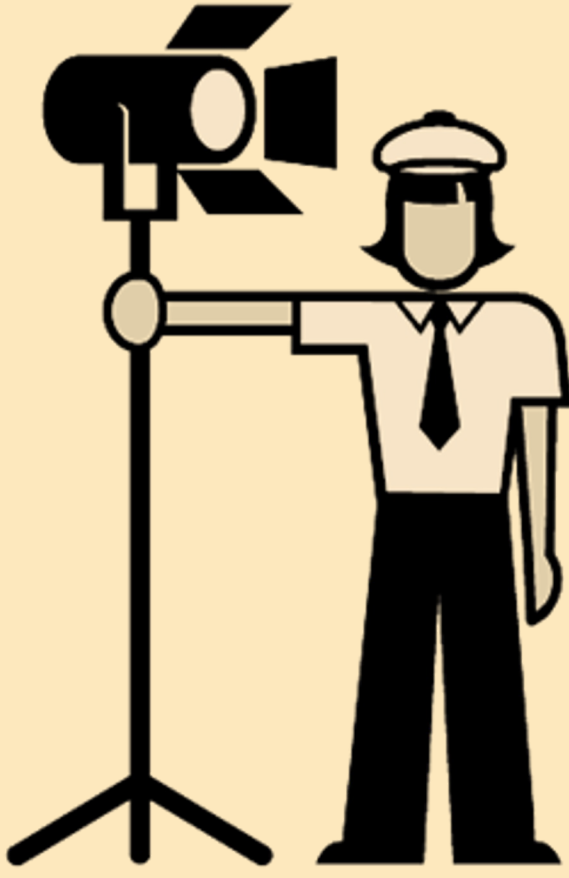# Gaffer

AI overview

The artistic, intuitive and physical aspects of the gaffers role onset are crucial, and a long way from being replaced by AI & Robotics.

Although traditional craft and training are important the available technological toolset is developing rapidly. This is creating opportunities to improve efficiency, safety, flexibility and in-camera results, bringing some of the current reliance on 'post vfx' workflows back to onset magic.

New tools are also automating 're-lighting' of scenes, with simpler workflows, using virtual environments. This is enabling gaffers to use their creative skills more broadly across pre & post workflows.

How can I prepare for the future?

As technologies develop, keeping uptodate with the latest opportunities is important.

These are some of the areas that gaffers may need to understand in the future.

Future Tech	Description	Learning resources
Digital networking	High bandwidth, convergent digital networks for all onset production data and control systems- for lighting control, video, sync & audio, meta-data, lens data, etc, etc.	SMPTE ST2110 Training Resources. Understanding network integration between departments.
Video display based lighting techniques	Virtual Production and other video display based lighting techniques for creating; realistic, moving, animated or shape based lighting effects.	Screen Skills VP Courses. Disguise Virtual Production Accelerator
Previs & Techvis	New techniques with AI automated previsualisation of lighting (previs) and AI based technical deployment planning (techvis).	3D CAD & Unreal Engine Skills Bootcamps. Digital Twinning and location capture.
Carbon Tracking	Using AI for post production calculation and pre planning estimation of carbon footprint and environmental impact.	New tools are appearing that take large sets of data from onset operations and help estimate power & carbon cost.
Zero carbon power with renewables and batteries.	Using AIs to help with estimating, planning and preparation of power demands and needs of a lighting system, dependant on production requirements	Understanding DC power systems and the implications of using different fixture types with Batteries as a power source. Separating peak and continuous power draw demands. Using AIs as a predictive and analytic tool on your own data

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

Pre-production

Script analysis and visualisation: AI tools could analyse scripts and generate lighting setups, kit lists, and power consumption estimates, saving time in the planning phase.

Location scouting and scene planning: AI can suggest lighting configurations and assess potential lighting challenges from various locations, considering factors like weather and season.

Previs and simulation: AI could facilitate the visualisation of lighting concepts, merging reference images with new locations to quickly generate scene ideas.

Production

Automated lighting adjustments: AI tools could monitor real-time footage and automatically adjust lighting based on movements, ensuring consistency across shots.

Relighting via post-production: AI could help with relighting shots after filming, automating lighting corrections that would typically require manual adjustments.

Load calculations for rigging: AI could assist in automating calculations for rigging and trussing systems, reducing manual errors and saving time.

Post production

Virtual production and video display lighting: AI could facilitate virtual production workflows, offering innovative lighting effects through video displays, improving production flexibility.

Digital twinning: AI-driven tools could capture real-world locations digitally, allowing for virtual reshoots and consistent lighting setups without revisiting the original location.

Carbon tracking and sustainability: AI could be used to calculate carbon footprints and power requirements, helping plan sustainable lighting setups and manage energy usage.