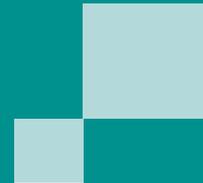




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AI Gigafactories: An economic perspective on public funding & support

World Summit AI - Amsterdam, 8 October 2025

www.europeaneconomics.com

Founded in 2009, **european economics** is a recognised **pure-player consultancy in public funding**

We help our clients design & implement **turnkey public funding solutions** for their strategic projects in Europe

250

Total projects supported since 2009



98 B€ of activities

43 B€ of public funding secured 5.8 B€ in 2024

200

Clients – high growth SMEs, mid-sized companies & large multinationals, all industrial sectors

400 M€

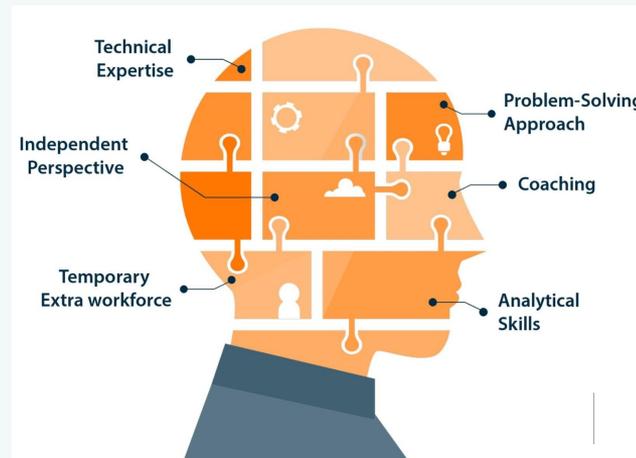
Average project size – **up to several billion euros**

50 M€

Minimum funding requirement

- ❑ Public funding in Europe falls under **specific regulations** (including competition law)
- ❑ Various pieces of EU regulation apply to a variety of projects (R&D, First industrial deployment, capacity building)
- ❑ Administrative procedures at Member State + EU level can be burdensome and long before the company can receive the first instalment (1-2 years procedure)
- ❑ Aligning project design with applicable regulations is essential to **maximise access to public funding**, craft targeted applications, and achieve a high probability of success

✅ **european economics** provides these services on a **day-to-day basis**



- ❑ Data is the oil of the 21st century <=> AI Gigafactories are the **factories of the 21st century**
- ❑ AI factories are an **infant industry**
- ❑ Production function: Huge data + huge low carbon electricity + talent = Large Language Models / AI models
- ❑ AI Gigafactories lie at the **cutting edge** of computational power + power consumption
- ❑ Datacentres maximise IT throughput <=> AI Gigafactories reduce time-to-model while managing scale orchestration and stable / low carbon electricity supply
- ❑ AI Gigafactories are NOT just datacentres; they form the **core of new innovative ecosystems** as backbones of new knowledge creation in the digital age – they industrialise the production of knowledge itself



Standard estimation (AI-generated)

Capex:

- ~100,000 GPUs + servers, memory, local storage €3.25 billion
- HPC/AI networking €1.00 billion
- Storage & data pipelines €0.80 billion
- ~300 MW IT power distribution, cooling system €3.60 billion
- Engineering, integration, commissioning €0.25 billion

TOTAL €8.90 billion

Opex:

- Energy €240 million / y
- IT maintenance €400 million / y
- Facility O&M, people, telecom, fiber, water, chemicals, insurance... €190 million / y

TOTAL €830 million / y



⇒ **Huge industrial projects** similar in size & complexity to leading-edge semiconductor fabs or nuclear power plants

DOES THE LOCALISATION OF AI GIGAFACTORIES MATTER?

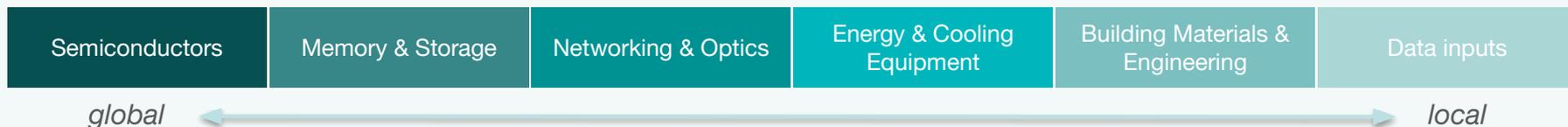
Demand-side: NO but...

- ❑ AI Gigafactories' users (research, SMEs, multinationals) can access AI Gigafactories resources remotely through the cloud
- ❑ ... but users may value their datasets being created, stored, and processed locally, protecting digital sovereignty

Supply-side: YES

- ❑ The construction & exploitation of cutting-edge digital infrastructures creates industrial know-how and highly qualified jobs
- ❑ The supply of large amounts of electric power, cutting-edge cooling systems and components develops strategic & resilient energy supply chains
- ❑ Governance & standards are created locally, fit to regional approach

- ❑ AI Gigafactories tier-1 supply chain



THE COMPETITIVE LANDSCAPE OF AI GIGAFACTORIES



- United States = front-runner
- + Private capital velocity, supplier control, cheap energy, talent
- Concentration, limited access for non-hyperscalers



- Europe = big plans with focus on governance
- + Inclusive / shared access (SMEs, research), blended finance, digital regulation
- Permitting, electricity grid & prices, multi-State coordination, talent loss



- China = market & planification mix
- + State-directed coordination, speed, scale, local competition
- Constrained on cutting-edge GPUs, Electronic Design Automation tools and equipment for advanced chip manufacturing

OpenAI-Oracle-SoftBank “Stargate” program
 US\$ 500 billion investment before end of 2025
 Flagship site in Abilene, Texas, is already live
 Target = 400,000 GPUs 1.2 GWe

InvestAI initiative to mobilise €200 billion for investment in AI, including €20 billion for AI gigafactories under EuroHPC coordination

Stargate Norway announced on 31 July 2025
 Est. € 6 billion investment, start of ops 2026
 Target = 100,000 GPUs 230 MWe Phase 1

National hub feeding a multi-node network of large regional AI factories across major hubs
 Flagship in Shanghai–Lingang is SenseTime “SenseCore”

Thousands of accelerators, dozens of MWe

+ Too many AI Gigafactories

- Very high fixed costs (several billion € Capex)
- Economies of scale
- Learning-by-doing
- Platforms & network effects

⇒ increasing returns & first-mover advantage: later entrants can hardly compete with incumbents on price & quality

- Not enough AI Gigafactories

- Externalities = AI Gigafactories generate positive spillovers, a value to the entire economy that doesn't fully reach the operators' bottom line
- Public goods = European companies & citizens benefit from sovereignty & resilience in AI Gigafactories, while AI companies base their decisions concerning inputs' sourcing on price, reliability, lead time, and quality

⇒ lack of incentives to invest up to the AI Gigafactories social value for Europe

- Race to be the early AI Gigafactories, despite huge barriers to entry and possibly low profitability in the short term
- Time matters a lot: 2025–2030 is the window when model scale, talent migration, and industrial learning will lock-in leaders
- AI gigafactories could follow the evolution of leading-edge chips manufacturing = Taiwan-based TSMC has 60-70% market share => low global resilience for advanced chips
- Late entrants can disrupt via technology shifts (e.g., quantum, neuromorphic chips, greener technologies)

WHY PUBLIC FUNDING FOR AI GIGAFACTORIES?

- ❑ Public funding can help new entrants overcome the gigantic barrier to entry resulting from billion € Capex

- ❑ Public grants can help compensate for the initial natural disadvantages of certain locations

- ❑ Public funding can help secure European sovereignty, resilience and spillovers from AI Gigafactories that are not provided by the market

Stimulating early-stage competition
on a global scale

- ❑ Preserve Europe's option value to participate at the technological frontier in the 21st century

- ❑ Build Europe's reliance on sovereign & resilient AI Gigafactories – including in strategic applications such as defence, healthcare, manufacturing

- ❑ Increase the AI market's chances to ultimately select the best AI Gigafactories, NOT just letting the first-movers win (they may not be the best)

- 👁️ € 20 billion “InvestAI” EU fund to finance five AI gigafactories capable of training next-generation models
Official EU call for the establishment of AI Gigafactories in Q4 2025, via EuroHPC

Every generic or EU specific challenge must be addressed:

- ❑ Upfront CAPEX (**build phase**)
 - First-loss equity x% of project value to de-risk private equity
 - A proportionate share of Capex funded through e.g. a repayable advance (to be reimbursed in case of project success), proportionality can be implemented through auctions
 - Senior green loans and guarantees to lower WACC
 - Fast-track permitting
- ❑ Revenue & demand certainty (**operate phase**)
 - Time-limited two-ways Compute Contracts-for-Difference (c-CfD) to stabilise revenues in this infant industry + avoid windfall profits
 - Multi-year vouchers/credits pre-committed for universities, SMEs, public health and climate missions to support shared access, fair pricing, interoperability, and inclusion
- ❑ Public co-funding for electricity grid upgrades + regulated asset base + open-access rules
- ❑ Electricity e-CfD for new low-carbon capacity (wind, solar, nuclear) implemented through auctions + long-term Power Purchase Agreements
- ❑ Conditional funding on apprenticeships / university partnerships to address the talent & skills shortage
- ❑ Establish EU interoperability standards to address the fragmentation risk

1. A global race for AI Gigafactories is underway
2. The three big players (USA, Europe, China) each compete with distinct advantages and risks
3. Scale, finance and speed are key ingredients in this race – Europe must close the gap in these respects
4. Through InvestAI, public-private investment can position Europe at the forefront of 21st century digital technologies, anchored in sovereignty, resilience, and inclusion
5. But success requires more than just money: secure electricity, talent, and supply chains are just as critical
6. Visit our booth at the World Summit AI to explore the next steps in preparing your funding application

“ Thank you for your attention!



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