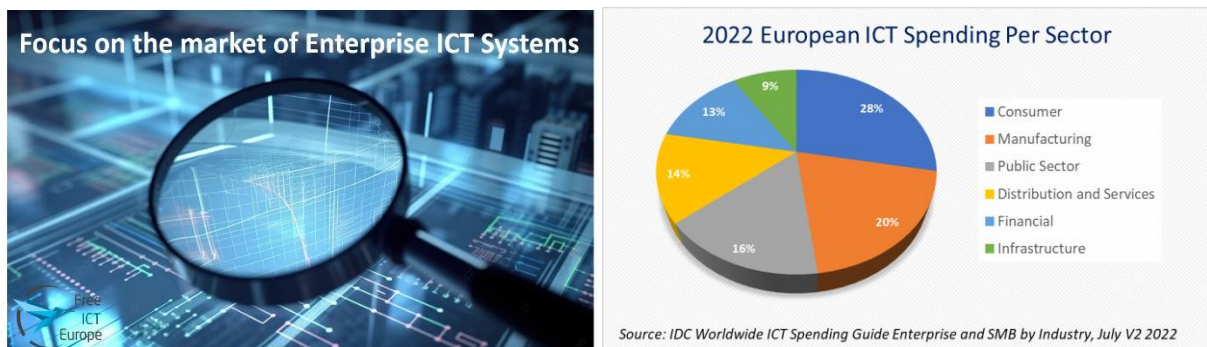


## COP28: Regulation needed for ‘invisible’ world?

ICT enterprise technology has become crucial for our digitally-connected, worldwide economy. Big Tech is visible in the form of Google, Microsoft, Apple, Amazon and Facebook from our desks. But how transparent are the vendors that make all this possible through the connected networks, data storage, and software applications that serve the public and private sector? It is clear, we depend on them. Though we might have given them the space to become controlling while we do not ask difficult questions because of that dependence.

With consumers only counting for 28% of the ICT Spending, attention is needed for the other 72%:



We all know that good decisions are made with sound information from as many different sources as possible. However, with an increasingly limited number of suppliers dominating the IT space – [spending more than other sectors combined](#) – accessing objective data is difficult for policy makers. So, here are some insights from the independent operators in the sector that might help shape the regulatory landscape in a more useful way going forwards than it has been in the past.

### Can you imagine only buying a car from 5 vendors?

We have had a thriving secondary market for vehicles since they were first mass produced. Buying from third party dealers, second hand specialists and the manufacturers is normal practice for us. The Repair and Maintenance is an open market. It would be unthinkable that our vehicles could be shut down by the operating system, restrictions placed on how and when they can be resold. It would be even more outrageous to imagine that our transport would undergo a forced upgrade that rendered the hardware useless. Why, then, for the key market of ICT do we accept limitations, controlled by Manufacturers and Vendors?

### What protection do we already have in place?

Thus far, governmental policies and initiatives have been largely focussed on consumers and public health. Beginning with the Waste Electrical and Electronic Equipment (WEEE) regulations, Europe has set the trend facilitating more circular approaches for especially individuals. These include the reduction of e-waste, Right to Repair, circular buying choices, public collection, product labels, batteries and standardisation. Whilst these are no doubt useful, it is worth recognising that the consumer market represents just 28% of the ICT market spending. Parallel legislative mechanisms need to be created for Enterprise ICT if we are to reach Circular Economy goals, decoupling economic development from environmental and social harm and achieve a more Climate Neutral way of doing business.



## 1. Rationale: raw materials and greenhouse gas emissions

Enterprise systems have a high impact on resource demand because of their size and the complexity of the hardware. There significantly more CO<sub>2</sub>e emissions associated with servers than PCs and laptops because of the amount of steel and aluminium in their production. They also have a higher quantity of Critical Raw Materials (CRM) in the supply chain. The mining of CRM comes with significant social risk as some come from countries with low democratic controls, where labour conditions are questionable. At end of life, these are unrecoverable by conventional recycling due to the amalgams and coatings. Although new technologies show progress, these are often not commercial available at commercial scale.

## 2. The hardware

The idea of The Cloud as an ephemeral body that delivers digital servers is a fallacy. In general Data Centres and on-premise Server Rooms contain 3 categories of hardware; Servers, Storage Systems and Network equipment. As telecom becomes digitalised, they follow a similar model. This sector is set to grow significantly in the coming years, to the tune of 500% globally by 2050 against a baseline year of 2019.

Running connected devices comes with significant climate and material cost. Servers are the engine rooms of the digital revolution. Their processors burn the most energy and available from small to very large multi-million systems. Storage systems support these, with large cabinets filled with large quantities of discs, or a box with robot arm that handles a high number of tapes (which is the most secure storage solution). Network equipment is a group with a wider variety of products, most well-known are switches, routers and firewalls.

These Enterprise systems have a technical quality that can facilitate a longer use of products easily, the support should be given to independent providers who make this happen.

## 3. The Software

A popular myth about about IT products is that they are finished products when they are placed on the market. In reality, the number of configurations and systems integrations that need to be carried out means that there are likely to be fixes needed at delivery stage and also during the lifetime of the system. This ongoing adjustment process is supported by updates, impacting the functioning of hardware in 3 main ways:

- a. Firmware – In simple terms, this makes sure a component knows what it is, how it should work and what language to speak connecting with the Operating System (OS). In enterprise-IT this is not standard to be provided Free of Charge, though used for lock-in of services and competition.
- b. The Operating System (OS) - The connecting language that helps all components work together to create a working system. It provides the foundation for applications to be added.
- c. Applications (Apps) - The tools that deliver the outcomes that the users need. These can be extensive and expensive programs. Developments are ongoing; adding functionalities released in upgrades that often result in requirements for new hardware. Why is this necessary when the rights to use this software is often perpetual?

Software has become the digital key to control as well as the life-time determinant of products.



## The COP28 Call

1. The position of the primary market: New products and technologies are needed, though Manufacturers and Vendors should not have the power to create a monopoly in service, repair, maintenance and resale during the life-cycle (secondary market).
2. Legislators need to make sure that the Circular Economy is an open system, not a sum of producer controlled eco-systems; to provide services and the trade of (used) products by independent third parties needs to be supported and protected by law.
3. Third parties are often local providers, SME's who generate jobs and obtain and sustain crucial knowledge of ICT hardware and software. Besides experts in the life-cycle extension of products, the contribution is key for the economy.

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