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USA falters and Denmark excels in global digital ranking that shows cybersecurity measures will be essential for competitiveness

- Digital technologies will only be successfully adopted and diffused if governments and the private sector protect their digital infrastructure from cyber attacks
- Research shows areas government and private sector must focus on to do so
- Regionally, relevant gaps observed between the extent of e-government tools and the cybersecurity capacities of governments

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Governments and the private sector must invest across the board – in talent, training and education, scientific concentration and R&D – to protect their digital infrastructure from cyber attacks and provide competitive e-government services. These are key steps towards creating digitally competitive economies.

This was a major finding in the 2022 edition of the [IMD World Digital Competitiveness Ranking](#), published today by the [World Competitiveness Center \(WCC\)](#) – a research center at [the Institute for Management Development](#) (IMD) – which has seen Denmark take the top position (1st) and the USA (now 2nd) lose it. Both movements are firsts since the inception of the ranking in 2017.

The yearly ranking quantified the capacities of **63 global economies** to adopt and explore new digital technologies, and to use them to transform government practices, business models and society. It did so by categorizing 54 criteria – a mixture of external hard data (two thirds of the total) and the **IMD Executive Opinion Survey** (one third) – into three major groups: [future readiness, knowledge and technology](#), with a set of sub-factors under each.

“This ranking describes the importance of national factors in explaining the digital transformation of companies and the adoption of digital practices by citizens. Digital nations result from a combination of digital talent, digital regulation, data governance, digital attitudes and the availability of capital,” says Arturo Bris, Director of the WCC.

This year's results shed light on those factors that facilitate the strengthening of both governments' and the private sectors' abilities to protect their digital infrastructure from cyber attacks, the experts found. Critically, they also show how doing so encourages the adoption and diffusion of digital technologies.

Robust governmental cybersecurity capacity also correlates particularly strongly with having a supportive regulatory framework for business creation and technology development. Moreover, a supportive scientific and technological regulatory framework is shown to be key to the creation of strong cybersecurity capacities in the private sector, the researchers found.

"Government cybersecurity capacity," and "privacy protection by law" are two criteria that were newly introduced to the WCC's data set for the 2022 ranking. Both are supplied by the [Digital Society Project](#).

The WCC said it was encouraged to include them because "globalization, advancements in the digital technologies field and the global pandemic have, together, made economies more interconnected and have shifted even more parts of our business and personal interactions onto the internet, vastly increasing cyber attacks. Cybersecurity capabilities, both at the company and governmental level, have become of paramount importance."

Denmark's triumph is in large part due to its outstanding performance in future readiness: defined by the WCC as "the level of country preparedness to exploit digital transformation". It performs strongly in business agility (1/63) and in IT integration (1/63), also reaching 5th in its adaptive attitudes.

Denmark remains among the world's leading economies in digital talent (5/63) and training and education (7/63). That said, executives' perceptions about whether or not immigration laws constrain the competitiveness of the country's private sector were worse than last year (42/63).

The **USA** (2nd) sees drops across the board, with the largest being in the technology factor (9/63). Despite the fact it maintained a relatively strong position in the three sub-factors that comprise the knowledge factor – scientific concentration (1/63), talent (14/63) and training and education (23/63) – there is much room for improvement among the 19 criteria measured under this factor, defined by the WCC as "the know-how necessary to discover, understand and build new technologies".

Elsewhere in the top ten, **Sweden** remains in 3rd place, and **Singapore** gains one position, taking 4th. **Switzerland** moves up to 5th (from 6th) and the **Netherlands** to 6th (from 7th). **Finland** returns to the top 10 taking 7th place (up from 11th), while **Korea Republic** also rejoins the top 10 in 8th position (from 12th). **Hong Kong SAR** drops from 2nd to 9th place; **Canada** (up from 13th) joins the top-ten economies for the first time since 2018.

Regionally, **Eastern Asia, North America** and **Western Asia & Africa** demonstrate the highest level of cybersecurity capacity, while **Ex-CIS and Central Asia** and **South America** show the lowest.

Regions with a high score in the e-government criterion and a low score in the government cybersecurity capacity criterion could be considered more exposed to cyber risks, the WCC said.

He added: "The regions of **Ex-CIS and Central Asia, South America, Eastern Europe, Western Europe** and **Southern Asia & the Pacific** present relevant gaps between the extent of e-government tools and the cybersecurity capacities of their governments. This suggests that governments in these regions might be misallocating part of their resources by building comprehensive technological

solutions for their citizens whilst simultaneously overlooking the security of their digital infrastructure.”

In **North America**, digital competitiveness levels rise from an average 24th to 22nd place, with **Canada** and **Mexico’s** improvements compensating for the USA’s loss of first place in the Ranking.

The average digital competitiveness ranking of the economies in **Eastern Asia (China, Hong Kong SAR, Japan, Korean Republic and Taiwan, China)** slides by two positions from 13th to 15th, marking a reversal of the positive trend that began in 2018.

However, together with **North America, Eastern Asian** economies remain the central hubs of digital innovation. **Western Europe** suffers a decline here.

The WCC explained how, due to the limited reliability of the data collected, **Russia and Ukraine** are not included in this edition of the Ranking. “Unfortunately, we were compelled to exclude them this year, to safeguard the quality and robustness of our results,” said the WCC. “However, we are delighted to announce the inclusion of **Bahrain** in this year’s edition of the Digital Ranking.”

The IMD Executive Opinion Survey, targeted to mid- and senior-level executives, is a unique piece of field research from the WCC, performed between February and May each year and capitalising on executives’ experience in the performance of their respective national economy. It is disseminated by the WCC’s [global network of Partner Institutes](#). In [all of its rankings](#), the WCC uses the survey answers to either complement the statistical data or to stand alone as measures in areas where no statistical measurement is possible.

Notes to editors:

- Further WCC Rankings to come in 2022:

[IMD World Talent Competitiveness Ranking](#)

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About the IMD World Competitiveness Center (WCC)

For more than 30 years, the WCC has pioneered research on how countries and companies compete to lay the foundations for sustainable value creation.

The competitiveness of nations is probably one of the most significant developments in modern management, and IMD is committed to leading the field. The [IMD World Competitiveness Center](#) conducts its mission in cooperation with a network of 58 Partner Institutes worldwide to provide the government, business, and academic communities with a range of special and prognostic reports and services on key aspects of competitiveness.

About the International Institute for Management Development (IMD)

[IMD](#) is an independent academic institution with Swiss roots and global reach, founded over 75 years ago by business leaders for business leaders. Since its creation, IMD has been a pioneering force in developing leaders who transform organizations and contribute to society.

Based in Lausanne and Singapore, IMD has been ranked in the Top 3 of the annual FT's Executive Education Global Ranking worldwide for executive education (combined ranking for open & custom programs) since 2012 and in the top five for more than 15 consecutive years.

This consistency at the forefront of its industry is grounded in IMD's unique approach to creating "Real Learning. Real Impact". Led by an expert and diverse faculty, IMD strives to be the trusted learning partner of choice for ambitious individuals and organizations worldwide. Challenging what is and inspiring what could be.

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