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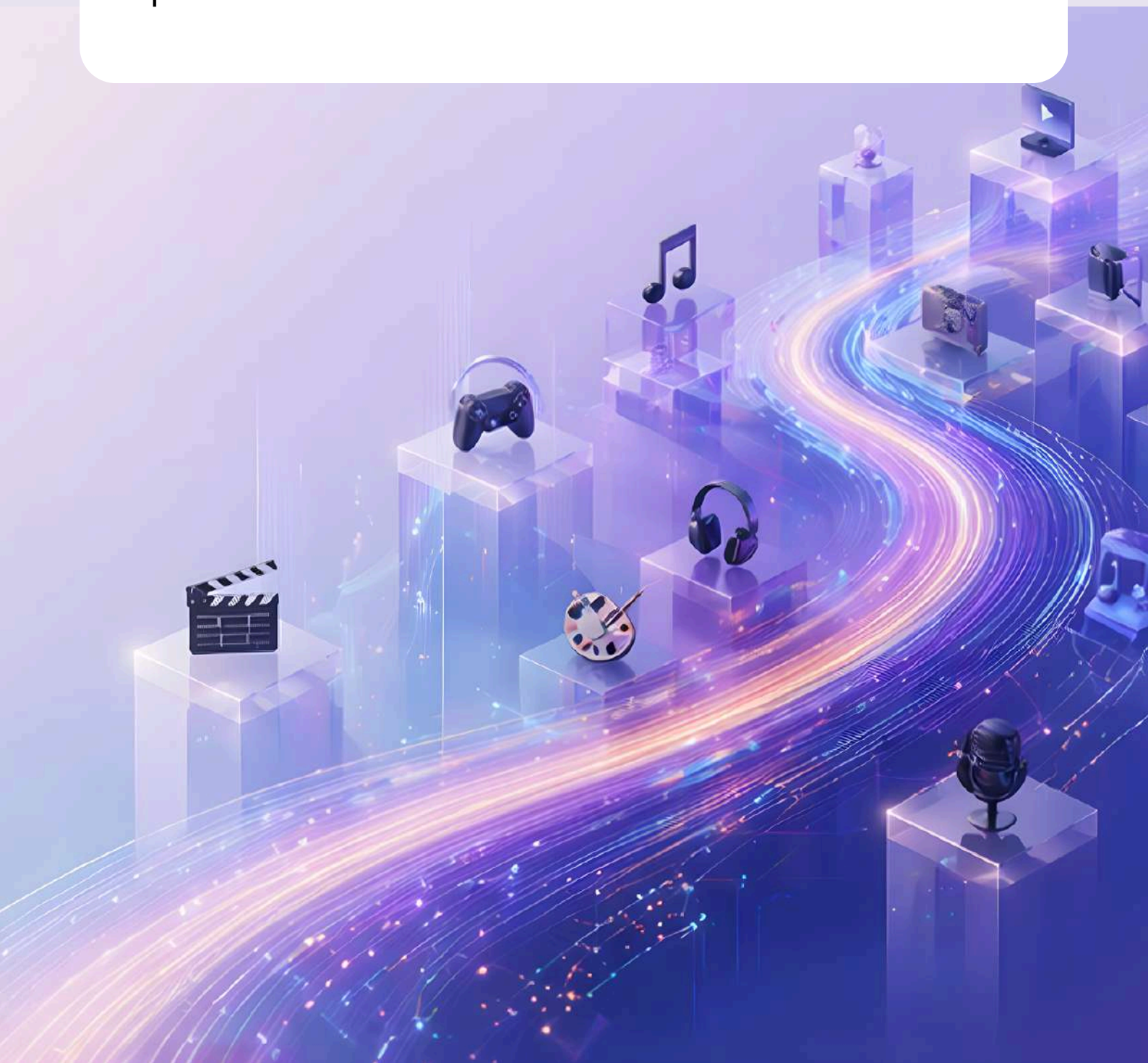
AI in the Creative Industry:
Deepening the Value Chain

April 2026



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Koan Advisory Group is a New Delhi-based public policy consultancy. It specializes in policy and regulatory analysis in both traditional and emergent sectors and markets. For more information, please visit: www.koanadvisory.com

Creative First is a forum to highlight the vital role played by the media and entertainment industry in India to foster creativity, innovation, and culture, which in turn stimulates investment, jobs, and economic growth. Creative First provides quality commentary, research, and additional resources on the value of copyright and the promotion and protection of the creative industries.

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Executive Summary

This white paper examines the integration of Artificial Intelligence (AI) across India's Media and Entertainment (M&E) industry, with a focus on its impact on the creative value chain and the evolving regulatory landscape. The white paper finds that AI tools are improving efficiency by (1) freeing up bottlenecks and opening up more time for creative aspects of filmmaking; and (2) reducing filmmaking costs across pre-production, production and post-production. From scriptwriting and storyboarding to virtual production, visual effects, editing and multilingual distribution, AI is compressing timelines, lowering entry barriers and democratising access to high-quality content creation. This growing use of AI in the creative sector could add 10 percent additional revenue and reduce costs by 15 percent, giving crucial impetus to the development of this sector.[1]

These developments, detailed in our white paper, position India as a global leader in AI-driven media production. In the pre-production stage, AI use is streamlining ideation and planning processes such as scriptwriting, storyboarding and research. AI tools can assist in refining scripts by identifying plot gaps, analysing audience preferences and testing alternative narratives. By doing so, filmmakers and other creators can reduce development timelines, lower costs and enable more informed decision-making before production begins. In the subsequent production stage, AI use allows for the incorporation of virtual production techniques, including AI-powered cameras, real-time rendering, and virtual sets.

In the post-production stage, AI tools are automating editing, visual effects and audio synchronisation. They allow for identifying key scenes, enhancing visual quality and generating hyper-realistic special effects. AI use in this stage also supports advanced capabilities such as de-aging, restoration of archival footage and faster global distribution.

While AI integrations in the production lifecycle are championing and enhancing human creativity, they also raise questions around authorship and copyright subsistence in AI-generated works, the permissibility of using copyrighted material to train AI systems and the preservation of originality in AI-assisted creation. In this white paper, we take stock of AI's transformative potential, its integration in the M&E industry's various processes and the industry and policy responses guiding their adoption.

While such debates have begun to take shape globally, the Indian Government is also exploring policy approaches via the Department for Promotion of Industry and Internal Trade (DPIIT) and the office of the Principal Scientific Adviser (PSA). DPIIT formed a committee to examine the intersection of Generative Artificial Intelligence and Copyright (Committee). This Committee's Working Paper (Part I), released in December 2025, proposes a mandatory blanket licensing framework for the use of copyrighted works in training generative AI (GenAI) systems. Under this model, AI developers would be permitted to use all lawfully accessed copyrighted content without the ability for rightsholders to opt out, in exchange for government-administered royalties. The framework also envisages centralised royalty collection through a Copyright Royalties Collective for AI Training (CRCAT) and rate-setting by a government-appointed committee. The PSA, in its March 2026 white paper on advancing indigenous foundational models, has endorsed the Committee's hybrid licensing approach as a means of balancing lawful data access with compensation for creators. This indicates a growing government consensus on enabling AI development through structured access to copyrighted data.

However, the model suggested in the Committee's proposed licensing framework raises several concerns as detailed in this white paper, in the context of prevailing best practices and standards in M&E markets. Most notably, mandatory licensing departs from India's established system of voluntary, market-driven licensing. This has the potential to undermine the ability of rightsholders to control and monetise their works. Standardised, government-determined royalty rates risk distorting market-based price discovery, undervaluing content and disincentivising investment in high-quality creative outputs. We find that the proposed licensing framework oversimplifies the complex nature of rights in the M&E sector and is inconsistent with international copyright norms.

This white paper analyses AI's growing role in M&E today and then explores corresponding gaps in policy discourse. While AI offers significant opportunities to enhance creativity and global reach, its regulatory treatment must be calibrated. An approach that preserves rightsholders' incentives while supporting innovation is essential to sustaining growth in India's M&E sector.

In particular, policy interventions should prioritise: (i) scaling AI adoption through targeted incentives for creators and studios; (ii) investing in AI-focused skilling and talent development across filmmaking and post-production workflows; (iii) introducing light-touch, flexible and non-prescriptive guardrails to build trust without slowing innovation; (iv) awaiting judicial determinations on questions surrounding 'fair dealing' in the Indian context before amending or creating any new laws around the issue; (v) adapting Indian licensing regimes with international standards to encourage foreign content inflows and investment; and (vi) enabling voluntary licensing, commercially negotiated pricing and other similar measures that champion creators' autonomy.

1

PART 1

Technology in Media and Entertainment

An Indian Perspective

Indian M&E has come a long way since the production of *Raja Harishchandra* in 1913. The film used mirrors and clever camera tricks to create illusions. A little over a century later, our content production capabilities have grown manifold.

In 2025, India produced almost 200,000 hours of original content.[2] The country is poised to become the world's third-largest M&E market by 2028, backed by innovation, continued investment and industry-friendly policies.[3] Today, it is one of the country's fastest growing industries and is projected to exceed $100 billion by 2030.[4] This progress can be attributed to the industry's early adoption of technology.[5]

The M&E industry has stayed relevant by proactively embracing innovation and new technologies such as stop-motion animation, motion capture technology, computer-generated imagery (CGI), AI and augmented reality (AR). Early adoption of varied technologies equipped Indian M&E to weather disruptions caused by the COVID-19 pandemic and associated setbacks in production.

In a post-COVID world, production value chains became more virtual. Today, content production is not confined to geographies like Mumbai and Los Angeles. A filmmaker in Jabalpur can work with a sound engineer in Munich and an animator in Bengaluru.

India's rapid digital transformation has also reshaped both content creation and consumption, powered by a billion-plus internet users, widespread smartphone access, and advanced technologies such as AI-driven, subtitling, and hyper-personalised streaming that democratise creativity and lower barriers to entry.[6] These tools have granted media consumption a new, immersive dimension – bridging the gap between creators, characters and audiences. They are giving independent filmmakers and niche storytellers the same visibility as major studios, while positioning the country as a global hub across the content production value chain.

Homegrown Visual Effects (VFX) studios are now delivering world-class work such as *Brahmastra* and *Kalki 2989 AD*. In 2024, Mufasa: The Lion King, with visual effects crafted in Bengaluru, earned a position in the Oscar shortlist for Best Visual Effects.[7] The digital shift has also expanded access to diverse content, with digital streaming services leading the way. Nearly 56 percent content created on streaming services in 2024 was in regional languages, transforming the Indian media sector into a hub of cultural representation and an exporter of Indian culture to other geographies.[8]

Films like Homebound, a small-town North Indian story that garnered major international acclaim and backing from figures such as Martin Scorsese, illustrate how India is increasingly influencing global narratives. Together, these trends underscore our emergence as a global market leader in M&E, while generating strong second-order benefits including, job creation, skill development, and increased domestic and foreign investment.

Aside from breaking down linguistic barriers and enhancing India's soft power, tech innovations have also opened up sources of entertainment for persons with disabilities. Thus, these advancements have enhanced filmmaking capabilities, scale and reach. The age of tech-driven content creation has also led to an uptick in debates over ownership of creative works and the training of tech products to generate or augment them.

A. Copyright in Media & Entertainment

Copyright is a form of intellectual property (IP) right that protects original works of authorship – works that express creativity and ideas in a tangible form. Copyright manifests through varied forms of creative expression such as books, films, music, paintings, sculptures, and so on. To incentivise innovation and investment, copyright protections ensure that creators alone have the right to make copies of their work and can prevent all others from making such copies.[9]

In India, these rights are granted and regulated via the Indian Copyright Act, 1957 (Copyright Act).[10] As per law, copyright holders enjoy two sets of rights – economic and moral. Economic rights provide an incentive to create new works and grant rightsholders the power to derive financial gains from the use of their creative works by others through publication, adaptation, licensing or translation. Moral rights preserve and protect the integrity of a creative work. They empower a creator to claim authorship over their work. Additionally, this bundle of rights also allows creators to prevent prejudice to their honour or reputation, by enabling them to object to the distortion or mutilation of their original work.

Further, copyright plays a critical role in sustaining the creative ecosystem by supporting investment and incentives for the creation of intellectual works, without which, rightsholders risk having their work(s) exploited without fair remuneration. The Copyright Act empowers rightsholders to gain economic advantages from their work, claim authorship/ownership and protect the integrity of their works.[11] These protections support the growth and circulation of India-origin creative works across domestic and international markets, compensating rightsholders for the commercial value of their intellectual output.

An absence or infringement of copyright (also called piracy) can become a deterrent to creativity. It can erase the monetary incentive of authorship of original works. Without the ability to profit from their IP, the time, effort, and resources required for innovation diminish. Content creation is a high-cost industry, with investments required at every step of the value chain. The loss of potential profits to piracy can discourage investors from injecting capital into the ecosystem, thereby reducing resources to fund new projects and compensate talent and technicians. Finally, piracy can also distort market dynamics by creating unfair competition. The ready availability of pirated content as a cheaper alternative can undercut legitimate, often

high-quality film, web series and other offerings. This can devalue the authenticity of original work and erode consumer trust in M&E marketplaces.

Uncontrolled piracy can also come at a significant cost, to both the M&E industry and the government, which loses out on revenue generation opportunities arising from legitimate distribution, such as the levy of entertainment tax. Indian M&E lost around ₹224 billion due to piracy in 2023 alone.[12] In the same year, piracy cost the government an estimated ₹43 billion in Goods and Services Tax (GST) revenue.[13]

Thus, protecting IP is paramount to ensure that rightsholders remain the beneficiaries of their content, to enable them to control who benefits from its dissemination and to determine the modalities thereof.

B. Integration of Artificial Intelligence in Media & Entertainment

Indian M&E is at the forefront of unparalleled digital transformation, and AI is set to support this growth. The M&E industry's early adoption of AI has ensured a first-mover advantage, enabling it to remain relevant and continually reinvent itself. With the advent of GenAI, there is also a shift from AI assisting creators to now assisting in the creation of entirely new content (text, audio or video) across the entire production process.

In this new environment, content development, product development and design and customer engagement are expected to become the top three applications of AI in the M&E landscape.[14] The use of GenAI in the creative industries could add 10 percent additional revenue and reduce costs by 15 percent.[15]

Given these conditions, it is key that the Indian M&E make the most of its unique advantages – a deep talent pool, a young demographic, cultural and linguistic diversity, rapidly diffusing AI and proven capabilities in media markets. And as AI continues to mature, its use cases in M&E are evolving. The tech is expected to compress production timelines, enable more personalised experiences via machine learning enabled recommendation tools, automate manual and repetitive processes, make research faster and more robust, accelerate real-time special effects rendering and create room for innovations like AI-powered film restoration.[16]

Thus, AI can enhance the ease of both content creation and consumption. From the ideation and pre-production stages, until the content is discovered by and reaches the consumer, all processes can be augmented using AI.

C. Issues Arising from AI Integration in M&E Value Chains

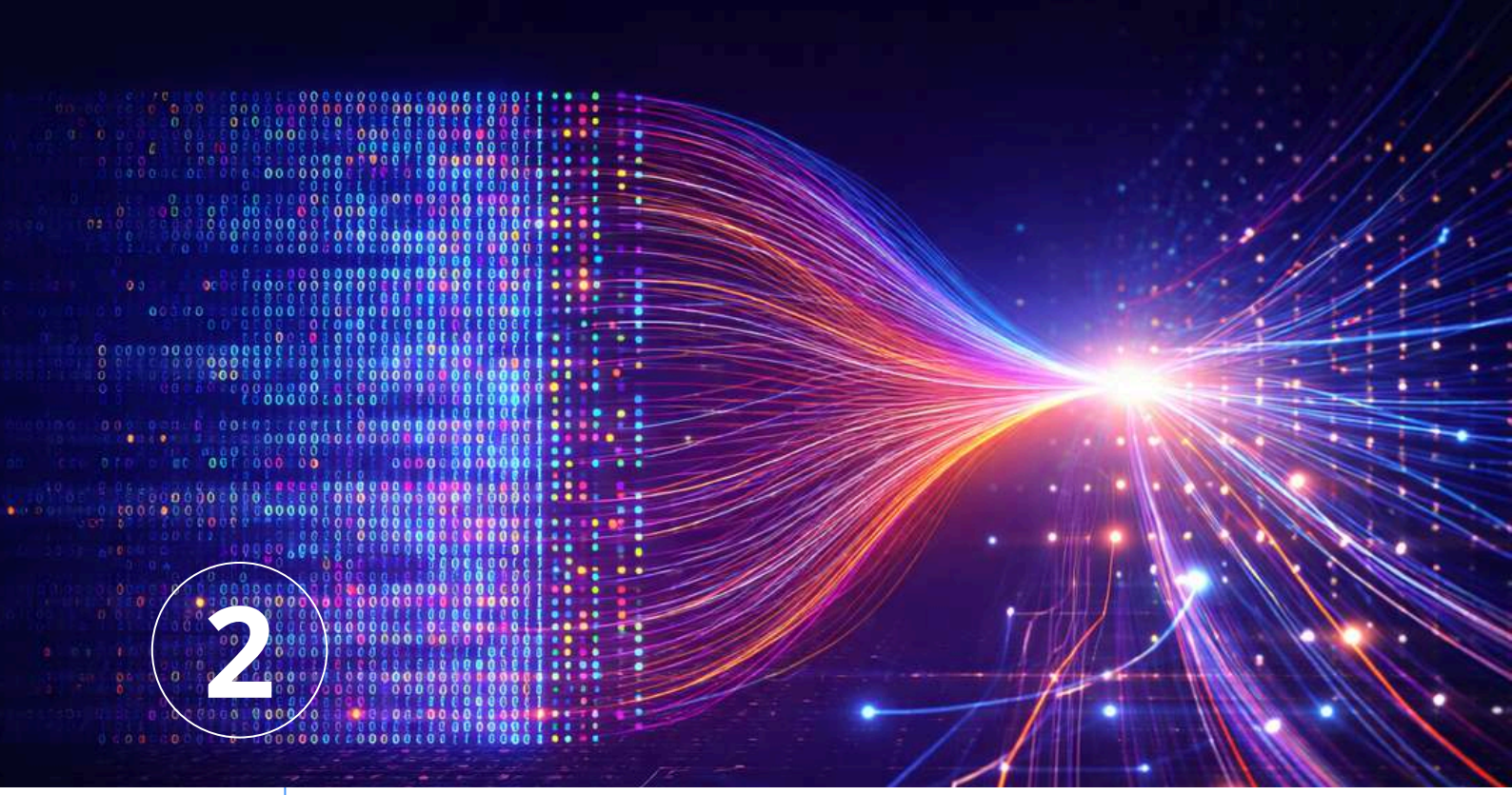
The M&E landscape has evolved alongside technological changes, yet it remains deeply reliant and anchored on human creativity. Even as AI gradually emerges as a co-creator, it is creators such as filmmakers and producers who lie at the heart of M&E. They spark new ideas, embed nuance such as cultural context and social responsibility, and craft non-formulaic content grounded in emotion and capable of connecting with audiences.

With growth and a promising future, AI integration into the M&E value chain introduces new dimensions to legacy concerns around unauthorised use and distribution of protected works. Questions arise around authorship and copyright subsistence in AI-generated works, the permissibility of using copyrighted material to train AI systems and the preservation of originality in AI-assisted creation. M&E stakeholders, policymakers and the judiciary increasingly engage with these issues, as existing legal frameworks continue to face greater scrutiny.

In fact, Indian policymakers have begun to examine how copyright law should respond to newer forms of unauthorised use, including the use of protected works for AI training. For instance, the ongoing case of *ANI v. OpenAI*[17] marks the first legal challenge concerning the unlicensed use of copyrighted material and testing the scope of India's 'fair dealing' provision under copyright law.

In parallel, the Committee has published Part I of its working paper examining the intersection of GenAI and copyright, with a focus on using copyrighted works for AI training.[18] The working paper aims to assess the adequacy of existing law to address issues raised by AI and make recommendations to amend laws, where necessary. Part II of the paper, which is yet to be published, is expected to focus on authorship of AI-generated content and its copyrightability.[19]

Our white paper situates these developments within the broader evolution of the M&E industry. Part I examines how AI technologies integrate across pre-production, production and post-production workflows by drawing on use cases and examples of successful deployment. Part II analyses legal and policy responses in India, with particular attention to the Committee's proposals and their implications for the creative economy.



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Leveraging AI and the Media and Entertainment Value Chain

Chapter 1 introduced AI's rapid adoption in M&E, and how such integrations may create copyright-related challenges. While copyright infringement appears to be a simple problem to solve on the surface, complexities increase in the case of M&E. This is because a creative work like a movie or other content comprises a variety of copyrights in a single work, many of which often overlap. All the elements of a composite work, such as scripts, music, dialogues, and visuals, may be eligible for IP protection.

The assignment of copyright in a film also involves multiple steps and parties. These may include theatrical rights (the right to exhibit films in theatres), streaming rights (the right to stream films on a digital streaming service), and cable and satellite rights (the right to broadcast on television). All these steps of the value chain also have the potential to be augmented by AI, which can exacerbate concerns around copyright.

This chapter explores the possibilities for leveraging AI across the content production lifecycle by breaking down the content creation process into pre-production, production, and post-production stages.

A. Pre-Production Stage

Pre-production marks the stage in which creators conceive and develop a creative work, following approval of the project. This involves research into thematic elements, script finalisation, hiring talent and crew, selection of filming locations, construction of sets, arranging financing and preparation of a detailed shooting schedule.[20]

AI adds compelling value at this stage by enabling filmmakers to translate conceptual ideas into tangible form. Creators have begun integrating these tools into their workflow. For example, director Jithin Laal used AI to visualise a bejewelled lock on a room, which was a key part of his Malayalam blockbuster *Ajayante Randam Moshanama (2024)*, after conventional methods failed to communicate the concept to his visual effects team.[21]

1. Scriptwriting

Scriptwriting and storyboarding (the preparation of visual illustrations to plan a motion picture) form core components of pre-production and demand significant time and effort. Creative teams have traditionally carried out these tasks manually.[22] AI tools now enable creative teams to automate exploratory and repetitive work at this stage, reducing cost and redirecting creative effort towards other higher-value decisions. These tools support world-building, research, flagging pacing issues, refining dialogues for tone and character consistency and identifying plot gaps. Creators also use AI to test alternative plots and subplots before committing financial resources, allowing scope for early feedback and reducing downstream production risks.[23]

Case Study 1: Use of Natural Language Processing in Pre-Production

Natural Language Processing (NLP) is a subfield of AI that enables computers to understand, interpret and generate human language.[28] It is enabled by blending computational linguistics with the rules of human language, along with technological advancements such as statistical modelling, machine learning and deep learning. NLP can understand context, tone, sentiment and style, allowing it to generate coherent and relevant content that aligns with intended messaging. For a filmmaker, this means producing high-quality content in less time and with greater convenience.

NLP can be leveraged for support during pre-production stages. It analyses syntax, semantics and sentiments to generate contextually appropriate and emotionally resonant lines. It helps ensure consistency in character voice and allows for adapting the script for different cultures by translating it into various languages.[29]

Script analysis via NLP can also be leveraged to predict commercial and critical outcomes.[30] For example, based on its analysis of past scripts with known ratings, NLP tools can help identify elements that resonate with audiences and critics and predict chances of success. Early-stage script analyses can also offer actionable insights for marketing teams by linking script features such as emotional arcs and genre-specific elements to actual viewership data, thereby enabling informed decisions for greenlighting and promoting projects.[31]

B. Production Stage

The production stage is when a script comes to life and actual filming takes place. It involves executing pre-production plans, such as pre-visualisation and storyboarding. It typically entails arriving on set or a specific location, setting up equipment, managing and coordinating the crew, which consists of lighting, camera, sound and costumes, directing actors and capturing scenes based on the script or storyboard.

These multi-step processes often come at high costs, which can be reduced by leveraging AI tools such as AI-enabled cameras and virtual sets. For instance, Khushwant Singh's *Maharaja in Denims* was produced at one-sixth of its estimated cost of $6 million, due to a shift from conventional to AI-based filmmaking.[32]

AI tools also allow directors to test multiple camera angles and aspect ratios within minutes and to simulate different lenses and camera configurations, providing immediate visual feedback before deployment of physical equipment.[33] These previews help creative teams identify compositional issues early, reducing the need for reshoots and saving time and costs during principal photography.

AI systems can further generate lighting setups based on mood, genre or visual references, supporting efficient creative decisions on set. Beyond these applications, AI enables virtual production through digital sets and virtual cinematography, which allows production teams to stage and capture scenes in controlled environments.

1. Virtual Sets and Cinematography

Location shoots often impose high logistical and financial costs, including travel, accommodation, transport of equipment, compliance with local permissions, and visa and documentation requirements. Large-scale physical sets can also increase production costs significantly. The primary set for the web series *Heeramandi: The Diamond Bazaar (2024)* was built with 14,000-15,000 workers and took over three months to construct, while the set for the film *Baahubali: The Beginning (2015)* set reportedly cost ₹60 crores ($6.6 million).[34]

To manage costs and ensure real-time, efficient filmmaking without overburdening post-production teams, filmmakers are now relying on AI-enabled virtual sets, LED walls, and game-engine technologies like Unreal Engine.[35] These tools can enable the creation of realistic landscapes. They can also allow filmmakers to create new worlds and imagine fantastical depictions that would be otherwise impossible to shoot. Settings can be changed in a few clicks, simulating instant location changes without leaving the studio. This way, independent and small-budget filmmakers can achieve big-budget aesthetics at a fraction of the traditional cost. If the filmmaker feels that a shot does not match their creative vision and requires to be reshot, virtual sets and production can recreate the setting without expensive reshoots in the original location.

In-camera virtual production further saves time, particularly during post-production, by allowing filmmakers to see each frame in its nearly finalised version in real-time. It also allows more flexibility to experiment with camera placement around physical and virtual objects, and sometimes even the actors. Creative teams can align on-set lighting with pre-approved virtual simulations of natural or ambient light, maintaining visual consistency across scenes.[36] This is an efficient mechanism that reduces the need to adjust aspects like lighting during post-production.[37]

Case Study 2: Use of AI-based Gaming Tech Like Unreal Engine – From Green Screens to Virtual Sets

To cut the costs of shooting in specific geographic locations, filmmakers in India have historically relied on green screens. However, these made lighting and integrating reflections into the frames challenging.[38] Green screens would often lead to spilling over of the green colour on actors and props post shooting, increasing the workload of those working in the post-production stages of a film.

Filmmakers are combating these limitations of green screens by embracing cutting-edge tech such as Epic Games' Unreal Engine (UE). UE is a 3D computer graphics game engine, which is seeing rapid adoption across industries, including film, television, and even architecture. It leverages AI to assist developers within the engine and create intelligent visuals.[39] It also provides creators with a built-in AI assistant for generating code for development and answering questions.[40]

Tech like UE allows filmmakers to undertake virtual production by enabling background rendering in real-time. These backgrounds are then added behind actors on LED walls, creating the illusion of a location.[41] This allows actors to actually visualise and experience an environment, improving their reactions, and, by extension, their performance. The technology allows performances to appear more authentic, unlike green screens, where actors had to imagine the environment that would be added later in post-production.

Mumbai-based K Sera Sera has emerged as the country's largest virtual production studio.[42] Its key capabilities include UE-driven environments, with pre-visualisation and post-production integrations.[43] Hyderabad Ramoji Film City also houses virtual production sets supported by UE.[44] These enable real-time composting[45] and lighting control.[46]

Box 1: Virtual Production in *Brahmastra* - Creating Magic, One Virtual Set at a Time

Fantasy-action film *Brahmastra: Part One - Shiva* released in 2022 and concluded its theatrical run by amassing ₹430 crores worldwide. Shooting for the grand-scale film involved multiple techniques including virtual production. It was carried out in-camera, especially for the climax sequences, to help the director and actors visualise how a scene will turn out. This was achieved by employing Unreal Engine and automated LED panels to visualise digital environments in real-time, allowing actors to interact with essential but mythical elements in the film, such as a 100-foot avatar of fire.[47]

Courtesy: Dneg.com

C. Post-Production Stage

The post-production stage entails adding finishing touches to create the final product – a film. A team of professionals, including directors, producers, cinematographers, assistant directors, musicians, voice over artists and special effects technicians come together to create the finished product. This phase determines the tone, tenor, quality and emotional impact of the project on the audiences.[48]

Figure 1: What does the post-production value chain look like?

The illustration above captures the steps in sequence that form the post-production process. These steps result in highcosts and rely on manual labour, often for repetitive tasks. AI tools can help augment and automate some of these tasks, allowing post-production team members to invest their time and resources in creative and artistic work.

AI use in production has permitted filmmakers to shoot from multiple angles and positions, often overwhelming editors with multiple frames for a single scene.[49] AI tools can be leveraged in this scenario to identify the most suitable scenes. For example, using an AI tool such as facial recognition software, post-production technicians can identify central characters and key plot-related scenes, streamlining the editing process. They can also help spot high-intensity and emotionally charged scenes, helping editors cut enticing trailers that drive audience engagement.

AI tools enable background replacement, colour enhancement and correction, noise reduction, scene sequencing, audio synchronisation and cleanup and visual corrections. They can help remove unwanted objects, maintain scene-to-scene colour consistency, undertake automatic skin tone matching and flag mismatches in eyelines, props or costumes early in the post-production process, enabling the creation of a film that maintains logical sequence and continuity.

AI tools have also improved the integration of special effects such as VFX with live-action footage, which allows for seamless blending.[50] This reduces the time and costs involved in VFX processes by automatically removing subjects from backgrounds, accelerating the creation of complex simulations such as water, explosions, and fire, and enhancing rendering speeds to achieve high-quality, realistic results faster.[51] This affords post-production technicians and talent freedom from tedious, frame-by-frame manual work.

AI tools can further help upscale low-resolution footage and restore older, damaged or blurry footage. Deep-learning models enable fast facial animation, including de-aging, significantly cutting post-production timelines. These models benefit filmmakers by enabling the recreation of an actor's likeness after their death, allowing them to swap an actor's face with a stunt double's and adjust actors' appearances once shooting is complete, without requiring expensive and time-intensive reshoots.[52] Thus, via these improvements, AI-driven special effects can reduce production costs by about 40 percent by 2027.[53]

Once a film has been trimmed and polished into a product with a coherent and attractive start, middle and end, AI tools can help prepare it for distribution to global audiences. They can create fast transcriptions and translations, enable real-time lip-sync and regenerate dialogue in multiple languages while maintaining

natural emotion and timing. This allows for faster, scalable global distribution, and can help create the illusion that an actor recorded the same scene in multiple languages, reducing friction, offering a more immersive experience and creating a more harmonised look and feel.[54] We unpack some of these AI-tool use cases in post-production below.

Case Study 3: From Prosthetics and Makeup to Deep Learning – De-Aging Actors in Films

Before M&E adopted tech advancements and sophistications, an actor's physical features were modified using makeup and prosthetics. Using silicone prosthetics, skin-tightening and lifting agents and adhesives to hide under-eye wrinkles and bags, actors were made to look like their younger selves, per the requirements of the film. The low resolution of cameras often hid these efforts, making finer details on an actor's face invisible.

Over time, modern digital and high-resolution cameras made this challenging by making 'imperfections' or physical additions noticeable on screen. To mitigate this, filmmakers started leveraging tech tools like computer-generated imagery (CGI) and other VFX, by creating 3D animations of the actor's head. Typically, actors would be filmed with tiny markers attached to their faces to capture precise movements and coordinates of the actor's head as it moves during a shot.[55] This was a time-consuming, manual process, which involved building every element from scratch. It relied on multiple steps such as digital editing and retouching to remove wrinkles, reduce facial fat and adjust contours, performing digital facelifts (targeted adjustments to specific areas like the chin, nose, and cheekbones), and finally undertaking composting and rendering to blend the final, rejuvenated face into the original footage. At this final step as well, special effects experts manually matched lighting and skin textures in every single frame for a seamless look. These steps require months of effort. For example, despite using some level of automation via AI, de-aging processes in the film *The Irishman* (2019) took eight months to complete.[56]

Aside from consuming a significant amount of time, de-aging using CGI and VFX is also expensive. These processes require specialised cameras to capture facial movements and hundreds of specialists to edit frame-by-frame. Harrison Ford's de-aging for the screen on Indiana Jones and the *Dial of Destiny* (2023), involved efforts of over 100 VFX artists who worked for three years to complete the process in 2023.[57] Frame-wise CGI can cost between $30,000 to $1,00,000, with creating only the digital head model costing about $1 million.[58] It also impedes an actor's ability to emote, due to the physical constraints of placing markers, prosthetics and other physical objects on the face and head.

Over time, AI integrations in post-production were developed to simplify and automate certain manual processes, including de-aging. Evolution includes developing an AI-based Face Finder, used in T*he Irishman* (2019), which used thousands of screengrabs of actors from their films at varying stages of their careers to build a database.[59] This database served as a visual reference to create believable and authentic faces.

Other more sophisticated advancements include using deep learning algorithms and neural architectures such as Generative Adversarial Networks (GANs), to modify facial features. GAN models are trained on datasets of images that show people at different ages and the AI tool

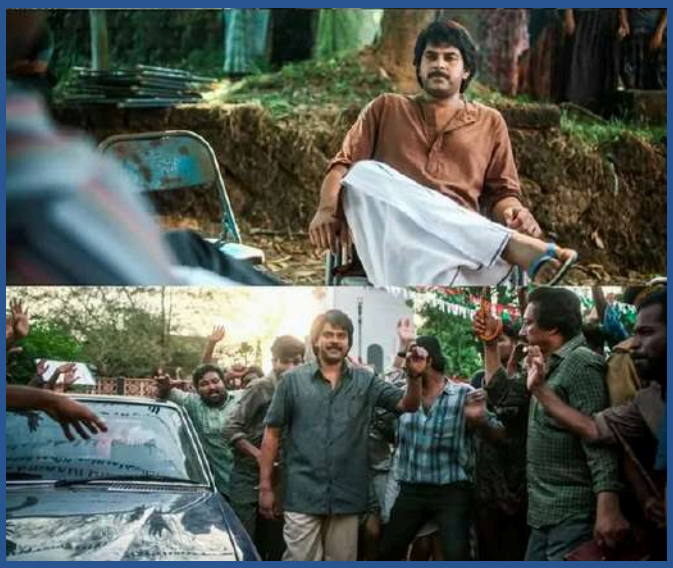
then learns to recognise and mimic subtle changes in facial features, skin texture, and other age-related attributes. The trained model can then be applied to new images or videos to de-age a person by adjusting skin tone, removing wrinkles, altering hair colour or fullness and reshaping facial structures.

Using such techniques can also maintain consistency in lighting, shadows and expressions, allowing for seamless and realistic de-aging effects, in a fraction of the time it would take for VFX experts to implement these effects post-production. GANs use a competitive training process in which one model generates outputs and another evaluates them, creating an internal feedback loop that improves performance over time.[60] GANs and other AI tools allow directors to see de-aged results in real-time, on set.[61] This speeds up production workflows, allowing instant corrections and adjustments, while also reducing the time artists spend on manual labour, allowing them to dedicate resources to actual creative work.

Indeed, AI-led breakthroughs can also be adapted to more creative endeavours than de-aging. These include recreating images of deceased actors and making them appear in new productions.[62] Algorithms can analyse existing video footage of such actors, identify key movement styles and use this deep learning to recreate new movements based on the role's requirements.

Box 2: De-Aging in Indian Cinema

In the film *Rekhachithram (2025),* we see a 73-year old Mammootty in his 30s. Fans have termed it the best de-aging and AI recreation in Indian cinema to this date. To achieve this feat, the film's post-production team fed AI models visual data of the superstar from his film *Kathodu Kathoram (1985),* which yielded grainy results. Subsequently, the AI model was fed scenes from Mammootty's film *Manu Uncle (1988),* which was remastered in 4K. [63]



Courtesy: The Indian Express

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PART 2

AI in M&E

Regulatory Environment

Part I captured how AI is transforming the media and entertainment value chain by enabling new forms of creativity and ways to enhance it. The M&E industry is set to become one of the biggest beneficiaries as AI integration which can: (1) reduce repetitive and redundant tasks; (2) augment creativity by supporting filmmakers bring their ambitious visions to life; (3) clear production bottlenecks by speeding up workflows; and (4) enable smaller, independent filmmakers to compete with global majors by cutting costs.

The transformative potential of AI in the creative economy also persists with critical legal questions about the treatment of copyrighted works and the rights of creators. India does not have a dedicated AI-specific law, unlike jurisdictions such as the European Union, which has adopted a regulatory approach through the EU AI Act.

India largely relies on existing laws and incremental governance mechanisms to address AI-related issues. This approach reflects a conscious effort to support innovation and industry-led adoption, while simultaneously managing risks through existing legal frameworks. Within this landscape, three pertinent issues have assumed particular importance in the context of AI's use in the creative economy: (1) synthetic content and deepfakes; (2) violation of personality rights; and (3) use of copyrighted works in training AI systems.

While there is no denying the many positive use cases of AI in the creative sector that Part I discusses, developing regulatory approaches in India remain focused on harms. India's incremental approach to AI governance is evident in its regulatory responses to harms that directly affect the creative sector, including synthetic content and personality rights violations. For instance, to regulate the creation and generation of synthetically generated information (SGI), the Ministry of Electronics and Information Technology (MeitY) has amended the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.

These introduce a definition of synthetic content and propose labelling requirements for social media companies to mitigate the harms of impersonation, misinformation and privacy violations.[64]

Alongside this regulatory measure, Indian courts are also addressing harms arising from the use of AI tools to replicate an individual's likeness, voice and other personal attributes. They have intensified their response to long-standing concerns around personality rights, as AI tools continue to ease production processes, as explored in Part I of this paper, and make it easier to replicate an individual's personal attributes. Enforcement of personality rights continues on a case-by-case basis, particularly for public figures facing non-consensual commercial exploitation of their personality attributes.

Recent jurisprudence has extended protection against both existing and future misuse, including by unidentified actors and AI-enabled technologies such as deepfakes and chatbots.[65] In both instances, India has opted for incremental interventions to address AI-related harms rather than entirely overhauling regulatory frameworks.

As introduced in Chapter 1, the Committee's proposed treatment of questions around the use of protected works for AI training presents a more complex regulatory challenge. The following section elaborates on the concerns of the use of protected works in training AI systems and considers the implications of the Committee's proposed licensing framework, which may inadvertently undermine the benefits of AI for the creative economy.

1. Concerns Around the Use of GenAI in the Creative Economy

The preceding Chapters in Part I discuss the transformative potential of AI in the creative sector. AI use in the creative value chain also includes the use of protected, copyrighted works for training AI models and tools so that they continue to evolve and produce increasingly sophisticated outputs. This growth of GenAI has raised crucial concerns about the erosion of copyright protections for books, news articles, images and other creative works. GenAI tools are trained on data lakes and question snippets — billions of parameters constructed by software processing vast archives of images and text. GenAI tools identify patterns and produce outputs, and then respond to user prompts. This process comes with legal risks, including intellectual property infringement and unearths legal questions that are being debated globally.

Copyright acts as an incentive for the creation of, and investment in, intellectual works, without which, creators risk having their content exploited without fair remuneration. Globally, debates are underway on how copyright regimes can adapt to address the use of protected material for training AI models, and the implications of these models reproducing such material. Variance in traditional copyright frameworks globally has led courts and scholars in different jurisdictions to diverge in their analysis on the intersection of GenAI and copyright laws.

Differing principles in copyright law, such as 'fair use' in the United States and Text and Data Mining (TDM) exceptions in the EU, serve as yardsticks to evaluate questions at the intersection of AI and copyright. However, the United Kingdom[66] and Australia[67] have recently announced their intention not to introduce TDM exceptions in their countries and alternatively, to support the growth of voluntary licensing markets. India's DPIIT, via its committee, too has rejected the TDM proposal as a feasible model for the country.

Several high-profile legal challenges are ongoing against AI companies by news publishers, authors and even media houses, especially in the United States.[68] AI developers like OpenAI, Perplexity, and Microsoft have simultaneously pursued licensing deals with publishers and content providers, ranging from

Shutterstock and The Wall Street Journal to Reddit.[69] In Europe, publishers such as Le Monde (France) and Prisa Media (Spain) have entered into content licensing deals, indicating a dual trend of both conflict and collaboration.[70] AI companies tend to assert that their use of copyrighted works is exempt under the 'fair use doctrine', a copyright principle also found in Indian law.

India's Copyright Act does not contain explicit provisions regulating the use of copyrighted material in AI training. However, 'fair dealing' is an exception under intellectual property law that allows the use of copyrighted material without the copyright holder's permission. Fair dealing is codified under Section 52 of the Copyright Act, 1957 and lists around 40 instances in which the use of copyrighted material will not result in infringement. For example, the section states that using a work for personal or private purposes, such as research, does not lead to copyright infringement.

Currently, Indian courts are deliberating the applicability of the country's copyright laws to AI training. The ongoing case of *ANI Media Pvt Ltd v. OpenAI*[71] marks the first legal challenge concerning the unlicensed use of copyrighted material and testing the scope of India's 'fair dealing' provision under copyright law. ANI has sued OpenAI for copyright infringement in the Delhi High Court, alleging that OpenAI trains ChatGPT using the news agency's original reports and reproduces them verbatim for commercial interest. ANI also alleges loss of reputation due to ChatGPT attributing fake news to it. The Delhi High Court has framed issues for deliberation in the ANI case, including: (1) whether storing copyrighted data for training ChatGPT amounts to copyright infringement; (2) whether generating user responses using copyrighted data constitutes infringement; and (3) whether these uses of copyright data fall under 'fair dealing' as per Section 52 of the Copyright Act.

As the Delhi High Court determines the legality of using copyrighted works to train AI systems, the Committee has proposed an overhaul of the current voluntary licensing mechanism, potentially changing how rightsholders and AI companies engage in consensual and market-driven licensing arrangements. These dynamic shifts in the regulatory landscape can potentially spill over and impact the use of AI tools in the pre-production, production and post-production value chains. To this end, the section below elaborates on the committee's proposal and the emerging concerns it raises for the creative economy.

2. DPIIT Committee's Proposed Mandatory Licensing Framework

DPIIT established an eight-member Committee in April 2025 to analyse legal and policy challenges emanating from the intersection of GenAI and copyright. The Committee published Part I of its Working Paper (WP) on the subject in December 2025 after months of deliberations.

1. **Mandatory licensing** - The WP proposes a hybrid licensing model to balance the interests of copyright holders and GenAI developers. The model consists of a 'mandatory blanket license' for all lawfully accessed copyright works, along with a statutory right to compensation for rightsholders. Rightsholders cannot opt out of their works from being used to train GenAI. The mandatory blanket license will be introduced through an amendment to the Copyright Act, 1957.

2. **Payment upon commercialisation** - Royalties would become payable only once an AI system is commercialised. Royalty rates would be determined by a government-appointed committee and remain subject to judicial review.

3. **Centralised royalty management -** The 'Copyright Royalties Collective for AI Training' (CRCAT), composed of members from copyright societies, will collect royalties from GenAI developers and distribute them to its members. CRCAT will consist of only one member per 'class' of work.

4. **Flat rate royalties -** AI developers will pay royalties as a lump sum to the CRCAT. Flat rates for works will be set based on the percentage of the gross global revenue (excluding taxes) earned by an AI Developer from the commercialisation of the AI System trained on such content.

5. **Royalties to be paid retroactively -** AI Developers who have already trained their AI Systems on copyrighted protected content and are earning revenues by commercialising such AI Systems would be obliged to pay the prescribed royalties.

6. **Distribution of royalties to members -** CRCAT members can set their own policy for distributing royalties among copyright holders who have registered with the member's Works Database.

7. **Rate setting** - Royalty rates will be determined by a Rate Setting Committee (RSC) formed by the central government and comprising senior government officers, legal experts, financial/economic experts, and technical experts in emerging technologies. It will also include a member from CRCAT and a representative of AI Developers. Royalty rates will be based on stakeholder input, market data, and economic analyses and will be revised every 3 years.

8 **TDM exception:** The Committee analysed various frameworks, including those advocating for a TDM exception. It also noted that industry stakeholders unanimously called for a voluntary licensing model. The Committee noted that a TDM exception is not a prudent policy approach, as it can undermine copyright and leave creators powerless to seek compensation for use of their works in AI training. The Committee further noted the exception's unsuitability in the context of India's growing content industry and rich cultural heritage and diversity.

In March 2026, the Principal Scientific Adviser (PSA), in a white paper titled 'Advancing Indigenous Foundational Models', supported the recommendations of the Committee.[72] The PSA noted that the proposed hybrid licensing framework offers a distinct alternative to existing global standards, balancing the rights of copyright holders while enabling lawful data access for AI developers. Although the White Paper does not have binding force, it carries persuasive weight. The PSA's promotion of the hybrid licensing model signals broader government acceptance of the DPIIT's proposal, despite opposition from industry groups.[73]

3. Concerns with the DPIIT Committee's Working Paper

The DPIIT Committee's Working Paper proposes to amend the Copyright Act, 1957, to introduce a mandatory blanket license for AI developers to use lawfully accessed copyrighted works to train GenAI systems. The proposal can upend the existing system of voluntary licensing.

India's Copyright Act encourages the growth of voluntarily licensed markets. Voluntary licensing is a market-based approach that allows rightsholders to negotiate the market value of their works, based on uniqueness and quality. Voluntary licensing also allows licensors and licensees to utilise copyrighted works under mutually agreed-upon terms, whereby creators benefit from exposure, reach, and revenue.

The proposed mandatory licensing framework does not provide copyright holders with an option to opt out of having their works used by AI developers and does not allow them to negotiate the license fees that may be paid to them. The committee's proposal constitutes a radical departure from the foundational principle that copyright is inherently an exclusionary right, i.e., it is the right of a holder to determine whether and on what terms their work(s) may be used. Mandatory licensing will only serve to reduce India's attractiveness as a jurisdiction for premium content investment.

As discussed in the preceding chapters, AI offers a compelling value proposition for the creative economy. Beyond its impact on voluntary licensing, the Committee's proposal raises the following additional concerns that risk constraining the adoption of AI across the creative sector:

a. **Undermines value of premium content**: The proposed mandatory licensing framework treats major studio franchises and other high-investment audio-visual works in the same way as low-value or user-generated content for training AI systems. The proposed framework limits the ability of premium content to attract differentiated licensing terms by standardising the valuations of creative works. Mandatory licensing will limit the scope to differentiate between high-value and low-value categories of content, which carry different commercial values.

   The Working Paper assumes that the market will accept the flat rates determined by the RSC. This risks arbitrary outcomes, including under-compensation for some rights holders and overcompensation for others, thereby undermining fairness, market efficiency, and confidence in the proposed licensing framework. A concept like the RSC will likely fail, as it ignores fundamental copyright principles that confer rightsholders with exclusive rights over the use, monetisation, and dissemination of creative works. It is also premised on an unclear valuation mechanism that is unlikely to capture market dynamics.

   Ultimately, the proposed licensing framework also results in a lack of control for copyright holders, especially for high-value copyright holders who may also be concerned with protecting brand value and ensuring accuracy.

b. **Pre-empts conclusions on issues currently pending judicial determination:** Indian courts have not decided the crucial question of law that underpins the Committee's work: whether using/storing copyrighted material for training or generating responses from GenAI models leads to copyright infringement. The issue is pending before the Delhi High Court in the *ANI Media Pvt Ltd v. OpenAI* case which will also examine the applicability of fair dealing under Section 52 of the Copyright Act. While the Working Paper mentions the case, it does so only superficially and does not assess its potential impact on the proposed licensing framework.

   The High Court's decision in this case will guide the legal interpretation of these key issues and may even lead to provisions of the Copyright Act being interpreted or expanded to address concerns around AI and copyright. The Committee's approach in suggesting a licensing framework that requires significant amendments to the Act aims to pre-empt legal conclusions without applying legal reasoning. The Committee has not examined core legal considerations in developing its licensing framework.

c. **Oversimplifies complex rights structures in the creative sector**: The proposed RSC infringes on rightsholders' exclusive control over their creative works. The Working Paper oversimplifies rate setting to the extent that it ignores the reality that copyrights involve rights that are often fragmented, with moral, personality, and privacy rights existing independently of economic copyright ownership. In the M&E industry, for instance, copyright owners do not always possess blanket permissions from all underlying rights holders, such as performers, authors, and individuals whose personalities are captured in the works, for all uses of those works. As a result, any flat-rate licensing mechanism imposed by the RSC risks collapsing a complex, rights-based framework into an administratively convenient fiction that fails to safeguard the economic and moral interests of the very creators the licensing framework claims to protect.

d. **Distorts market-based price discovery through government-mandated rates:** The idea that a single government-mandated body can determine an appropriate royalty rate (for AI model developers) and a revenue split (for content creators) goes against the economic tenet of price discovery through the market mechanism that can produce high value for all stakeholders.[74] The issue is compounded as CRCAT calculates flat rates as a percentage of the gross global revenue earned by an AI developer on the commercialisation. However, essential details as to whether the model must be commercialised in India for the rate to apply remain unanswered. By assuming flat rates, such a mechanism also risks undervaluing Indian datasets in AI training and raises serious questions on how revenue is shared, especially when training involves similar content from multiple sources and precise attribution is not possible.

e. **Inflexible rate revision:** The proposal also provides that royalty rates would be revised only once every three years. Given the rapid pace of technological change, evolving business models, and fluctuating demand for creative content in AI-driven markets, infrequent revisions risk creating a mismatch between what markets can offer and what the rightsholder ultimately receives in payment. It is also unclear to what extent copyright holders will be involved in rate setting. Works that are not represented by a copyright society may not be correctly valued. Additionally, the proposed licensing framework only focuses on price determination. It restricts the flexibility of rate revisions and negotiations that would be available under a voluntary licensing framework, greatly constraining the freedom of rightsholders to define the term, scope and attribution of their works.

f. **Inconsistent with India's obligations under international copyright treaties:** By mandating an 'opt-in' mechanism, India risks creating a regulatory environment that is fundamentally at odds with international licensing norms. Such a framework threatens to choke the pipeline of foreign creative works. This misalignment contradicts 'ease of doing business' goals and the National Intellectual Property Rights Policy, 2016, which aims to foster predictability. The proposed licensing framework is also inconsistent with India's obligations under international copyright law instruments. These instruments include the Berne Convention,[75] the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)[76] and the WIPO Copyright Treaty,[77] all of which India has acceded to or ratified.

4

Conclusion and Recommendations

Indian M&E is a champion of AI, and associated tools benefit both creators and consumers by making content accessible, differentiated and democratised. AI adoption in the creative sector can also help set India on the path to becoming a global content hub – a long-standing ambition of the Indian government. For instance, AI tools help break down language barriers at scale through AI-powered subtitling and voice cloning, enabling rapid and low-cost localisation of films and other content. This allows regional folktales, traditions and culturally rooted narratives to gain national and even international prominence, establishing India as a key exporter of soft power.

AI is also transforming content creation by lowering entry barriers and expanding participation across the creative ecosystem. As a result, creators from smaller towns and non-traditional backgrounds can meaningfully participate in the M&E economy. AI tools are also supporting cultural preservation by fostering the restoration, digitisation and translation of old films and other archival footage into modern formats and languages, ensuring their continued relevance for future generations. AI is thus being used to enhance human productivity, streamline productive processes, improve market access across the production value chain and augment creativity.

As the Indian M&E industry stands at a pivotal juncture, it is necessary that advancements be coupled with a regulatory design that complements upward strides. The choices made today will shape the long-term trajectory of the creative ecosystem, of which AI is set to become a central pillar. The government routinely engages and collaborates with the M&E industry while devising policy, which results in frameworks that allow for its growth. This approach stems from a vision to Create in India, Create for the World and is fuelled by initiatives such as the World Audio Visual and Entertainment Summit (WAVES) and the newly inaugurated Indian Institute of Creative Technologies (IICT) – steps aiming to make India a future ready market leader in the M&E space.

India must take a similar approach to the regulatory challenges being presented by the advent of AI in M&E. Taking a relook at the mandatory licensing approach and encouraging market-led voluntary licensing is a step in this direction, which can create room for fair negotiations between AI developers and creators, and allow creators agency over their works. A shift away from voluntary licensing may dilute creator autonomy, distort value discovery and reduce incentives for high-quality content production. This could erode its attractiveness as a trusted and efficient hub for global content stakeholders.

A balanced and future-ready approach must aim to achieve the following:

1. Enabling voluntary licensing, commercially negotiated pricing and other similar measures that champion autonomy, over interventions that are onerous and not market-first approaches. A voluntary system will encourage a collaborative relationship between the tech and creative sectors, thereby driving value and genuine innovation that respects the rights of creators and copyright owners. In doing so, regulatory regimes must also focus on avoiding the creation of rigid India-specific licensing regimes that can isolate the country's creative sector from the rest of the global value chain and discourage foreign content inflows and investment.

2. Allowing the industry to adopt AI tools for augmenting their creative works, while self-regulating and developing best practices in the process. These may include clear, targeted, light-touch guardrails, such as the introduction of transparency requirements and disclosure obligations for GenAI use in content creation and training.

3. Pausing any statutory amendments till key questions around AI training and copyright are settled in court. As discussed above, the issue of the use of copyrighted works for the training of AI tools is being deliberated in Indian courts. In other jurisdictions, cases such as New York Times v. OpenAI have also prompted to similar deliberations. Thus, this is a rapidly evolving area of law, which is being actively litigated upon. Policy interventions must follow these potential judicial pronouncements, rather than precede them. This will enable regulatory certainty, without overlaps, premature rulemaking or the need to regularly overhaul extant laws. A regulatory environment that is constantly in flux risks stifling the growing creative economy by requiring routine product-level changes, renewed investments and resource reallocations and by increasing friction for end-consumers.

4. Launching dedicated skilling programmes for AI-enabled filmmaking, editing, virtual production and other steps in the M&E ecosystem, engaging in partnerships with market leaders and setting up more institutions such as the IICT to enable talent across the creative value chain to effectively use AI tools and harness their creative potential.

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