

KERALA AVGC-XR POLICY
2024-2029
(Draft)

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PREAMBLE

Kerala stands as a beacon of excellence in education, boasting high literacy rates, near-total school enrollment, and a commitment to fostering a knowledge-based society. The state also shines in healthcare, with commendable achievements in low birth and infant mortality rates, life expectancy, and maternal healthcare, positioning it as a model for holistic human development. Kerala's progress is comparable to that of many developed nations.

Kerala has strategically prioritised the growth of its Information Technology (IT) sector since the establishment of Technopark in Thiruvananthapuram in 1999, marking India's inaugural technology park. Subsequently, two additional IT parks in Kochi – Infopark, and Kozhikode – Cyberpark, have positioned Kerala as a hub for national and global IT companies, with Technopark standing out as the largest IT Park in India. Pioneering the way, Kerala became the first Indian state to declare Internet access a basic right, and launched its Internet service network, the Kerala Fiber Optic Network (KFON), in 2023. With the second-highest Internet penetration rate in India as of 2019, Kerala continues to lead in digital connectivity.

Kerala is also home to one of the most vibrant startup ecosystems in the country, and was the first State to formulate a Startup Policy. Kerala Startup Mission (KSUM) has earned national acclaim as the country's best, and is recognised as the best public business incubator in the world.

Kerala Development, Innovation Strategy Council (K-DISC) is a government initiative dedicated to building innovation ecosystems in educational institutions, government departments, and enterprises, fostering innovation, design thinking, and creative problem-solving. Kerala is actively shaping a Knowledge Society, focusing on skilling and providing employment for the educated youth through the Kerala Knowledge Economy Mission (KKEM). The mission aims to create 20 lakh jobs over five years by imparting skill education across various sectors, solidifying Kerala's commitment to fostering a thriving knowledge-based economy.

The state's four international airports and direct connectivity to various global destinations contribute to its outstanding social infrastructure and cosmopolitan culture, making it an ideal location for business in the AVGC-XR sector.

BACKGROUND

AVGC-XR sector is undergoing rapid evolution in the country, emerging as a pivotal component across various industries such as entertainment, education, and tourism. Kerala's early recognition of the potential inherent in AVGC-XR is poised to propel the state's growth. This policy endeavours to present a comprehensive overview of the current status of the AVGC-XR sector in Kerala, delineating its potential benefits, challenges, and recommendations aimed at fostering its development within the state.

On 26 December 2022, the Government of India unveiled the report of the task force on the AVGC-XR sector, along with policy drafts for Animation, Visual Effects, Gaming, and Comics - Extended Reality (AVGC-XR). This initiative seeks to enhance India's domestic capacity and create opportunities within the sector. The proposed draft, applicable at both national and state levels, advocates the launch of a 'Create in India' campaign with a distinct focus on indigenous content. The Ministry of Information and Broadcasting established the task force the previous year to chart a strategic roadmap for the sector.

As a testament to the fusion of creativity and technology, the AVGC-XR sector stands out. The drafted policies, tailored for the growth of AVGC-XR at both national and state levels, are anticipated to catalyse the expansion of the Media and Entertainment (M&E) industry at large, contributing to India's stature as an AVGC-XR hub. To position India as a global content hub and generate employment opportunities within the AVGC-XR sector, the Task Force emphasizes the establishment of a National Centre of Excellence. Collaborating with State Governments, Regional Centres of Excellence will be instituted to facilitate local industry access, promote regional talent, and cultivate indigenous content.

The Task Force proposes leveraging the National Education Policy to integrate creative thinking, incorporating dedicated AVGC-XR course content at the school level to nurture foundational skills and raise awareness about AVGC-XR as a viable career option. Recommendations also include the creation of AVGC-XR accelerators and innovation hubs within academic institutions, modeled after Atal Tinkering Labs. Additionally, the Task Force advocates for the establishment of a dedicated production fund to foster the creation of domestic content, promoting Indian culture and heritage on a global scale.

KERALA - A CULTURAL HUB FOR AVGC-XR INNOVATION

Kerala, renowned for its cultural richness and harmonious society, stands on the cusp of a new chapter—one that intertwines tradition with modernity, and heritage with technological innovation. Kerala's social evolution, artistic legacy, literary prowess, and cinematic brilliance, combined with the skilled workforce in cutting-edge technologies, set the stage for the emergence of an exciting Animation, Visual Effects, Gaming, Comics, and Extended Reality (AVGC-XR) sector. Kerala's past has laid the foundation for an ecosystem that not only embraces the state's cultural heritage but propels it into a dynamic and globalised future.

A comprehensive context, juxtaposing it with the vast opportunities unfolding for Kerala in the growing AVGC-XR sector, is identified.

Nature

In a journey stretching from north to south of Kerala, the essence of the State emerges—an unparalleled haven of biodiversity, lush foliage, and vibrant skies. Kerala's landscape is a unique mosaic, featuring a 580 km coastline, the majestic Western Ghats, 44 rivers, and an intricate network of backwaters and lakes.

Geographical experiences unfold distinctly in Idukki and Alappuzha, offering varied landscapes within the same State. A monsoon journey through Kerala, though influenced by climate change, remains an unparalleled experience. Silent Valley Rainforests adds a unique dimension, while places like Munnar can plunge temperatures below zero, contrasting with the bustling warmth of Palakkad.

Kerala, indeed, stands as a divine address of nature, where each corner unfolds a chapter of unparalleled beauty. National Geographic Traveler's recognition of *Kakkathuruthu* in Vembanad Kayal as *heaven on earth* underlines Kerala's global allure—a destination encapsulating the world in a single day.

Colour Palette

While the national flower of Kerala, *Kanikonna*, might be perceived as a reflection of the State's fervour for gold, the truth lies in the ever-blooming sage flower, which graces Kerala not just during equinoxes but throughout the year. The saffron hue of this flower symbolizes the essence of Kerala, with its lush greenery and vibrant red blossoms.

In traditional art forms like *Kathakali* and *Theyyam*, the significance of colours, particularly *Pacha* (green) and *Chuvapp* (red), is paramount. These hues play a pivotal role in expressions like *Pacha Vesham* and *Chonnadi* in *Kathakali*. *Theyyam*, deeply

rooted in the commemoration of green, *Kaavu*, often features *Udayada*—light green leaves of the coconut palm as the attire—and other elements, such as dark red silk. The abundance of red and green extends to visual art forms like wall paintings and *Kalamezhuthum Paattum*, where natural materials create a vivid palette.

Notably, the distinctive dress pattern of Kerala leans away from dark colours, a departure from regions like Rajasthan. Social scientists attribute this uniqueness to the refined intricacies of Kerala's way of life. The preference for vibrant, lighter colours reflects the sophistication woven into the cultural fabric of the state.

Painting

Kerala boasts a profound tradition in painting, with a historical emphasis on mural art. Speculations by art historian Kesari A Balakrishna Pillai suggest a connection between the fresco painters of Ajanta and Keralites. Noteworthy murals in Mattancherry, Padmanabhapuram, and Thoteikalam showcase the brilliance of Kerala's artistic heritage. Christian churches and Jewish synagogues in the region also feature impressive frescos, often reflecting Western influences.

At the forefront of the renaissance and modernism in Indian painting stands Raja Ravi Varma, regarded by art critics as a pioneer. While adopting the British academic realism style in easel painting, Raja Ravi Varma drew inspiration from Indian mythology, particularly scenes from the Mahabharata. His portfolio extends to portraits of great Indian kings, contributing significantly to the fusion of Western techniques with Indian themes.

Following a hiatus after Raja Ravi Varma, the sixties witnessed a revival led by artists like KCS Panikkar. A wave of painters emerged, primarily based in Madras (Chennai), including TK Padmini, Sajitha Shankar, P Gopinath, K Damodaran, C Douglas, and others. Kerala also produced notable artists like MV Devan, T Kaladharan, CN Karunakaran, and AS Nair, while Yusuf Arakkal (in Calcutta), and A Ramachandran (in Delhi), further enriched the artistic landscape.

Subsequent years saw the rise of painters and sculptors such as K P Krishna Kumar, K M Madhusudan, Karunakaran, C Raghunath, K P Vatsaraj, and E H Pushkin, who ignited a political renaissance in Indian art through the Indian Radical Painters' & Sculptors' Association. This vibrant artistic journey underscores Kerala's enduring legacy and its contribution to the broader narrative of Indian art. Karuvattu Mana Vasudevan Namboothiri, better known as Artist Namboothiri or simply Namboothiri, an illustrator, cartoonist, art director, and sculptor, left behind a legacy of indelible

images. The contributions of sculptors like Kanayi Kunhiraman and MV Devan are also noteworthy.

Classical Arts

Kerala commands global admiration through two classical art forms – *Kathakali* and *Koodiyattam*. *Kathakali* is an art form where the vast universe of epics is delivered through unmatched facial expressions, accompanied by vocals in the background. Its holistic expression encompasses makeup, music, ensemble, and acting, crafting a complete artistic experience. *Kathakali* actors, recognised as some of the most skilled actors across all platforms, have even inspired renowned theatre directors like Peter Brook to dramatise the *Mahabharata* after witnessing a performance in London.

Koodiyattam, a world-class dance art form with a legacy spanning two thousand years, has been passed down through generations. Its enduring appeal lies in its rich tradition and intricate dance vocabulary. Despite facing challenges and a decline in popularity over the centuries, *Koodiyattam* experienced a revival in the mid-20th century, thanks to the efforts of dedicated artists and scholars. *Koodiyattam* is recognized as a UNESCO Masterpiece of the Oral and Intangible Heritage of Humanity.

The revival of *Kathakali* owes much to Mahakavi Vallathol Narayana Menon, the visionary behind the establishment of Kerala Kalamandalam. Beyond *Kathakali*, this institution imparts training in classical dance forms such as *Bharatanatyam* and *Mohiniyattam*. Kalamandalam has nurtured numerous talented dancers, and its name is synonymous with excellence in the realm of *Kathakali* and classical dance. The legacy of these art forms endures, showcasing it as a sublime pinnacle of artistic expression, earning global acclaim.

Folklore

Kerala stands as a cradle of folklore, nurturing a myriad of ritualistic, folk, and rural art forms. These diverse expressions vividly reflect the imprints of age-old traditions, deeply rooted in the lives of its people since prehistoric times, resonating across the various communities and regions of the state.

Remarkably, these art forms have resisted the impact of globalisation, ensuring their preservation even against the backdrop of evolving lifestyles and the gradual urbanisation of villages. Ritualistic performances like *Theyyam*, *Thira*, and *Padayani*, along with poetic and lyrical expressions such as *Vadkkanpattu* and *Pullavanpattu*, and traditional rituals like *Aabhicharam*, *Kudothram*, and *Mantravada*, showcase the extensive and diverse nature of Kerala's folk-art tradition.

These art forms organically intertwine with the cultural fabric of their respective regions, embodying the beliefs of major religions, tribal arts unique to indigenous communities, and distinctive coastal rituals. As varied as Kerala's topography, these expressions add to the rich cultural vibrance of the region.

However, many of these art forms face the threat of extinction in contemporary times. Yet, there exists a strong awareness of the imperative to protect and preserve them. The challenge lies in capturing these art forms authentically within their natural ambiance using modern technology. Ensuring the transfer of knowledge to succeeding generations becomes both a responsibility and a duty.

Literature

Kerala stands as a bastion of literature, a haven for writers celebrated and revered. Although formally recognised as a classical language only a decade ago (2013), Malayalam literature has long been a stalwart in Indian literary circles. Similar to English, Malayalam's modernity stems from its remarkable ability to assimilate words and ideas from diverse languages and cultures.

The reach of Malayalam extends beyond boundaries, exemplified by Thakazhi Sivasankara Pillai's novel - *Chemmeen*, translated not only into English but also into global languages like Spanish and French. SK Potekkat, through enchanting travelogues, brought all continents to *Kochu Keralam*, while Basheer earned the moniker *Sultan of Beypur* in literature through his deceptively simple writing style. O V Vijayan contemporised Malayalam modernism within the global literary sphere.

With his exemplary works, not only in novels and stories but also in scripts for cinema, MT Vasudevan Nair ascended to literary stardom, synonymous with those of popular actors. In luminaries like G Shankara Kurup, Thakazi, SK, MT, and ONV, Malayalam literature boasts *Jnan Peeth* laureates. The influence of Malayalam literature continues to resonate in Indian literary realms, with international literature festivals even at the grassroots level, attesting to its enduring dominance.

Cinema

Kerala's cinematic journey commenced with J C Daniel's *Vigathakumaran* (1928), a pioneering Malayalam film that broke away from mythological themes adopted by the early Indian cinema, embracing a socially relevant narrative only fifteen years after the inception of Indian cinema in 1913. Approaching its centenary in five years, Malayalam cinema has evolved thematically and technically.

While Bengali cinema once held artistic leadership in Indian cinema, Malayalam cinema carved its distinctive niche with Ramu Karyat's *Chemmeen* (1966), a recipient

of the President's Gold Medal and an adaptation of Thakazhi Sivasankara Pillai's renowned novel.

Nirmalyam, directed by M T Vasudevan Nair, is a classic known for its profound exploration of spirituality, social issues, and the human condition. The film follows the life of Raghavan, played by the legendary actor PJ Antony, a destitute oracle struggling with the harsh realities of society. Through its poignant storytelling and powerful cinematography, *Nirmalyam* delves into the intricacies of faith, poverty, and the decay of traditional values. The film's enduring impact lies in its ability to provoke introspection and spark conversations about the timeless themes it addresses.

Beyond its rich cinematic heritage, Kerala's breathtaking natural landscapes, encompassing seas, mountains, and the Western Ghats have not only captivated local filmmakers but also drawn the attention of directors of national and international acclaim, exemplified by the likes of Mani Ratnam. The convergence of compelling narratives and Kerala's scenic beauty continues to shape Malayalam cinema into a global cinematic force.

Directors, Actors & Technicians

In the realm of world cinema, Malayalam has given rise to luminaries such as Adoor Gopalakrishnan, Aravindan, John Abraham, and KG George, each holding a significant position in the annals of film history.

The story of Malayalam cinema is woven with the artistry of PN Menon, MT Vasudevan Nair, Bharathan, Padmarajan, TV Chandran, Pavithran, Ravindran, KP Kumaran, Shaji N Karun, and an array of other talented persons. In the domain of popular cinema, luminaries like Thoppil Bhasi, KS Sethumadhavan, IV Sasi, Sibi Malayil, Sathyan Anthikad, Priyadarshan, Ranjith, Joshiy, Jayaraj, Lal Jose, Lijo Jose Pellissery, and more have left an indelible mark on the cinematic landscape.

In addition, the rich history of Malayalam cinema boasts the most celebrated actors, including the iconic Sathyan, Prem, Madhu, Jayan, Nazir Mohanlal, and Mammooty. Their exceptional performances have etched them into the hearts of audiences, contributing to the unparalleled legacy of Malayalam cinema.

Resul Pookutty, the celebrated sound designer and Oscar-winning maestro, elevates the auditory experience of global cinema through his unparalleled brilliance. Santhosh Sivan's exceptional expertise in cinematography has contributed to the visual brilliance of numerous acclaimed films, making him a stalwart in Indian cinema.

In the realm of popular Malayalam cinema, akin to its Hindi counterpart, a distinctive identity emerges through evocative background songs. The lyrical prowess of P Bhaskaran and Vayalar Ramavarma, coupled with the musical compositions of Devarajan and MS Baburaj, and the enchanting voices of K J Yesudas, S Janaki, P Susheela, K S Chithra, and P Jayachandran, has given birth to hundreds of songs that have sweetened the lips of audiences across the globe, creating an enduring musical legacy.

Comic Literature and Cartoons

Kerala's comic literary tradition, rooted in centuries past with luminaries like Tolan and Kunchan Nambiar, continues its vibrant journey, finding a modern voice in VKN. This legacy extends to the realm of Malayalam cartoons, boasting a century-long history that began with PS Gopalapilla's *Mahakshaamadevata* (1919).

Shankar, aka Shankara Pillai, stands as the patriarch of Malayalam cartoons, initiating the movement with his English weekly, *Shanker's Weekly*, in Delhi. Reverberating beyond regional boundaries, this publication became the birthplace of Indian cartoons, with even Prime Minister Jawaharlal Nehru playfully cautioning, "*Don't spare me, Shankar!*" Numerous cartoonists, including the likes of Abu, OV Vijayan, Kutty, Yesudasan, Samuel – the creator of the pocket cartoon, *Kerala Varma*, and EP Unni, have left an indelible mark.

The unique humor of the Malayali, characterized by the ability to laugh, especially at oneself, finds a poignant expression in cartoons, surpassing even literature – with the notable exception of the iconic VKN. Evolving, the tradition of *visual comedy* is carried forth by modern stalwarts like Gopikrishnan and Sujith, not to mention the lively *trolls* on social and digital media.

Television

While television made its debut in India as early as 1959, it catapulted into nationwide popularity during the 1982 Asian Games. The liberalization policies of the 1990s opened the floodgates for private television channels, transforming the media landscape.

In 1993, Asianet marked a historic moment as the first private television channel in India. The entertainment and news revolution it ignited in Kerala set an unprecedented standard. Subsequently, *Surya*, *Indiaavision*, *Kairali*, and the more recent *Reporter*, along with around fifteen news channels and twice as many entertainment channels, blur the lines between news and entertainment.

The literate and politically enlightened Malayali audience paved the way for news channels with diverse perspectives. Today, major political parties in the state have their dedicated channels, catering to the information needs of over three and a half crore Malayalis. Even in a seemingly 'saturated' market, new channels continually emerge, fostering healthy and competitive dynamics.

The television landscape is growing with over 600 national and international channels beaming into Malayali households, presenting limitless possibilities. Additionally, the rise of OTT platforms has further expanded the viewing repertoire.

Interestingly, television channels have adapted to the shift as a section of Malayalis embraces smartphone-based television viewing, showcasing the industry's resilience. The emergence of digital news channels in Malayalam has significantly transformed the media landscape, providing audiences with real-time and diverse news coverage through online platforms, reflecting the dynamic shift towards digital journalism in the region.

Worldview

Malayalis are cosmopolitan. Kerala was the first Indian state to enter cosmopolitan culture, albeit through colonial conquest. Historically, Kerala served as the gateway to India and Asia for foreign traders, evident at Kappad and Pantalayani in Kozhikode district. Malayalis assimilated the modern outlook and scientific sense of the Portuguese, Dutch, and British; which transformed their life, culture, outlook, and social engagement.

Kerala has kept up with the global political developments. Fidel Castro, and Che Guevara, inspired the youth. Even Saddam Hussain was a hero in Kerala. This tendency can be seen not only in the field of politics but also in the field of art and literature. Going beyond the British influence, Malayali has been an avid reader of Russian literature (Leo Tolstoy, Fyodor Dostoyevsky, Maxim Gorky), with the taste shifting to Latin American literature (Gabriel García Marquez, Juan Rulfo, Yosa Buson) in the early 70s. Pablo Neruda is so familiar to the Malayalis that his fiftieth death anniversary was commemorated like that of a popular Malayalam writer.

Another feature is the modern consciousness created by the fading away of rural-urban distinction.

Progressive Society

By the second decade of the 20th century, with the rise of the nationalist movement, the struggles against social injustices gained great influence. An example is the *Vaikom*

Satyagraha, which we are now celebrating the centenary of. With the rise of the communist movement in the fourth decade, Kerala was influenced by global politics. In the fifth decade, the Communist government came into existence. This was the second instance of the Communist Party coming to power in the world through the ballot.

Keralites, known for their progressive outlook, embody a society that has consistently embraced social reforms and modern ideologies. Rooted in a history of enlightenment and intellectual pursuits, Keralites have championed causes such as education, gender equality, and social justice. The state's high literacy rates and commitment to education reflect a populace that values knowledge as a catalyst for societal development.

Moreover, Keralites' progressive mindset extends to various social issues. The state has been at the forefront of gender equality, with initiatives promoting women's empowerment and education. Kerala's unique social structure encourages open dialogue, fostering an environment where diverse perspectives are acknowledged and respected. This progressive ethos has not only shaped the State's identity but also positioned Keralites as torchbearers of social and cultural advancement in the Indian subcontinent.

In the past, Malayalis used to go overseas for higher-paying jobs and wanted to come back to settle. Only a very small sssage fully migrated to the country of employment. In the new era, Malayalis aspire to migrate to America, Europe, and Australia, especially the youth.

KERALA'S ENTERTAINMENT INDUSTRY

Kerala film industry, also known as *Mollywood*, has a distinguished history. Malayalam films have received numerous awards and accolades at both the national and international levels. Many Malayalam films have been featured in prestigious film festivals, including Cannes and Toronto International Film Festival. *Mollywood* has a tradition of *New Wave* or parallel cinema, which focuses on experimental and socially relevant themes, which led to the adoption of such treatment even at the grassroots levels of filmmaking.

Kerala has also been a preferred location for international filmmakers. Films like *Life of Pi* and *The Bourne Supremacy* have used Kerala's scenic locations to create visually captivating scenes.

Market

According to a report by the Confederation of Indian Industry (CII), revenues of the South Indian film industry nearly doubled to ₹7,836 crores in 2022, which accounts for 52 percent of revenues of the pan-Indian film industry. Malayalam film industry accounted for ₹816 crore, out of the South's share in 2022. Kerala releases roughly 100-120 movies in theatres every year and is home to about 545 theatres, including single screens and multiplexes.

OTT Platforms

In the era of digital media dominance, Kerala's media and entertainment industry has seamlessly transitioned to online platforms. The advent of streaming services such as Netflix, Amazon Prime Video, Disney+ Hotstar, and Sony Live has provided a global stage for Malayalam films, web series, and shows. This digital leap has not only expanded the reach of Kerala's cinematic offerings but has also connected the State's creative content with a diverse and widespread audience. The ability to showcase Malayalam content to viewers around the world has opened up new avenues for storytelling and creative expression in the digital realm.

Stakeholders

Department of Cultural Affairs
Kerala State Film Development Corporation Limited (KSFDC)
Kerala State Chalachitra Academy
Kerala Film Chamber of Commerce (KFCC)
Film Employees Federation of Kerala (FEFKA)
Association of Malayalam Movie Artists (AMMA)
Kerala Film Producers Association (KFPA)

Noted Institutions

L V Prasad College of Media Studies
K R Narayanan National Institute of Visual Science and Arts
Chithranjali Studio

Major Events

International Film Festival of Kerala (IFFK): Premier cinematic event celebrating global films, fostering cultural exchange, and providing a platform for thought-provoking narratives.

International Documentary and Short Film Festival of Kerala (IDSFFK): The annual event celebrates the art of short filmmaking, providing a platform for emerging filmmakers to showcase their creativity and storytelling prowess.

KERALA'S INDUSTRY ECOSYSTEM

Industry Focus

Owing to limited land availability and a dense population, Kerala strategically emphasises non-polluting and service-based industries to foster sustainable development and economic growth. Tourism and Information Technology stand as the two key industries driving Kerala's economic landscape. Kerala places significant emphasis on fostering knowledge and technology-based industries, with various initiatives in place to support and promote this strategic focus.

Pioneering IT Landscape

Kerala's strategic focus on Information Technology began with the establishment of Technopark in Thiruvananthapuram in 1999, marking a significant milestone as India's first technology park. Technopark, now the largest IT Park in India, exemplifies the state's commitment to technological progress. Subsequent additions in Kochi – Infopark, and Kozhikode – Cyberpark, have solidified Kerala's position as a hub for national and global IT companies, employing over 2,00,000 professionals between the three parks. Over 1,00,000 professionals work in companies located outside of the parks across the 14 districts.

Work Near Home (WNH) facilities, promoted by Kerala Knowledge Economy Mission (KKEM), is an innovative approach involving the development of shared workspaces equipped with modern amenities, designed to accommodate employees from various companies concurrently, across the length and breadth of the State. The initiative aims to enhance the appeal of the region for global investments by providing a collaborative and flexible working environment.

Connectivity Revolution

Kerala Fiber Optic Network (KFON), launched in 2023, a bold initiative by the Government, aims to eliminate even the slightest digital divide that might exist. Serving as a complementary infrastructure to the existing telecom ecosystem, KFON follows non-discriminatory principles, offering an information super-highway accessible to all service providers. It establishes a robust core network, enabling operators to address connectivity gaps without cumbersome requirements. It is also intended to give a fillip to e-governance and accelerate Kerala's journey towards being a knowledge-based economy.

Knowledge Society Initiative

Kerala's emphasis on creating a Knowledge Society is evident through initiatives like the Kerala Development, Innovation Strategy Council (K-DISC). K-DISC's focus on innovation, design thinking, and creative problem-solving, positions the state as a

frontrunner in fostering a vibrant knowledge-based economy. In 2021, Kerala launched the Kerala Knowledge Economy Mission (KKEM) under K-DISC, aiming to create 20 lakh jobs over five years by imparting skill education across various sectors. This forward-looking approach solidifies Kerala's commitment to nurturing a skilled and innovative workforce.

Startup Ecosystem

Kerala Startup Mission (KSUM) is the nodal agency of the government of Kerala for promoting entrepreneurship in the state. It is also the implementing body for the Kerala Technology Startup Policy that supports the state's startup ecosystem through various schemes and support programs. KSUM acts as a springboard for budding entrepreneurs who wish to launch technology-based startups that develop innovative products and solutions.

Today KSUM along with sector-specific partner organisations, boasts of 4900 + registered startups, 10 Lakh+ + sq feet of incubation space, 63+ incubators, and 450+ innovation centers across the state of Kerala. The interventions by KSUM have brought about a cultural change among the youth of Kerala, as well as in how the government goes about its work.

DEFINITIONS FOR THE PURPOSE OF THIS POLICY

Animation

Animation is the technology of displaying frames in succession to create an illusion of motion. It is used in entertainment, education, design, game development, simulations, etc. Animation is the method of showing movement by using a series of drawings, computer graphics, or photographs of 2D or 3D objects that create an illusion of movement when viewed in succession. Animation includes 2D animation, 3D animation, clay animation, paper animation, stop motion, shadow animation, etc. They can be recorded on either analog or digital media. Animation is increasingly finding use in mobiles, software applications, visual effects, visual communication, and advertising.

Visual Effects

Visual Effects (VFX) and postproduction refers to imagery created, manipulated, or enhanced for any film, or other moving media that does not take place during live-action shooting. It is also known as CGI (Computer Generated Imagery). Visual effects include computer-generated imagery using the industry's most advanced 3D and compositing software and plugins.

Gaming

A game is an electronic game that involves human interaction with a user interface to generate visual feedback and immersive experiences on a device that shall include 2D, 3D, video, handheld devices, mobile, virtual, console, etc. The online gaming industry can be categorized into - Free to Play games, Real Money Games (fantasy sports, card games, and other RMG games), and E-sports.

Comic

It is a publication that consists of comic art in the form of sequential panels that represent chronologically laid scenes that are used to tell a story or a series of stories. It extends to comic strips published in magazines and newspapers, and graphic novels that are long-format, standalone stories AVGC Promotion Task Force Report: Draft Model State Policy for Growth of AVGC-XR sector in India 14 with more complex plots or a collection of short stories that have been previously published as individual comic books. This segment does not include novels or magazines.

Virtual Reality

It is an artificial environment that is created with software and presented to the user in such a way that the user suspends belief and accepts it as a real environment. On a computer, virtual reality is primarily experienced through two of the five senses: sight and sound.

Mixed Reality

Stands for Mixed Reality. It sometimes referred to as hybrid reality, is the merging of real and virtual worlds to produce new environments and visualizations where physical and digital objects coexist and interact in real time.

Augmented Reality

It is the integration of digital information with the user's environment in real-time. Unlike virtual reality, which creates a totally artificial environment, augmented reality uses the existing environment and overlays new information on top of it.

Extended Reality

Extended reality is a term referring to all real-and-virtual combined environments and human-machine interactions generated by computer technology and wearables. It includes representative forms such as augmented reality, mixed reality, and virtual reality and the areas interpolated among them.

AVGC-XR Sector

AVGC-XR sector is represented by companies, joint ventures, focus groups, consultants, and creative professionals engaged in the business of conception, production, post-production, media and intellectual property rights management, publishing and marketing of animation, visual effects, special effects, editing, digital game development including mobile, console, desktop games (excluding gambling) and comics content. They also actively promote the products and related services such as the development of software used in pre-production, production, and postproduction pipelines, education, and advanced research, development of AVGC-XR subjects, related technology, and business management.

AVGC-XR Company

Any company in the AVGC-XR sector as defined above.

GLOBAL AVGC-XR INDUSTRY

The surge in demand for animation, VFX, and video gaming can be attributed to increased TV viewership, affordable internet access, widespread use of mobile devices, and the popularity of streaming videos. Furthermore, there is an escalating need for animation and VFX content to enhance experiences in Augmented Reality and Virtual Reality.

The rapid advancement of technology has democratized the accessibility of animation, VFX, and games, transforming this industry into one of the fastest-growing segments in global media and entertainment. Several emerging trends within the animation, VFX, and video games industry include the evolving combination of live-action and animation in films, the expanding involvement of computer professionals, programmers, and technicians in animation, and the transformative impact of visual effects (VFX), augmented reality (AR), and virtual reality (VR) on the creation and consumption of films, videos, and games.

Additionally, the adoption of Augmented Reality and Virtual Reality is fueling the demand for animation content, while the globalization of production work due to tax incentives and low labor costs is reshaping the industry. Changing media consumption habits, such as a shift from traditional outlets to streaming and digital downloads, are evident, and emerging markets in the international film market are creating new opportunities and collaborations. Notably, hybrid 2D/3D animation is gaining prevalence for its cost-effectiveness and dynamic camera possibilities, and short-form content is rising in popularity due to evolving viewing habits.

The merchandising of animated films is increasingly becoming a significant revenue source, while Artificial Intelligence, machine learning, and deep learning are enhancing hyper-personalization for video games. Predictive analytics in video games play a crucial role in forecasting player behaviour and preferences. The micro-segmentation of fans is evolving in e-Sports leagues and tournaments, and the exponential growth of cloud gaming services necessitates suitable pricing models for widespread adoption. Furthermore, the low-cost micro-payment systems contribute to the growth of the online games market.

GLOBAL AVGC-XR MARKET

Animation

The size of the global animation market is expected to be \$432.05 billion by 2024 and likely to grow to \$587.1 billion by 2030¹. The increased use of smartphones and the

rise of the OTT industry have resulted in an increased demand for digital content. The number of smartphones sold in 2023 is estimated to be 1.39 billion units², increasing the demand for AVGC. In 2023, the size of the OTT market is estimated to be \$295.4 billion³. In 2019, Netflix spent \$1.1 billion (10% of their annual budget) on animation content⁴. In 2022, Netflix and Amazon Prime Video spent nearly \$5 billion and \$1.86 billion respectively on animation content⁵.

Visual Effects (VFX)

From around \$10 billion in 2022, the visual effects market is likely to grow to around \$16 billion in 2028⁶. The field of VFX was pioneered by Lucas in the 1970s and 1980s during the making of the 'Star Wars' franchise⁷. Successful movie franchises like Marvel Cinematic Universe, Lord of the Rings, etc. have built their successes based on brilliance in VFX output.

As in the case of animation content, the rise of OTT has boosted the rise in VFX content as well. Power of Rings (Season 1), an Amazon Prime Video Original, features around 9500 visual effects shots⁸. Similarly, Netflix is also releasing content with a lot of VFX shots. Netflix Originals like 'Stranger Things', 'Lost in Space', and Barbarians have shots created using computer-generated imagery, 3D visualizations, animations, and immersive experiences.

Gaming

The gaming industry was a highly concentrated industry dominated by Sony, Microsoft, and Nintendo. The industry used to have high industry barriers as a result of network effects and being a winner takes most market. But with the advent of smartphones, broadband internet, and cloud computing, there can be a paradigm shift in the industry business model. Mobile gaming is becoming more and more popular than the console-based gaming. The degree of monopoly power of the above-mentioned big players is not as strong as before, resulting in the entry of new players like Apple, Alphabet, and Netflix into gaming.

By 2028, the gaming industry is likely to grow to \$389.7 billion from an estimated \$249.6 billion in 2023, with a CAGR of 9.32%⁹. Smartphones have increased the number of active gamers in the world. As of 2022, China spends the most on gaming while Japan has the highest per capita spending on gaming¹⁰.

Comics

The comics industry, once dominated by print media, has seen a significant transition towards digital platforms, expanding its market reach. With a growing trend of adaptations into films and series, comics have experienced a resurgence in popularity.

Independent creators have also found success through webcomics and crowdfunding platforms, diversifying the industry. The rise of graphic novels has contributed to a broader audience, including adult demographics. As digital distribution grows, so does global accessibility, positioning comics for potential market expansion. This shift mirrors trends in the gaming industry, where digital access has broadened the consumer base.

The comics market is experiencing significant growth, with an estimated size of \$15.35 billion in 2022 and a projected expansion to \$22.37 billion by 2030, as per Fortune Business Insights¹¹. The compound annual growth rate (CAGR) is reported at 4.85%, highlighting a steady upward trend¹². This growth is attributed to various drivers such as the increasing influence of digital platforms, rising adaptations across different media forms, the popularity of webcomics, successful crowdfunding initiatives, a surge in demand for graphic novels, and improved global accessibility to comics content. These factors collectively underscore the dynamic and promising nature of the comics market, reflecting its adaptability and widespread appeal.

Extended Reality

The world is currently experiencing Industry 4.0 (4IR). 4IR includes artificial intelligence, robotics, XR, internet-of-things (IoT), digital sensors block chain and 3D printing¹³. 4IR enables human-artificial agent collaboration that enables operational efficiency and agility. The application of 4IR ranges across functional areas like Human Resources, Innovation, Marketing, and Contracting.

From a projected \$131.54 billion in 2023, the global extended reality market is expected to grow at a CAGR of 36% and reach \$ 1134 billion by 2030¹⁴. The three types of extended reality are virtual reality (VR), augmented reality (AR), and mixed reality (MR). The applications of extended reality range from gaming to healthcare, hospitality, education, and retail.

VR using computer simulation and 3D modelling creates a virtual world, “where the human’s real sense perceptions are linked through sensors and actuators to give users a fully immersive and presence sensation” (Cardenas Robledo et al., 2022)¹⁵. The consumers of VR products will be able to integrate the virtual world into the real world without much differentiation.

Leading players in this industry include HTC, Samsung, Facebook, Google and Sony.

INDIA AVGC-XR INDUSTRY

AVGC-XR sector has emerged as an important growth engine of the Indian economy. It has shown steady growth in recent years and has emerged as a highly promising sector. AVGC-XR sector has the potential to produce powerful content and Intellectual Property that can contribute to India's GDP growth and employment.

Between 2022 and 2025, the following segments are expected to witness growth in double digits.

- Digital media (14.7%)
- Animation and VFX (21.1%)
- Online Gaming (19.5%)
- Out-of-Home - OOH (12.8%)

SME marketers have increased their digital advertising spending and expanded their use of online shopping channels such as Amazon, Flipkart, Jio Mart, and new initiatives such as ONDC and One District One Product. The spending is expected to grow by INR 360+ billion in the next five years from around INR xx billion in 2022.

Animation

As per the EY report, in 2022, the size of the animation industry is INR 38 billion. Outsourcing of 2D animation work to India and dedicated Indian OTT animation platforms like Softoons Animations reveals the reasons behind the growth of this industry in India. Softoons Animations has over 500+ content in over five languages on their platform.

The success of Chotta Bheem, created by Hyderabad-based Green Gold Animation, is proof of national demand for localized content. Chotta Bheem is also proof of how Indian animation content can monetize from a global audience as well. As the Chotta Bheem brand is successful with children, the production house generated economies of scope by focusing on merchandising as well.

4IR has significantly reduced the cost of animation production. Animation labs like Cheruvi Design Labs, by using game engines like Unreal and Unity, saved 90 minutes or 70% of the rendering time. Increased use of Artificial Intelligence and Machine Learning is very promising for the development and growth of the Indian Animation Industry.

VFX

By 2024, the size of the VFX industry is estimated to be \$93.1 billion. Indian animation and VFX industry with their cost-effective but world-class output has an excellent opportunity to collaborate with the global entertainment industry. The VFX post-production companies in India have collaborated abroad for commercially successful

movies like the Marvel Cinematic Universe. Around 70-75% of the revenue generated by the Indian VFX industry has come from such global collaborations. Around 85-90% of the Rotoscopy, Paint, and Match Moving (RPM) works are outsourced to India. An Indian VFX service provider charges only one-eighth of the remuneration sought by their Western counterparts. The advent of cloud computing has helped remote work and the establishment of virtual production studios where artists from across the world can collaborate on a single project.

In 2022, a mid-size film in India spends around 10-15% of their budget of VFX. The expenditure on VFX for a big-budget movie was around 25-30% of their expenses.

There is a substantial demand for VFX in the domestic industry as well. The Bollywood movie, Brahmastra Part One: Shiva, had 4800 VFX shots in it while the South Indian movie, RRR had around 2800 VFX shots.

The Indian VFX industry created around 60,000 jobs with a potential for hiring more. Some of the global players who set up their India office in recent years include Industrial Light and Magic, Cinesite, Pi Square Technologies, Ghost VFX, and FOLKS. With the advent of 4IR, VFX shots in movies have become cheaper. Platforms like Unreal Engine 5.0 have not only reduced movie-making costs but also have reduced production time. In the Telugu movie, Radhe Shyam, rather than taking the entire crew to London to shoot a scene, the scene was shot in India and later integrated into the movie as shot in London using Unreal Engine.

Growth of India’s animation and domestic industry (INR billion)

	2019	2020	2021	2022
Animation	22	25	31	38
VFX	50	9	38	50
Total	72	34	69	88

Source: EY-FICCI report on media and entertainment, https://assets.ey.com/content/dam/ey-sites/ey-com/en_in/topics/media-and-entertainment/2023/05/ey-me-report.pdf, accessed on Dec 17, 2023

Gaming

Even though Indians are leaders when it comes to mobile game downloads, the revenue generated from online mobile games is only 1.1% of the global mobile gaming revenues. With growing access to the internet and increased use of smartphones, the potential for growth in this industry is very high. The Indian gaming industry is expected to reach \$3.9 billion by 2025.

The size of the Indian gaming industry (\$159.3 billion) is more than double the size of the Indian movie and music industry combined. In 2021-22, the revenue raised from an average Indian gamer was INR 1700. Since 2018, the Indian gaming industry has raised around \$2.8 billion. There are three unicorns in the Indian Gaming Industry - MPL (\$2.5 billion), GAMES24seven (\$2.3 billion), and Dream11 (\$8 billion). Indian Gaming Industry employs around one lakh fifty thousand people, including thirty thousand developers and programmers.

There are 42.5 crore gamers in India. Gaming competitions in the country, for which the prize money is significant, are now being covered both in the traditional cable TV network and OTT. Tables 7 and 8 highlight the growth of the Indian gaming industry.

Transaction-based game revenue (INR billions)

	2020	2021	2022
Rummy and Poker	31	39	56
Fantasy Sports	26	33	42
Other participation fee games	2	3	6
Total	59	75	104

Source: EY-FICCI report on media and entertainment, https://assets.ey.com/content/dam/ey-sites/ey-com/en_in/topics/media-and-entertainment/2023/05/ey-me-report.pdf, accessed on Dec 17, 2023

Growth of casual gaming in India (INR billion)

	2020	2021	2022
Esports	8	10	11
Advertisement	7	8	11
In-app purchases	5	7	9
Total	20	25	31

Source: EY-FICCI report on media and entertainment, https://assets.ey.com/content/dam/ey-sites/ey-com/en_in/topics/media-and-entertainment/2023/05/ey-me-report.pdf, accessed on Dec 17, 2023

Hon’ble Prime Minister of India, speaking on the announcement of the AVGC Task Force in the Union Budget 2022-23, highlighted that India is one of the top 5 markets in the world for mobile gaming. The gaming industry is at the core of the AVGC sector and drives growth across its entire ecosystem. By 2025, the online gaming sector will overtake the Digital Media and Music Industry to become the third-largest segment of the M&E industry in India.

Comics Sector

With the Indian economy opening in 1991 and major changes in the satellite television market, Indian comic readers were introduced to a plethora of international characters in mainstream media. This transformation led to the emergence of a new wave of Indian comics, facilitated by a multitude of fresh entrants who harnessed the nation's artistic talent pool. These comics span a wide spectrum of genres, encompassing superheroes, mythology, folklore, and various societal narratives.

The comic book sector holds a prominent place in Indian popular culture, having given rise to several well-known cultural figures such as Chacha Chaudhary, Tenali Raman, Detective Moochhwala, Shikkari Shambhu, and Akbar-Birbal. Bobanum Moliyum in Malayalam is well-known as a comic strip running successfully for several decades. The industry experienced its prime during the late 1980s and 1990s, experiencing a peak in sales.

In 2021, this sector witnessed the acquisition of many comic book characters which will eventually be turned into animated series, films, or shorts.

Extended Reality (X)

With the advent of 5G technology and increased internet penetration, the opportunity for cloud gaming as a medium to experience higher-end games, on regular devices/handsets is set to grow.

Presently, XR adoption is limited, but a 2023 FICCI report anticipates that by 2025, 10-15 million Indian households will have experienced AR and VR, accompanied by the creation of over 50 million virtual avatars. The combination of XR with other cutting-edge technologies such as the Metaverse, Artificial Intelligence, and Web 3.0 offers up new pathways, seamlessly integrating our interactions with digital and physical realities.

The demand side technological changes such as character design, AR, and VR are reshaping India's Media and Entertainment sector especially AVGC-XR, driven by expanding digital infrastructure, the influence of global niche content on creative choices, the emergence of new user demographics, and enhanced broadband reach and quality. These changes will evolve in the next few years or a decade, necessitating the augmentation and training of India's talent and artistic workforce to harness this opportunity.

AVGC-XR SECTOR IN KERALA

Technology landscape of Kerala

In addition to physical infrastructure, the state has already invested in making a strong backbone of intellectual infrastructure to support the exponential growth of technology industries in the State. In addition to a large number of technical institutions that provide talent for the IT sector, a dedicated university for the digital world- the country's first digital university was also set up by the government.

Evolution of AVGC-XR

Kerala's startup ecosystem gained momentum in industry domains like gaming, animations, AI, and XR in 2018. The launch of Future Technologies Lab, Super Fablabs, Unity Centre of Excellence, Global Innovation Challenge by Singularity University, Summer School by Copenhagen Institute of Interactive Design (CIID), etc were a few programs that brought significant transformation in the startup ecosystem.

Animation

The late '90s marked the emergence of a promising animation industry in Kerala, spurred by the IT revolution's ripple effects in the early 2000s. Since it was the early stages of the industry, animation studios were a part of the Information Technology ecosystem. Toonz Animations, headquartered in Technopark, emerged as the pioneer of the industry in the country specialising in 2D animation and undertaking outsourced projects from abroad.

Similar animation studios namely Animation Dimension, Nest Animation, and Digital Carving, contributed to the industry's upward trajectory. Most of them specialised in 2D and 3D animation, compositing, rotoscoping, and digital matte painting. Kerala-based animation studios gradually gained recognition for their quality of work and cost-effectiveness. They started collaborating with international production houses, contributing to the content of global film and television projects.

Several institutes running courses in animation mushroomed across the state, fostering a conducive environment for nurturing local talent in the domain. However, this phase of rapid expansion eventually experienced a deceleration. Most of the studios either closed down or diversified into alternative domains, signifying a slowdown in the once-thriving industry. The factors behind this deceleration remain intricate and multifaceted, prompting diverse perspectives from industry experts seeking to understand the dynamics of this transformation.

Visual Effects

The VFX industry also grew alongside the animator sector, presenting another opportunity for growth for Kerala. The availability of a skilled workforce and lower operating costs compared to major cities fuelled the growth. Various courses aimed at equipping students with the necessary skills and knowledge for the VFX sector created a rising number of skilled professionals contributing to its prominence.

VismayaMax, a pioneer in the field, is renowned for its cutting-edge visual effects and animation. VismayaMax contributes significantly to Kerala's AVGC industry, showcasing expertise in creating immersive and captivating digital experiences. TMEFX is recognized for its expertise in delivering top-notch visual effects solutions, contributing to the state's growing reputation in the animation and gaming domains. DTM (Digital Typhoon Media) specializes in digital media solutions, while Coconut Bunch brings a unique flavour to animation and gaming. With a commitment to storytelling and visual excellence, Magmyth adds depth to the state's creative endeavors in the digital realm.

Over the years, Kerala-based VFX studios have expanded their portfolio, working on diverse projects such as advertisements, regional and national films, television shows, and international collaborations. These studios have received acclaim at national and international platforms for their contributions to the entertainment industry, particularly in enhancing the visual storytelling experience.

Gaming

While still nascent compared to established industry giants, the gaming sector in Kerala is experiencing a period of steady growth, emerging as a promising area of opportunity alongside the state's VFX industry. A skilled and tech-savvy workforce, coupled with comparatively lower operational costs, makes Kerala an attractive location for gaming studios, fostering a fledgling but dynamic ecosystem. Universities and private institutions offer diverse courses and training programs specifically tailored to the needs of the gaming industry.

Kerala's studios are showcasing their versatility by developing games across a range of genres and platforms. They are not only catering to the domestic market but also making their mark internationally, with some games achieving global recognition for their innovative gameplay and engaging narratives.

Founded in 2012, DYNAMICNEXT focuses on creating high-quality, social, strategy games for mobile platforms. Spearmint Games is into crafting visually stunning games, and Banzan Studios is known for its distinctive Character IP approach to gaming. Tilt Labs is a notable player in Kerala's AVGC industry, specialising in immersive experiences through augmented and virtual reality technologies. Bhooshan's Junior deals with educational content and interactive experiences for the younger audience.

Comics

The comic industry in Kerala has traversed a fascinating journey from the 1970s to the present, evolving alongside changes in societal norms, technology, and storytelling preferences. In the early decades, the industry was marked by the popularity of iconic characters like *Bobanum Moliyum*, a beloved comic strip that made its debut in 1971 and continues to captivate readers with its humour and relatable themes. The 1980s witnessed a surge in the production and consumption of comics, with a variety of genres gaining traction, from humour and adventure to mythology.

Liberalisation of the Indian economy in the 1990s marked a significant turning point for the comic book industry. While this period saw the entry of international characters into mainstream media, influencing the narrative landscape of the comics,

Malayalam comics continued their prominence due to their strong regional appeal, relatable themes, and iconic characters maintaining their enduring popularity. The industry also embraced a diversification of content, embracing superheroes, mythological tales, and societal commentaries.

Currently, the Kerala comic industry thrives through a mix of traditional and digital mediums. Classic characters endure while new entrants explore innovative storytelling on digital platforms. The industry's flexibility is evident in the acquisition of characters for animated adaptations, showcasing its enduring appeal and continued relevance in Kerala's dynamic cultural landscape.

Banzan Studios are creators of BaBlah®, the World's First Virtual Actor, that has been entertaining global mobile audiences since its origin in June 2020. Over the past years, Banzan has built over 1000+ pieces of Comic Strips and 50+ Games, entertaining over 150 million people around the globe. Bhooshan's Junior is India's first kids' Tech-Tainment company with a focus on developing comics, animated series, and interactive and robotic toys for kids.

Current Industry Landscape

No of Companies: 125+

No of Employees: 3000+

No of Training Institutes: 100+

No of the Students who pass out every year: 3000+

AVGC-XR academia in Kerala

Kerala's AVGC-XR academia thrives with a dynamic ecosystem of educational institutions in the private and Government sectors, and offers specialized programs, nurturing talent for the digital future. This academic landscape positions Kerala as a hub for creative innovation, fostering a skilled workforce prepared for the challenges and opportunities in the AVGC-XR sector.

Additionally, fine Arts colleges in Kerala stand as vibrant hubs of creativity, nurturing aspiring artists with comprehensive programs in visual arts, sculpture, and more. These institutions contribute to Kerala's rich cultural tapestry by fostering artistic excellence and innovation.

The Atreia project in Thiruvananthapuram, led by the Department of Tourism, has revolutionized the art of painting and gallery concepts. The city's adorned wall paintings have transformed its streets into a round-the-clock gallery, breathing life into public spaces. This success has spurred similar initiatives throughout the State,

with multiple Government agencies and Public Sector Undertakings (PSUs) championing this movement. As a result, an increasing number of artists are gravitating toward this field, drawn by its expanding opportunities.

Amuseum Arts and Science, an NGO in Thiruvananthapuram that promotes city-wide wall painting projects, has pioneered the first-ever Art Appreciation Course for Professionals in the State. This unique initiative offers a comprehensive understanding of the intricate creative processes within visual arts. It acts as a gateway for individuals stepping into this realm utilizing modern technology and provides a new avenue to explore and appreciate the depths of artistic expression.

Prominent Institutes

Arena Animation (across the State)

Toonz Academy, Thiruvananthapuram

Image Institute (across the State)

Sacred Hearts College, Ernakulam

Government College of Fine Arts, Thiruvananthapuram

Government College of Fine Arts, Thrissur

Raja Ravi Varma College of Fine Arts, Alappuzha

Key Events

Kochi-Muziris Biennale: Biennial celebration transforming Kochi into a vibrant hub of contemporary art, pushing boundaries, and fostering global dialogue.

Animation Masters Summit: Annual event nurturing innovation in the animation industry through workshops, masterclasses, and interactive sessions.

Kochi Design Week: Annual gathering of design professionals, educators, and students exploring the latest trends and advancements in design thinking.

KERALA AVGC-XR STRATEGY

GOALS, VISION, AND OBJECTIVES OF KERALA AVGC-XR POLICY

Vision

- Leverage the outstanding cultural and artistic prowess of Kerala, and skilled talent to grow the AVGC-XR Sector.
- Cultivate a vibrant ecosystem that champions innovation, creativity, and technological advancement in AVGC-XR.
- Position Kerala as a prime destination for AVGC-XR content creation, attracting international studios, projects, and investments.

Mission

- Global Excellence and Competitiveness
 - Position Kerala as an internationally recognized centre for AVGC-XR innovation.
 - Establish strategic partnerships to enhance global market access and collaboration.
- Creative and Economic Prosperity
 - Propel the startup ecosystem with a focus on technological and market innovation.
 - Generate sustainable economic benefits, emphasizing ethical practices and green technologies.
- Collaborative Growth Framework
 - Foster a culture of interdisciplinary collaboration among artists, technologists, and businesses.
 - Support the development of creative collectives and co-working spaces for the AVGC-XR community.
- Inclusive and Immersive Experiences
 - Utilize AVGC-XR to create compelling narratives that integrate Kerala's cultural motifs and thereby drive local content.
 - Expand audience reach through diverse, inclusive, and engaging digital experiences.

Policy Objectives

1. Attract new investments into the State in the AVGC-XR industry
2. Garner a significant share of AVGC-XR industry exports from the country
3. Produce a quality talent base for the AVGC-XR industry
4. Nurture an entrepreneurial ecosystem with a focus on AVGC-XR Startups
5. Develop an IP-driven AVGC-XR industry ecosystem
6. Encourage inclusiveness in the AVGC-XR industry workforce

Quantifiable Goals

Aspect	Desired outcome
Industry Growth	Drive inception and expansion of 250 AVGC-XR companies, including MNCs, by 2029
Export Revenues	Account for 10% of India's export revenues in the AVGC-XR industry, by 2029
Employment Generation	Create 50,000 new jobs in the AVGC-XR industry, by 2029
Talent Creation	Produce 10,000 professionals qualified for the AVGC-XR industry year-on-year
Start-ups	Incubate 150 AVGC-XR startups in Kerala, by 2029
IP Creation	Account for at least 15% of AVGC-XR content created in the country

DEVELOPING AN AVGC-XR ECOSYSTEM IN THE STATE

INFRASTRUCTURE

Kerala is an urban agglomeration of close to 39,000 sq. km, with a near-uniform distribution of infrastructure, mobility, and connectivity. Identifying infrastructure as an essential component of the AVGC-XR sector, and a major driver for attracting investments, the State is committed to providing high-quality facilities to the industry.

1. Physical Infrastructure

Development of physical infrastructure will be carried out in two phases, aligning with the immediate requirements and long-term industry trends:

- **Phase 1** - Immediate development of specialised facilities across the State for Animation, VFX, and Comics
- **Phase 2** - Broadening the scope to include e-Gaming and XR, integrated with the Emerging Technology Hub of KSUM

Strategic Infrastructure Approach

A comprehensive three-pronged strategy will guide the infrastructure development:

- **Construct New Facility:** Develop state-of-the-art AVGC-XR Parks and Labs, focusing on private sector involvement and PPP models
- **Utilise Existing Spaces:** Adapt available spaces within IT/Industry parks, aiming for a dedicated AVGC-XR allocation

- **Repurpose:** Refurbish government-owned infrastructure, such as KSFDC's studios and facilities under similar agencies, for AVGC-XR

a) Centre Of Excellence For AVGC-XR

Government of Kerala will set up a Centre of Excellence (CoE) in AVGC-XR that will be the cornerstone of the ecosystem in the State. CoE will serve as the anchor of talent development, innovation, and R&D.

Government will identify 20 acres of land in Thiruvananthapuram to locate the CoE. Centre for Development of Imaging Technology (C-DIT) will be the nodal agency responsible for setting up the CoE and implementing the AVGC-XR policy.

CoE will provide the latest State-of-the-art infrastructure such as digital post-production AVGC-XR labs, post-production technologies such as motion capture, 2D and 3D animation, and high-speed rendering, along with the latest hardware and software technology. CoE will administer specialised programs, including Ph.D., to augment R&D and innovation.

CoE will endeavour to:

- Serve as the driver for AVGC-XR promotion and act as a mentoring institution for the industry to guide the policies for the growth of this sector
- Establish standards for AVGC-XR education in Kerala
- Actively collaborate with industry and international AVGC-XR institutes
- Enhance the global positioning of the Kerala AVGC-XR industry
- Strengthen the AVGC-XR start-up ecosystem through the provisioning of high-end incubation labs in association with KSUM
- Act as a nodal institution to promote Research and Development on innovative technologies and solutions for the industry in association with K-DISC and the Department of Higher Education
- Provide common facilities that can be made use of by the industry and the startup ecosystem

Collaborative research and development will be carried out in partnership with industry experts, with a focus on emerging trends. Following a multi-stakeholder approach that includes the government, industry, academia, and investors, the center's objectives and activities will be attuned to both technological advancements and business needs. Through these diverse operations, the center will aim to position Kerala as a global hub for AVGC-XR.

Additionally, the government plans to offer merit-based scholarships to commendable students and professionals, enabling them to enroll in specialised

research programs under the CoE. To further promote innovation, a Challenge Fund will be established to support the development of innovative AVGC-XR products on campus.

CoE will operate in collaboration with the National Centre of Excellence (NCoE) to ensure uniformity in service standards across the sector.

Capital Expenses for setting up the CoE will be met by the Government of Kerala, along with grants from the Government of India, and contributions from the industry.

Course and the research work undertaken as part of the CoE will be affiliated with the Kerala University of Digital Sciences, Innovation and Technology (Digital University Kerala). The working model of this COE will be defined at a later stage by the Department of Electronics and Information Technology, Government of Kerala.

b) AVGC-XR Parks

The establishment of AVGC-XR parks and AVGC-XR Export zones is envisioned exclusively through private initiatives or Public-Private Partnerships (PPP). AVGC-XR parks will encompass Animation, Gaming, VFX, Comics, Augmented Reality, and Virtual Reality, as well as Sound and Music Studios. Such facilities demand advanced IT infrastructure, and Data Centers for rendering assistance. While resembling IT parks in many aspects, these facilities will also feature performance spaces and auditoriums. A Cluster-based approach will enable the organic growth of ecosystems and the concentration of specific skills within particular geographical areas.

AVGC-XR parks and AVGC-XR Export zones can be set up by:

i) Co-development in land owned by the Government

Considering the promise AVGC-XR holds, IT Parks will set- aside <25%> of their respective land areas exclusively for the sector. Industry Parks under Kerala Industrial Infrastructure Development Corporation (KINFRA), will also adopt a similar approach.

Reputed private developers with a proven track record, will be welcomed by the State to develop dedicated AVGC-XR Parks. The land lease shall be for a period of <99> years, and the land will be made encumbrance-free (with all

mandatory clearances for setting up the business proposed) by the Government.

Policy support: To support large-scale co-developers to set up facilities within the Government-owned IT parks and Industry parks, the Government will:

- i) provide an option to the co-developer to pay only <25%> land lease amount upfront, and the remaining <75%> of the amount in <10> equal yearly installments with interest **or**
- ii) offer a discount of <25%> on the existing lease rates, if paid in lumpsum

ii) Development on Private land in the PPP Model

Development of AVGC-XR Parks can be done by private investors in their own land or the land leased/acquired by them from a third party. Government will develop common facilities like roads, water supply, power infrastructure, etc.

Policy support: Government shall provide the following services:

- Land acquisition for approach roads, etc.
- Development of roads
- Ducting for utilities
- Development of 5G street infrastructure for the campus to support ultra-low latency connectivity (on request and evaluation of business model)

In both the models mentioned above, the Government will provide the following support:

- Permits/Sanctions through a Single Window Clearance mechanism within <15> days of submission of the application by the investor
- Extend benefits like incentives, tax holidays, etc. applicable to private investors in Government IT Parks
- Branding/Marketing of the IT Parks

iii) Subsidy on Rentals at Government-owned Parks

AVGC-XR companies leasing space under the facilities owned by the Government of Kerala and its agencies will be eligible for <40> % subsidy on rentals. The subsidy is capped at INR <24,00,000> per annum (maximum) up to a period of <5> years, for built-up office space of up to <20,000> sq. ft. Eligibility will be as per operational guidelines.

c) AVGC-XR Labs in Hub & Spoke Model

AVGC-XR Labs will be set up in all districts to facilitate digital content production and dissemination - a key facility in creating an ecosystem that stretches across the state. AVGC-XR Labs will be modelled on the Work Near Home (WNH) program planned by the Kerala Development and Innovation Strategic Council (K-DISC).

Four centers will be designated as the Hubs in the Hub-and-Spoke model. Hubs will be equipped with cutting-edge digital post-production technologies, including motion capture, 2D and 3D animation, and high-speed rendering. A shared infrastructure facility will be created, available on a pay-per-use basis at an affordable price. This facility will also offer training on state-of-the-art equipment, reserve 30% of the space for KSUM to house an incubator, and provide co-working space to support startups in AVGC-XR sectors.

Ten centers will serve as Spokes in the Hub-and-Spoke model and will be equipped with basic physical and digital infrastructure for pre-production, production, and uploading content. Spokes will reserve <30>% of the space for KSUM to house an incubator, and provide co-working space to support startups in AVGC-XR sectors.

Centers at both the Hub and Spoke levels can be set up in three different models. Government will provide financial support in the form of incentives to eligible selected companies.

Facilities can be developed on Government-owned spaces, by way of new fit-outs, or refurbishing/repurposing Government facilities (Egg: KSFDC), or by way of new fit-outs on Private space, and will be eligible for Financial Support as below:

Item	Government space	Private space
Size of Facility	5,000 - 25,000 sq ft	5,000 - 25,000 sq ft
Capital Assistance	Upto INR 2,000/sq ft for furnishing expenses	No capital assistance
Operational Assistance	Upto INR 50/sq ft/ month	Upto INR 50/sq ft/ month
Maximum period of Operational Assistance and Internet Support	5 years	5 years

Every such facility supported shall be closely monitored and the status report presented every year to the Government.

d) Ancillary Industries

Industries directly connected with the AVGC-XR sector, which qualify as ancillary industries for the industry, will be eligible for incentives as per the Kerala State Industry Policy from time to time. Qualification criteria will be enlisted separately.

2. Digital Infrastructure

AVGC-XR is a technology-intensive sector. Further, with rapid changes in technologies, the sector not only needs to keep pace with global innovations but slowly emerge as a hub for technological innovations.

To construct a comprehensive digital infrastructure for the AVGC-XR Sector in Kerala, leveraging the Kerala Fiber Optic Network (KFON) as the backbone is crucial. This network will ensure high-speed internet access, vital for all digital transactions and content dissemination. The digital infrastructure will include:

- **KFON Integration:** Utilize KFON's robust connectivity to provide the necessary backbone for digital infrastructure, positioning Kerala as a unique model for other states.
- **State-of-the-Art Facilities:** Implement advanced digital infrastructure such as high-performance computing clusters, simulation labs, and testing zones within the Centres of Excellence (CoEs).
- **Digital Protocol Adoption:** Integrate digital protocols similar to BECKN to create a unified interface for work aggregation and consumption.
- **Innovation Labs and Tools:** Establish innovation labs equipped with Shot Grid-like tools, providing resources for content creation and development.
- **Compute Infrastructure:** Develop scalable compute infrastructure with a focus on supporting intensive AVGC-XR workloads.
- **Open Source and Open Hardware:** Encourage the adoption of open-source software and hardware to foster innovation and reduce costs.
- **Data Centres and Render Farms:** Build data centers and render farms to support the high computing demands of the AVGC-XR industry, offering these services on a pay-per-use basis.
- **Proprietary Hardware:** Manufacturing of Proprietary Hardware for the AVGC-XR industry will be incentivised as per Industry Policy in force from time to time.

Affordable access to technology infrastructure, including cloud services, high-performance computing, software suites, licenses, and advanced testing and validation devices is key. This infrastructure not only supports current digital demands but also positions Kerala at the forefront of digital innovation in the AVGC-XR sector, ensuring adaptability to future trends.

a) Reimbursement of Expenses for Technology Adoption

The policy will offer to AVGC-XR companies registered in Kerala, up to <20>% of the costs incurred on the purchase of new technological tools or software, capped at INR <10 lakhs> per company per year; limited to <3> sanctions per company per year, during the tenure of the policy.

A detailed list of technologies and tools eligible for reimbursement will be published by C-DIT, the nodal agency for CoE.

b) Facilitating access to Technology

Government of Kerala and recognized Industry Associations will sign agreements with global technology vendors. These agreements will potentially cover the following:

- Subsidized versions of their products and services for meritorious students, start-ups, independent developers, companies, etc.
- Discounted dedicated training programs for users of their products.

TALENT AND SKILL DEVELOPMENT

As Kerala strides into the digital future, the AVGC-XR sector stands on the brink of a transformative leap. The cornerstone of this progress is the cultivation of a highly skilled workforce, adept in converging art with technology. Recognizing this, the policy envisions an education ecosystem that not only matches but anticipates industry needs. This forward-thinking approach aims to mould talent that is not just job-ready but industry-leading, bridging any gaps with innovative learning solutions and ensuring that Kerala's AVGC-XR sector thrives on both local genius and global standards.

Department of Electronics and Information and Technology, Government of Kerala, will work in close coordination with the Departments of General Education, Higher Education, Technical Education, Skill Development, Cultural Affairs, and Labour, among others, to develop highly employable, talented, and quality manpower for a highly employable and specialized AVGC-XR workforce in Kerala. The process involves skills, re-skilling, and up-skilling, in large numbers, to be able to capitalise

on the opportunities the sector presents. A holistic framework will maximise the desired outcome.

Digital University Kerala along with the proposed Digital Science Park is expected to spur the growth of IP-based technology product companies from Kerala. A statewide training infrastructure - Skill Delivery Platform Kerala (SDPK) covering over 100 technical institutions - helps in developing talent in emerging areas of technology with the support of the ICT Academy of Kerala, ASAP Kerala, Kerala Academy for Skills Excellence (KASE), etc.

Tailor AVGC-XR Job Roles and Qualification Packs for Kerala

Government of Kerala will collaborate with industry stakeholders to create job role frameworks, facilitate faculty development programs, and develop qualification packs tailored to the local context. Identifying AVGC-XR job roles within Kerala's geographical clusters will help define skill development opportunities at the local and regional levels, aligning them with national and international standards. To standardize AVGC-XR skilling initiatives, industry players should take the lead in defining job roles and the associated skill sets.

Skilling at Various Levels

Holistic interventions will be made at different levels of education and academia to enhance the compatibility of the educational curriculum with the actual skills demanded by the AVGC-XR industry to ensure employability. courses will be comprehensively designed, encompassing these crucial areas:

- Animation & Visual Effects
- Digital Art & Illustration
- eSports (Game of Skill)
- Game Design & Development
- Post-Production & Editing
- Quality Assurance & Testing
- Sound Design & Engineering
- Virtual Reality (VR)
- Augmented Reality (AR)
- Marketing & Growth
- User Experience & Analytics

1. Schools

- Curriculum will be designed in consultation with the Media & Entertainment Skills Council (MESC), and Media and Entertainment Creative Aptitude used as a qualifier to select students to pursue specific courses in AVGC-XR.

- Concerned departments will work in conjunction with the State Council of Educational Research and Training (SCERT) to develop educational materials and textbooks specifically designed for subjects relevant to AVGC-XR.
- Incremental learning-based, NSQF-aligned vocational courses will be seamlessly integrated into various school boards, including CBSE and State Secondary Boards/Councils.
- Creative Secondary Scholarships (CSS) will be introduced along the lines of Lower Secondary Scholarship (LSS) and Upper Secondary Scholarship (USS), to encourage further learning.
- Art teachers will be upskilled to teach basic subjects covered under AVGC-XR.
- Every school should have a minimum of two well-trained faculty members and additional subject-matter-specific faculty as needed.
- To provide hands-on experience in AVGC-XR-related activities, schools should establish Media and Entertainment studios or labs.
- Nava Kerala Mission, Kerala Knowledge Economy Mission (KKEM), and Samagra Shiksha Kerala will be responsible for the implementation of the above.

2. Technical, and Arts & Science Education

- APJ Abdul Kalam Technological University (KTU) will offer subjects under AVGC-XR as Minors and Majors.
- AVGC-XR-based electives will be offered under the arts, liberal arts, and science courses administered by various universities in the State.
- Universities will design UGC-recognized curricula for Undergraduate and Postgraduate degrees.

All of the above curricula will be designed according to the guidelines of the Media & Entertainment Skills Council (MESCC), and mapped and upgraded as per NSQF guidelines to meet industry and international standards.

- A unified nomenclature will be adopted for degrees and courses offered by various universities, to maintain consistency in AVGC-XR education.

- Undergraduate programs in the sector will span four years, ensuring comprehensive coverage of AVGC-XR topics.
- Specific measures will include recruiting working professionals as teachers (Professors of Practice/ Professionals of Practice).
- Existing faculty will be upskilled through approved certification programs or industry immersion programs.
- Internship and apprenticeship opportunities on the KKEM platform will be integrated with collegiate education.
- Career to Campus Connect programs and the Skill Express program of KKEM shall be leveraged.
- Credits earned in AVGC-XR electives will be recognized and transferred across educational institutions.
- Industry meetups in colleges foster direct interaction between students and professionals.
- College campuses will establish Mini-labs dedicated to Media and Entertainment.
- Students will also be given access to the AVGC-XR Labs at the district level.
- Apprenticeship opportunities on the KKEM platform shall be integrated with university education.
- Career to Campus Connect programs and the Skill Express program of KKEM shall also be leveraged.

3. Vocational Education

- Revitalising the curriculum of vocational training institutes, such as ITIs and Polytechnics, is essential to align with emerging industries.
- Directorate of Technical Education (DTE) and DET will work with the Media & Entertainment Skills Council (MESCC).

- Collaborate with global educational institutions to craft a cutting-edge curriculum.
- Training content should be NSQF-aligned and developed with significant input from industry players, including studios working with international clients.
- Apprenticeship opportunities on the KKEM platform shall be integrated with vocational education.
- Career to Campus Connect programs and the Skill Express program of KKEM shall also be leveraged.
- Accreditation and affiliation with an awarding body regulated under NCVET will be mandatory for all formal and vocational training institutions.

Scholarships

- Policy will enable Scholarships for students belonging to the following communities:
 - SC/ST
 - Fisher folks
 - Artisans
- Government of Kerala will work with the State-Level Bankers' Committee to provide Skill loans for approved programs.
- Policy will encourage corporates to spend their set aside for Corporate Social Responsibility (CSR) for skilling initiatives.

A suggested measure to select candidates will be the implementation of the Kerala Media & Entertainment Creative Aptitude Test (K-MECAT) or similar assessment tools at various program levels.

4. Private Institutes

Private Training Institutes offering specialised courses in AVGC-XR as per MESG guidelines will be eligible for reimbursements of up to 30% of the course fee, which needs to be translated as a discount in student fees. Companies hiring eligible pass-outs from these institutes will get a reimbursement of Salaries or a Stipend up to 25% of the annual gross pay-out or INR 60,000 per hire, whichever is lower, for the first year of engagement, subject to a minimum

annual pay-out of INR <2,40,000>, capped at <10> hires, per annum, per company. Additionally, companies hiring eligible pass-outs from these institutes will get a reimbursement of Provident Fund (PF)/ Employees State Insurance (ESI) of INR <2,000> per employee per month for one year. In case the Employer's contribution is less than INR <2,000>, the actual amount of the Employer's contribution will be reimbursed.

5. Professionals & Practitioners - RPL

Policy will promote Recognition of Prior Learning (RPL) in the AVGC-XR sector, aligning it with the schemes like Pradhan Mantri Kaushal Vikas Yojana (PMKVY) Scheme. Every artist and skilled professional will be encouraged to undergo an RPL Certification program with the Media and Entertainment Skill Council (MESC), enabling career enhancement.

6. Other Segments

Considering the huge potential the AVGC-XR industry holds for Kerala, there is a need to sensitise and familiarise different sections of society, and also provide education opportunities.

- Presenting success stories and organising events at various levels will help the larger community acquaint itself with the industry. Such initiatives may be taken up through Local Self Governments, Finishing School at the CoE, and agencies like the State Council for Open and Lifelong Education – Kerala (SCOLE). This holds significant importance in extending opportunities within the AVGC and XR sectors to rural regions and underprivileged areas.
- Officials from Kerala's key government departments responsible for promoting AVGC-XR should undergo curated training programs provided by AVGC-XR Centres of Excellence (COE) and MESC.

7. Extended Academic Ecosystem

a) Creating learning communities leveraging Industrial connect

Platforms like MuLearn can be used to create learning communities in AR-VR-XR leveraging Industrial Connect. Experiential Learning and a 'Proof-of-Work' based evaluation of skills and learning are critical to ensure the quality of learning which can be deployed to encourage collective effort by the learners and involve various stakeholders to enable peer learning as well as guided learning. Tech meetups, Hackathons and startup challenges organised in collaboration with industry experts will provide real-life exposure and also showcase talent.

b) Enhanced Industry Participation

Drawing inspiration from successful schemes of the Ministry of Skill Development & Entrepreneurship, Kerala will implement industry-partnered training and mentoring programs, thereby enriching the learning experience and skill development. Training content should adhere to the National Skills Qualification Framework (NSQF) standards and be meticulously crafted with substantial input from industry players, particularly studios engaged in international projects.

Furthermore, leveraging initiatives such as the Digital Work Force Management (DWMS) platform built by the KKEM, in association with AVGC-XR industry associations and consortia, and the Media and Entertainment Skill Council (MESC), is crucial. This platform will not only showcase a spectrum of contractual and permanent jobs but also contribute to a streamlined and efficient employment ecosystem. Additionally, the implementation of a Recruit, Train, and Deploy skilling model, jointly developed by KKEM and industry stakeholders, will play a pivotal role in facilitating seamless transitions from training to gainful employment in the AVGC-XR domain.

c) Continuous Learning

In fostering a culture of continuous learning within, several strategic initiatives are proposed. First and foremost, the promotion of lifelong learning can be realized by integrating mentorship components into Massive Open Online Courses (MOOCs), facilitating trainers to engage with students across multiple educational institutions simultaneously. This collaborative approach seeks to leverage the Digital Workforce Management System Platform of KKEM, ensuring seamless integration and efficient learning management.

Moreover, to enhance the sector's global competitiveness, encouraging Ed-Tech companies in Kerala to form partnerships with international institutions for specialized AVGC-XR courses is essential.

d) Creation of Trainers' Pool

Industry can come forward to establish a specialized Trainer's Portal, providing access to cutting-edge learning materials at subsidized rates. This portal will not only offer cross-sectoral training courses but also facilitate joint certification by globally recognized entities such as Adobe and Autodesk.

Furthermore, envisioning a dynamic exchange of expertise, a trainer exchange program is recommended, fostering knowledge-sharing sessions that delve into technology transfer, co-production dynamics, and outsourcing intricacies

between Indian and foreign companies. To ensure that trainers keep up with the industry trends, a comprehensive suite of Train-the-Trainer courses is suggested, ensuring continuous professional development aligned with real-time demands and international standards.

INNOVATION AND R&D

1. Technology-based Innovation and R&D

Kerala is poised to nurture a vibrant AVGC-XR ecosystem, creating innovative platforms and services. State-of-the-art simulations, the adoption of Web 3.0 technologies, and a variety of animation styles are all part of the innovation drive. Integration of AI and automation is set to revolutionize media experiences and production processes, maintaining a balance of technology neutrality to encourage diverse content creation. Elevating the gaming industry, especially in multiplayer and skill-based arenas, while prioritizing user experience in AVGC-XR applications, is also a high priority.

Some areas of focus are listed:

- **Different Styles of Animation:** Promoting diverse animation techniques to reflect Kerala's rich cultural heritage.
- **Tools/Technology:** Developing cutting-edge tools and technologies to advance the creation and distribution of AVGC-XR content.
- **Algorithms/Simulations:** Investing in simulation technologies to create life-like and immersive digital experiences.
- **Web 3.0:** Pioneering Web 3.0 adoption to revolutionize content interaction and ownership.
- **AI Media:** Integrating artificial intelligence to create smarter, more adaptive media experiences.
- **Automation:** Implementing automation to streamline production and enhance efficiency.
- **User Experience:** Enhancing user experience through research in intuitive design and interaction within AVGC-XR applications.
- **Gaming:** Innovating in gaming with an emphasis on multiplayer experiences and skill-based gameplay.
- **Neutrality:** Ensuring technology neutrality to foster a wide spectrum of content creation.
- **Platforms:** Creating platforms to bolster local AVGC-XR industries with tools for development and collaboration.

- **OTT:** Utilizing OTT platforms to globally distribute Kerala's unique media content.

2. Sector-based Innovation and R&D

In the AVGC-XR sector, the following domains have been identified for innovation, each with its unique potential:

- **Digital Twins:** Replicating physical systems into virtual counterparts for enhanced simulation and analysis.
- **Smart Cities:** Integrating XR to create more interactive and responsive urban environments.
- **Healthcare:** Applying XR for advanced medical training, patient treatment plans, and surgical simulations.
- **Space:** Utilizing XR technologies to simulate and prepare for extraterrestrial environments and missions.
- **Education:** Enhancing learning experiences through immersive and interactive XR applications.
- **BIM/Construction:** Incorporating XR in Building Information Modelling to visualize projects and manage construction workflows efficiently.
- **Defence:** Leveraging XR for strategic defense training, mission planning, and equipment maintenance.
- **Climate Resilience & Disaster Management:** Employing XR to simulate and strategize responses to climate-related challenges and disasters, enhancing preparedness and resilience.
- **Green Energy:** Integrating XR technologies to optimize and simulate green energy systems, aiding in efficient planning and implementation of sustainable energy solutions.
- **Tourism & Commerce:** Promote cross-platform AVGC-XR concepts to encourage, build, and enhance Kerala's tourism sector and the allied commercial activities.

Government Support

Government of Kerala will support innovations and R&D in AVGC-XR sector growth through various interventions, as below:

a) Government Participation in Innovation & R&D

Strategic government projects serve as catalysts for research and development, fostering an environment where pioneering work is not just encouraged but exemplified by public initiatives. This proactive stance not only fuels technological advancement but also establishes a fertile ground for public-

private collaborations, driving the state's ambition to become a leader in the AVGC-XR domain. Government as a Market Place (GAAM) administered by KSUM will serve as a model.

- **Early Adoption:** The government will spearhead innovation in AVGC-XR by being the first to utilize emerging technologies in public services, setting a benchmark for industry adoption.
- **Government Projects:** Through strategic government projects, the state will inject R&D capital into the AVGC-XR sector, propelling advancements and demonstrating practical applications.

b) Setting Up R&D Fund

Government will allocate INR <50> Cr for <5> years to set up a dedicated fund to promote research and development activities undertaken in the AVGC-XR sector. KSUM will administer the fund. Areas of Research must be within Core Technology, Content Innovation, and User Experience. Emphasis will be placed on projects with the potential for significant technological innovation and industry impact. To ensure effective utilization of the allocated funds KSUM will prescribe criteria.

c) Patent Registration Reimbursement

AVGC-XR companies registered in Kerala will be eligible for reimbursement of the actual costs, up to a maximum of INR <5,00,000> for filing a domestic patent; and up to a maximum of INR <10,00,000> for filing an international patent, provided such patent is filed or granted within the policy period.

Eligible expenses for a patent filing include patent consulting fees such as drafting, claims, specifications, examinations, etc, and filing fees paid to the patent office, attorney fees, search fees, and maintenance fees.

A company will be eligible for one reimbursement in a year and a maximum of <5> reimbursements (inclusive of domestic or international patents) during the policy period. These patent filing incentives provided by the Government of Kerala will be in addition to any existing scheme of the Government of India.

d) Supporting Art through AVGC-XR

Integration of AVGC-XR can not only preserve art forms but also create immersive experiences, leading to enhanced appeal and commercial outcomes. This also serves as a powerful means of showcasing Kerala's distinctive identity

to a global audience, contributing to the broader narrative of cultural diversity and heritage. Department of Culture will allot grants to incentivise those involved in such projects.

e) Facilitate Collaboration

A centralized library of animation styles, systematic industry engagements, academic collaborations, application-focused research, and a multidisciplinary approach underpin the state's commitment to innovation. This multifaceted strategy aims to integrate diverse expertise, propelling the sector towards global competitiveness and technological leadership.

- **Library of Styles:** Cultivate a repository that documents and preserves diverse animation techniques, serving as a resource for creators.
- **Industry Interactions:** Facilitate regular engagements between the AVGC-XR industry and stakeholders to foster collaboration and knowledge sharing.
- **Institute Partnership:** Establish partnerships with academic institutions to bridge the gap between theoretical research and industry application.
- **Translational Research & Communication:** Promote research that translates complex innovations into practical solutions and effective communication strategies.
- **Multidisciplinary Committee:** Convene a committee of experts from various disciplines to guide the direction of innovation and ensure comprehensive development across the AVGC-XR spectrum.

f) Innovation Collectives of Creative Artists

To promote freelance opportunities in the AVGC-XR sector, K-DISC, in association with Kerala University of Digital Sciences and Innovation Technology, and the ICTAK, will form Platform Collectives of creative artists.

CONTENT CREATION AND IP DEVELOPMENT

Kerala's comprehensive strategy for content creation and IP development is strategically designed to cultivate an environment that is highly conducive to the creation of intellectual property by local companies in the AVGC-XR sector.

As a key component of this strategy, the Government of Kerala will provide financial assistance through grants to facilitate the development and protection of intellectual property in the AVGC-XR domain. These grants are strategically allocated with the primary objective of empowering local companies to undertake creative and pioneering initiatives, fostering a robust ecosystem of innovation and originality.

1. Product Development Grant

Grant structure is meticulously devised to cover various stages of intellectual property development, encompassing ideation, research and development, prototyping, and commercialisation. This holistic support framework is aimed at encouraging companies to not only generate intellectual property but also effectively manage and leverage it for sustained growth and competitiveness.

Funds will be disbursed in two stages:

- a) Idea to Development - INR <15 lakhs>
- b) Pitching - INR <5 lakhs>

A company will be eligible for one grant per year, and a maximum of <5> grants during the policy period. These grants provided by the Government of Kerala will be in addition to any existing scheme of the Government of India.

2. Commercial Content Creation in Kerala

Government of Kerala seeks to position the State as a thriving hub for intellectual property creation in the AVGC-XR sector. By providing financial incentives, the government aims to catalyse a surge in innovation, creativity, and original content production, fostering an environment where AVGC-XR companies can flourish and contribute meaningfully to the global landscape of digital entertainment and technology.

a) Production Grant for Animated Episodic Series

Companies registered with CoE which produce animated episodic series of 13 episodes and above, for TV/VOD/SVOD platforms, will be eligible to apply for a reimbursement of <20>% of the qualified expenditure. The total reimbursement will be up to a maximum of INR <30> lakhs for one company in a year, with a limit of <2> sanctions per company per year. However, this is subject to a limit of a maximum of INR <20> lakhs for a single sanction.

b) Production Grant for Animated Feature Films

For movies produced with Indian Themed Content

Companies registered with CoE which produce animation films of 90 minutes and above, will be eligible to apply for a reimbursement of <20>% of the qualified expenditure. This incentive is applicable for either content produced by the company and marketed in their brand name, or for content produced for another production house under a defined service contract. The total reimbursement will be up to a maximum of INR <1 Crore> per film for one company, with a limit of <1> sanction per company per year.

c) Production Grant for XR & VFX Projects

For Domestic Productions

Companies registered with CoE working on projects involving XR and VFX work for domestic productions, where the contract value of the project is above INR <15 lakhs>, will be eligible to apply for reimbursement of <20%> of the qualified expenditure. This incentive is applicable for either content produced by the company and marketed in their brand name, or for content produced for another Indian client/production house under a defined service contract.

The total reimbursement will be up to a maximum of INR <20 lakhs> for one company in a year, with a limit of <3> sanctions per company per year. However, this is subject to a limit of a maximum of INR <10 lakhs> for a single sanction.

d) Production Grant for Game Development

i) For games produced by Indian game developers

Companies registered with CoE which develop online/mobile games if any will be eligible to apply for reimbursement of <20%> of the qualified expenditure. Companies should showcase <2 lakhs> collective downloads on iOS/Google Play/Windows or through any larger reputed game publishers with authentic data on installs/gameplays or the game should be award-winning or nominated in reputed conclaves like FICCI FRAMES.

The total reimbursement will be up to a maximum of INR <5 lakhs> per sanction for one company if produced on their own and marketed in their brand name, with a limit of <2> sanctions per applicant per year.

ii) For games produced by International game developers

Government of Kerala proposes to extend financial incentives and concessions to attract large, high-profile international AVGC-XR productions to Kerala. Projects or productions that are extended financial incentives should help raise the profile of the Kerala AXGC-XR industry. They should also bring in substantial international business into Kerala and help create and sustain employment in Kerala AXGC-XR.

iii) Global licensed IP Game Development by Local Studios

Companies registered with CoE that develop games based on popular global/national original IPs duly licensed and authorised by the original owners will be eligible to apply for a reimbursement of <20%> of the qualified

expenditure, capped at INR <5 lakhs> per sanction for one company, with a limit of 2 (two) sanctions per applicant per year.

e) International Productions

International productions of multi-national production houses, undertaken in Kerala, will be eligible to apply for a reimbursement of up to <20>% of the qualified expenditure, capped at INR <5 Crore> per company per year; limited to <3> sanctions per company per year. Projects can be animated films (minimum 60 minutes) or series (minimum 5 episodes with a duration of at least 25 minutes each) meant for international audiences, Augmented Reality, Virtual Reality, and Visual Effects projects with international scope, and specialized game art developed for international projects, can qualify.

f) Promoting Local Content

The policy will support the democratization of content and will encourage companies to anchor their IP within the state's vibrant cultural fabric while ensuring that creations cater to both local and global markets.

Government of Kerala shall take up with the Government of India at an appropriate level, to implement the reservation of at least <1> % of airtime on channels (both foreign and domestic) to promote locally created content to provide a level playing field for domestic content development and foster competition between domestic players, foreign companies that set up base in State as well as start-ups. This will also ensure that quality content goes on air.

g) KSFDC's AVGC-XR Facilitation Office to Promote AVGC-XR Services

To assist the creative artists and professionals in Kerala as well as Domestic and International AVGC-XR companies working in Kerala or planning to venture into Kerala, KSFDC will set up an AVGC-XR Facilitation Office to promote AVGC-XR services. The state-wise list of studios providing AVGC-XR services will be maintained on the KSFDC website and it will suggest these services to prospective filmmakers from Kerala, India, and overseas.

h) International Collaborations

To foster international collaborations and partnerships, Kerala will encourage AVGC-XR companies to engage with global players in the industry. This may involve co-productions, joint ventures, or collaborations with international studios, enhancing Kerala's presence in the global AVGC-XR market and opening doors to new opportunities.

3. Patent, Copyright and Trademark Registration Reimbursement

AVGC-XR companies registered in Kerala will be eligible for reimbursement of the actual costs, up to a maximum of INR <5,00,000> for filing a domestic patent; and up to a maximum of INR <10,00,000> for filing an international patent, provided such patent is filed or granted within the policy period.

Eligible expenses for a patent filing include patent consulting fees such as drafting, claims, specifications, examinations, etc, and filing fees paid to the patent office, attorney fees, search fees, and maintenance fees.

A company will be eligible for one reimbursement in a year and a maximum of <5> reimbursements (inclusive of domestic or international patents) during the policy period. These patent filing incentives provided by the Government of Kerala will be in addition to any existing scheme of the Government of India.

Eligible expenses for Copyrights and Trademark registration will also be reimbursed subject to a maximum of INR <2,00,000> per company during the policy period.

4. Creation of AVGC-XR Content Market

To propel the promotion of Kerala's AVGC-XR content within both Indian and global spheres, the Government of Kerala will establish a dedicated AVGC-XR content market every year, modelled on FICCI Frames and MIPCOM.

The market will facilitate:

- B2B meetings between Kerala content owners and Global buyers
- Super-pitch for new AVGC-XR IPs
- Showcasing of Kerala AVGC-XR services
- Interactions and pitching for Private equity / Project funding
- Licensing and Merchandising

The policy will consider further developing this into a Blockchain-enabled marketplace, facilitating a secure and transparent transactional environment.

5. Market Access and Development

a) Support for Companies

Government of Kerala will support AVGC-XR companies registered in Kerala to expand their footprint in national and global markets.

i) International Campaigns

- Policy will offer support to AVGC-XR companies, associations, and SMEs to attend top global AVGC-XR events, exhibitions, conferences, and festivals.
- Government of Kerala will collaborate with the Government of India to showcase Kerala-based companies in various global events a subset of which is listed below.

1. Kids Screen
2. MIPCOM
3. OTAWA International Film Festival
4. Asia TV Forum and Market Singapore
5. Game Developers' Conference
6. Comic Con

ii) National Campaigns

Policy will offer support to AVGC-XR companies, associations, and SMEs to attend top national AVGC-XR events, exhibitions, conferences, and festivals like,

1. FICCI Frames
2. India Joy, Hyderabad
3. GAFX Bangalore
4. Global Skills Awards
5. India Game Developers' Conference
6. Comic Con, India

iii) Independent Participation

In the event of a Company participating in trade shows or expos in which the Government of Kerala is not participating, reimbursement of up to <30>% of the costs incurred for participating in the event, capped at INR <10 lakhs> per company per year; limited to <1> sanction per company per year, will be considered, subject to meeting eligibility criteria as may be prepared from time to time.

b) Promoting Brand Kerala

Government will conduct various brand promotion and marketing initiatives to establish Kerala as a choice destination for AVCG-XR.

- Government of Kerala will host events, conferences, and competitions in the AVGC-XR sector.
- Government of Kerala will support the Animation Masters Summit organised by Toonz Media Pvt Ltd. And SAIK.
- Government of Kerala will work with FICCI and industry stakeholders to create a set of AVGC-XR awards.

6. Support for Digital IP Collateralisation

The policy proposes measures to classify AVGC-XR intellectual property as a tangible asset, enabling creators to secure loans or debt by using it as collateral. Banks in India, particularly in Kerala, are encouraged to accept AVGC-XR IP as legitimate security. The valuation process for such IPs will involve verifying ownership, evaluating past revenue, assessing future revenue potential through confirmed agreements, and undergoing independent due diligence to establish the IP's worth. SIDBI will carry out the independent valuation and provide a report on the content IP. This initiative aims to facilitate better financial support for content creators in the AVGC-XR industry.

7. KSFDC Grants

KSFDC produces two cinemas for women directors and two cinemas for directors belonging to the SC/ST category every year, the benefits of which can be availed of by eligible AVGC-XR companies.

STARTUPS AND ENTREPRENEURSHIP

AVGC-XR industry offers start-up businesses several advantages that make it appealing for business initiatives. Kerala Technology Start-up Policy 2017 outlines the broad framework for the creation of a startup ecosystem in technology-based startups across sectors in the State. In line with the policy, **Kerala Startup Mission (KSUM)** will extend support to startups in the AVGC-XR sector. KSUM will:

- Strive to establish a robust AVGC-XR Startup ecosystem by providing basic infrastructure, supporting innovation, enabling access to technology, guiding market access, and providing financial assistance.
- Encourage Students, Women, Professionals, Researchers, Faculties, Scholars, and other inclusive groups to start their ventures in this domain.
- Implement specialised programs like the XR Startup program, partnerships, and collaborations, sensitization programs, mentorships, access to other

incubators and accelerators, opportunities for strategic investments, IP facilitation support, etc.

- Extend support for prototyping through Future Technologies Labs and Fablabs.
- Aim to position Future Technologies Lab as a key center of support for AVGC-XR startups, which will provide services like GPU, simulation, development tools, technology platforms, sandboxing, etc.
- Engage Startups from different parts of the State through the KSUM LEAP Centres (co-working spaces) and R & D Centres.
- Endeavour to dovetail the Government of India's effort in incentivizing these incubators and accelerators through mechanisms such as incentivizing FDIs, tax incentives, and other institutional support for establishing labs for research and development, etc.
- Enable access to markets, domain experts, corporates, strategic investors, universities, etc of national and international merit.
- Extend existing financial assistance like grants, seed loans, equity, equity-like funding, etc (as per Kerala Startup Policy) to AVGC-XR startups.
- Endeavor to create an AVGC-XR Venture Capital Fund.
- Allocate INR <50> crore for investment in startups registered in Kerala in the previous two years.
- Offer specialised programs like XR Startup Programmes.
- Leverage AVGC-XR technologies in sectors like tourism, education, healthcare, rehabilitation, hardware manufacturing, etc.

Setting Up Catalyst Fund

To promote the AVGC-XR ecosystem, it is proposed to set up an AVGC-XR Catalyst Fund of INR <200> Crore for <5> years. Government of India, the Government of Kerala, Banks, PE Funds, HNIs, etc. will be Partners with the fund. <30> % of the fund will be utilised as a Seed Fund and <70> % as a Scale-up fund.

Reimbursement of Compensation & Benefits

Startups will be eligible for a reimbursement of Salaries or a Stipend up to <25>% of the annual gross pay-out or INR <60,000> per hire, whichever is lower, for the first year of engagement, subject to a minimum annual pay-out of INR <2,40,000>, capped at <10> hires, per annum, per company. Additionally, Startups will be eligible for a reimbursement of Provident Fund (PF)/Employees State Insurance (ESI) of INR <2,000> per employee per month for one year. In case the Employer's contribution is less than INR <2,000>, the actual amount of the Employer's contribution will be reimbursed.

OTHER FACILITATION INITIATIVES

1. AVGC-XR Jumpstart Facilitation Centers

To facilitate ease of doing business for AVGC-XR companies and assist in terms of establishing a business in Kerala, Facilitation Centers are proposed to provide the following services:

- A dedicated AVGC-XR cell will be provisioned for promoting and facilitating various policy initiatives.
- Assistance to Kerala AVGC-XR companies for six months in terms of startup infrastructure.
- Companies will be provided with a toolkit for launching their business in Kerala - including for company registration, cloud infrastructure credits, payment gateways, and similar value-added services.

KSUM will support this.

2. Facilitating Investments in AVGC-XR

- To develop the ecosystem and improve the ease of doing business, a dedicated AVGC-XR cell will be set up, for promoting and facilitating various policy initiatives.
- Also, within the year/s of the policy, a portal will be commissioned, to serve as a single point for incentive/subsidy/grant applications for all AVGC-XR companies in the State. It will have provisions for uploading documents as well as tracking of application process within defined timelines.
- To attract investment and promote business development activities, Kerala will participate in trade fairs and expos, and send delegations to identified regions/countries.

DIVERSITY & INCLUSION

To promote diversity and inclusion in the AVGC-XR industry, the following incentives are proposed:

SC/ST Entrepreneurs

AVGC-XR Company has a stake of more than <50>% shareholding of SC/ST entrepreneurs in the company/unit.

Women Entrepreneurs

AVGC-XR Company has a stake of more than <50>% shareholding of women entrepreneurs in the company/unit.

Fiscal Incentives for SC/ST and Women Entrepreneurs

- Capital Investment subsidy
- Reimbursement of production cost for Animation Theatrical Released film
- Reimbursement of production cost for animation series
- Reimbursement of GAME production cost
- Subsidy on lease rentals
- Reimbursement of Duties
- Reimbursement of levies
- Recruitment assistance
- Quality certification expenditure
- Exhibition rentals
- Internet charges

Employing Differently Abled Professionals

Companies who hire Differently Abled candidates will be eligible for a reimbursement of Salaries or a Stipend up to <50>% of the annual gross pay-out or INR <120,000> per hire, whichever is lower, for the first year of engagement, subject to a minimum annual pay-out of INR <2,40,000>, capped at <2> hires, per annum, per company. Additionally, such companies will be eligible for reimbursement of Provident Fund (PF)/Employees State Insurance (ESI) of INR <2,000> per employee per month for one year. In case the Employer's contribution is less than INR <2,000>, the actual amount of the Employer's contribution will be reimbursed.

Other Interventions

Inclusivity and gender diversity are central to the AVGC-XR industry's growth and innovation in Kerala. The state embraces strategies to empower all communities, fostering an inclusive and equal opportunity-driven ecosystem.

1. **Special Skilling Programs:** Implement specialized skilling programs aimed at underrepresented groups, including women and individuals from diverse backgrounds. These programs should provide targeted training in AVGC-XR fields, ensuring that talent pipelines are more inclusive.
2. **Back-to-Work Initiatives:** Introduce "Back-to-Work" programs specifically designed for individuals who have taken career breaks. These initiatives will support women re-entering the AVGC-XR workforce by offering skill refreshers, mentorship, and flexible work arrangements.
3. **Mentorship Programs:** Establish mentorship programs within AVGC-XR companies to pair experienced professionals with newcomers, with a specific focus on supporting women and underrepresented individuals. These mentorship relationships can provide guidance and career development opportunities.
4. **Inclusive Content Creation:** Encourage the creation of AVGC-XR content that reflects diverse perspectives and stories. Provide grants or funding for projects that prioritize inclusive narratives and characters, helping to drive positive change within the industry and society at large.

SUSTAINABILITY

By existing provisions, Kerala will develop an incentive structure for promoting the use of renewable energy in the AVGC-XR sector to reduce the sector's Greenhouse gas emissions. Industry Policy prevailing at the time will serve as the model.

STAKEHOLDER FRAMEWORK

Government Stakeholders

- **Department of Electronics and Information Technology:** Primary policymaker, providing funding, infrastructure support, and management of regulation.
- **Department of Industries:** Provides infrastructure support, extends benefits of Industry Policy to the AVGC-XR sector, and creates an environment conducive to the growth of ancillary industries.
- **Department of General Education:** Integrates AVGC-XR-related courses and programs into school curricula.

- **Department of Higher Education:** Integrates AVGC-XR-related courses and programs into college curricula.
- **Department of Culture:** Supports activities related to AVGC-XR in Culture, Cinema, etc.
- **Department of Local Self Government:** Facilitates local-level integration and implementation of AVGC-XR initiatives, fostering community engagement and development.
- **Department of Scheduled Castes/Scheduled Tribes (SC/ST):** Promotes inclusivity within the AVGC-XR sector, ensuring that opportunities and benefits are accessible to individuals from SC and ST.
- **Kerala State Planning Board:** Shapes strategic policies and frameworks, providing a roadmap for the systematic growth and integration of AVGC-XR sectors in the State.
- **Kerala Infrastructure Investment Fund Board (KIIFB):** Drives financial support and investments, ensuring the robust development of infrastructure essential for AVGC-XR industries.
- **Kerala Development and Innovation Strategic Council (K-DISC):** Fosters innovation, providing strategic guidance, and supporting initiatives that drive the development of the AVGC-XR sector.
- **Kerala Start-Up Mission (KSUM):** Builds a thriving startup ecosystem, supporting innovative ventures in the AVGC-XR sector and accelerating their growth.
- **Centre for Development of Imaging Technology (C-DIT):** Acts as the Nodal Agency in setting by the CoE, and pioneers research and technology development.
- **Kerala State Film Development Corporation (KSFDC):** Plays a pivotal role in advancing the components of AVGC-XR such as virtual reality experiences in filmmaking.
- **Relevant Departments under the Government of India:** Ensures seamless coordination and alignment with national policies, fostering a conducive environment for the successful implementation of Kerala's AVGC-XR Policy.

Industry Bodies

- **Media & Entertainment Skills Council (MESOC):** Drives skill development initiatives, ensuring a qualified workforce in the AVGC-XR sector through nationally recognized standards and certifications.
- **Federation of Indian Chambers of Commerce & Industry:** Facilitates industry collaboration and advocacy, fostering an enabling environment for AVGC-XR businesses and promoting growth at a national level.
- **Society of AVGC Institutions in Kerala:** Serves as a collaborative platform for AVGC-XR companies, promoting knowledge exchange, resource sharing, and collective efforts to elevate the sector.

Industry Stakeholders

- **AVGC-XR Companies:** Direct beneficiaries of the policy, providing employment, and driving innovation.
- **Startups and Entrepreneurs:** Innovators and potential disruptors in the AVGC-XR space.
- **Industry Associations:** Serve as a collective voice for industry needs and collaboration.
- **Investors and Financial Institutions:** Provide the necessary capital for industry growth.

Academic and Training Institutions

- **Kerala University of Digital Sciences, Innovation and Technology (Digital University Kerala):** Gives thought leadership to the academic and entrepreneurial ecosystem with emphasis on the development and application of Digital Technologies for social good.
- **APJ Abdul Kalam Technological University (KTU):** Integrates cutting-edge technologies into academic curricula, fostering a skilled workforce for the AVGC-XR domain.
- **Other Universities and Colleges:** Offer degree programs and conduct research in AVGC-XR.
- **Vocational Training Centres:** Provide specialised skills training in AVGC-XR technologies.

- **Research Institutions:** Contribute to R&D and innovation within the sector.
- **Additional Skill Acquisition Programme (ASAP):** Provides skill enhancement programs, aligning educational curricula with industry needs, and enhancing employability in AVGC-XR.
- **Kerala Academy for Skills Excellence (KASE):** Focuses on skill development, ensuring a highly trained and adaptable workforce for the AVGC-XR industries in Kerala.
- **ICT Academy of Kerala (ICTAK):** Drives skill development and capacity building within the AVCG-XR sector, ensuring a qualified workforce and fostering industry-academia collaboration.

Community and Cultural Stakeholders

- **Artists and Content Creators:** Produce creative content and can drive cultural integration.
- **Cultural Organizations:** Ensure that the local culture is preserved and promoted through AVGC-XR media.

International and National Partners

- **Foreign AVGC-XR Entities:** Collaborate on projects, technology transfer, and market access.
- **National AVGC-XR Firms:** Partner for larger projects, resource sharing, and expertise exchange.

(This is not an exhaustive list)

IMPLEMENTATION FRAMEWORK

- **Policy Implementation Committee:** A dedicated body comprising representatives from each stakeholder group to oversee the execution of the policy.
- **Advisory Council:** Experts and industry veterans to advise on trends, challenges, and strategic decisions.
- **Working Groups:** Task-specific teams focusing on particular aspects of policy implementation, such as infrastructure, education, and international collaboration.

- **Monitoring and Evaluation Unit:** A team responsible for tracking progress, assessing impact, and suggesting policy adjustments.

Communication and Engagement

- **Regular Stakeholder Meetings:** To ensure transparency and gather feedback.
- **Annual AVGC-XR Summit:** To showcase progress, discuss industry trends, and strengthen networks.
- **Public Consultation Platforms:** To involve community feedback and ensure public interests are considered.

Monitoring and Evaluation

This section details the methodology for monitoring and evaluating the effectiveness of the AVGC-XR policy in Kerala.

Intended Outcomes

- **Increased Industry Growth:** Measured by the yearly revenue increase in the AVGC-XR sector
- **Enhanced Skill Levels:** Assessed by the number of trained professionals in the sector
- **Infrastructure Development:** Evaluated by the scale and usage of new digital infrastructure

Key Performance Indicators (KPIs)

- Number of new AVGC-XR startups established annually
- Increase in employment figures in the AVGC-XR sector
- Number of patents filed and innovations developed in the sector
- Volume of international collaborations and partnerships formed

Evaluation Method

- Annual surveys and data collection from industry stakeholders
- Quarterly review meetings with policy implementation teams
- Biennial comprehensive review involving external auditors

Appointing a Dedicated Officer for the AVGC-XR Sector

To drive the growth of the AVGC-XR Sector, the State will appoint a dedicated officer as the Nodal officer. This officer will oversee coordination with various departments and organisations, including Departments of Electronics & IT, Cultural Affairs, Industries, Commerce, General Education, Higher Education, Finance, and Tourism, and agencies including Kerala Development and Innovation Strategic Council (KDISC), Kerala State Film Development Corporation (KSFDC), Centre for Development of Imaging Technology (C-DIT), and Kerala Startup Mission (KSUM),

among others. Additionally, the officer will facilitate the establishment of the industry-led APEX body - AVGC-XR State Council.

The maximum amount reimbursed to a Company under various incentives would be capped at INR 1 crore for a single year and INR 5 Crores during the policy period.

Only AVGC-XR companies registered in Kerala can apply for the subsidies/incentives/grants available under this policy, except for 2 e) under Content Creation and IP Development. A company or entity seeking benefits under various schemes should be registered in Kerala under the Kerala Shops and Commercial Establishment Act, 1960. A company must employ at least 50 % of its total workforce in Kerala, which will not include contract employees.

-End of Matter-