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ОСВІТИ І НАУКИ
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Національна академія
педагогічних наук
України



CED-2025

October 16, 2025

International scientific conference on economic development and legacy of Simon Kuznets

De-globalising of digital markets as the security trend

Section 1. Economic Development in a Vulnerable World

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Regional employment patterns

Region	Employment impact of digital services trade	Peculiarities
North America	High-skilled tech employment, platform gig work	Strong wage growth, regulatory debates
Europe	ICT sector expansion, remote consulting	Emphasis on labor protections and upskilling
Asia-Pacific	Large-scale IT employment, platform entrepreneurship	India, Philippines, China lead in exports
Africa	Mobile money agents, digital freelancers	Inclusion potential, infrastructure limits
Latin America	E-commerce logistics, fintech operations	Urban concentration, rising platform work

Category	Top Non-EU Providers	Primary Use Cases
Cloud & Infrastructure	AWS, Azure, GCP, Akamai	Hosting, compute, global delivery
SaaS	Google Workspace, Salesforce	Productivity, CRM, collaboration
Content & Streaming	Netflix, Spotify, Disney+	Entertainment, media consumption
Digital Advertising	Google Ads, Meta Ads, The Trade Desk	Customer acquisition, brand outreach
E-Commerce	Amazon, AliExpress	Online retail, cross-border trade
Payments & FinTech	PayPal, Stripe, Alipay	Checkout, digital wallets, remittances
Communication & Social Media	Facebook, X, Zoom	Networking, messaging, virtual meetings
Gaming & Interactive Entertainment	Steam, Epic Games Store, GeForce Now	PC gaming, cloud gaming, digital storefronts

EU-Based Alternatives for Developer Services

Category	EU Alternative(s)	HQ & Data Centers	Highlights
Cloud & Infrastructure	OVHcloud, Scaleway, Hetzner, UpCloud	France, Germany, Finland	GDPR-compliant, EU-only regions, pay-as-you-go pricing
Source Code Hosting & CI/CD	Codeberg (Gitea), GitLab (self-managed), GitBucket	Germany, Netherlands	Open source, self-hosting, EU data residency
Container Registries & Orchestration	Harbor (self-host), GitLab Registry, JFrog Artifactory EU edition	Germany, France	Fine-grained access control, multi-cloud support
API, Messaging & Payments	Tyntec (SMS/voice), Sinch, HERE Technologies (maps), Adyen	Germany, Netherlands	Local phone-number provisioning, GDPR data handling
Database & Data Services	Crunchy Data Postgres, MariaDB SkySQL, OVH DBaaS	Germany, France	EU-hosted clusters, enterprise support
AI/ML & Analytics	Aleph Alpha (Germany), Mindtech (UK/EU), KNIME	Germany, UK (GDPR), EU-partnered	Native compliance, explainable AI frameworks
Security & IAM	Auth0 EU-tenant, Keycloak (self-host), CyberArk (EU editions)	Ireland, Germany	Zero-trust, local data-protection enclaves
Collaboration & Productivity	Nextcloud (files), ONLYOFFICE (docs), Rocket.Chat	Germany, Switzerland	Fully on-prem/self-hostable, GDPR by design

Digitally Delivered Services Exports

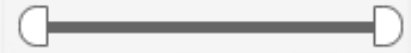
World, 2005-2024

trillion = 1000 000 000 000

Select year(s)

2005

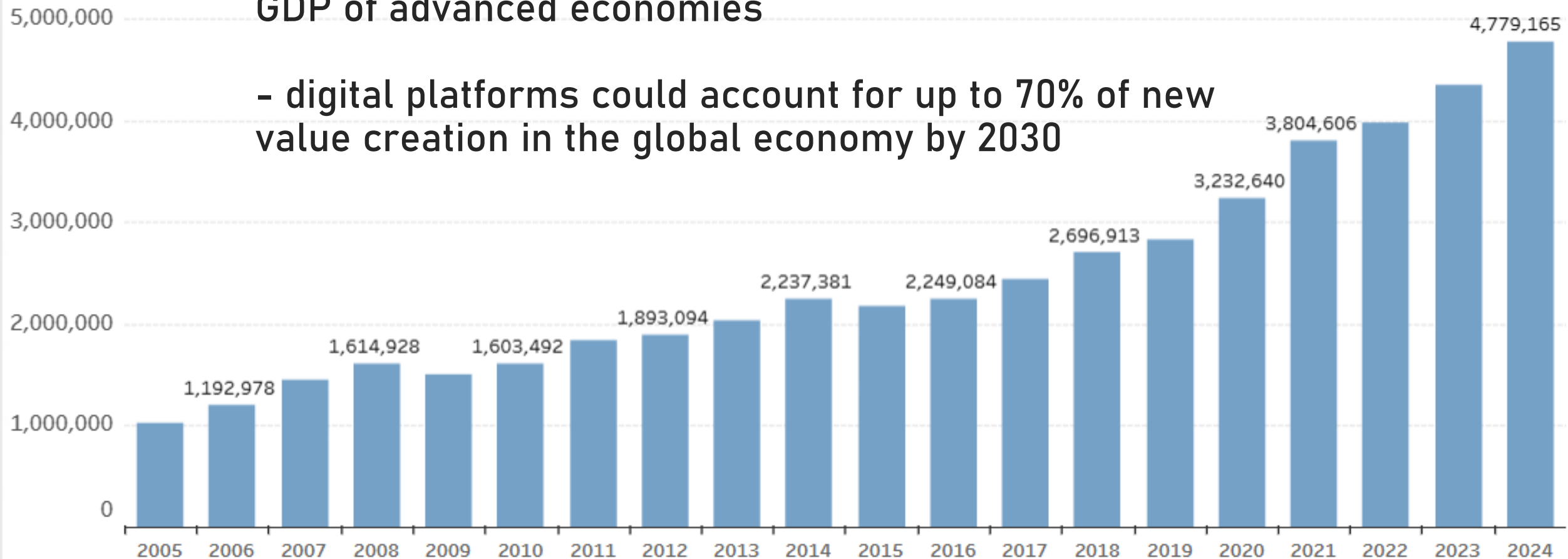
2024



US\$ million

- digital trade contributes between 10% and 25% to the GDP of advanced economies

- digital platforms could account for up to 70% of new value creation in the global economy by 2030



source: WTO estimates

https://www.wto.org/english/res_e/statistics_e/gstdh_digital_services_e.htm

Big Data types

Data type	Source type	Examples
Transactional data	E-commerce logs	Purchases, cart abandonment, payment methods
	Financial records	Invoices, subscriptions, refunds
	CRM systems	Customer interactions, support tickets
	ERP systems	Inventory movements, order fulfillment
Behavioural data	Source Type	Examples
	Web analytics	Page views, click-through rates, session duration
	Mobile app usage	Feature engagement, in-app purchases
	Social media	Likes, shares, comments, sentiment analysis
Geospatial data	GPS signals	Real-time location tracking
	IP geolocation	Country, city, and network identification
	Mobile sensors	Movement patterns, proximity data
	Satellite imagery	Retail footfall, infrastructure mapping

Dynamic bundling involves creating personalised packages of products or services based on users' preferences, purchase history and contextual signals.

Bundling strategy	Description	Example
Personalised bundles	Tailored packages based on user behaviour	Spotify offering music + podcast subscriptions
Contextual bundles	Bundles triggered by events or location	Travel sites offering hotel + flight + car rental
Behavioral bundles	Based on past purchases or browsing	Amazon recommending complementary products
Time-sensitive bundles	Limited-time offers to drive urgency	SaaS platforms offering bundled upgrades

- Data monetisation is the process of **generating economic value from data assets**.
- Firms increasingly treat data as a strategic resource that can be commercialised, rather than merely as a by-product of operations

Model	Description	Examples
Internal optimization	Using data to improve operations, reduce costs, and enhance decision-making	Predictive maintenance, demand forecasting
Product enhancement	Embedding data insights into services or features	Spotify's personalized playlists, Google Maps traffic layers
Data-as-a-service (DaaS)	Selling access to datasets or analytics via APIs	Nielsen audience data, AWS data exchange
Advertising monetization	Using behavioral data to target ads and measure performance	Meta Ads, Google AdSense
Partner ecosystems	Sharing data with third parties for joint value creation	Retail loyalty programs, FinTech integrations

Hello, Nadiya

Account & Lists ▾

Returns & Orders

 Basket

Who's shopping? Select a profile. [Manage Profiles >](#)

Your Lists

Alexa Shopping List
0 items

Shopping List
Gifts

Find a Gift

Create a List

Wedding List

Baby Wishlist

Discover Your Style

Explore Showroom

Your Account

Switch Accounts

Sign Out

Your Account

Your Orders

Your Lists

Keep Shopping For

Your Recommendations

Recalls and Product Safety Alerts

Your seller account

Your Subscribe & Save Items

Your Pets

Memberships & Subscriptions

Your Prime Membership

Manage Your Content and Devices

- Depending on the marketplace, Browsing history might be hidden or impossible to be switched off

Document	Scope of regulation / main focus	Fundamental requirements	Impact on service providers
Digital Services Act (DSA)	Applies to all intermediary services (including code hosting, package registries and CI/CD platforms) that have EU users	- Deadlines for removing illegal content and transparency of reporting - Risk management for systemic platforms (50 million+ users in the EU)	- The need to appoint a legal representative in the EU - Quarterly compliance audits by independent assessors - Stricter moderation and compensation processes for users
Digital Markets Act (DMA)	Targets "gatekeepers" who have a strong dependence on system infrastructure (e.g. large cloud service providers or repositories)	- API for interaction between systems for messaging and data export - No self-preferences for internal tools - Provision of a mechanism for transferring developer data and work processes	- Lower risk of vendor lock-in for European teams - Mandatory openness of large foreign platforms operating in the EU
General Data Protection Regulation (GDPR)	In terms of data transfer, third-country providers must rely on EU-approved mechanisms, including Standard Contractual Clauses (SCCs) and adequacy decisions.	- Explicit consent or legitimate interest regarding developer metadata (logs, usage) - Data protection impact assessment for high-risk processing	- Migration of user- and project-related data to data centres located in the EU - Greater complexity of contracts (standard contractual clauses, Article 28 on data processors)

Document	Scope of regulation / main focus	Fundamental requirements	Impact on service providers
Data Governance Act & Data Act	encourages the creation of sectoral infrastructures for data exchange, for example in industrial production and healthcare.	Reuse of public data: public authorities must provide APIs on fair and non-discriminatory terms	• Imported analytics or ML services require transparent licences for data exchange • Easier access to EU public datasets for European developers
Network and Information Systems (NIS2) Directive 2022/2555 & Cyber Resilience Act	extends cybersecurity obligations to a larger number of digital service providers, including cloud and hosting services.	Security requirements must be introduced at the design stage for hardware and software	• Mandatory incident reporting within 24 hours • Regular security updates and vulnerability disclosures
AI Act (Artificial Intelligence Act)	artificial intelligence services are classified according to their risk level, ranging from minimal to unacceptable.	• Conformity assessment is required for high-risk artificial intelligence systems (e.g. code generation and automated testing tools) • Transparency obligations include the requirement to indicate when a result has been generated by artificial intelligence	• Imported artificial intelligence APIs must provide documentation on training data, bias reduction, and performance.
VAT and taxation of digital services	One-Stop Shop (OSS) simplifies VAT compliance for cross-border B2B and B2C digital supplies.	Place of supply rules: digital services are taxed at the customer's place of registration	• Suppliers must register with the 'single window' (OSS) • Automatic generation of invoices in accordance with the VAT regime in force in the EU