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The Hidden SMB Workforce

Powering the AI Revolution

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SECTION I

A GPU Upgrade Is a Full Infrastructure Reset

Over the last 24 months, demand for artificial intelligence has surged past even the most aggressive forecasts. From OpenAI and Anthropic to AI-powered tools being embedded into everything from fast food to financial services, the entire digital ecosystem is reorganizing itself around one core need: faster, more powerful compute.

At the center of that transformation are GPUs (graphics processing units) — the parallel-processing engines that train, run, and scale modern AI models. While CPUs once ruled the data center, the GPU has become the beating heart of AI infrastructure. And as models grow more complex and workloads multiply, the pressure to upgrade GPUs quickly and regularly has never been higher.

Enter NVIDIA's Blackwell architecture — the next-generation platform that delivers massive gains in speed, efficiency, and throughput. But those gains come at a cost: 2x the power draw, 2x the heat output, and an entirely new set of requirements at the facility level.

A GPU upgrade today is not just a product refresh. It's a full infrastructure reset — power, cooling, plumbing, floors, and everything in between.

And that creates an unprecedented physical opportunity — not for tech startups, but for electricians, HVAC crews, plumbers, and contractors on the ground.

SECTION II

The Numbers Behind the Retrofit

To put it plainly: Blackwell racks are monsters. Four numbers tell the story of what each new rack actually demands from a facility:



To run even one of these systems, a data center must install high-voltage power and redundancy, reinforced floors and structural support, industrial-scale liquid cooling systems, environmental controls for condensation, airflow, and static, plus backup systems, leak detection, and 24/7 monitoring. And these needs repeat across every rack, in every facility, across every new GPU deployment.

SECTION III

Where the Work Lands: Nine Sectors

A single new rack with Blackwell GPUs triggers a domino effect across the built environment. These are not abstract "AI" companies — they're real-world contractors and specialists building the invisible infrastructure that supports the digital age.

- 01 Electrical & Power Systems**
Generator installs, rewiring, PDUs.

- 02 Mechanical & HVAC Services**
Chillers, boilers, airflow redesign.

- 03 Plumbing & Liquid Cooling**
Closed-loop coolant lines, CDUs, heat exchangers.

- 04 Structural & Facility Engineering**
Floor reinforcement, rack layout planning.

- 05 Environmental Controls**
Humidifiers, static mitigation, IAQ monitoring.

- 06 Logistics & Installation**
Transport, rigging, precision rack placement.

- 07 Fire Safety & Compliance**
Suppression system upgrades, inspection readiness.

- 08 Maintenance & Monitoring**
Real-time thermal performance, preventive service.

- 09 General Contracting**
Overseeing the full retrofit or build process.

SECTION IV

From Air to Liquid Cooling

Traditionally, data centers cooled their systems with air — massive fans, airflow zoning, and raised floors. That world is fading fast. Blackwell GPUs produce 2x the heat of their predecessors. Liquid cooling isn't optional anymore. It's the new industry standard.

What's Involved in Liquid Cooling

- **Chillers & cooling towers** for external heat rejection.
- **Closed-loop hydronic systems** to circulate coolant efficiently.
- **Coolant distribution units (CDUs)** for pressure and flow balancing.
- **Precision pumps, valves, and piping** designed and installed by hydronic experts.
- **Monitoring systems** for leak detection, flow rates, and temperature.

This isn't an IT upgrade — it's a full-on construction and mechanical job.

Water: The Hidden Backbone of AI Infrastructure

To support these cooling systems, every data center now needs municipal coordination for water access and treatment, complex plumbing that matches GPU layout and density, and redundant, energy-efficient circulation systems. This is creating a spike in demand for chiller installers, pump and valve technicians, water treatment specialists, mechanical contractors with data center experience, and monitoring and flow-control providers. The future of AI runs on water. And small businesses are the ones moving it.

SECTION V

The Three Events Driving Long-Term Demand

This is not a one-and-done upgrade cycle. The demand is showing up in three infrastructure events, each of which drives recurring work:

1. Upgrading Existing Data Centers

Replacing air cooling with liquid systems. Rewiring and structural retrofits. Onboarding chillers, CDUs, and leak detection systems.

WHO BENEFITS

HVAC firms, retrofit contractors, electricians, mechanical subs.

2. Building New AI-Ready Facilities

Ground-up construction built around GPU loads. Smart, energy-efficient design from day one. Cooling and power scaled for AI density.

WHO BENEFITS

Developers, mechanical engineers, hydronic design-build teams, civil firms.

3. Maintaining the Infrastructure

Monitoring pumps, chillers, valves, sensors. Ongoing leak detection and fluid management. Emergency service and performance tuning.

WHO BENEFITS

Mechanical service teams, water management firms, facilities ops vendors.

Where This Is Happening

This transformation is playing out in secondary markets, college towns, and regional business parks — not just Silicon Valley. Think Charlotte, Richmond, Nashville, Denver, Raleigh, Colorado Springs. Think university AI clusters, enterprise R&D, government labs, and regional co-lo facilities. And the ones doing the work? Small-to-midsize contractors, often family-owned, with deep skill in HVAC, plumbing, rigging, or industrial services.

They're not coding AI — they're laying pipe, hauling racks, and managing heat. That's where the leverage is.

Benjamin Krall is the Founder and Managing Partner of American Gridwork Partners (AGP), a platform company of Legacy Holdings United, LLC, executing a buy-and-build strategy across the infrastructure execution layer powering AI, electrification, and data.