Global Benchmarks – AI-Focused Data Center & Supercomputer Projects

#	Project & Country	Developer / Operator	Build Type	Capacity (Peak / Design)	Key Timeline (announcement → go-live)	Duration*	Highlights
1	**Summit** – USA	US DOE / ORNL + IBM-NVIDIA	Greenfield HPC	200 PF (Linpack) / 13 MW	Nov 2014 contract ↓ • 2015 design • 2017 install • **8 Jun 2018**launch	**≈ 3.5 yrs**	First GPU-heavy supercomputer to lead Top500; delivered on schedule despite custom architecture.
2	**Fugaku** – Japan	RIKEN + Fujitsu	Greenfield HPC	537 PF / 30–40 MW	2014 R&D start • Dec 2019 install start • May 2020 racks complete • Mar 2021 public service	**≈ 6.5 yrs**	World #1 (Jun 2020 – Jun 2022); kept to plan even through COVID.
3	**LUMI** – Finland	EuroHPC / CSC	Brownfield (mill → DC)	375 PF / ~10 MW	Jun 2019 site award • Feb 2020 build • **13 Jun 2022**inauguration	**≈ 3 yrs**	Converted disused pulp-mill hall; 100 % hydro power + heat-reuse.
4	**Frontier** – USA	ORNL + HPE Cray / AMD	Brownfield HPC	1.1 ExaFLOPS / 24 MW	May 2019 contract • 2021 install • **9 May 2022** debut	**≈ 3 yrs**	First confirmed exascale system; delivered ahead of peers.
5	**Cambridge-1** – UK	NVIDIA (host Kao Data)	Brownfield colo	8 PF / 400 DGX A100	Oct 2020 announce • 20-week build • **7 Jul 2021** launch	**≈ 9 mo**	Fastest in UK; built mid-pandemic using prefabricated DGX SuperPOD.
6	**Artemis** – UAE	G42 + NVIDIA	Brownfield cluster	7.2 PF HPL / 81 DGX-2	2019 concept • **3 weeks** build • Q4 2019 go-live	**< 1 mo**	Record quick turn-up; built to support Emirati Genome & COVID projects.
7	**Param Siddhi-AI** – India	C-DAC + Atos / NVIDIA	Greenfield AI HPC	4.6 PF HPL / 210 AI PF	Early 2020 order • Oct 2020 install • Top500 #62 Nov 2020	**≈ 1 yr**	India's fastest AI supercomputer; delivered under National Supercomputing Mission.
8	**Meta RSC** – USA	Meta	Brownfield in-house	16 k A100 GPUs (~5 Exa AI)	Mid-2020 planning • Jun 2021 Phase 1 (6 k) • Jul 2022 full 16 k	**≈ 18 mo**	Built through pandemic; 2.5× training speed-up for LLMs.
9	**MY06 Campus** – Malaysia	Bridge DC / ByteDance	Greenfield modular	110 MW (Phase 1 20 MW)	Late 2021 land • 12 mo prefabrication • Oct 2022 Phase 1 live	**≈ 1 yr**	400 + PPVC modules assembled in 30 days; TikTok anchor tenant.
10	**Project Clover Norway** – Norway	TikTok / Green Mountain	Greenfield campus	150 MW (3 halls)	Mar 2023 announce • Dec 2023 first hall hand-over • Oct 2024 user-data migration	**≈ 1.5 yrs**	Part of €12 B EU data-sovereignty plan; 100 % hydro.
11	**Israel-1** – Israel	NVIDIA	Brownfield	2 048 H100 → 8 Exa AI	May 2023 unveil • Nov 2023 Phase 1 (1 024 GPUs) live • Q1 2024 full system	**5 mo (P1)**	20-week deploy; testbed for Spectrum-X networking.
12	**Nscale Essex** – UK	Nscale / Arkon Energy	Greenfield AI cloud	50 MW (scalable 90 MW; 45 k GPUs)	2023 land buy • 2024 build start • Q4 2026 go-live planned	**≈ 3 yrs (plan)**	Part of UK AI Infrastructure Plan (£2.5 B).
13	**Azure Kenya Region** – Kenya	G42 + Microsoft	Greenfield	≥ 200 MW (est.)	MoU 22 May 2024 • Construction 2025 • Opens ≤ 24 mo after MoU (~2026)	**≈ 2 yrs (plan)**	First hyperscale cloud region in East Africa; 100 % geothermal.
14	**UAE-US 5 GW AI Campus** – UAE	G42 w/ US hyperscalers	Greenfield giga-campus	5 GW (Phase 1 1 GW)	Announced 15 May 2025; phase timelines TBD (late-2020s target)	**5-10 yrs +**	Largest non-US AI hub; strategic bilateral initiative.
15	**Dojo ExaPod** – Palo Alto & Austin, USA	Tesla	Brownfield in-house cluster	**1 ExaFLOP** AI per ExaPod (2.3 MW); plan ≥ 7 pods	Concept teased 2020 → first racks Jul 2023 → full ExaPod Q3 2023	**≈ 3 yrs**	Custom TSMC 7 nm **D1** chips, wafer-scale tiles; target **100 ExaFLOPs** by 2025.
16	**Condor Galaxy 1** – Santa Clara (USA) & Abu Dhabi (UAE)	Cerebras + G42	Greenfield wafer-scale cluster	**4 ExaFLOPs** (54 M cores) per CG-1; network to 9 systems = 36 ExaFLOPs	Announced **20 Jul 2023** → operational same month (factory-built pods pre-staged)	**< 1 yr**	64 × Cerebras CS-3 act as one logical accelerator; removes GPU parallel-scaling pain.
17	**"Stargate" Super-Campus**– USA (state TBD)	Microsoft + OpenAI	Greenfield giga-campus	Planned **5 GW** / $100 B; 100 × existing DC scale	Reported **29 Mar 2024** → target launch **2028** (5-phase plan)	**≈ 4 yrs (plan)**	Phase 4 mini-supercomputer 2026, full 2028; mixes Nvidia Blackwell & Microsoft "Maia" chips, nuclear/renewables.
18	**AWS "Ultracluster"**– U.S. region (Austin HQ)	Amazon AWS	Brownfield hyperscale	"Hundreds k" **Trainium2** chips → **> 5 ExaFLOPs**	Unveiled **28 Nov 2024** → first racks live 2025	**≈ 1 yr (plan)**	Built for Anthropic; EC2 Trn1/2 pods scale to 30 k devices / 6 ExaFLOPs; lower cost vs H100.
19	**TPU v4 Megacluster** – U.S. West / Oregon	Google Cloud	Brownfield (Cloud TPU pods)	Public slice: **9 ExaFLOPs**; each pod = 4 096 TPU v4	Internal deploy 2020 → public preview **11 May 2022**	**≈ 2 yrs**	Optical re-configurable mesh (OCS); 6 Tbps per host; 2.1× perf/W over v3; fuels Bard/Gemini training.
20	**Azure OpenAI SC-1** – Iowa (USA)	Microsoft Azure + OpenAI	Brownfield in-cloud	285 k CPU / 10 k GPU; Top-5 HPC	Built 2019 → revealed **19 May 2020** at Build → in service 2020	**≈ 1 yr**	First dedicated LLM cluster (GPT-3); 400 Gbps per GPU; foundation for ChatGPT infrastructure.
21	**DGX GH200 / "Helios"** – Multi-site	NVIDIA	Brownfield reference cluster	**1 ExaFLOP** AI; 256 Grace-Hopper	Announced **29 May 2023** → customer systems ship **Q2 2024**	**≈ 1 yr (plan)**	144 TB unified memory, single-GPU programming model; nine Grace-Hopper research supers worldwide.