

# Realizing the potential of AI deployed on workstations

Data scientists and developers have a variety of options for developing and deploying artificial intelligence (AI) initiatives. Powerful workstations have long been a favored option for developing AI models. Today, workstations are also broadly used for AI deployment across a broad range of industries and professions. This infographic discusses what AI deployments on workstations look like and highlights several example use cases.



## Understanding AI deployment options: AI services, AI at the edge and AI operations

There are three use case categories for the deployment of previously trained AI models:

**AI services:** AI services deployed on servers or in the cloud meet the needs of many large organizations or millions of consumers.

**AI at the edge:** AI is deployed on a broad range of smart devices like drones, speakers, appliances and industrial devices. The intelligence in these “edge” deployments usually resides on an edge server, not on the smart device itself.

AI at the edge and AI services require vast computing, data storage and IT management resources.

**AI operations:** AI is deployed on workstations, with the goal of dramatically increasing individuals’ agility, productivity and innovation. AI operations deployments tend to be human-centered and interactive in a way that AI edge and AI services are not. These individuals are subject matter experts who are trained and experienced in their discipline, not in IT or AI. AI makes it possible for these technology users to be substantially more productive with their expertise.



## How AI operations deliver on the promise of AI

Here are typical, high-potential use cases of AI operations.

### Radiology: Drawing attention to the details of medical imagery

Radiologists and medical specialists needing to review magnetic resonance imaging (MRI) and computed tomography (CT) scans often face an overwhelming workload. They have mere seconds to identify anomalies in an image. Reviewers’ attention is finite and fatigue is inevitable.

AI highlights phenomena that require closer human evaluation, increasing the effectiveness of human reviewers. That speeds up diagnosis and gets patients the right treatment sooner.

### Public safety: Accomplishing more with limited resources to keep people and facilities safe

Security professionals at airports, event facilities, campuses, industrial facilities and other locales can be highly stretched, and complex situations can challenge them with a relentless, demanding workload that can easily result in omissions or misjudgments. AI facial and pattern recognition can immediately bring attention to details that matter in safety, health management or law enforcement. For example, fever detection applications make it easier to identify people who might infect others or need assistance. With AI, security professionals can be more assured of taking the right steps in a timely manner, and organizations can strengthen their security without adding staff.



### Manufacturing operations: Producing quality output at optimal performance

Manufacturing companies make large investments in skills, materials and machinery. They want to ensure that their output quality meets their targets; that environmental conditions don’t interfere with production, storage and transportation; and that equipment runs optimally without unscheduled downtime.

Even the experts who know the production processes and machinery cannot always forestall breakdowns, quality deviations or environmental degradation. AI analysis of live camera streams and real-time processing of IoT sensor data enables proactive responses to quality concerns or lagging equipment performance. Production and maintenance managers can keep manufacturing operations going while also ensuring a safe working environment.



### Utilities: Keeping workers safe and delivering uninterrupted services

Many utilities that provide electrical power, gas or water operate industrial equipment and transmission infrastructures in remote, inhospitable locations. When powerlines, wind turbines, pipes, dams and other infrastructural elements fail or underperform, it can be extremely dangerous for workers to identify and correct. Also, the work must be done promptly, because millions of individuals and businesses can be impacted by failures.

IoT sensors and connected drones across an area of operations can connect to AI applications to localize, identify and analyze actual or imminent breakdowns and assess on-site conditions. Companies can keep their workers safe and take prompt action to ensure that services continue without interruption or are restored quickly. They can also use AI data to keep equipment and facilities in the best working condition.



## Workstations must power AI operations

All these AI use cases are practically unthinkable without powerful workstations. Mobile or fixed, they deliver easy-to-use AI capabilities to the human operators. AI-ready workstations are designed for computer-comfortable professionals, not IT specialists, with AI applications that integrate with other business systems.

## Next steps

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