

The Internet ecosystem: how does it really work?

Established in 1997, EuroISPA is the world's largest association of Internet Services Providers Associations, representing over 3,300 Internet Service Providers (ISPs) across the EU and EFTA countries. EuroISPA is recognised as the voice of the EU ISP industry, reflecting the views of ISPs of all sizes from across its member base.

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Internet Services Providers in the Internet Ecosystem

The Internet ecosystem is a complex network of networks, composed of layers and actors working together to facilitate global connectivity and communication and ensure functionality. **Internet Services Providers (ISPs), in particular, play a central role in providing Internet access and maintaining the integrity of the network infrastructure.** Understanding these dynamics is essential for comprehending how the Internet works and navigating the digital landscape effectively.

ISPs come in various shapes and sizes: from an SME to an international corporation, even the smallest of these organisations is crucial for the functioning and stability of the Internet:

Internet Access Providers provide the essential service of connecting users to the Internet and offer various types of Internet connections, including DSL, cable, fibre optic, wireless, and satellite.

Web Hosting Providers host websites and web applications on their servers and manage server infrastructure, domain registration, and provide tools for website management. **Dedicated Hosting Providers** provide infrastructure which includes servers, however they do not have logical access to the server's operating system and content. Therefore, the access they have is similar to the access mere conduits have.

Online platforms are hosting services that, at the request of a recipient of the service, store and disseminate information to the public.

Email Service Providers (ESPs) offer email services, managing email servers, security, and spam filtering.

Virtual Private Network (VPN) Providers enhance privacy and security by encrypting Internet traffic and allow users to browse anonymously and access geo-restricted content.

Domain Registries and Registrars allow users to register and manage domain names (e.g., euroispa.org).

Content Delivery Networks (CDNs) optimise content delivery, improve website performance and reduce latency.

Cloud Service Providers offer Internet-based services, including storage, computing, and databases.

Internet Exchanges are physical locations where different ISPs and networks connect and exchange data directly. This helps improve the speed, efficiency, and reliability of Internet traffic.

Data Centres are specialised buildings or spaces that house a large number of servers which store, process, and manage data. They are like the brains of the Internet, storing and delivering the information needed.



ISPs also play a role in implementing Internet regulations and policies mandated by regulatory bodies like the European Union (EU).



ISPs play a crucial role in maintaining and upgrading the network **infrastructure** to ensure reliable Internet connectivity and **cybersecurity**

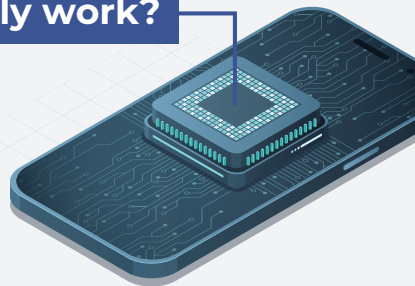


ISPs make it possible to timely detect and take down **illegal content online** and are a key partner of law enforcement authorities in promoting a **safer Internet**



ISPs are essential to foster Europe's **innovation** in the data economy era and are key to ensure the balance between the adoption of **new technologies and the protection of fundamental rights**

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THE USER YOU!

Anyone who has access to and utilises the Internet for various purposes such as communication, information, and entertainment.
Examples: Individuals, Organisations, Businesses, Governments

Step

01

The user requests to access content by typing a URL into his browser, like www.euroispa.org



THE DEVICE

The user's device connects to the Internet using various connection methods such as Wi-Fi, mobile data, or wired connections



Step

02

Connecting to the ISP

The connection method links the user to an ISP: the Access Provider



While Internet access providers are responsible for providing Internet access to the user, other ISPs play different roles in this process - find a list of different types of ISPs and what they do in the insight page

INTERNET SERVICES PROVIDERS (ISPs)



Small or large companies that provide Internet access to the user. They connect users to the Internet through various technologies such as fibre optic, cable, DSL, and wireless networks. ISPs manage the infrastructure needed for connectivity and direct data between the user's device and the Internet



NAMING AND NUMBERING LAYER:



When the user types a web address (URL) into their browser on their device, the Domain Name System translates this human-readable address into an IP address, which is used to locate where the content is hosted

Step

03

The user's request is directed from the ISP to the hosting server that holds the content



THE HOSTING SERVER

It stores and serves the content. It handles requests for content and delivers the requested data back to the user's device

Step

04

The request is processed by the hosting server and the content is sent back to the user's device



THE DEVICE

The user's browser or app receives the content and displays it

Step

05

Enjoy!



THE USER

Can enjoy the content they were looking for



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For more details on how
the Internet works and what
actors are involved, scan here:

