



SUSTAINABLE DIGITAL  
INFRASTRUCTURE ALLIANCE

# Why we need to think about Sustainability in Digital Infrastructure now.

And how the Alliance facilitates the journey towards it.

# What does “Sustainability” mean?

The name **sustainability** is derived from the Latin *sustinere* (tenere, to hold; sub, under). Sustain can mean "maintain", "support", "uphold" or "endure".

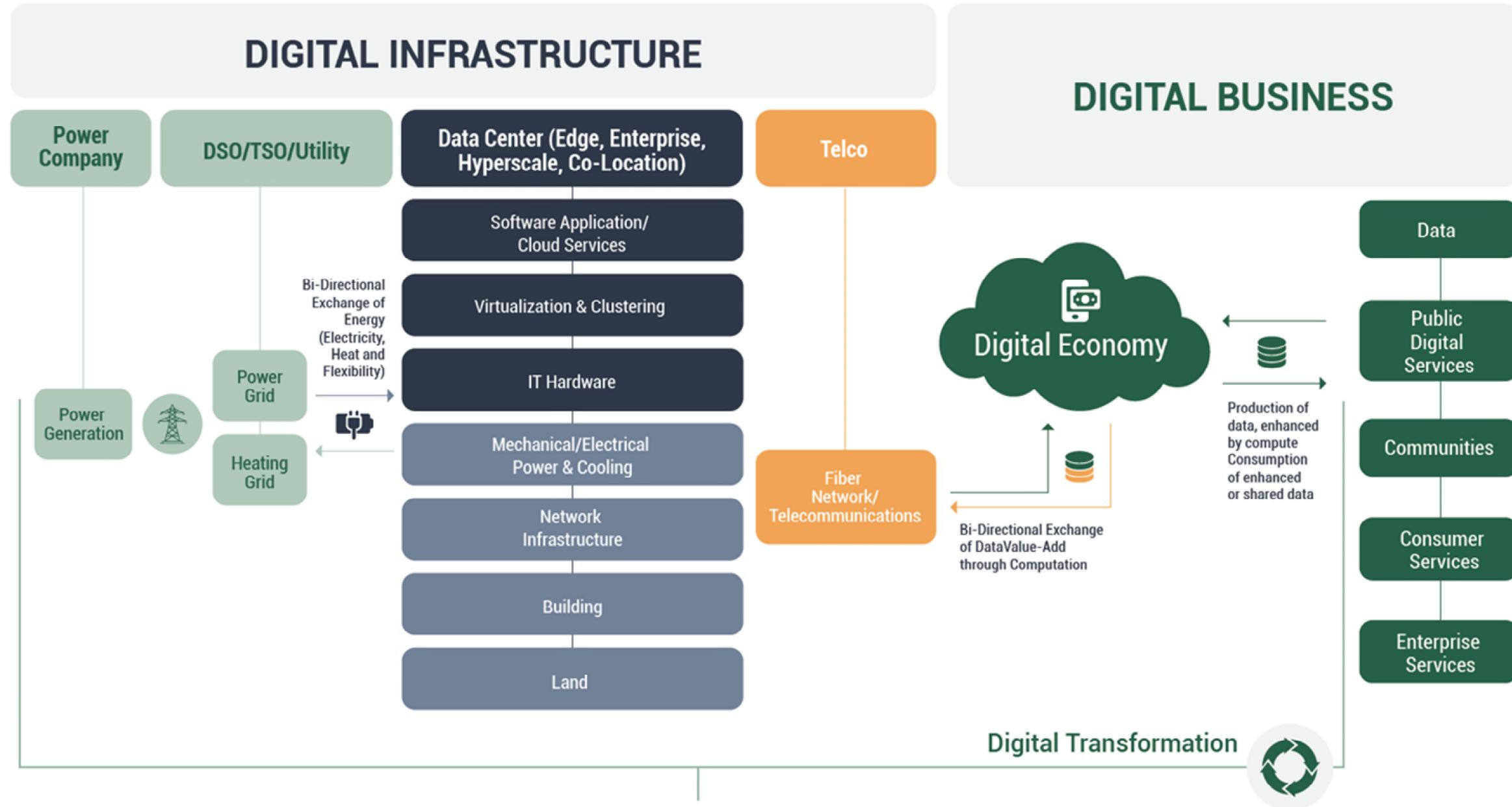
“**Sustainable development** is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

*Brundtland Report 1987 and  
basis for the UN SDGs.*

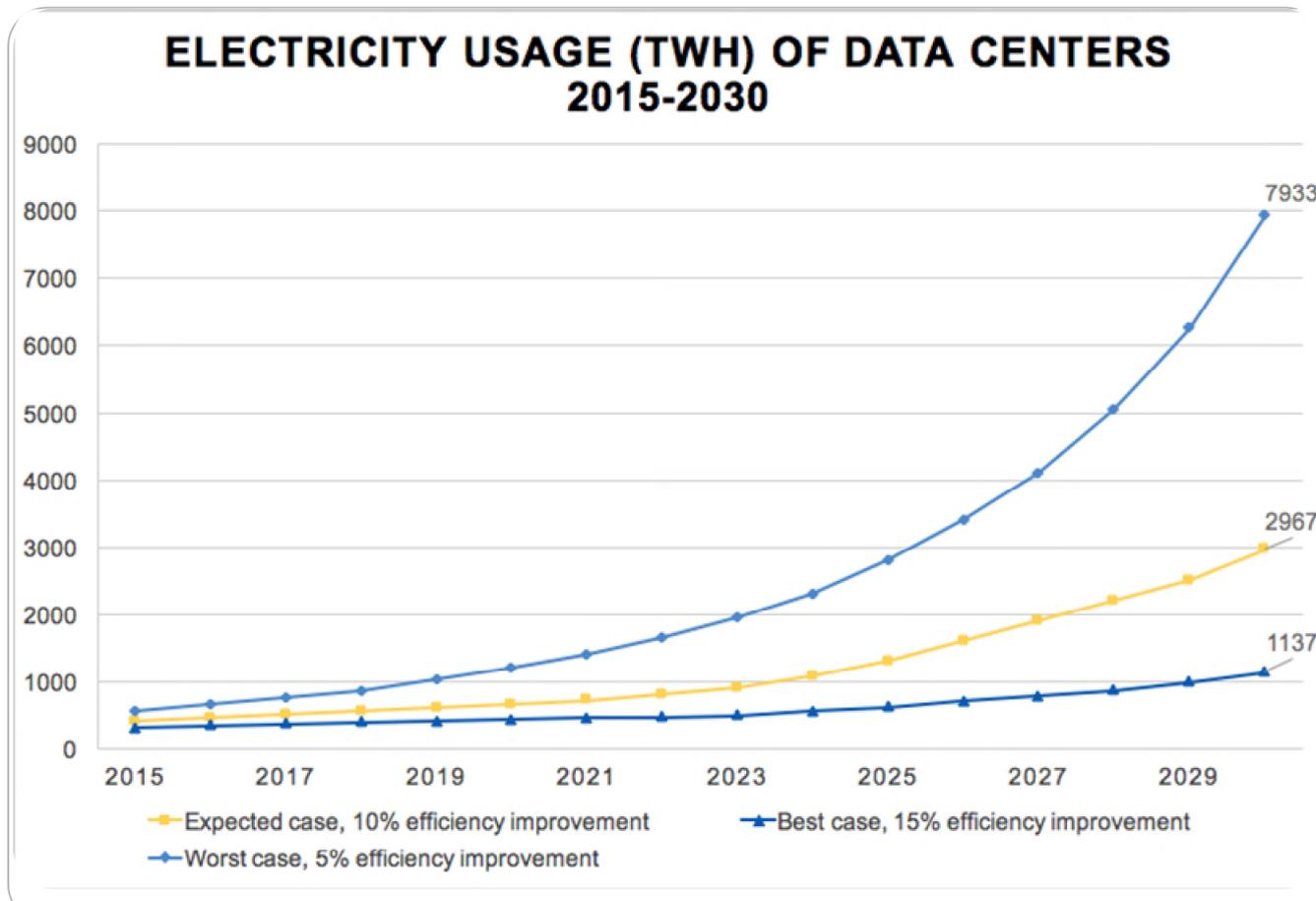


# Key Elements of Digital Infrastructure Supply Chain

Hardware Production	Operation of Data Centers & Networks	Software Applications	End-Consumer Devices	End-of-Life
Resource Provision	Energy Consumption	Green Coding	Updates without Impacting Performance	Second Life Options
Energy in Production	Cooling Requirements	Purpose of Software	The Right to Repair	High Recycling Requirements
Pollutants	Waste Heat	Optimizing Deployment of Applications	Avoiding Breaking Points	Feedback Loop to Production
Social Conditions	Hardware Maintenance	Updates without Impacting Performance		Audits on actual Recycling success
Recycling Compatibility	Energy Production	...		
Transport	Construction of the Facility			
Efficiency by Design	Server Utilization Rates			



# The Demand for Digital Infrastructure is growing.



- More digital services in every part of our life are driving demand for storing and processing data
- Data centers are the engine room of the digital economy and even more in the age of the cloud
- Efficiency measures and consolidation have kept energy consumption on a certain level
- Hyperscalers are growing faster than ever

Huawei, Sweden 2015

# Why do we need think about it now?

## Environmental Awareness

- **Public** interest in sustainability (FfF)
- **Governmental** interest (EU Green Deal)
- **Funding** of new Technologies (Hydrogen)

## Solving problems, not causing them

- Digitalization is mighty tool to solve problems of humanity
- It needs to be set up consciously to not cause more problems

## Time of Growth and Change

- Demand is increasing industry is changing
- Desired standards are easier to establish while an industry is still maturing

# The Energy Transition and Digitalization are closely connected

## 01 The Energy Transition

Fueled by the increasingly apparent threat of climate change and existence of pollutants in our environment we have ambition to drastically reduce our carbon emission and the impact on environment overall

## 02 Digitalization

The process of moving towards a completely digitalized economy is expected to have to solve many of humanity's problems. It makes leverage existing technologies and enables completely new ones.

## 03 A Smart & Sustainable Future

Enabling a smart energy system based on renewable energy that optimizes automatically, uses all resources efficiently and comprehensively. Supporting innovation by making digital resources accessible to everyone.

# Supporting the Energy System of the Future



## Efficient Cooling & Waste Heat

Needed to drive down electricity costs and provide carbon-free heat to the energy system.



## Renewable Energy Supply

Decarbonize the operation of the data center, support the grid of the future.



## Server Utilization

Make data centers operate more efficiency. Enable load shifting for better adaptation to the grid of the future.



## Location Selection

Select sites that enable low-carbon operation in less dense areas.



## Emergency Power

Choose alternative UPS and Emergency Power systems that can be beneficial to the grid and emit less carbon emissions

**We are an Alliance of like-minded organizations who drive the sustainable transformation of digital infrastructure.**



## **Our Purpose**

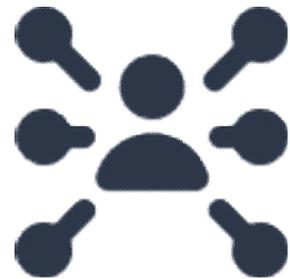
Creating sustainable digital infrastructure that has zero negative impact on the environment while driving the competitiveness of the sector.



## **Our Mission**

We are the catalyst for inter-industry collaboration. Together with our members, individuals and governments we measure the environmental impact of the Digital Economy and promote a roadmap towards economically and ecologically sustainable digital infrastructure.

# How the Alliance facilitates the journey towards SDI



Combine the pillars of compute, power and network into **a unified voice represented by the SDIA.**



**Promote the Sustainable Digital infrastructure** that underpins the Digital Economy & **build the roadmap** towards net-positive digital infrastructure.



**Drive research & commercial implementation** on new technologies needed to reach the targets.

HOW THE ALLIANCE FACILITATES THE JOURNEY TOWARDS IT

# Supported by members that represent the value chain of the digital infrastructure sector.



# Contact us



## **Lasse Schneppenheim**

Head of Operations

*MEng Energy & Environmental Management*

Email: [lasse.schneppenheim@sdialliance.org](mailto:lasse.schneppenheim@sdialliance.org)

Phone: +49 40 22862448

**Sustainable Digital  
Infrastructure Alliance e.V.**

Colonnaden 5  
20354 Hamburg  
Germany