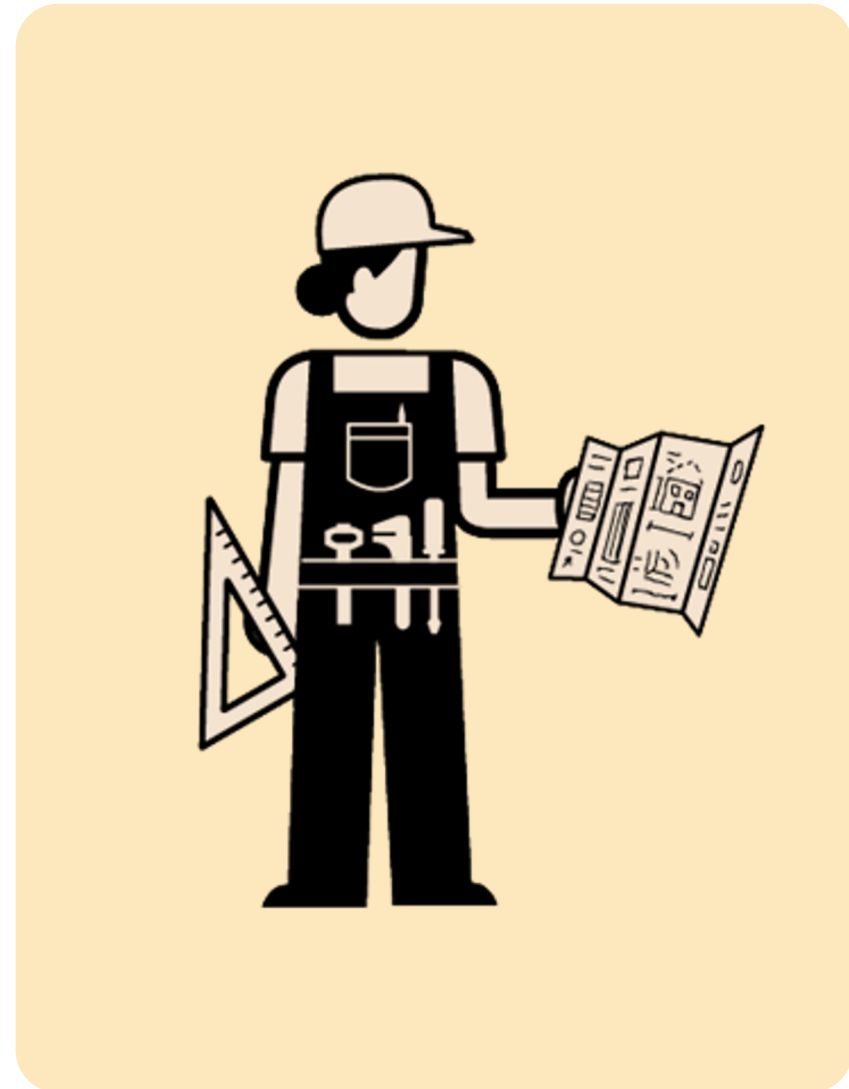# Construction manager

AI overview

AI has the potential to assist construction managers by streamlining planning, resource management, and risk assessments, helping meet deadlines and improve quality. AI-driven tools could optimise construction schedules, predict delays, and automate tasks like material tracking. Additionally, AI can provide advanced visualisation capabilities, enabling managers to preview designs and identify potential issues before construction begins. This could save time and costs.

To prepare for the future, construction managers could consider integrating AI tools into their workflows for enhanced efficiency, sustainability, and safety. AI could eventually assist in creating complete sets of documents, such as schedules, resource lists, and health and safety plans, from simple sketches, improving workflows and reducing manual tasks.

How can I prepare for the future?

Some areas construction managers may need in the future.

Future Tech	Description	Resources for learning
AI-Driven 3D Modelling and Visualisation	AI tools that create detailed 3D models and virtual renderings, allowing managers to anticipate issues before construction begins.	Check out ScreenSkills Training for up to date courses on digital design; national Skills bootcamp courses, LinkedIn Learning for 3D modelling.
AI-Driven Scheduling and Resource Management	AI can optimise construction schedules and resource allocation by analysing factors specific to production, such as shooting timelines, actor availability, and location constraints, reducing downtime and costs.	Various AI based scheduling companies offer courses and tutorials for their own systems.
Self-Hosted AI Models for Privacy	Locally hosted AI systems for secure data handling and analysis, eliminating reliance on external servers.	GitHub resources for AI hosting; YouTube guides for self-hosted model setup.
Real-Time Material Tracking	AI systems that monitor material usage and predict shortages, helping managers optimise resources.	Check out ScreenSkills Training page for up to date courses on resource management; LinkedIn Learning on AI in construction logistics.
Safety and Compliance Monitoring Tools	AI tools that assess safety risks on construction sites and ensure adherence to regulations.	Check out ScreenSkills Training page for up to date courses on health and safety courses; Coursera tutorials on AI for risk assessment.
Sustainability Assessments	AI-driven analysis of environmental impacts, offering recommendations for eco-friendly construction practices.	ScreenSkills Training page for up to date courses on sustainable production; Skillshare tutorials on green construction.
Advanced Building Information Modelling (BIM)	Adapted from construction for the entertainment industry, BIM software can assist in creating detailed 3D models of sets, including structural and spatial information and metadata, streamlining the construction process and improving coordination between departments.	Alison.com offer free online training for an introduction to BIM
Cloud-Based Collaboration Platforms	Utilising cloud services for real-time collaboration, file sharing, and project management can make remote work more efficient and secure.	Various suppliers offering tutorials for their own systems and solutions
Robotics and Automation	Robots are getting easier to program and operate, enabling them to handle repetitive or complex tasks like cuts or assembly of set pieces, increasing efficiency, safety - allowing crew to focus on creative (less prescriptive) aspects.	Bow Electronics universal robotics programming systems

What AI tools can I use right now? – Efficiency & workflow opportunities

Planning and pre production

Set design and visualisation: AI tools can create 3D models and virtual renderings of sets, enabling managers to anticipate potential issues before construction starts. These models can integrate design elements and logistical considerations like material availability.

Confidential and customisable AI models: Construction managers can develop self-hosted AI models that act as assistants, tailored to their workflows. These models could learn from past work, providing unique support..

On-set workflows

Material tracking and cost analysis: AI systems can monitor material usage, predict shortages or surpluses, and ensure budget alignment, improving cost-efficiency.

Safety and compliance monitoring: AI tools assess safety risks and ensure adherence to regulations, reducing accidents. They provide real-time alerts for potential hazards.

Continuity: AI can assist in maintaining continuity between set sections, comparing them to previous episodes or series to ensure consistency.

Post production

Efficiency analysis and reporting: AI assists in reviewing and analysing completed projects by comparing actual costs and team performance with initial plans.

Sustainability assessments: AI-driven systems analyse the environmental impact of materials and processes, offering recommendations for more sustainable practices in set construction.

Archiving and data management: AI automates the archiving, labelling, and storing of digital assets like photos, videos, and reference data for future productions.