High Performance Computing isn’t one thing; it is many things to many people. Over the past decade, many organizations have begun formal programs of data science, mining new and existing data for insights that could translate into top-line knowledge or competitive advantage. Now artificial intelligence (AI)—or more specifically, machine learning—is the newest workload taking off across the HPC landscape.

Intersect360 Research studies have found that seventy percent of HPC users are running machine learning or are working to implement it within the next year; another twenty percent are considering it. Where AI is taking hold, the effect has been significant; more than half of HPC users incorporating machine learning have seen a budget increase of at least five percent as a direct result; some budgets have more than doubled. (See chart.)

On the technology side, differentiation is on a comeback, and there is a wide range of choice in hardware, software, and even consumption. New processing elements, containers, and cloud have disrupted the HPC industry. Matching diversifying technologies to diversifying workloads is the greatest challenge facing HPC users.

That’s where Bright Computing comes in. With system management software spanning HPC, analytics, and AI, Bright Computing is filling a necessary role in high-performance segments. The company’s core product, Bright Cluster Manager, is the most-cited commercial system management package among surveyed HPC users. Bright Cluster Manager sits across an organization’s HPC resources—whether on-premise, in the cloud, or at the edge—and organizes them across workloads.

Fundamentally, Bright Computing helps address the big question in HPC: how to match diverse resources to diverse workloads in a way that is both efficient today and future-proof for tomorrow.

Effect on High Performance Computing Budget Due to Incorporation of Machine Learning
Intersect360 Research, 2020

- Dramatic increase (2x or more): 5%
- Sharp increase (+20% to 100%): 7%
- Moderate increase (+5% to 20%): 40%
- Relatively stable (within +/- 5%): 45%
- Decline (beyond 5% down): 3%