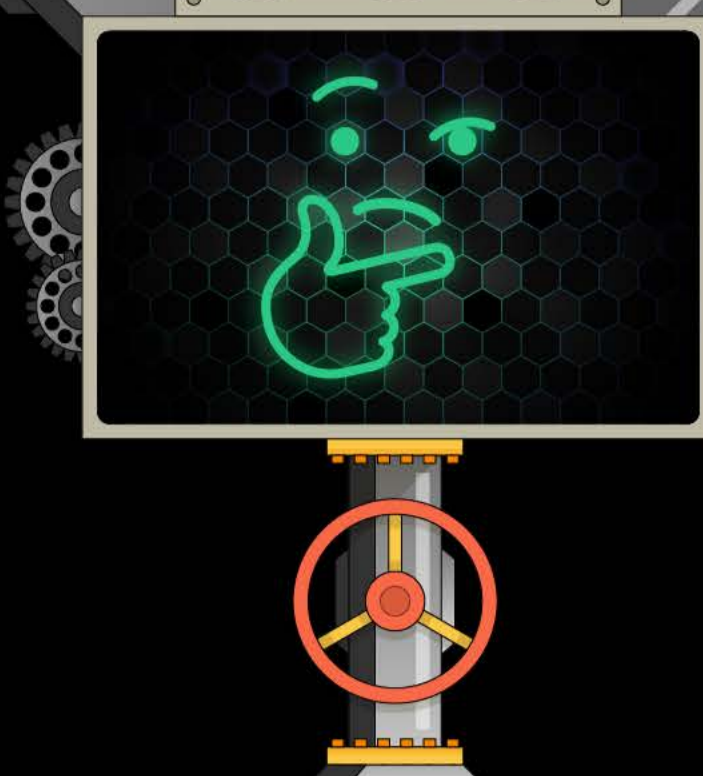


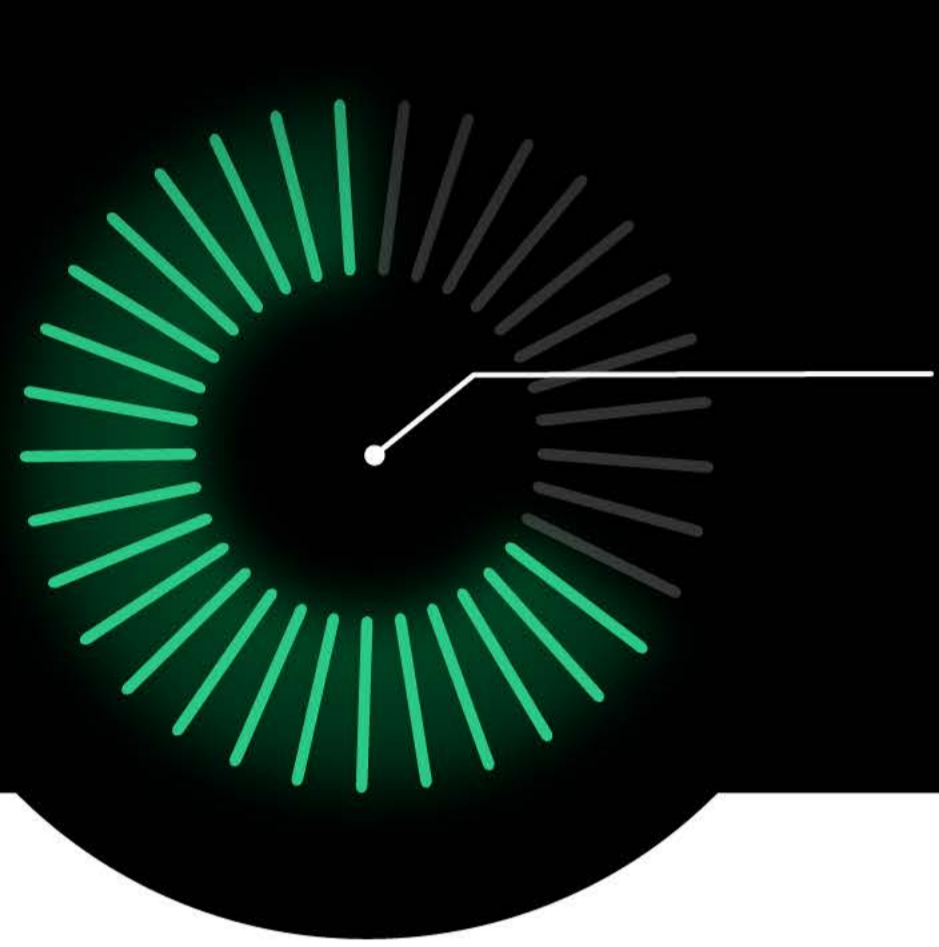
# How will AI revolutionize human innovation?

AI will augment creative exploration and problem solving for professionals in the architecture, engineering, construction, manufacturing, and media and entertainment industries. Computers are good at spotting patterns in huge sets of data, which helps humans cut through complexity, innovate faster, make better decisions, and radically save time.



## Why use AI?

Data and AI are complementary: As more data is input into the system, AI gets better at generating insights, automating tasks, and augmenting design iterations. This helps professionals do more with less and meet increasingly complex demands in an uncertain future.



**66% of leaders**

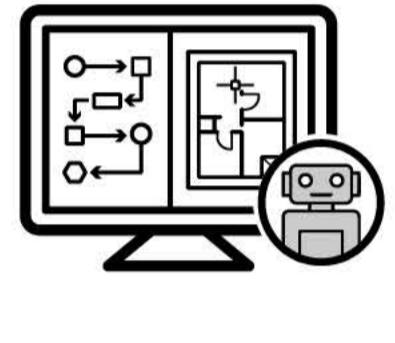
agree that in 2-3 years, AI will be essential for their businesses.

## Types of AI



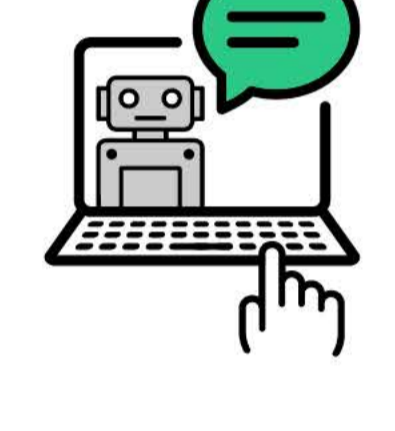
### Machine learning (ML)

Machine learning is a subset of AI that enables computers to "learn" and make decisions based on data sets without being explicitly programmed.



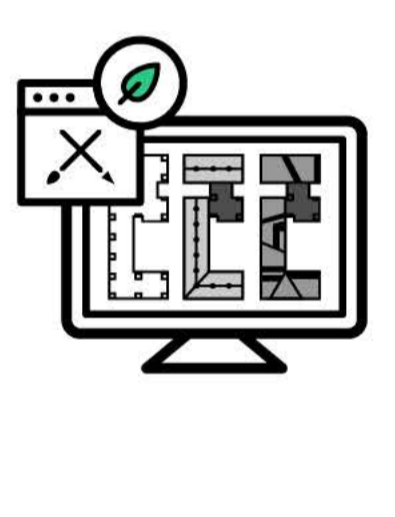
### Deep learning

Deep learning uses machine-learning algorithms with biologically inspired logical structures called "artificial neural networks." It focuses on deep neural networks to model and solve complex problems.



### Generative AI

Generative AI produces novel creations based on pretrained deep neural networks that produce probable, albeit unvalidated, outputs. ChatGPT is an example.



### Generative design

Generative design uses computation to run many real-world simulations and arrive at optimal designs. Using algorithms, it produces outputs defined by specific input parameters. Generative design solutions may employ AI, but not always.

**47%**

of leaders believe the top use cases for AI include increasing productivity.

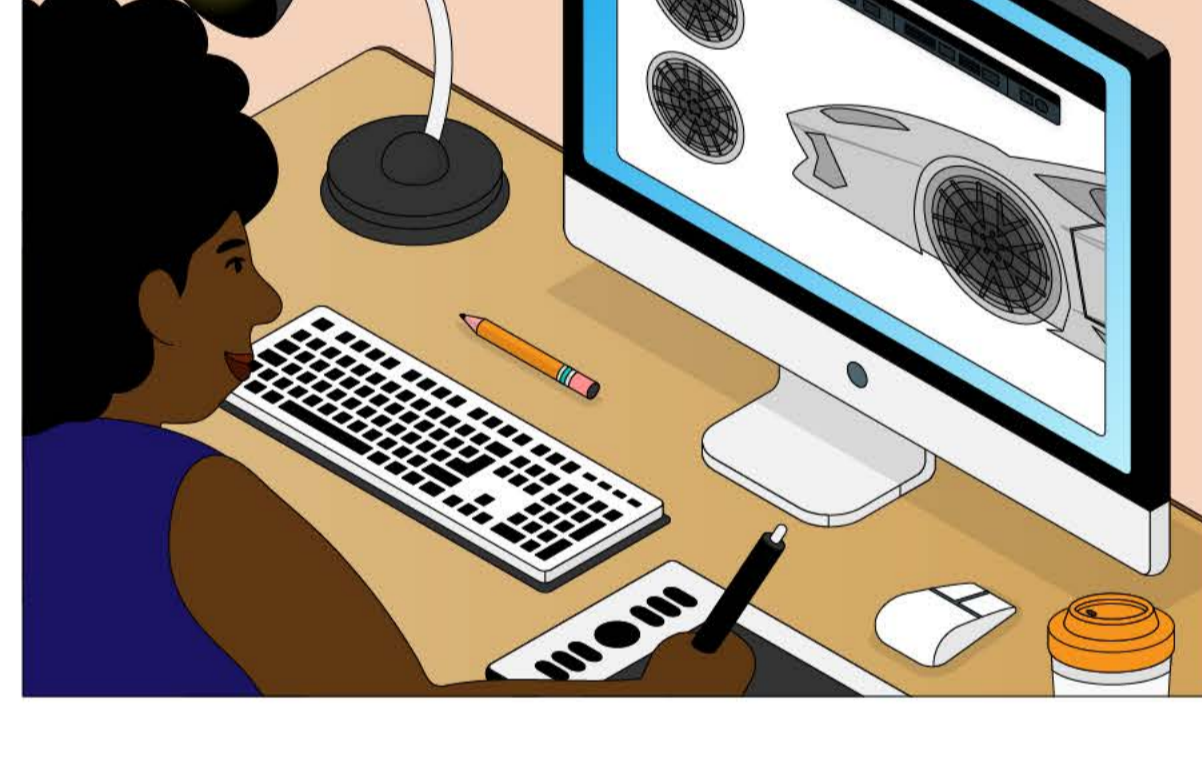
**39%**

cited the automation of mundane repetitive tasks.

**32%**

believe AI is ubiquitous and will be adopted in all areas.

## Top 3 benefits of AI



### Automation

Automation removes tedious, repetitive work by automating steps that traditionally required manual work or overhead, freeing up more time for creative work.

**Analysis**  
When faced with overwhelming amounts of complex data, professionals can use AI analysis to provide actionable insights, helping them sift through and understand what is really happening.

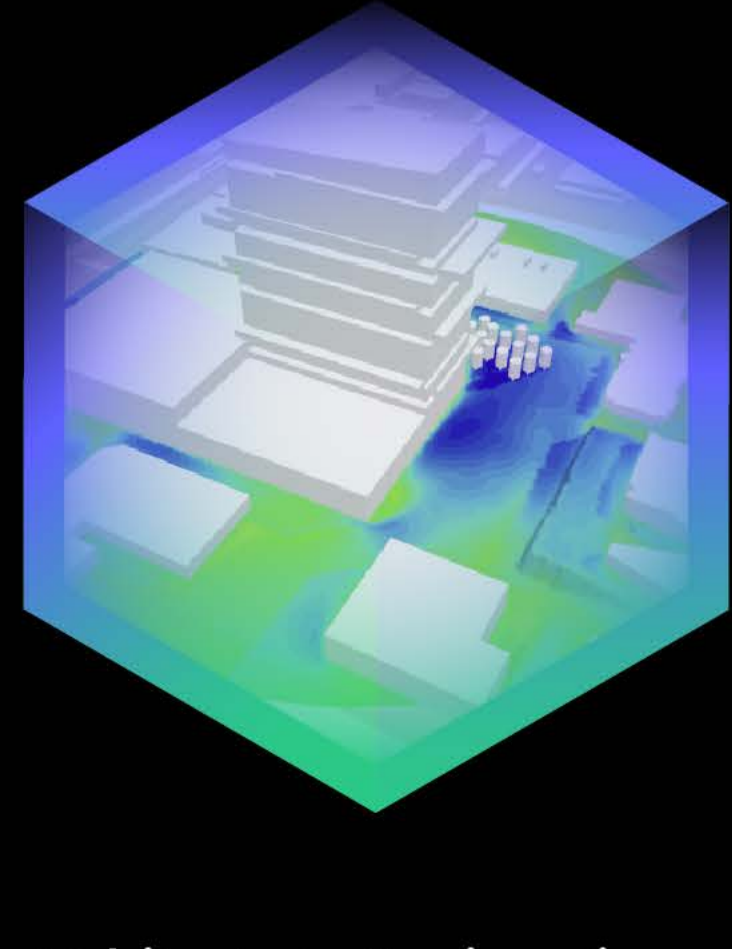


### Augmentation

Augmentation enhances problem-solving, creativity, and exploratory capabilities by improving the speed, accuracy, and breadth of thinking through contextual assistance.

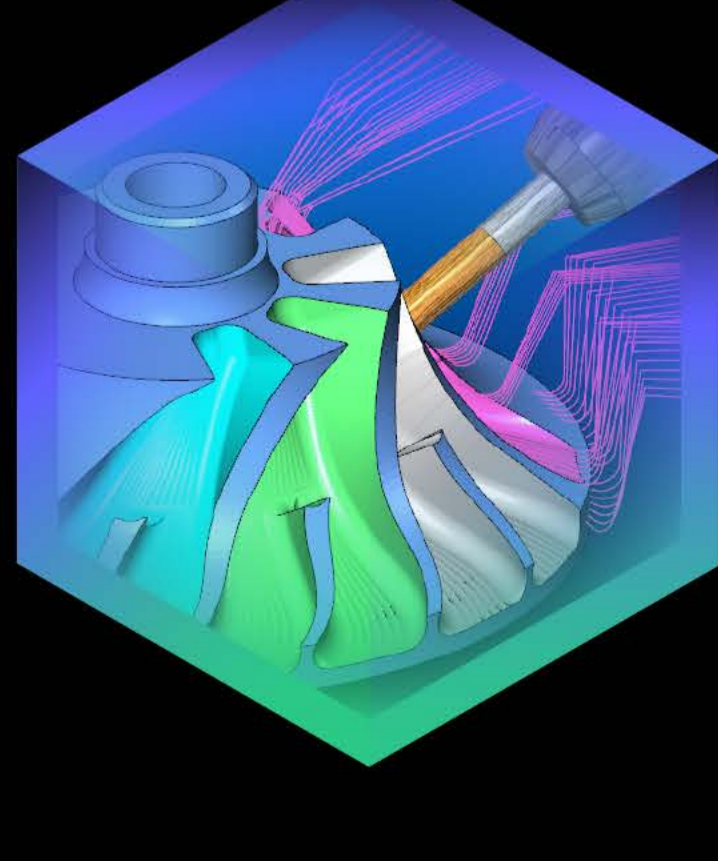
## How is Autodesk using AI?

Autodesk has invested in AI for the past 10-plus years, integrating AI capabilities into its solutions so professionals can focus more on what they love: designing and making a better world.



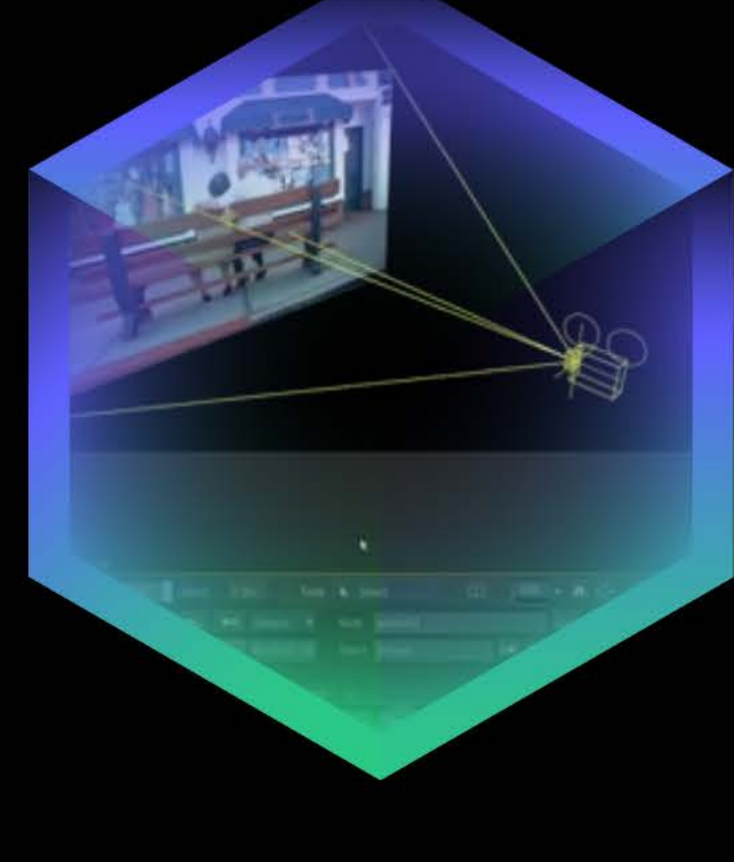
### Architecture, Engineering, and Construction

AutoCAD has smart-block suggestion and markup assist, Civil 3D has drainage design, Forma has predictive analysis, and Autodesk Construction Cloud has construction analytics via Construction IQ.



### Manufacturing

Fusion has drawing and CAM Toolpath automation and generative design.



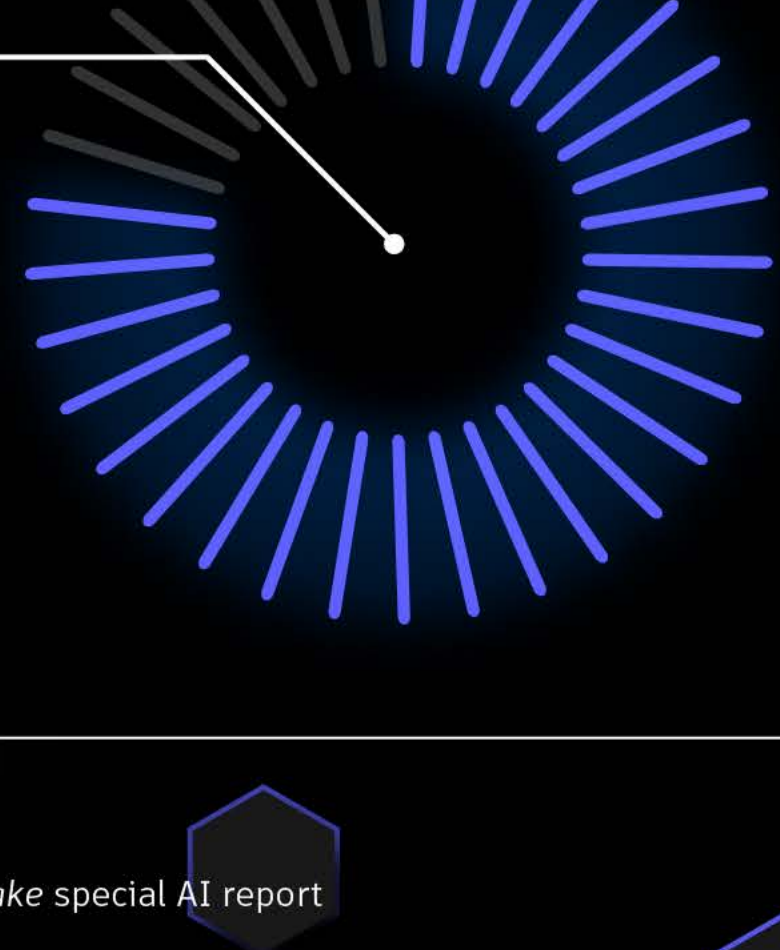
### Media & Entertainment

Flame has camera tracking, and Maya Assist has natural language translation.

In the next 3 years,

**77% of companies**

will increase or strongly increase investments in AI and emerging technologies.



Source: Upcoming 2024 State of Design & Make special AI report