

# Powering AI innovations

## With Azure AI infrastructure

AI is rapidly becoming essential to organizations in all industries. Learn why Azure AI infrastructure is the foundation of choice for today's AI pioneers.

**#1 performance**  
in the cloud <sup>1</sup>



### Machine learning platform

Azure Machine Learning, along with open-source tools like PyTorch and ONNX Runtime, seamlessly integrate with Azure AI infrastructure to accelerate deep learning workloads and operationalize model management across Machine Learning lifecycle.



**Up to 3X ROI**  
on machine learning projects when using Azure Machine Learning <sup>2</sup>



**ChatGPT and GPT-4**  
run on Azure AI infrastructure <sup>3</sup>



**12,000 Xbox consoles**  
could be powered by a single AI-optimized virtual machine (VM) <sup>4</sup>



**94% of executives**  
believe AI is critical to success over the next five years <sup>4</sup>

### Azure AI infrastructure

Azure is leading advancements in cloud-based AI infrastructure—including accelerated hardware and processors, and AI-optimized cloud networking and virtualization.

### Purpose built for AI at any scale

Azure makes AI infrastructure more accessible. Whether you require massive supercomputing exascale for training complex language models, or a single GPU-accelerated VM, take advantage of the flexibility and experience Azure offers.



**2x faster throughput**  
per GPU compared to competitors <sup>7</sup>



**NeMo Megatron's 530B parameter**  
framework runs across 175 interconnected Azure AI-optimized VMs <sup>6</sup>



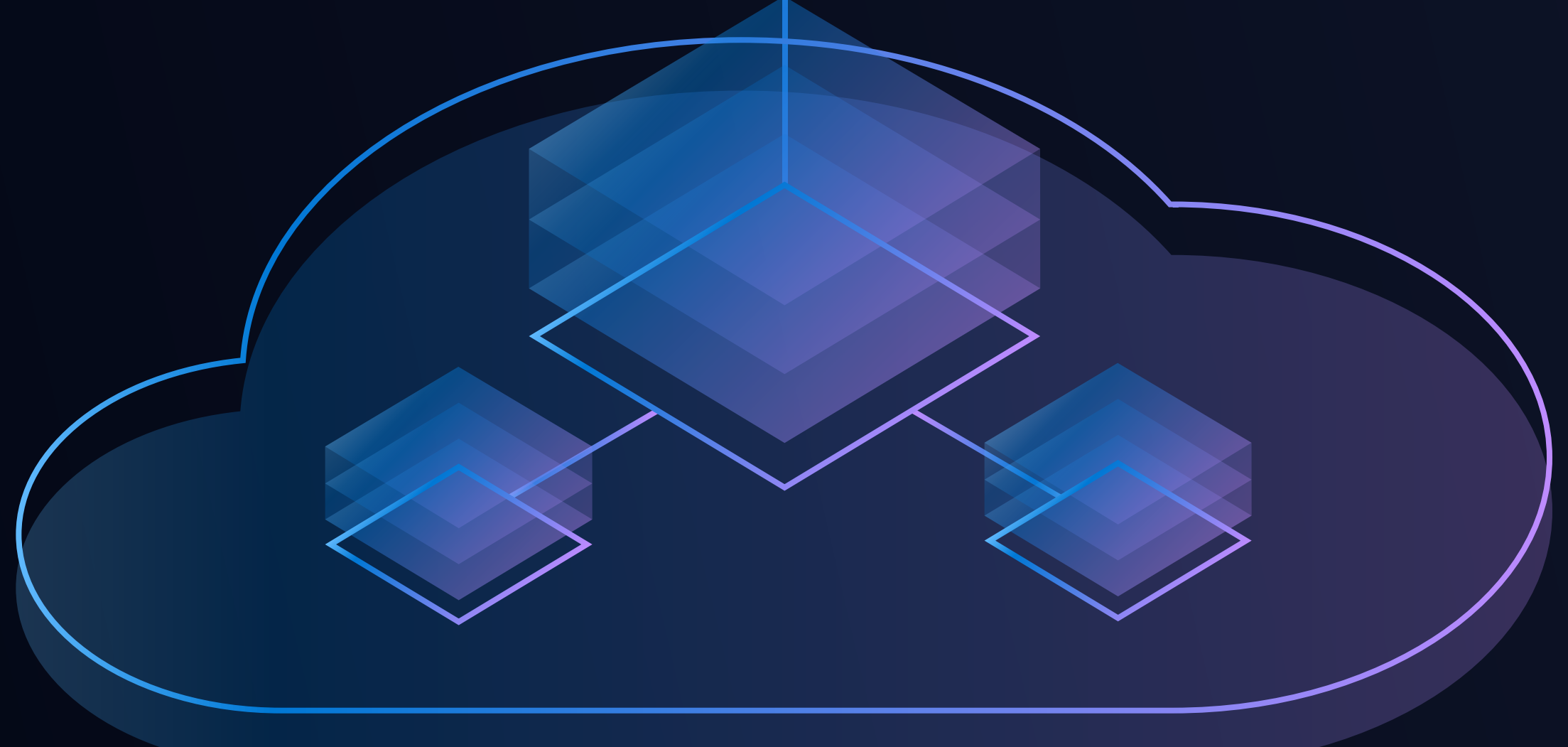
**+24 trillion**  
security threats identified daily <sup>8</sup>



**98% more carbon efficient**  
than on-premises solutions\* <sup>9</sup>

### Global, secure, and trusted

Azure AI infrastructure is delivered across Microsoft's globally distributed infrastructure, ensuring industry-leading security controls, data governance standards, compliance, and built-in energy efficiency.



To learn more, go to [azure.microsoft.com](https://azure.microsoft.com)

Sources:

<sup>1</sup> <https://top500.org/lists/top500/2021/11/>

<sup>2</sup> <https://azure.microsoft.com/en-us/resources/forrester-total-economic-impact-tei-of-azure-machine-learning/>

<sup>3</sup> <https://azure.microsoft.com/en-us/products/cognitive-services/openai-service>

<sup>4</sup> <https://www2.deloitte.com/us/en/pages/about-deloitte/articles/press-releases/deloitte-state-of-ai-fifth-edition-report.html>

<sup>5</sup> Based on our internal calculation comparing the performance size of H100 VM and Xbox's GPU

<sup>6</sup> <https://azure.microsoft.com/en-us/blog/azure-scales-530b-parameter-gpt3-model-with-nvidia-nemo-megatron/>

<sup>7</sup> <https://azure.microsoft.com/en-us/blog/azure-empowers-easytouse-highperformance-and-hyperscale-model-training-using-deepspeed/>

<sup>8</sup> <https://www.extremetech.com/internet/333756-windows-11-smart-app-control-to-require-clean-install-of-windows>

<sup>9</sup> <https://www.microsoft.com/en-us/download/details.aspx?id=56950>

\* Carbon footprint reductions vary depending on specific server usage, renewable energy purchases you make, and other factors. For details, please refer to The carbon benefits of cloud computing paper, 2020.