

# CAN WORKSTATIONS POWER YOUR ORGANISATION'S AI APPLICATIONS?



Software algorithm advancements enable AI systems to perform highly intensive computing tasks such as petabyte-scale data processing, natural language analysis and advanced 3D modelling.

For businesses this translates into increased productivity and operational efficiencies, faster decision-making, competitive edge, and fewer human mistakes, among other things.

However, such operations require commercial workstations to deliver the speed and processing power to support complex AI applications, particularly those requiring detailed graphics.

## WHAT IS AI?

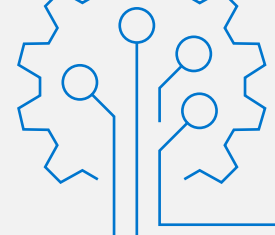
There are different levels of AI complexity which can yield a range of advantages for businesses.



### Artificial Intelligence (AI)

**What it is:** The computer simulation of human intelligence processes.

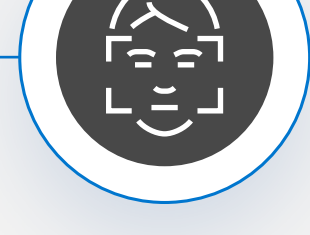
**What it can do:** Speech recognition, web chatbots, problem-solving.



### Machine Learning (ML)

**What it is:** Identifies patterns in data and enables computers to learn on their own.

**What it can do:** Product recommendations, sentiment analysis, fraud detection.



### Deep Learning (DL)

**What it is:** Human style thinking using vast amounts of data.

**What it can do:** Facial recognition, language translation, automated driving.

## WHAT ARE THE INDUSTRIAL USE CASES OF AI?

Manufacturing and engineering organisations are applying AI to transform processes and create new ways of working, with applications becoming increasingly sophisticated as the technology matures.



**76%**

of firms have identified at least one scenario for AI in the last year

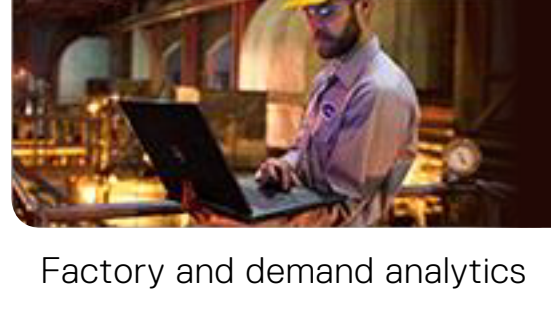
**Another 20%**

are looking for an opportunity

### CURRENT USE:



Safety monitoring and analysis



Factory and demand analytics

### FUTURE USE:

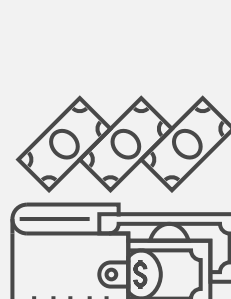
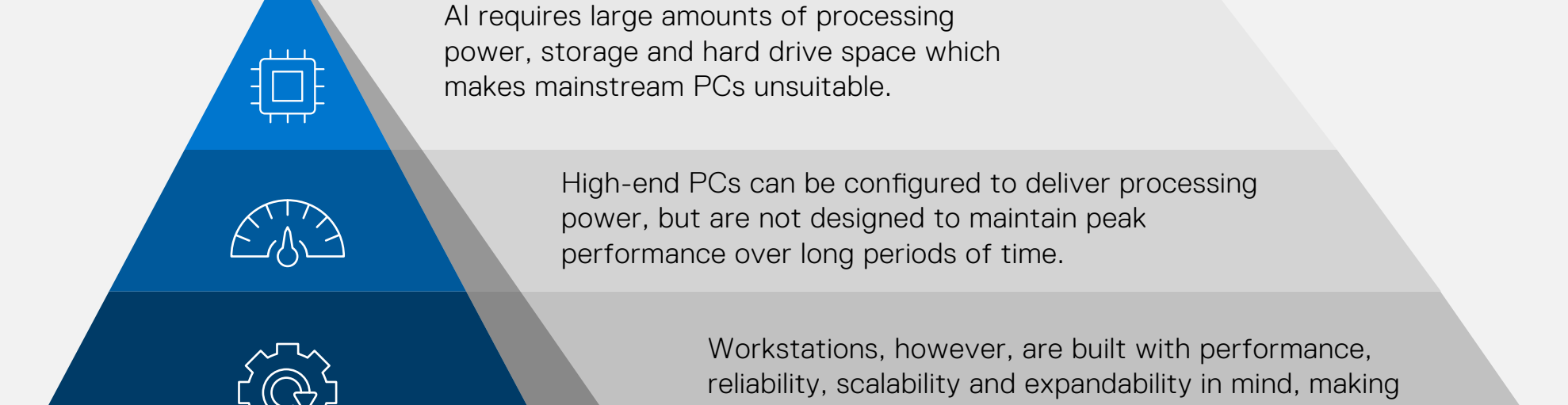


Smart manufacturing



Automated/generative design

## THE PROBLEM — PCs AREN'T OPTIMISED FOR PROFESSIONAL TASKS



By 2020, **almost 60%** of firms anticipate increasing their AI hardware/software budgets by **nearly 50%**



## WHY YOU NEED WORKSTATIONS TO CARRY THE LOAD

Workstations have two key advantages for AI workloads: they feature exceptional GPU computing power, and have the capability to prepare and cleanse data to assist data scientists to run AI experiments: a crucial step in taking advantage of ML algorithms.



**33%**

of companies surveyed use workstations to develop AI applications today

Business leaders say the most important features for an AI platform are:<sup>1</sup>



### CASE STUDY:

AI specialist uses Dell workstations for 3D ophthalmic imaging



**Voxeleron gebruikte de Dell Precision 7920 Tower om de modernste software voor oogheelkundige beeldanalyse te ontwikkelen.**



**Dit krachtige workstation werkt met AI- en deep learning-applicaties om oculaire 3D-beelden in detail te analyseren voor betere patiëntresultaten.**



Intel® Xeon®-based workstations offer a Deep Learning boost that increases system performance up to

**61%**

## WHY BUY A DELL PRECISION WORKSTATION?

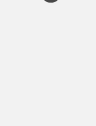
Dell Technologies is at the forefront of AI.



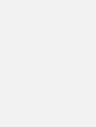
The company uniquely provides an extensive portfolio of workstation technologies which enable the data analytics solutions and high-performance computation that underpin successful AI, ML and DL implementations.



Dell collaborates with select industry partners to deliver versatile, cost-effective cognitive technology workstation configurations, so every machine exceeds expectation.



And with a compute-intensive AI tasks, Dell's Intel® Xeon®-based workstations speeds them up with a Deep Learning boost that increases system performance up to 61% compared with a three-year-old workstation.



Dell even applies AI to its own workstations with [Precision Optimizer](#), the world's first AI-based performance optimizer software for workstations.



To learn more about how Dell workstations can power your AI applications visit

[dell.com/EN/workstation-ai](https://dell.com/EN/workstation-ai)

Source:

<sup>1</sup> Forrester Research: Using Workstations To Reshape Your Artificial Intelligence Infrastructure  
IDG Communications, Inc.