

From Supercomputers to classrooms

By Lucia Loyo

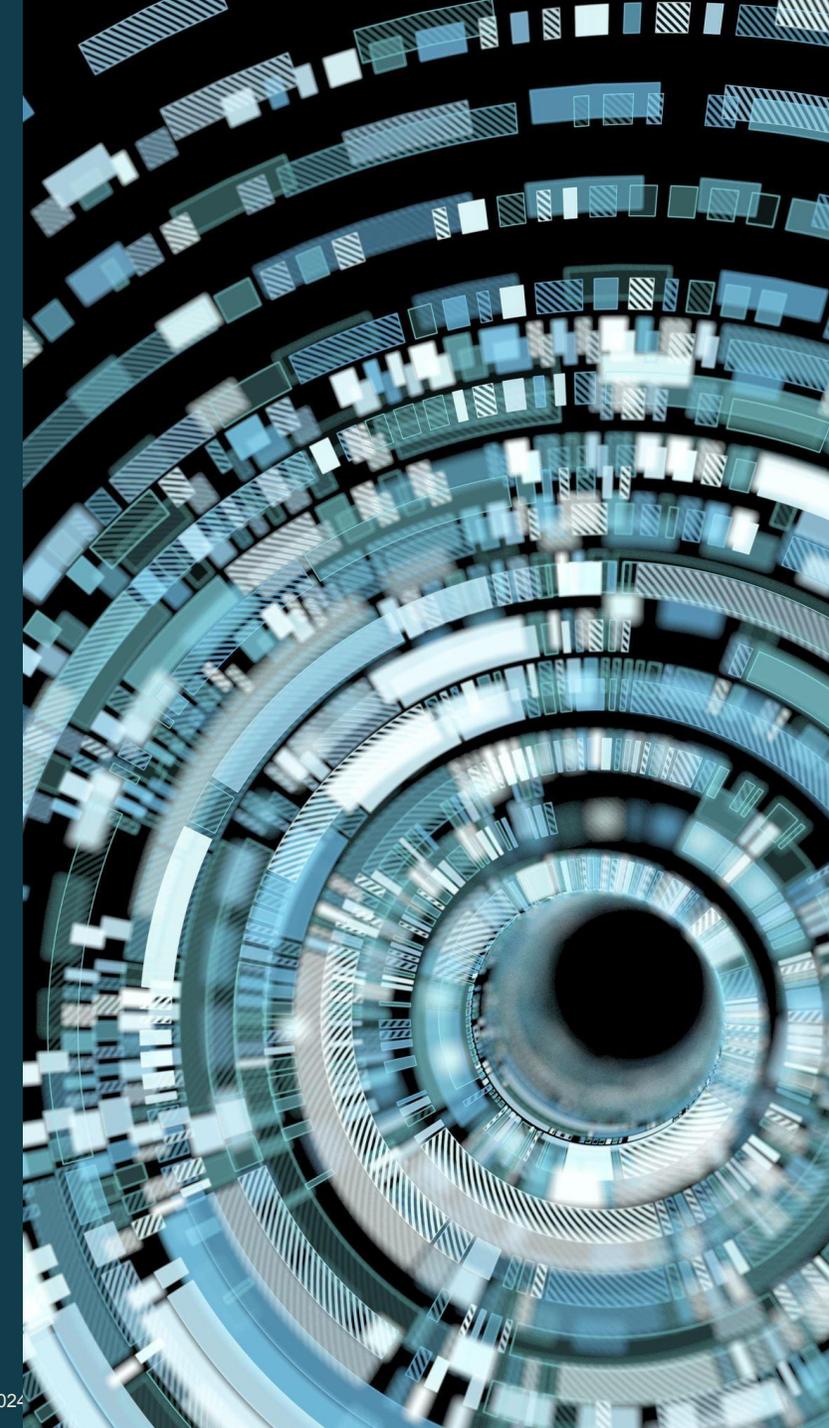


How Supercomputers can help to bridge the AI Compute Gap with AI Factories



Barriers to AI in Education & Research:

- Limited compute access
- Expensive, scarce GPUs (dominated by non-EU manufacturers)
- Universities: 0.1–10 petaflops vs. exascale in industry
- Dependence on foreign cloud providers (Azure, AWS, GCP)



Bottlenecks and Inequalities

Data bottlenecks and lack of shared datasets

Talent shortage: skills gap, visa barriers

Widening digital divide across Europe



LLM Training Cost Comparison for Academic Institutions

With vs Without EU AI Factory Access (2025)

Without AI Factory Access		EU With EU AI Factory Access	
Small Model (7-13B parameters)			
Compute (GPU rental)	€150,000 - €240,000	Compute (GPU rental)	€0 (FREE)
Data preparation	€20,000 - €30,000	Data preparation	€20,000 - €40,000
Personnel	€20,000 - €25,000	Personnel	€25,000 - €50,000
Infrastructure & tools	€10,000 - €15,000	Infrastructure & tools	€5,000 - €15,000
TOTAL:	€200,000 - €310,000	TOTAL:	€50,000 - €105,000
Medium Model (30-70B parameters)			
Compute (GPU rental)	€800,000 - €4,000,000	Compute (GPU rental)	€0 (FREE)
Data preparation	€80,000 - €200,000	Data preparation	€80,000 - €200,000
Personnel	€100,000 - €300,000	Personnel	€100,000 - €300,000
Infrastructure & tools	€20,000 - €50,000	Infrastructure & tools	€20,000 - €50,000
TOTAL:	€1M - €4.55M	TOTAL:	€200,000 - €550,000

Cost Savings with EU AI Factories

Small Model (7-13B)

66-75%

Save €95K - €205K

Medium Model (30-70B)

88-90%

Save €800K - €4M

Large Model (100B+)

93-96%

Save €7.95M - €39.65M

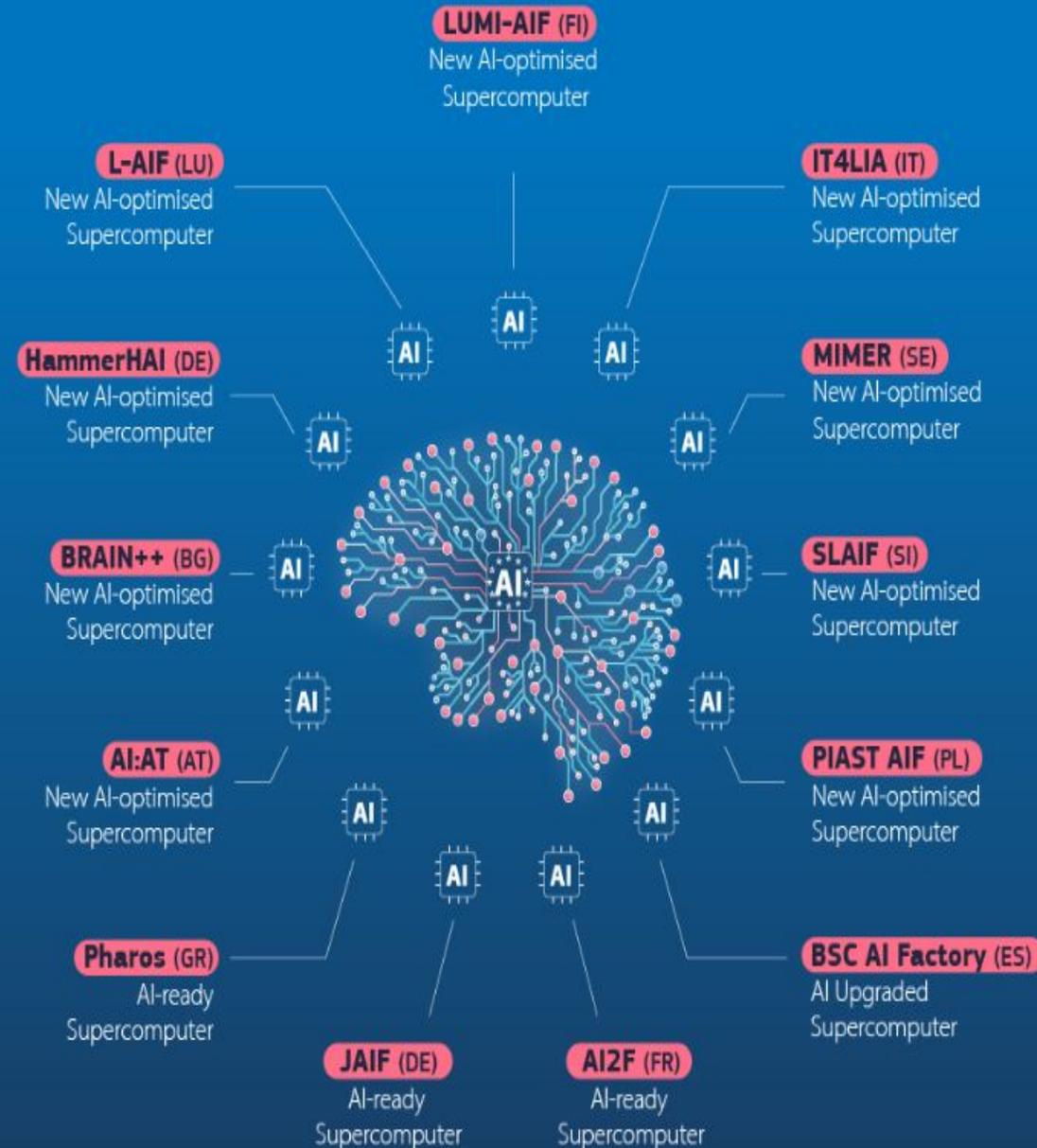
AI Factories will enable academic institutions and startups to develop AI solutions specifically designed for educational setting capabilities previously accessible only to well-funded companies



Dynamic ecosystems built around supercomputers

- Skills & training: fellowships and AI Skills Academy
- Federated data labs for secure data sharing
- Reduced costs for SMEs and universities
- Builds European autonomy and trusted AI

EUROHPC AI FACTORIES ECOSYSTEM



By 2026 AI Factories could deliver:

15 AI Factories across Europe, tripling compute

Democratized AI innovation

Cross-border collaboration, multilingual models

AI Giga Factories (100k+ processors) for science & industry

Reduced digital divide



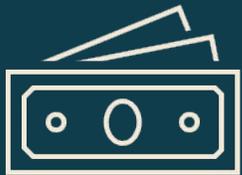
Why It Matters

This is Europe's boldest move to democratize AI combining compute, data, and skills.
From classrooms to labs, opportunities for all
Europe shaping the future of **responsible AI**

CONCLUSION

Cost Reduction: Up to 96% savings

Medium model:
€200K-€550K (vs
€1M-€4.55M)
Large model: €550K-
€1.75M (vs €8.5M-
€41M)



Key Enabler: Free Compute Infrastructure

Eliminates 70-90% of
traditional training
costs



Strategic Advantage

Build specialized, safe,
educationally-focused
models for students



Bottom Line

European universities
can now train
sovereign AI systems
tailored to educational
needs at costs within
research budgets



Let's
continue
the
conversation



Lucia Loyo

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