



# WHY CIRCULARITY IS CRITICAL FOR THE ECONOMICS OF IT

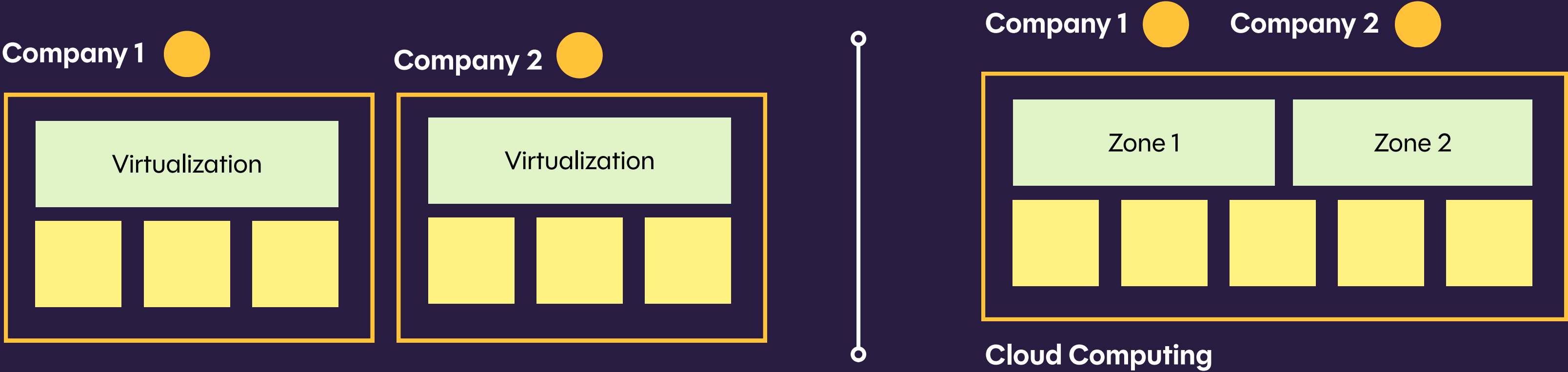
## JAARCONGRES CIRCULAIRE-IT NEDERLAND 2025



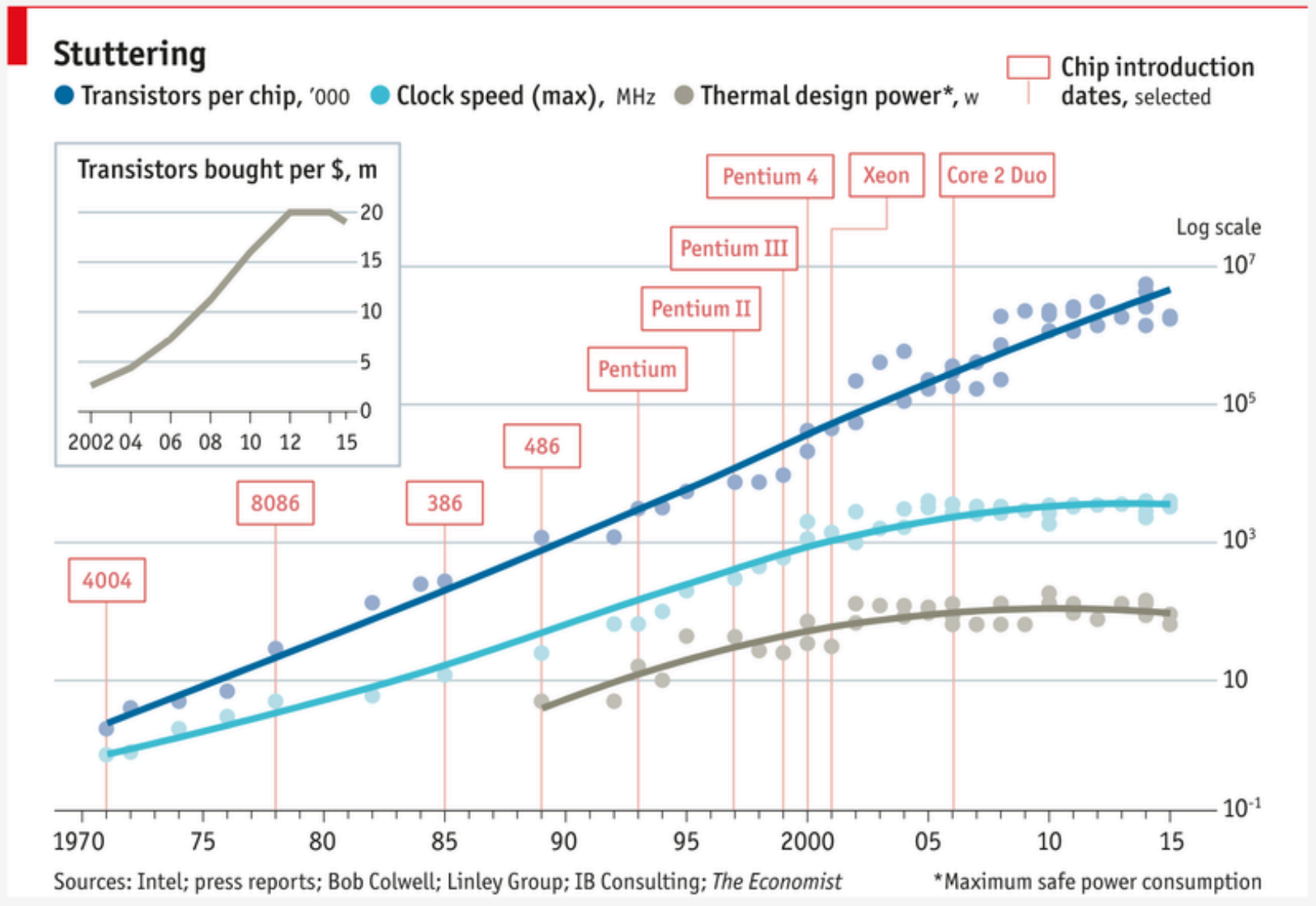
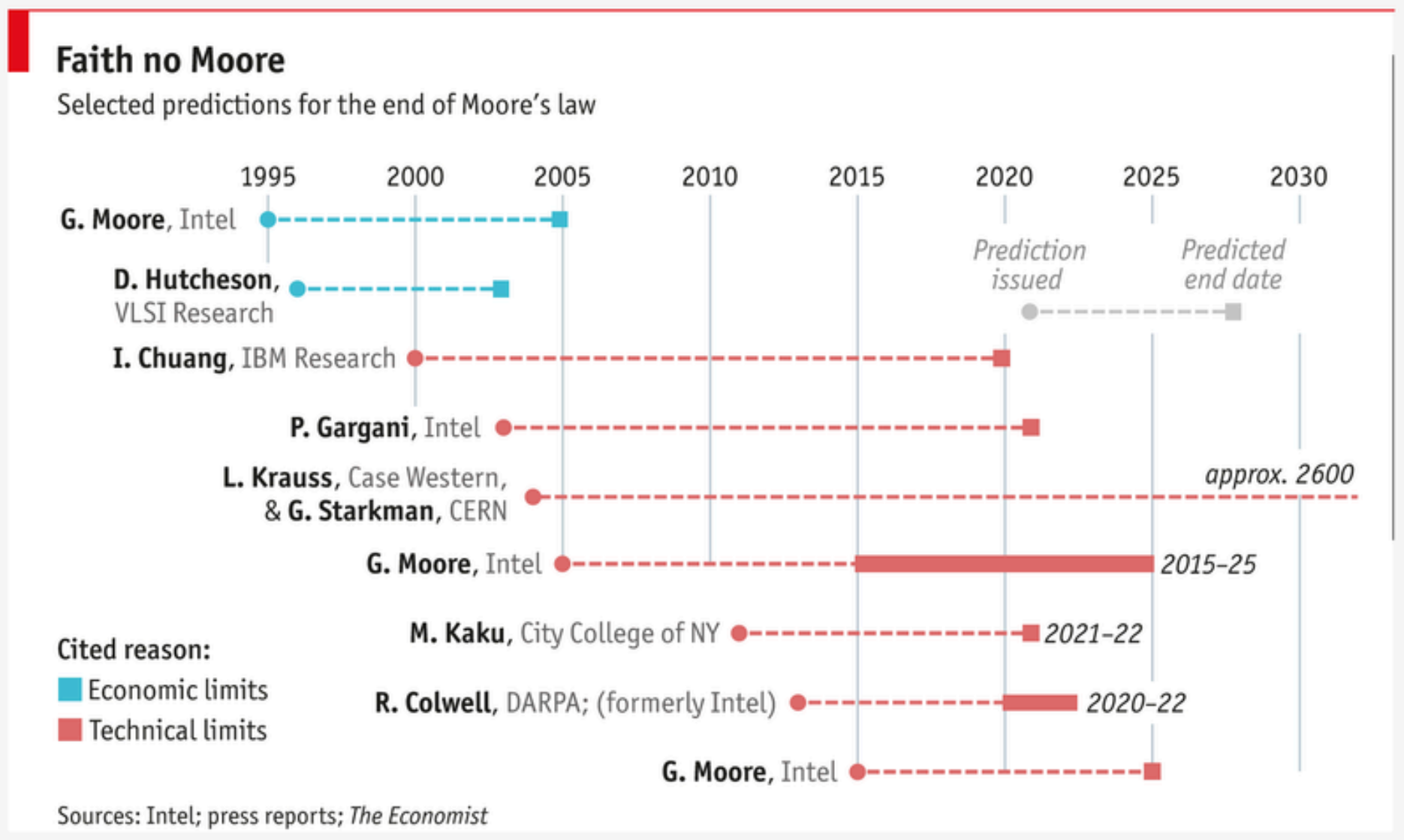
# SOFTWARE CONTINUES ITS QUEST TO CONSUME MORE COMPUTE AT AN EVER INCREASING RATE



THROUGH RESOURCE SHARING, CLOUD UNLOCKED THE MISSING COMPUTE THAT HARDWARE COULDN'T DELIVER ANYMORE



# AI IS PUSHING THE LIMIT FURTHER, LEADING TO BIGGER CHIPS, WITH LIMITED EFFICIENCY GAINS



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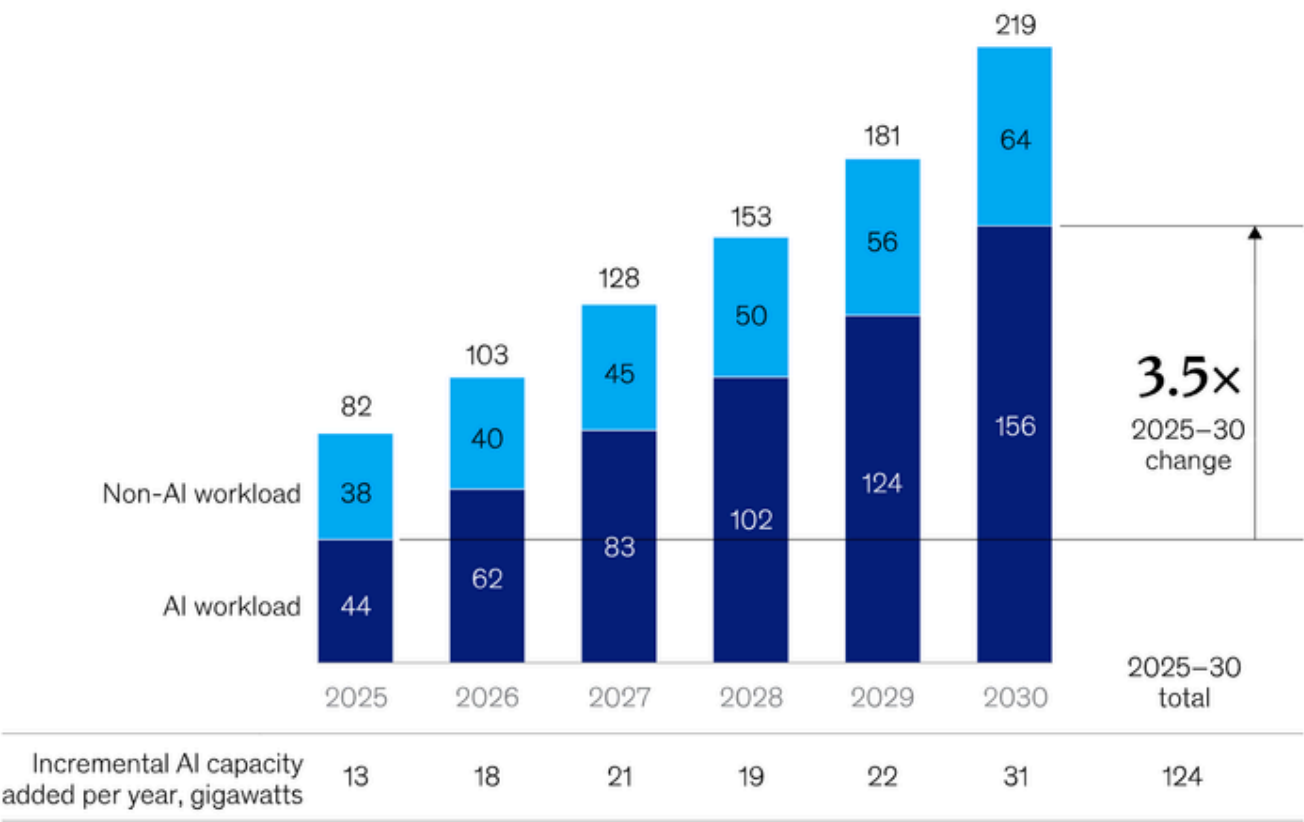


# THE EVIDENCE IS CLEAR: MASSIVE EXPANSION OF ENERGY USE AND DATA CENTER FOOTPRINT

Exhibit 2

Both AI and non-AI workloads will be key drivers of global data center capacity demand growth through 2030.

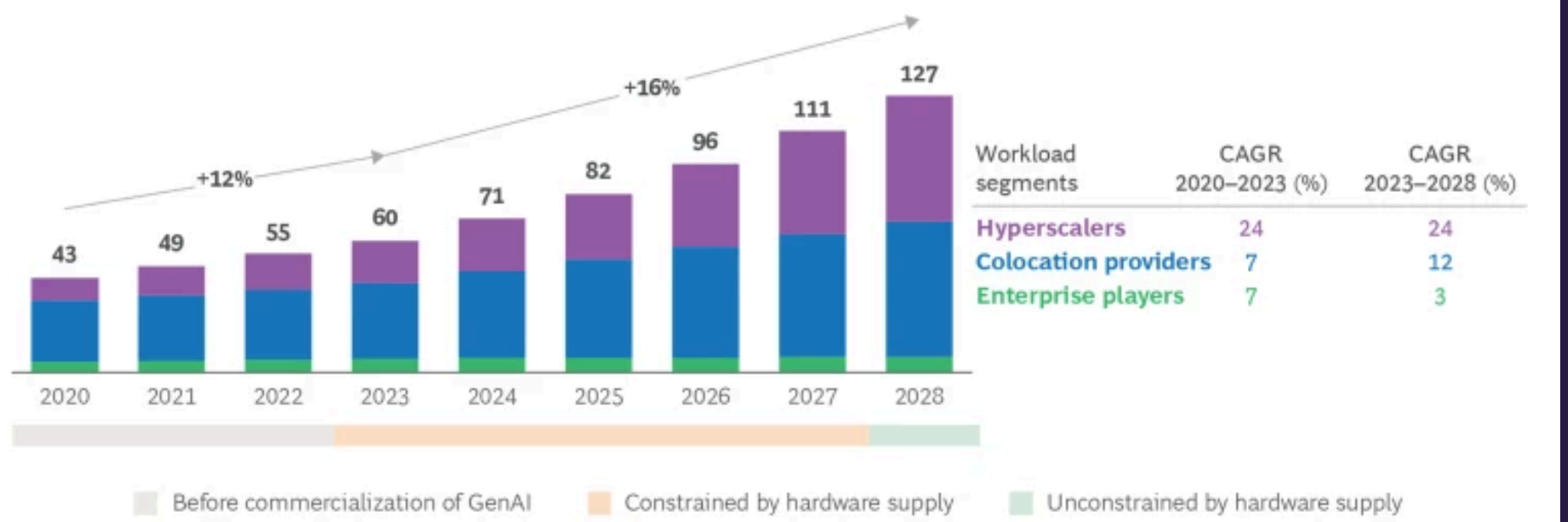
Estimated global data center capacity demand, 'continued momentum' scenario, gigawatts



Note: Figures may not sum to totals, because of rounding.  
Source: McKinsey Data Center Demand Model; Gartner reports; IDC reports; Nvidia capital markets reports

## Exhibit 2 - Hyperscalers Are the Growth Engine for Data Center Demand

Global data center power required to serve projected computing demand (GW)<sup>1</sup>



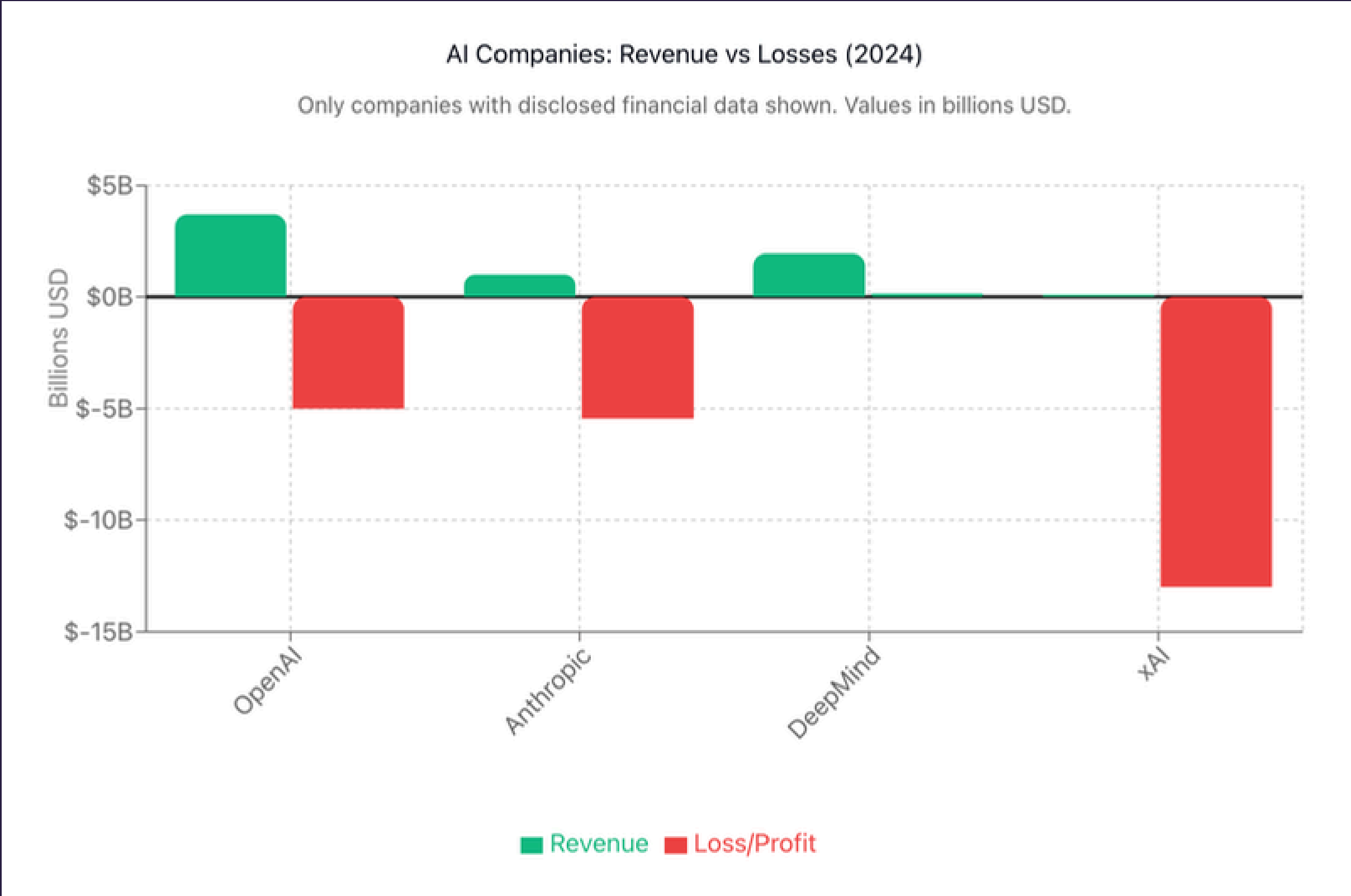
Sources: BCG Global Data Center Model; expert interviews; MLPerf; Nvidia quarterly earnings; press releases; product datasheets.

Note: CAGR = compound annual growth rate.

<sup>1</sup>Data in this exhibit reflects the base case scenario, with hardware supply constrained through 2027 and unconstrained in 2028.



# THE ECONOMICS OF AI: NONE. VALUE CREATION < COMPUTE COSTS

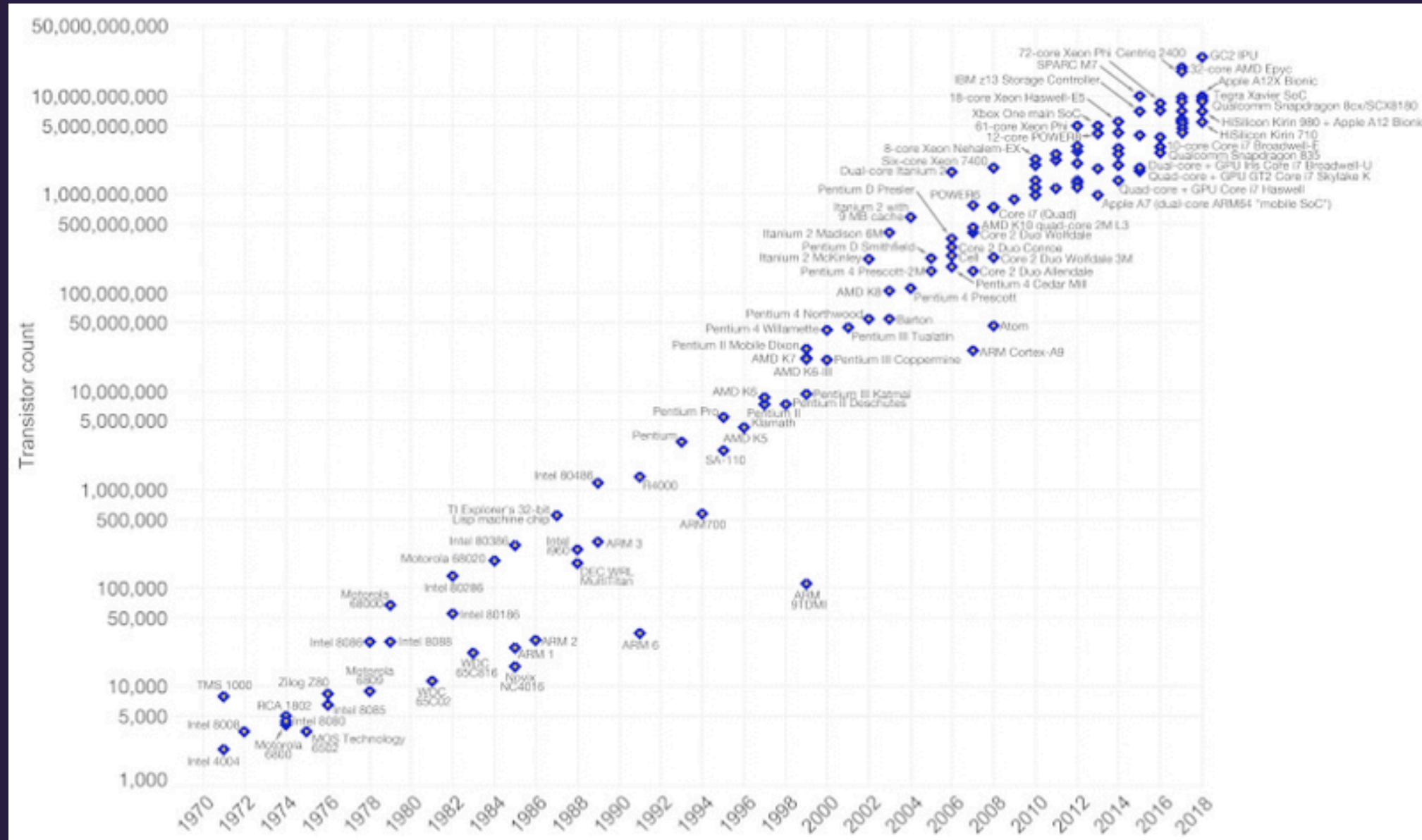


Notes:  
OpenAI: \$3.7B revenue, \$5B loss (2024)  
Anthropic: \$1B revenue, \$5.45B loss (2024)  
Google DeepMind: \$1.95B revenue, \$145M profit (2023) – only profitable company  
xAI: \$100M revenue, \$13B projected loss (2025)





# REPLACEMENT FOR EFFICIENCY: NOT NECESSARY ANYMORE. COMPUTE COSTS IS ALL THAT MATTERS = CIRCULAR IT



- NVIDIA: Increasing FLOPS still, but each generation costs more (cost per FLOP is flat)
- Traditional hardware: Unit cost per CPU hour is flat, modest efficiency gains (End of Moore's Law)
- Unit cost per compute (CPU hour, GB of memory)  
→ **reduceable through refurbishment, lifetime extension**



OPPORTUNITIES

3 OPPORTUNITIES:

EMPOWERING NEOCLOUDS TO COMPETE ON COMPUTE COST  
CLOUD REPATRIATION  
REGIONAL PROVIDERS



# NEOCLOUDS: STANDARDIZED, HYBRID REFURBISHED AT SCALE

REFURB ALREADY COMMON PRACTICE IN CLASSIC CLOUD'S



They already optimized for cost-of-compute due to customer demand

NEOCLOUDS NEED SPEED, STANDARDIZED COMPUTE

- PREDICTABLE CPUS
- STANDARD MEMORY CONFIG
- BLEND NEW/USED, PRIORITIZE SPEED
- BLEND TRADITIONAL HARDWARE WITH PCIE EXPANSION (GPUS, FPGA)

They don't have the lessons learned from classic cloud

HYBRID ASSEMBLY TO ENSURE STANDARDIZATION; PARTNERING WITH FINANCE

- FINANCING MODELS
- HYBRID ASSEMBLY
- ON-SITE ASSEMBLY
- HW-AS-A-SERVICE



# CLOUD REPATRIATION: PROCUREMENT-DRIVEN, AS-A-SERVICE OFFERINGS

## GOING BACK TO ON-PREMISE

- COSTS
- REGULATORY PRESSURE
- RELIABILITY
- CONTROL

## DECISIONS ARE PROCUREMENT DRIVEN

- COST COMPETITIVE
- LOW ENVIRONMENTAL IMPACT
- RESILIENT / EUROPEAN
- LOCAL IMPACT

## OPPORTUNITY FOR SERVICE OFFERINGS



- PARTNER WITH DC – REFURB ON-SITE
- HW-AS-A-SERVICE
- PAY-PER-USE (SUN MODEL)



# REGIONAL PROVIDERS: MORE WILL BECOME ‘MICRO-CLOUD-PROVIDERS’ → ENHANCED MARGINS FROM CIRCULAR IT

## REGIONAL MSPS & SYSTEM INTEGRATORS EVOLVING

- K8S/OPENSTACK CLOUD
- BUILDING PRIVATE CLOUD
- RELIABILITY
- CONTROL

## MARGINS CAN BE IMPROVED THROUGH CIRCULARITY

- HIGH LABOR COSTS → NEED TO REDUCE OPS COSTS
- LOWER CAPEX → MORE COMPETITIVE PRODUCT
- RE-USE EXISTING CUSTOMER EQUIPMENT (CLOUD <> ON-PREMISE)

## OPPORTUNITY FOR SERVICE OFFERINGS



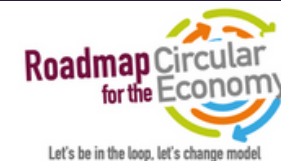
- PARTNER TO OFFER PAY-PER-USE/COMPUTE-AS-A-SERVICE
- REV-SHARE VS. UPFRONT
- REGIONAL CIRCULARITY CONTRIBUTION & SUBSIDIES



**Due for adoption in 2026**, the Circular Economy Act aims to establish a Single Market for secondary raw materials, increase the supply of high-quality recycled materials and stimulate demand for these materials within the EU. It will contribute to the ambition laid out in the [Competitiveness Compass](#) to make the EU the world leader in the circular economy by 2030.



**Kreislaufwirtschafts-  
strategie** Deutschland



**50** measures  
for a **100% circular  
economy**

The government has presented the [National Circular Economy Programme 2023-2030](#), which sets out a mix of measures for the years ahead aimed at using products and raw materials more sparingly. Reducing the material footprint of the Dutch economy is the recurring theme. New interventions will be investigated, specific targets will be set on specific product groups as well as stricter norms and pricing incentives, and high value retention of products and materials will be scaled up.

# THANKS!

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