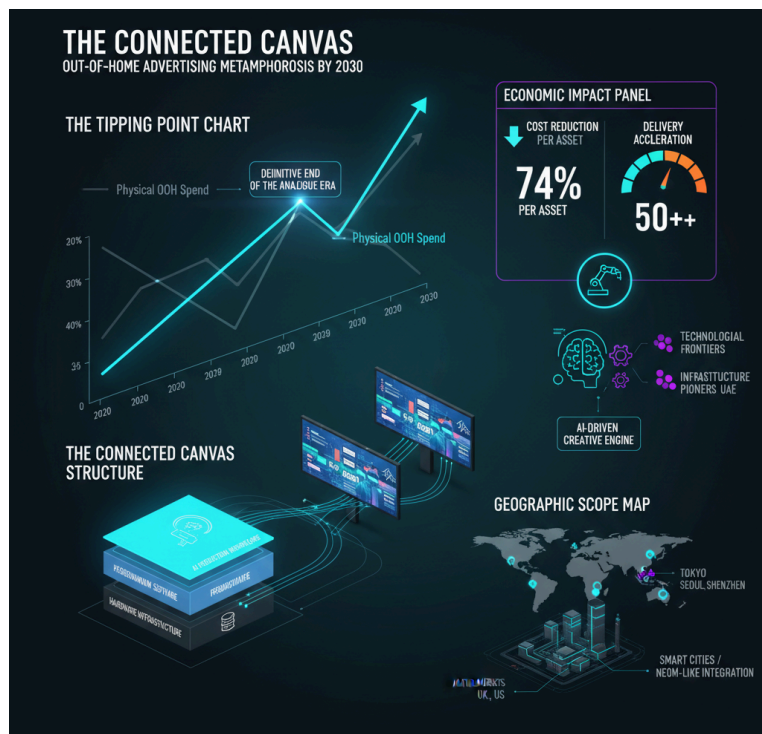# The Future of Global Out-of-Home Production:
Convergence of AI, Programmatic, and Smart Tech (2025–2030)

Executive Summary

The global media landscape is currently undergoing a structural metamorphosis. Out-of-Home (OOH) advertising is evolving from a static medium into a "connected canvas"—a sophisticated interplay of hardware infrastructure, programmatic software, and Artificial Intelligence (AI) driven production workflows. Specialized platforms like POMS are central to this new workflow, acting as the technological bridge that automates the generation of these connected assets through API-driven pipelines. We stand at a pivotal inflection point: Digital Out-of-Home (DOOH) revenue is forecast to surpass physical OOH spend by 2029 in the United States, marking the definitive end of the analogue era.

This comprehensive report synthesises data from the UK and US markets, while drawing critical insights from technological frontiers in the Far East (Tokyo, Seoul, Shenzhen) and the Arab States (Saudi Arabia, UAE). The analysis demonstrates that the integration of AI into creative production is slashing costs by up to 74% per asset while accelerating delivery speeds significantly. Simultaneously, the rise of "Smart Cities" is transforming OOH infrastructure into a utility layer that serves citizens as much as it serves advertisers.

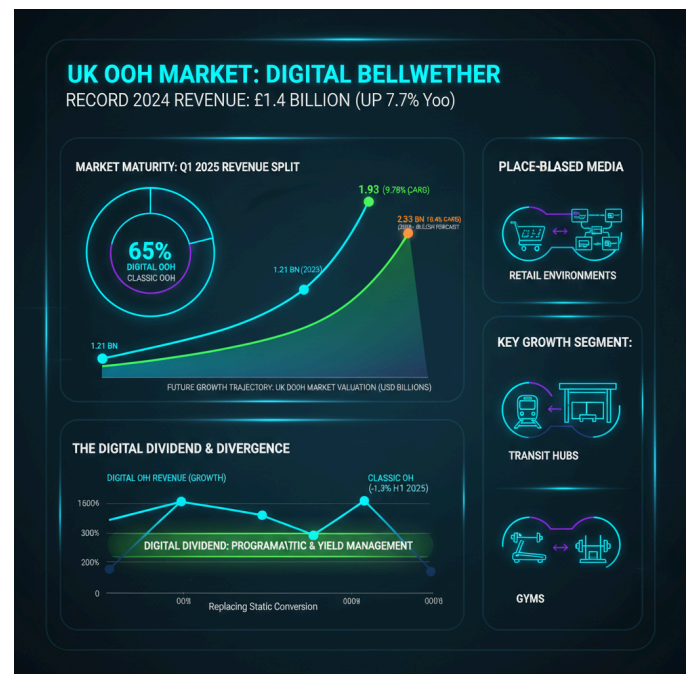# 1. Global Market Landscape and Financial Outlook

The financial trajectory of the OOH sector reveals a robust recovery and aggressive growth phase. However, the growth narrative is bifurcated between the mature, highly digitised United Kingdom and the vast, fragmented, yet rapidly scaling United States.

1.1. The Transatlantic Axis: UK and US Market Dynamics

The United Kingdom: The Digital Pioneer
The UK OOH market acts as a bellwether for digital adoption globally. In 2024, the UK market reached a record £1.4 billion in revenue, up 7.7% year-on-year (Outsmart, 2025). The market is characterised by high digital saturation.

- **Digital Penetration:** Digital's share of total OOH revenue in the UK has stabilised at approximately 65–66% (Outsmart, 2025).
- **Growth Projections:** Forecasts suggest the UK DOOH market will expand from approximately USD 1.21 billion in 2025 to USD 1.93 billion by 2030, registering a Compound Annual Growth Rate (CAGR) of 9.78% to 10.4% (Mordor Intelligence, 2025).
- **Dynamics:** Future growth is driven by yield management and "Place-Based Media" (retail, gyms, transit) rather than converting static sites, a process largely complete in high-value locations.

The United States: Scale and Fragmentation
The US market operates on a significantly different scale. While larger in absolute terms, it has a lower digital penetration rate than the UK.

- **Market Size Discrepancy:** There is a divergence in the reported total market size across the analysed source documents. According to *AI and OOH Production Strategy V2*, total OOH spend in the US was projected to reach nearly $50 billion in 2024. However, *The Future of Global Out-of-Home Production V1* and *V3*, citing the OAAA, state that the US OOH market reached a record high of $9.1 billion in 2024.
- **Digital Share:** DOOH accounted for approximately 34% (OAAA, 2024) to 44.6% (Marketing Charts, 2025) of the total spend.
- **Trajectory:** Digital is forecast to finally overtake physical OOH spend in the US by 2029 (Marketing Charts, 2025). The market is currently fragmented across a complex geography of state regulations and media owners, but the programmatic segment is expected to grow by more than 30% annually.

1.2. Global Growth Vectors

Globally, the DOOH market is projected to grow from $20.74 billion in 2024 to $39.12 billion by 2030, a CAGR of 10.7% (Grand View Research, 2025). This growth is heavily weighted towards markets investing in "Smart City" infrastructure and those adopting programmatic standards.
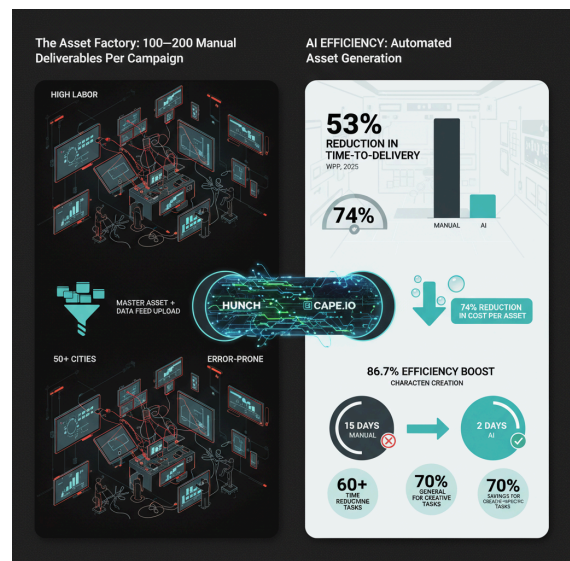
2. The Production Revolution: From Manual to AI-Driven

The most significant disruption in the OOH sector is not the screens themselves, but the workflow required to fill them. The demand for content has exploded; a single campaign that once required one static PDF now demands hundreds of variations.

2.1. The "Asset Factory" Crisis

Creative agencies are facing an "Asset Factory" crisis. The proliferation of screen formats—from vertical "totems" in bus shelters to massive horizontal spectaculars—creates a logistical nightmare. A global campaign may require 100–200 distinct deliverable files.

- **Manual Limitations:** Traditionally, designers spend hours re-layouting designs to avoid critical content being cut off in vertical crops. The labour and time required to manually produce perfectly formatted files for 50+ cities are enormous and prone to error.

- **The AI Solution:** Artificial Intelligence has intervened to solve this scalability problem. Tools like Hunch and Cape.io allow brands to upload a master asset and a data feed, automatically generating thousands of ad variations. Similarly, solutions like **POMS Cloud** extend this capability by offering AI-based master creative design and automated HTML template programming, ensuring that high-volume output maintains code-perfect quality.

- **Cost and Time Efficiency:**
  - One source indicates that AI-powered production workflows resulted in a **53% reduction in time-to-delivery** and a **74% reduction in cost per asset** (WPP, 2025).
  - Another source corroborates this, noting that creative task completion sees a **60%+ time reduction**, with creative-specific tasks achieving **70%+ savings** (Stockimg.ai, 2025).
  - Character variation creation in design can drop from 15 days to 2 days per iteration (Midjourney/Adobe Firefly analysis).

2.2. The Hybrid Agency Model

The integration of AI is forcing a restructuring of the agency model, giving birth to the **Hybrid Production Agency**.
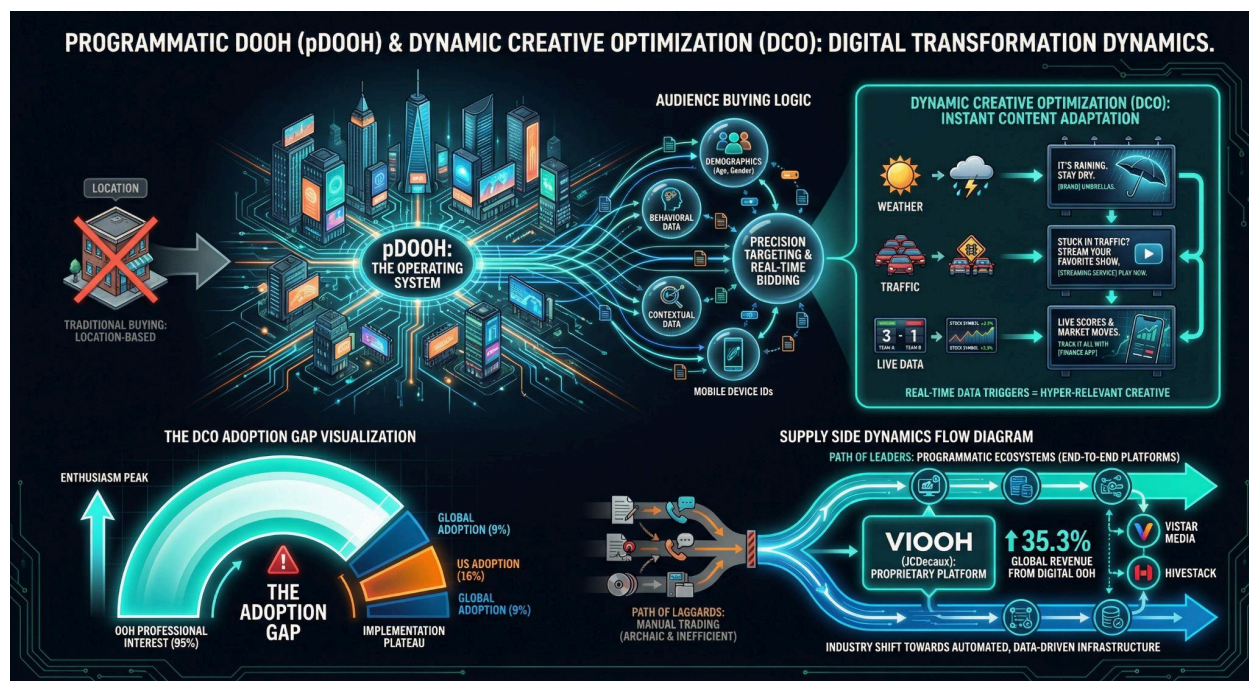
- **Role of AI:** AI handles the "grunt work" of scaling, resizing, and versioning (treating it as a data problem). By delegating the repetitive tasks of video ad generation and dynamic animation to platforms like POMS, agencies can effectively treat creative production as a scalable software process rather than a manual labor task.
- **Role of Humans:** Human creatives shift focus to high-level concepting, emotional storytelling, strategy, and Quality Assurance (QA). The human eye is essential to catch subtle issues AI might miss, such as cultural context or brand voice nuances.
- **Economic Shift:** This moves the revenue model away from "billable hours" (which AI reduces) towards "outcome-based pricing" or "asset volume" pricing.

3. Programmatic DOOH and Dynamic Creative Optimization (DCO)

Programmatic DOOH (pDOOH) acts as the "operating system" of the future, shifting buying logic from "location" (buying a specific billboard) to "audience" (buying a demographic).

3.1. Dynamic Creative Optimization (DCO)

DCO allows the content of an ad to change in real-time based on external data triggers. This real-time adaptation is powered by robust backend systems; for instance, **POMS DCO** provides the necessary DCO creative support via API, allowing data feeds to instantly update HTML5 banners without rendering delays. While 95% of OOH professionals are interested in DCO, only roughly 9% have fully adopted it globally, with the US leading at approximately 16% (OAAA/Outsmart).

Common Data Triggers:

- **Weather:** Ads for umbrellas trigger when it rains; ads for ice cream trigger when it is hot.
- **Traffic:** Ads for streaming services trigger during gridlock to capture bored drivers.
- **Live Sports/Finance:** Integrating live sports scores or stock market updates into the creative.

3.2. Supply Side Dynamics

Major players like **JCDecaux** have built their own programmatic ecosystems (VIOOH), allowing them to control inventory quality. JCDecaux now earns 35.3% of its global revenue from digital OOH. In the UK and US, the ecosystem is bifurcated between leaders adopting end-to-end platforms (like Vistar Media, Hivestack) and laggards sticking to manual trading.

4. Technological Frontiers: Smart Cities and Immersive OOH

While AI revolutionises the backend, 3D and anamorphic technologies are revolutionising the consumer-facing frontend.

4.1. 3D and Anamorphic Displays: The "Spectacle Economy"

Tokyo has established itself as the global laboratory for 3D OOH. These displays utilise "Anamorphic Illusion" or "Forced Perspective," where the image appears to have depth when viewed from a specific angle.

- **Viral Impact:** The ROI of these installations is measured in "social amplification." They are designed to be filmed and shared on social media, extending the ad's reach globally.

4.2. Smart City Infrastructure

- **Shenzhen (Data Integration):** Shenzhen's "Smart Pole" initiative integrates 5G, surveillance, and LED screens. The city utilises its 100% electric bus fleet as a moving sensor grid, feeding data back to optimise ad inventory based on real-time passenger density (Unilumin, 2025).
- **Seoul** (Smart Shelters): Seoul has redefined bus stops as enclosed, glass-walled pavilions with HVAC, air purifiers, and screens. These capture a "captive audience" in a high-quality environment (Dwelling, 2025).
- **NEOM (Cognitive City):** In Saudi Arabia, OOH is integrated into the architecture of "The Line." The model proposes a "Consent Economy" where residents may be paid for their data, supporting a highly personalised advertising ecosystem (Context by TRF, 2025).

5. Case Studies

The following case studies illustrate the practical application of the technologies discussed above across global markets.

5.1. 3D and Anamorphic Spectacles

- **Nike "Air Max Day" (Tokyo):** A 3D billboard in Shinjuku showed sneakers bursting out of the screen. It amassed tens of millions of views online within 48 hours, proving that OOH inventory is valued by its "instagrammability" as much as its footfall (The Drum, 2025).
- **The "Shinjuku Cat" (Tokyo):** A giant, hyper-realistic calico cat appeared to sleep, wake, and look down at pedestrians from the Cross Shinjuku Vision screen. This installation created the global blueprint for viral 3D OOH (Unit LED, 2025).
- **Lenovo F1 Campaign (London):** Displayed on Piccadilly Lights, this campaign featured a Formula 1 car appearing to crash through a living room wall and protrude from the building façade, utilising the screen's curve to create depth (Grand Visual, 2025).
- **Tumi (Dubai):** A luxury luggage brand ran a 3D anamorphic billboard showing suitcases explosively bursting out of the screen in a "collision-effect" illusion (BrandXR, 2025).
- **"The Wave" (Seoul):** A massive wraparound screen at COEX K-Pop Square featured a simulated ocean crashing inside a glass tank, demonstrating the power of large-scale digital art (Sixteen:Nine, 2025).
- **NEOM Trojena (Global):** Synchronised 3D billboards in Riyadh, London, and New York showcased a snowboarder "jumping" out of the screen to promote NEOM's mountain destination (Pixel Artworks, 2025).

5.2. AI and Automated Production

The following examples highlight success stories driven by the adoption of automated creative platforms similar to **POMS Cloud**, which facilitate the rapid scaling of campaign assets.

- **WPP & Global Tech Client:** Implementation of AI workflows resulted in a 74% reduction in cost per asset and 53% reduction in time-to-delivery (WPP, 2025).
- **Klarna:** The fintech company reported saving $10 million annually by using AI (Midjourney, DALL-E) for image creation and ideation, reducing reliance on external production agencies by 25% (Digiday, 2025).
- **Foot Locker:** Used generative AI to create 10,000 product image variations for a campaign. This achieved "massive scalability" and improved Click-Through Rates (CTR) and Cost Per Acquisition (CPA) by overcoming creative fatigue (Smartly.io, 2025).
- **Coca-Cola "Create Real Magic":** Invited consumers to use GPT-4 and DALL-E to generate artwork with Coca-Cola iconography. The best creations were displayed on billboards in Times Square and Piccadilly Circus (Business Insider, 2025).
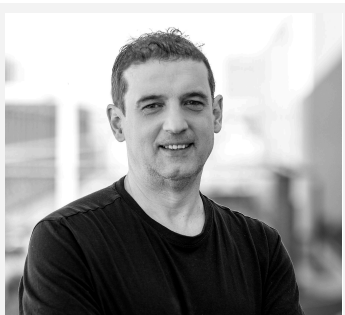
5.3. Programmatic and Data-Triggered (DCO)

- **Nike** "Winning **Isn't for Everyone" (Olympics):** Used an AI system to pull live Olympic results and instantly update billboards in NY and LA with real-time messages congratulating medallists or comparing record times (BrandXR, 2025).
- **McDonald's (Qatar):** Utilised DCO to trigger specific creative only when temperatures hit 35°C–45°C, promoting cold drinks (Broadsign, 2025).
- **Stella Artois:** Found that a 2-degree temperature rise above the monthly norm triggered a sales rise for Cidre. They used DCO to activate billboards only when this specific weather condition was met (WeatherAds, 2025).
- **LinkNYC (New York):** Replaced payphones with Wi-Fi kiosks funded by advertising. While successful in revenue generation, the project faced backlash over privacy sensors, highlighting the tension in Western "Smart City" models (ResearchGate, 2025).

6. Strategic Recommendations for Agencies

To capitalise on this transformation, agencies in the UK, US, and globally should adopt the following strategies:

1. **Invest in AI Tools & Training:** Equip teams with generative AI platforms (Midjourney, Firefly) and creative automation software. Upskill designers to become "AI champions" who can navigate prompt engineering.
2. **Pilot Hybrid Workflows:** Do not wait for a perfect system. Choose an upcoming campaign to test AI resizing or ideation to identify practical challenges and build client trust with faster turnarounds.
3. **Foster Cross-Disciplinary Teams:** Break down silos between creative, media, and data teams. Data analysts should be involved in creative brainstorming to identify available data triggers (e.g., pollen count, traffic) that can inspire dynamic execution. Once these triggers are identified, teams should utilize API-supported design tools like **POMS Cloud** to ensure that the creative strategy can technically support the complex data-driven demands of the media plan.
4. **Emphasise Measurement:** Use the measurability of OOH to demonstrate ROI. If AI allows for 100 localised versions, measure the lift in engagement compared to a one-size-fits-all approach.
5. **Prepare for the "Consent Economy":** Particularly in Western markets, agencies must navigate the "surveillance capitalism" critique carefully, utilising anonymised and aggregated data rather than individualised tracking.

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