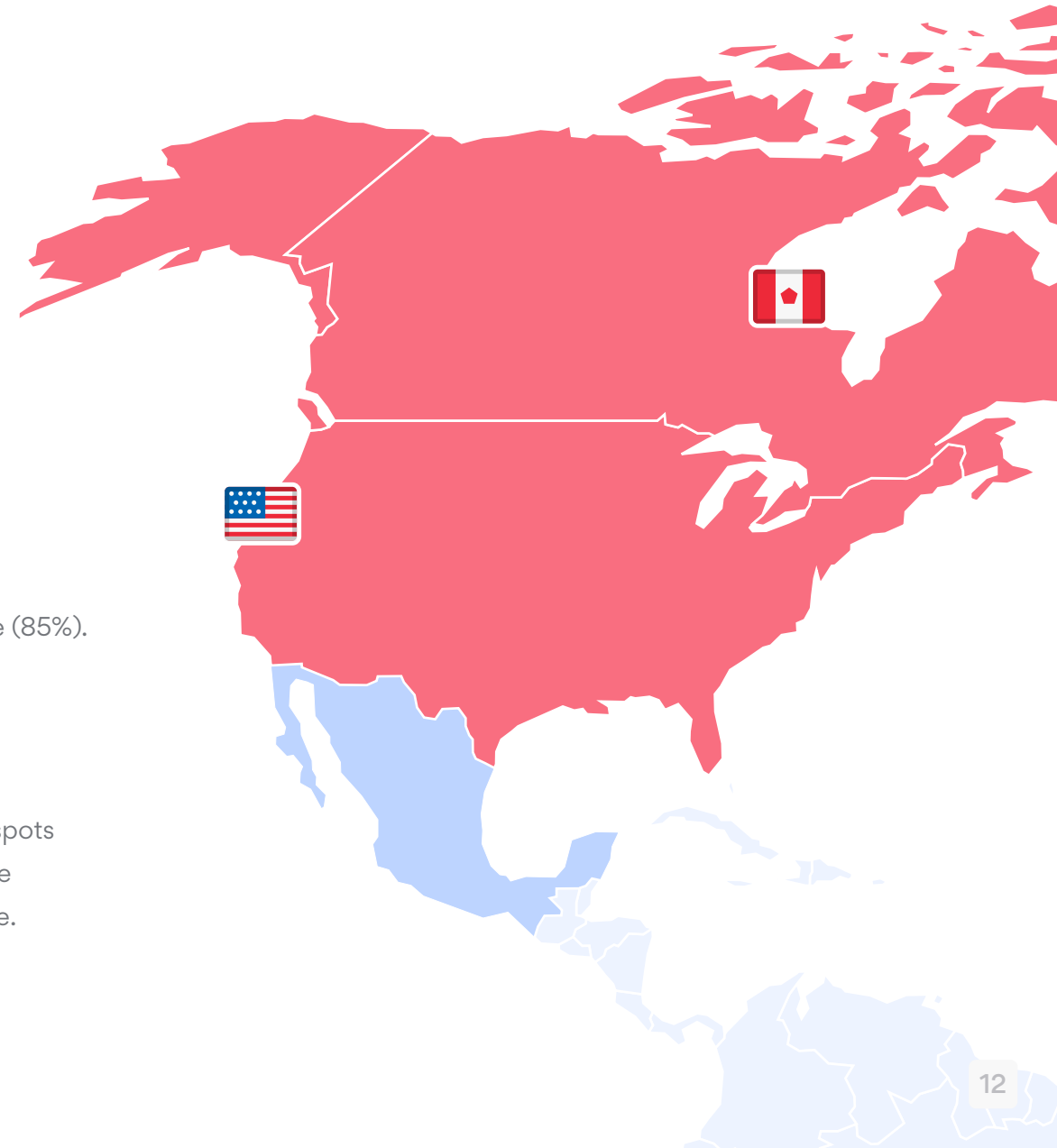
In both regions:

- 4 out of 5 people live in cities.
- 7 out of 10 people use Facebook.
- 8 out of 10 people shop online.
- Internet penetration is over 90%.
- Average monthly wage is among the highest in the world.

North America is slightly more secure:

- Lower smartphone penetration (75%) than that of Northern Europe (85%).
- Less travel abroad (0.6 vs. 1.6).
- Lower Instagram penetration (35% vs. 40%).

Even though North America has the densest network of public Wi-Fi spots in the world and a higher VoD penetration, its outstanding score on the Global Cyber Security index puts the region ahead of Northern Europe.



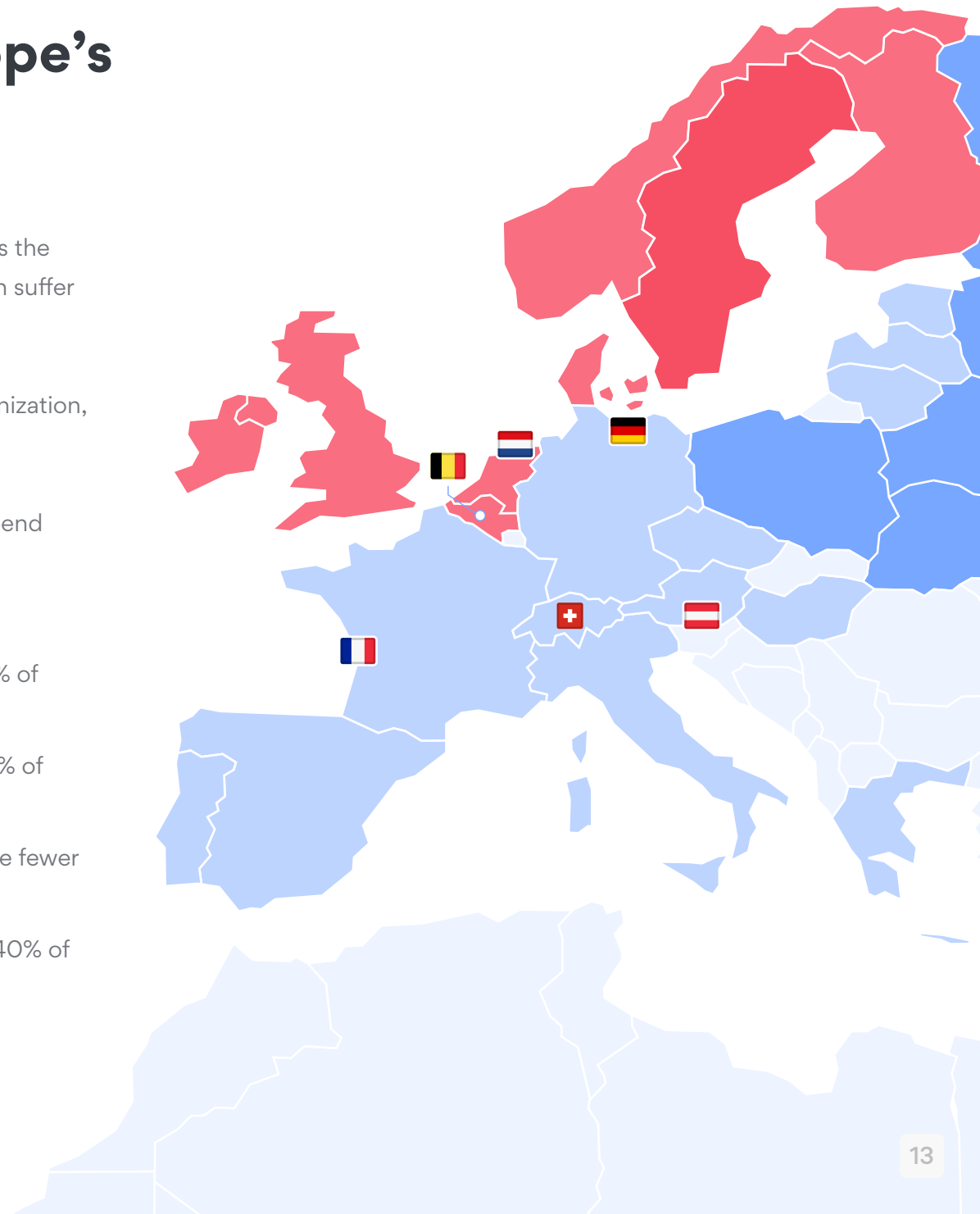
The secret to Western Europe's score: less time online

Western Europe falls into the moderate cyber risk category. This puts the region into contrast with Northern Europe and North America, which suffer from high cyber risk.

Why is that? All three regions are very similar when it comes to urbanization, internet penetration, public Wi-Fi density, and e-commerce.

But Western Europeans are less exposed to online threats as they spend only 5 hours per day online, while the average is 6.5 hours.

- Only 56% of Western Europeans use Facebook compared to 68% of Northern Europeans.
- Only 30% of Western Europeans use Instagram compared to 40% of Northern Europeans.
- 10% of Western Europeans play online games. That's almost twice fewer than North Americans (18%).
- 30% of Western Europeans watch VoD compared to more than 40% of North Americans.




India has the best score. Is it really the safest when it comes to online security?

India has a CRI score of 0.186.

It's the only country on the list that landed in the very low cyber risk category.

These conditions significantly reduce India's cyber risk. In India:

- Only 1 in 3 use the internet.
- Less than 1 in 4 use smartphones.
- A tiny share of the population use Instagram (5.8%), watch VoD (7.1%), or play online games (6.6%).
- 34% of the population live in cities. That's the lowest score among the 50 analyzed countries.
- A tiny portion of the population travel abroad.

	Average	India 
Internet penetration	79%	35%
Smartphone penetration	65%	24%
Facebook penetration	58%	23%
Instagram penetration	29%	5.8%
VoD penetration	29%	7.1%
Online games penetration	11.3%	6.6%
Wifi per 100 urban people	2.7	0.2
Time spent on the internet	6:30	7:47
Urban population	76%	34%
Monthly average wage in US\$	2,600	196
Departures per capita	0.74	0.02
Crime Index	39.39	42.72
Global Cybersecurity Index	0.767	0.719

But that's not the full picture. Let's not forget that:

“ It is easy to lie with statistics.
It is hard to tell the truth without it.”

— Andrejs Dunkels



If we narrowed our scope to Indians who are hyperactive online, the story would be different.

Indians who do use the internet:

- Spend 7 hours 47 minutes per day online. That's more than an hour longer than the average of all 50 countries.
- It's more likely than not that they live in urban areas and get higher wages.
- May use social media, VoD, e-commerce, or public Wi-Fi.
- Are at much higher cyber risk than the average Indian.

The more homogeneous the country or region, the more accurate is the CRI.




In countries with huge income inequality, low levels of urbanization, or low internet penetration, the CRI reflects only the country-wide statistics.

Insights that led to the creation of the CRI

When we surveyed our clients more than a year ago, we were surprised to learn that 1 in 5 of NordVPN users had been a victim by cybercrime during their life.

This rate was the highest among US users (1 of 4). But similar countries with high-income economies like Italy, Spain, or Switzerland had 2 to 3 times lower rates of cybercrime victims. We decided to dig deeper.

% of clients affected by cybercrime.

 Worldwide	20%
 United States	25%
 Italy	7%



The creation of the index, in detail

During the first stage of our research, we selected a wide array of factors that could contribute to cyber risk country-wide. These factors fell into 4 categories:



Our partner Statista collected almost 40 indicators.

We thoroughly verified each of them regarding their potential positive or negative impact on cyber risk and calculated the correlation between the first three data sets (socio-economic, digital, cyber) and the fourth one (crime).

We trimmed the factors down to 14 most significant, used them to calculate the Cyber Risk Index, and ranked the 50 countries accordingly.



Socio-economic

Total population; urban population; education; unemployment; GDP; inflation; international tourism; average monthly wages.



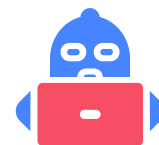
Digital

Internet, smartphone, social media, e-commerce, online gaming penetration; time spent on the internet; the density of public Wi-Fi hotspots.



Cyber

Data protection laws; Global Cybersecurity Index; the severity and certainty of punishment for cybercrime.



Crime

Total crime; cybercrime; direct losses due to cybercrime; indirect losses, i.e., cost of data breaches.

Surveys support the findings in this report

The CRI is all about the big picture — cyber risk on a country level. But when we get down to the individual level, we find the same patterns.

Recently we surveyed the general population in the UK and the US.



N=700 per country, 18+ y.o.

The data was surprisingly similar to what we gathered from our clients. Furthermore, the victims were more often tech-savvy individuals who spend more time online.

We once again found that exposure and higher income increase cyber risk significantly.



Profile of cybercrime victims in the US and UK

Age **25-45**

Sex **Men**

Occupation **Business owners & managing directors**

What's next?

- **Internet growth**

The internet will gain more than a billion new users in the next five years. This growth will mostly come from low-risk countries (India, China, Nigeria, etc.), where internet penetration is low.

- **Rising cybercrime**

Cybercriminals will have the luxury to choose from a much larger pool of easy targets. They'll cast a wide net. Cyber risk will increase all over the world.

- **Enticing targets**

The riskiest regions will continue to be high-income economies. Inhabitants in emerging economies won't be as enticing cybercrime targets.



Final notes

The CRI is based on the latest data available at the time of its creation, collected during the 2017-2020 timeframe.

Of the 14 factors, 2 are based on data collected in 2017, 5 on data collected in 2018, 4 on data collected in 2019, and 3 on data collected in 2020.

While it's always preferable to work with data that's only months old, it's not always possible — number crunching takes time. The processes we're dealing with — urbanization, internet penetration, crime, etc. — are slow-moving, they do not shift much year-to-year.



















We strongly believe that statistics is a double-edged sword, so we approached the data with caution, honesty, curiosity, and rigor. We hope that our analysis and the CRI brought more understanding to the increasingly important subject of cybersecurity. NordVPN will keep on exploring this topic.



































If you want a more detailed breakdown, please contact us

press@nordvpnmedia.com

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8	 New Zealand	• 0.660
9	 Denmark	• 0.657
10	 United Kingdom	• 0.647
11	 Israel	• 0.646
12	 Finland	• 0.641
13-15	 Belgium	• 0.621
13-15	 Canada	• 0.621
13-15	 Chile	• 0.621
16	 Australia	• 0.620
17	 Netherlands	• 0.617
18	 Argentina	• 0.601

No	Country	CRI
19	 Switzerland	• 0.597
20	 South Korea	• 0.556
21	 Germany	• 0.530
22	 Brazil	• 0.519
23	 Austria	• 0.503
24	 Italy	• 0.500
25-26	 Saudi Arabia	• 0.484
25-26	 Spain	• 0.484
27	 Greece	• 0.481
28	 Malaysia	• 0.479
29	 Czech Republic	• 0.474
30	 France	• 0.467
31	 Estonia	• 0.456
32	 Portugal	• 0.454
33	 Mexico	• 0.450
34	 Lithuania	• 0.447
35	 Japan	• 0.444
36	 Hungary	• 0.441

No	Country	CRI
37	 Latvia	• 0.429
38	 Turkey	• 0.386
39	 Poland	• 0.367
40	 Russia	• 0.364
41	 Ukraine	• 0.361
42	 Iran	• 0.349
43	 Philippines	• 0.337
44	 Thailand	• 0.334
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