Government of Karnataka

Animation, Visual Effects, Gaming and Comics Policy 2017-2022

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1. Introduction

1.1 AVGC Sector - Overview

The animation industry in India has shown steady growth in recent years and is a highly potent sector. This trend is coupled by the constant outsourcing of animation technology to India. Karnataka is popularly known as the IT hub of India and has drawn a vast age of population into the animation and gaming industry.

The global animation and gaming market is expected to grow to USD 242.92 billion by 2016. The gaming market is the fastest growing with a Y-O-Y growth of 17.46 percent by 2016, registering a CAGR of 13.71 percent; the Y-O-Y growth of the animation market will be 15.83 percent at a CAGR of 12.50 percent by 2016.

The animation, visual effects, gaming and comics (AVGC) industry has witnessed unprecedented growth rates in recent times. It has seen the entry of many global majors who have tapped into India's talent pool for offshore delivery of services. As a recent FICCI-KPMG joint study pointed out, "India has nearly 300 animation, 40 VFX and 85 game development studios with more than 15,000 professionals working for them. These studios have experienced a mix of content production, outsourced animation services and collaborative animation services. Over the last decade, the Indian animation industry has moved up the value chain from a traditional outsourcing model to creating its own intellectual property and co-productions."

Size of Animation, VFX and Post production industry in India
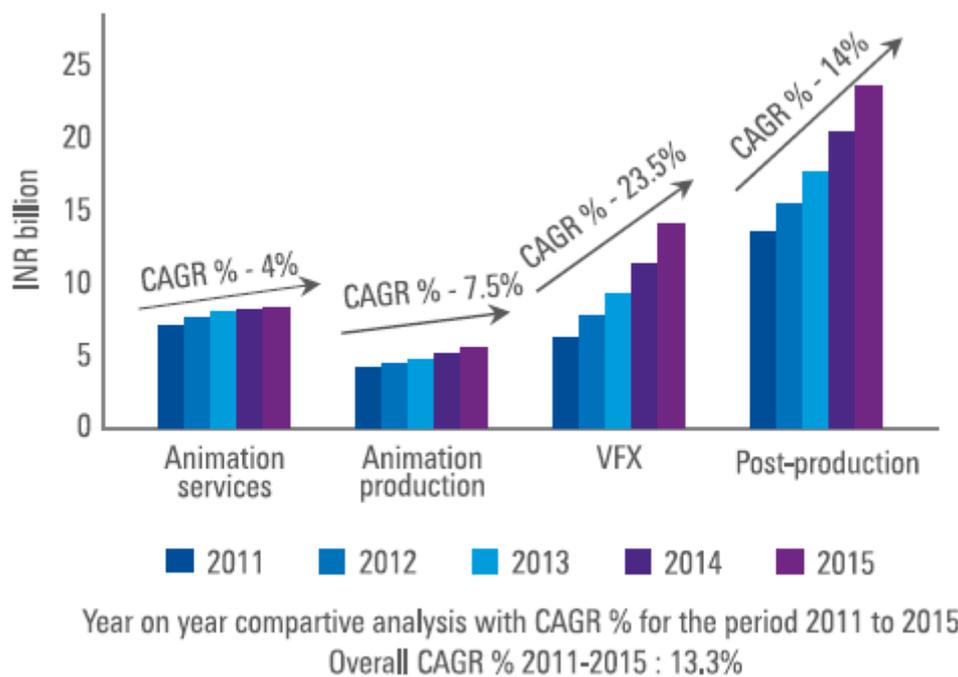
(Source: FICCI-KPMG Indian Media & Entertainment Report 2016)

Media & Entertainment (M&E) sector in India is poised to grow at a CAGR of 13.9 percent during 2014-2019, which is two times the global M&E industry growth (Source: NASSCOM Indian Gaming Market Review 2015). India's animation industry generated revenues to the tune of INR 51.1 billion in 2015, marking a growth rate of 13.8 percent, according to the FICCI-KPMG report.

Factors such as expansion of target market, increasing government initiatives from centre and state, greater penetration and accessibility of broadband internet and growth in the mobile subscriber base have been the major driving forces behind this unprecedented growth.
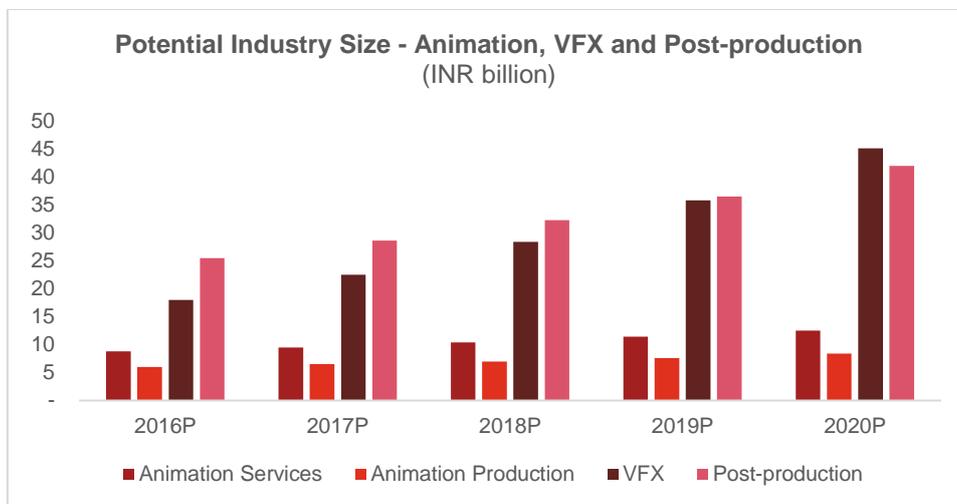
(Source: FICCI-KPMG Indian Media & Entertainment Report 2016)

India is now seen as a leading destination for high-end, skill-based activities in the animation and gaming market. The Indian animation industry is expected to grow at a CAGR of 8.5 percent (INR 20.9 billion) during 2016-20 and the VFX and post-production segments are expected to grow at a CAGR 18.5 percent (INR 87.1 billion) during the same period (Source: FICCI-KPMG Media & Entertainment Report 2016).

1.2 Evolution of Karnataka AVGC Industry

Karnataka is known to be a centre of hi-tech industry, contributing significantly to the country's revenues from information technology, biotechnology, aerospace and other technology sectors. Karnataka's GDP stands at USD 120 billion and is growing at a healthy 7 percent per annum. It has an industrial output of USD 61.5 billion and a cumulative FDI of USD 18.3 billion since April 2000 to September 2015. The value of total exports of the state is USD 52 billion which contributes to 13 percent of India's exports to the world. The best and the largest global companies across sectors have their R&D and innovation centres here.

The state encapsulates a powerful combination of a thriving ecosystem. Karnataka has the largest number of R&D centres, medical institutes, industrial training institutes, software technology parks and the third largest number of engineering colleges in India. It also boasts of a highly skilled and talented workforce, great technical expertise, relentless innovation and huge scalability.

Karnataka has a location advantage with direct connectivity to most parts of the world. This results in an outstanding social infrastructure and cosmopolitan culture, thereby making it the best state to live in and do business.

Karnataka ICT Industry

Karnataka is the leading IT hub of the country. About a third of India's software technology park units are located in the state. Karnataka IT companies constitute over 20 percent of the IT companies in India and houses 50 percent of the world's SEI CMM Level 5 certified companies in Bengaluru. The state has a presence of almost all leading IT companies of the world, including Infosys, Wipro, Tata Consultancy Services, Oracle, Dell, IBM,

Microsoft, Accenture, Cognizant etc. About 80 percent of global IT companies have based their India operations and R&D centres in Bengaluru.

Bengaluru is the fourth largest technology cluster in the world after Silicon Valley, Boston and London. The 400+ R&D centres add impetus to Bengaluru as a start-up capital of India. About 1 million people are directly employed in close to 3,500 companies and 750 multinational companies. The sector has an IT-BPM revenue of USD 50 billion and growing at a CAGR 24 percent. Bengaluru has forty seven IT-ITeS SEZs; three software technology parks with 2,160 units and dedicated IT investment regions. A USD 22 billion, 12,000-acre (49 km²) BIAL IT investment region, is expected to create over four million jobs by the year 2030.
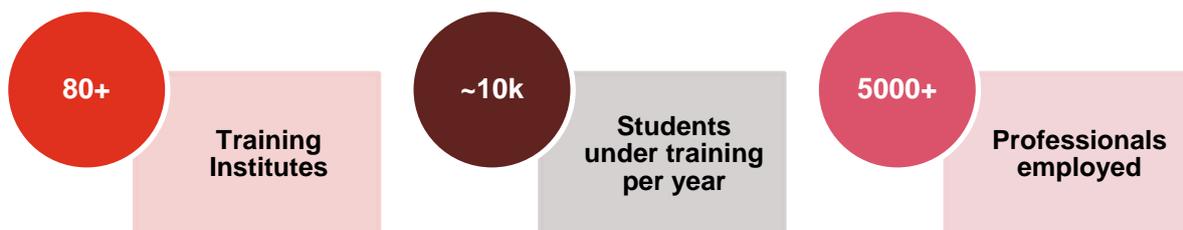
Karnataka AVGC Industry

The growth in Bengaluru and Karnataka for animation services, VFX services and game developers has been the most prolific compared to any other state in India during the past five years. The ecosystem is being driven by Govt. of Karnataka with strategic offerings to collaborate and build world class infrastructure, drive talent and mentoring in skill acquisitions.

Karnataka was the first Indian state to announce an AVGC policy in 2012. The policy was initiated to promote the state as a lucrative outsourcing destination and attract venture capital funding in the AVGC sector. This in turn aimed to provide employment to educated youth and bridge the gap in the demand and supply of skilled resources.

The state is strategically placed to drive the AVGC segment growth for India with most of the major suppliers and prominent players present here. The industry that thrives on technology, innovation and skilled personnel finds this effective combination in abundance in Bengaluru. About 22 percent of Indian game developers and service providers are located in Bengaluru. (Source: NASSCOM Report 2015)

Out of the country's 425 studios (300 animation, 40 VFX and 85 game development), 11 percent are located in Bengaluru (Karnataka). About 14 percent of AVGC professionals are based out of Bengaluru as per a report by ABAI. As per industry estimates, Karnataka has more than 80 training institutes imparting AVGC related training with close to 10,000 students being trained annually. More than 5,000 professionals are employed in the education and animation production units in the state other than web and content development.

| 80+ Training Institutes | ~10k Students under training per year | 5000+ Professionals employed |

1.3 Achievements of Karnataka AVGC Policy 2012

The Govt. of Karnataka was a pioneer in announcing the AVGC policy in 2012. Some of the notable achievements of Govt. of Karnataka's AVGC initiatives are as follows:

- **Train the Trainer (TTT):** Through this programme, ABAI has successfully trained 92 candidates (trainers) in a span of two years in Bengaluru.

- **Digital Art Centres (DAC):** Seven DACs were established by ABAI at the following locations - Tumkur, Dharwad, Hubli, Davangere, Gadag, Gulbarga and Bengaluru. These were established in traditional fine art colleges, especially in tier-2 and tier-3 towns. The financial assistance for each establishment was INR

5 Lacs per college per year for a period of three years. The trainers were trained centrally and students were exposed to digital art. More than 120 students are being trained at present in these colleges. Students of DACs have participated in events like DAS and ABAI fest, where they have showcased their newly acquired skills.

Buoyed by the success of the first phase, the Govt. of Karnataka is extending this initiative to 20 more colleges during the FY 2016-17. This program will help approximately 2000 youth from tier-2 and tier-3 towns to embrace digital tools and get trained on industry-grade curriculum, thereby enhancing their skills and employment opportunities.

- **Bengaluru GAFx:** This annual event, formerly known as ABAI Fest / KAVGC Summit has been organized every year to create awareness about the animation industry and to support the ecosystem development. This is an international level event with participation from India and abroad and is today the premier event for the Indian industry. Master classes, talks, workshops, award winning movie screenings, competitions, job fairs and exhibition were the highlights of the fest. The 2017 edition of the event set a new bench mark in the Indian AVGC industry where over 5000 participants (professionals, industry stakeholders and digital art students) participated for three days.

- **Delegation Sponsorships**: The Govt. of Karnataka has sponsored delegations comprising AVGC industry stakeholders to International events such as Annecy, France (2014, 2015 & 2016), Korea (2015), Sheffield, UK (2015) and FICCI Frames national level event.

- **Karnataka AVGC Summit:** This has been a prominent event since 2013, with the support of the Govt. of Karnataka. It has been held annually for exchange of ideas and discussion of technology related matters. The event is conducted with selected industry experts and stakeholders of around 250 delegates (each year) for the benefit of industry.

- **Digital Art Symposium (DAS):** It was held in 2013 and 2015 for the benefit of students, faculty, and principals of the Fine Arts Colleges from all over Karnataka. More than 750 participants attended the events over the last two years.

- **International Trade Meets:** They are held annually in order to propagate Govt. of Karnataka's initiatives where Bengaluru based trade commissioners are invited. Interactive session by senior officials of the Govt. of Karnataka and industry association are the highlight of these international trade meets.

The policy period has also witnessed world renowned production houses like Moving Picture Company, DreamWorks, Zynga and Technicolor establishing their presence afresh or rapidly growing their existing base.

1.4 Karnataka AVGC Policy 2017-2022

Vision

- Develop Karnataka into a **leading global AVGC hub** in terms of export revenues, projects acquired, and employment created by strengthening the ecosystem to support the same.

- Develop at least **one tier-2 city** in Karnataka as a hub and a preferred destination after Bengaluru for the AVGC industry.

- Focus on **skill development** to raise the skill levels and create a pool of world class designers, illustrators, animators, CG artists, technical directors, game developers.

- Establish a **Center of Excellence for Animation, Gaming and Visual Effects**, an **AVGC Finishing School**, and a **Digital Post Production AVGC Lab** and other infrastructure in the form of plug and play labs and incubators to encourage AVGC start-ups.

- Assist **talent hunt programs** and **introduce AVGC courses and specializations** in premier educational institutes such as IIIT Bengaluru and IIT Dharwad.

- **Gain global prominence** by attracting large and high profile AVGC projects to raise the profile of the Karnataka AVGC sector.

- Encourage **creation of IP** from KAVGC companies and support local industry through the creation of infrastructure such as digital post-production AVGC labs with state-of-the-art hardware and software that companies can use on pay-per-use basis.

Goals

The policy aims to foster a vibrant, stimulated and well informed community. This can be achieved by attaining the following goals:

- Stimulate the growth of **100 KAVGC companies** including 25 high profile companies in terms of projects and size of operations.

- Create **15,000 new jobs** in the KAVGC industry thereby taking the total employed workforce to 20,000 people.

- Facilitate skill development through **120+ training institutes** spread across the state.

- Maintain the **share of exports to more than 75 percent** of total revenue.

Strategies

1. **Skill Development**: To continue the focus on skill development and nurturing of the talent pool by refining and strengthening the existing initiatives with the help of focused interventions.

2. **Enabling Infrastructure:** To create common infrastructure that will give a boost to local industry, entrepreneurs and start-ups, and promote high-quality AVGC output from Karnataka.

3. **Encourage Start-ups and MSMEs:** To create an AVGC Venture Fund and provide funding to start-ups and local MSMEs for facilitating their growth.

4. **Market & Ecosystem Development:** To continue promoting participation in international events and conferences, with an additional emphasis on IP creation within the KAVGC industry.

5. **Incentives & Concessions**: To promote expansion and growth of AVGC industry through strategic provision of incentives and concessions.

2. Skill Development

One of the most important factors that make Silicon Valley, Canada and Bengaluru, the technology and AVGC hubs are the premier educational institutions that are a part of their ecosystems. Talent will continue to be the most important factor in defining Karnataka as a prominent hub on the AVGC global platform. This will also allow Karnataka to expand the footprint of the industry in tier-2 cities. The focus of the proposed policy is to achieve a quantum leap in terms of quality and quantity of the technical and creative talent. Under this policy, the following steps are proposed to be taken to encourage innovation and IP creation.

2.1 Talent Launch Pad

The Govt. of Karnataka in association with industry associations will develop and support short format IP programs and game development projects. These programs will be open for students as well as professionals. For short IP programs, selected participants will be provided financial aid of up to INR 10 Lacs. For game development projects, selected participants will be provided a financial aid of up to INR 2.5 Lacs. These will be disbursed based on milestone progress and achievement.

Projects will be shortlisted by a committee comprising of Principal Secretary (Dept. of IT, BT and S&T), Managing Director (KBITS) and industry experts. Competitions for creating such IPs will be held at annual flagship events of the Dept. of IT, BT and S&T such as BengaluruITE.biz, ABAI Fest and KAVGC Summit. The most promising of these projects will be selected to participate in various festivals across the world.

Additionally, Govt. of Karnataka will also provide merit based scholarships to deserving students and professionals to attend courses either online or at institutes/universities (within India or international).

2.2 Digital Art Centre (DAC)

Fine art schools are a high source of talent for the AVGC industry. However there is a still a long way to go (in terms of awareness) before digital art and animation are recognized as a serious career opportunity. This objective was largely addressed through a pilot project of DAC colleges. This project was taken up in seven fine art colleges in tier-2 and tier-3 cities across Karnataka as part of implementation of the first KAVGC policy. This initiative will be extended to fifty more fine arts colleges across Karnataka.

The initiative will introduce industry accepted skills and curriculum to students of DACs. The strong art fundamentals will be tied up with digital skills and specialized career paths. DAC colleges will be extended financial support to set up digital media labs and a common industry-certified curriculum will be developed. It will be administered with the adoption of MOOC and other technologies and exposure to international faculty. Online student portfolios will be created to aid the industry to choose employees and apprentices based on the quality of output of work.

Curriculum Development

The DACs in the state have been imparting traditional art courses to the students. There is a need to create awareness in these institutes about the technological developments that have been taking place in the AVGC sector. They also need to be told about the huge potential for innovative products in these sectors. There is a need to update these traditional art schools with the latest curriculum.

It is proposed to enter into an agreement or MoU with national and international institutes as well as associations such as NSDC, AVGC studios and institutes to bring the latest technology and develop a uniform curriculum for the benefit of the traditional art colleges.

2.3 AVGC Finishing School

There is a gap between the skill levels required by the AVGC industry and that displayed by the students graduating from AVGC institutions. The feedback from the industry suggests that newly recruited staff need to be further trained for another six to twelve months. Through the AVGC finishing school, this unmet need is proposed to be addressed. Govt. of Karnataka proposes to set up a first of its kind institute in close collaboration with industry associations. The finishing school will be supported heavily by the industry in terms of subject matter expertise, mentorship, training, and development of industry specific curriculum. The finishing school will provide plug and play talent to meet the needs of the industry.

Convergence with Skill India Mission

AVGC finishing school will also ensure curriculum adopted by various training institutes and colleges align themselves to universal standards and will work closely with the NSDC, NSDA and SSC to create skill qualification framework at all levels.

3. Enabling Infrastructure

3.1 Centre of Excellence for Animation, Gaming and Visual Effects

The Govt. of Karnataka envisages making Karnataka a world class hub for AVGC sector by 2025. As a measure to achieve this objective, the Dept. of IT, BT and S&T in conjunction with industry associations has initiated development of enabling infrastructure which will transform the capacity and capability of AVGC industry based in the state to compete in the global arena.

The CoE for Animation, Gaming and Visual Effects is proposed to be established on a PPP format and is expected to facilitate the creation of a vibrant ecosystem that will support the AVGC industry based in the state and also attract new companies from AVGC sector to set up base in the state.

The CoE is envisaged to have state-of-the-art solutions and digital infrastructure at a competitive price required for a multitude of services provided by AVGC companies. The Govt. of Karnataka will provide suitable assistance to the project partner, in line with the industry requirements.

3.2 Digital Post-production AVGC Lab

To encourage the adoption of latest digital post-production technologies such as motion capture, 2D & 3D animation and high speed rendering across Karnataka's AVGC producers and IP creators, the Govt. of Karnataka is in the process of creating a common infrastructure facility to be available on pay-per-use basis at a reasonable price.

This facility will also provide training on state-of-the-art equipment and house an AVGC incubator and co-working space to support startups working in animation and game development sector.

3.3 Incubators for AVGC sector

The Govt. of Karnataka will identify an appropriate partner to set up two incubation facilities for start-ups working especially in domains such as virtual reality, digital compression, gamification of educational content and other such niche areas. The proposed Digital Post-production AVGC Lab in Bengaluru will house an incubator and the other incubator will be setup in a tier-2 city as part of the initiatives of the Startup Policy.

4. AVGC Venture Fund

The Govt. of Karnataka has been successful in using its venture funds to fund MSMEs and startups in the fields of IT & BT. Exclusive venture capital fund for AVGC sector has already been set up. The total fund size is INR 20 Crores. AVGC Startups will also be eligible for funding assistance through venture funds enabled by Fund of funds under the Karnataka start-up policy 2015-20.

Additionally, AVGC companies are also eligible to avail incentives and concessions as per the norms of Karnataka Industrial Policy 2014-19 and Karnataka Start-up Policy 2015-2020.

5. Market & Ecosystem Development

Organizing world class events such as conferences, exhibitions, festivals and markets in Karnataka is an excellent way to turn the spotlight on the AVGC sector by putting Karnataka on the global AVGC map and attracting international business. Such events also help in hosting world class subject matter experts, and through them provide exposure on the latest artistic, technical and business aspects of the AVGC industry to the local community.

KAVGC policy will continue to provide for financial assistance as deemed fit to support annual events like ABAI Fest and Summit and other such AVGC events. The policy also intends to attract world class events to Karnataka by bidding to organize them. Additionally, assistance will be provided to conduct workshops/seminars/trainings across the year in specialized areas within animation, VFX and game development. These will enable local talent to learn from the industry experts around the world and hone their knowledge and skills.

KAVGC policy endeavors to encourage Karnataka's artists and AVGC companies to create their own IP and content by supporting all such content creators to market themselves by creating a new event "Content Market & Conference" by helping bring together broadcasters, SVOD companies, distributors, co-production partners and providing a platform for individuals, small groups and companies to pitch their ideas and concepts to the buyers and content acquirers.

The policy will offer support to AVGC companies, associations and SMEs by providing financial grants to attend top global AVGC events, exhibitions, conferences and festivals. This will help KAVGC companies especially SMEs to access global markets, learn global business insights and also to sell and market their products and services. It will also help professionals from KAVGC companies to attend top global AVGC conferences and enhance their creative, business and technical skills.

To encourage exceptional talent and work, the Govt. of Karnataka will also work with the industry to create a set of awards on the line of other prestigious awards around the world. These awards will be given out during industry events like BengaluruITe.biz or the ABAI Fest.

To further develop the ecosystem and improve the ease-of-doing business, a dedicated AVGC cell will be provisioned, housed within KBITS, for promoting and facilitating various policy initiatives. Also, within the first year of the policy, a portal will be commissioned, to serve as a single point for incentive/subsidy/grant applications for all KAVGC companies. It will have provisions for uploading of documents as well as tracking of application process within defined timelines.

6. Financial Support

The Govt. of Karnataka aims to foster the AVGC industry to build sustainability, scale and critical mass. It also envisages providing full support to the development of creatives in the state. To facilitate the various objectives of the policy, a host of incentives and concessions will be applicable for the industry throughout the policy period.

6.1   Eligibility for Availing Financial Support

Only registered KAVGC companies can apply for the subsidies/incentives/grants available under this policy.

A first-time applicant needs to apply for registration as a KAVGC company by completing the KAVGC registration form. There is a one-time charge of INR 10,000 for KAVGC registration that should be paid as a demand draft in favor of "Managing Director, KBITS". If the company has previously registered as a Karnataka IT-BT company, there is no charge. Instead, the company may attach a copy of the Karnataka IT-BT registration certificate along with its application.

Eligibility Criteria

Location: The company or entity should be registered in Karnataka under the Karnataka Shops and Commercial Establishment Act, 1961

Employment: Company employs at least 50 percent of its total workforce in Karnataka, which will not include contract employees

Application Process

Interested companies can apply for KAVGC registration through the online portal www.itbt.karnataka.gov.in, attaching the soft copies of all supporting documents.

> *The maximum amount reimbursed to a single company under various incentives would be capped at INR 5 Crores for a single year and INR 15 Crores during the policy period.*

Additionally, the Government of Karnataka will exempt all AVGC companies from the applicability of Karnataka Industrial Employment (Standing Orders) Rules, 1961, for a period of 5 years, with appropriate clause for protection of women employees and prevention of sexual harassment in workplace. Also, all AVGC companies will be treated at par with public utilities to exempt them from the disruptive effects of general strikes/bandhs.

6.2 Eligibility for Availing AVGC Production Grants

AVGC production grants have been designed to promote both domestic and international AVGC productions made within the state. In establishing these grants, the Govt. of Karnataka recognizes that large budget productions and Post Digital and Visual Effects (PDV) activity contribute to the state's overall development by providing valuable economic, employment and skill development opportunities. These grants will ensure that Karnataka remains competitive in attracting large budget productions and PDV activity from across the globe.

Eligibility Criteria

- The applicant is incorporated in India, or is a partnership firm registered in India and is registered as a KAVGC Company
- The applicant must be the entity responsible for all activities involved in making the production in the state. Only one entity per production can be eligible for the grant
- At least 80 percent of the qualified expenditure on the project should be incurred in Karnataka by using locally employed talent
- Applications for co-productions are allowed but one of the applicant must be a producer from the state/country
- The claim amount should be in proportion to the budget and/or the contract value of the production

Qualified Expenditure

Costs and expenses incurred by the production house or content creator during the pre-production / production / post-production activities would be considered as Qualified Expenditure, subject to the following definitions –

- cost of personnel working on the project/production
- costs incurred for hire of studio and office space and utilities
- hire of equipment / subscription fees for software used for the defined activity

The qualified expenditure should have been incurred within the state within the policy period.

Additionally, those production houses who are applying for international grants should ensure that a KAVGC company or its local subsidiary should be contracted by the international production house or content creator to execute the project. The international production house or content creator will receive the benefit of the incentive from the KAVGC Company or its local subsidiary as the case may be.

An applicant seeking the grant will not be eligible for other film finance or tax incentives from the Govt. of Karnataka in relation to the same screen production.

6.3   Patent Registration Incentive

Registered KAVGC companies will be reimbursed the actual costs, up to a maximum of INR 2 Lacs for filing a domestic patent; and up to a maximum of INR 10 Lacs for filing an international patent, provided such patent is filed or granted within the policy period.

Eligible expenses for a patent filing include filing fees paid to the patent office, attorney fees, search fees, and maintenance fees. Up to 75 percent of the eligible expense amount or 75 percent of the upper limit (INR 2 Lacs for domestic patent; INR 10 Lacs for international patent), will be reimbursed once the patent is filed. The balance 25 percent will be paid after the patent has been granted. However, the full reimbursement can also be claimed after the grant of the patent, in which case 100 percent of the eligible costs will be reimbursed post the application, subject to the maximum grant amount.

A single company will be eligible for a maximum of five reimbursements (inclusive of domestic or international patents) during the policy period. These patent filing incentives provided by the Govt. of Karnataka will be in addition to any existing scheme of the Government of India.

6.4   PF/ESI Incentive

Registered KAVGC companies will be reimbursed Provident Fund (PF) / Employees State Insurance (ESI) of INR 2,000 per employee per month for two years. This is only applicable for all new employment created during the policy period, provided the employment is for a continuous period of two years.

This subsidy will only be applicable to a new company, registered within the last two years, as on the date of application. Companies who have started a new subsidiary or branch office in Karnataka will also be eligible, provided the new setup has been established within the last two years as on the date of application.

In case the Employer's contribution is less than INR 2,000, the actual amount of Employer's contribution will be reimbursed. The total reimbursement will be limited to INR 12 Lacs per company. Reimbursement will be made only once per company during the policy period. Employee data will be verified through PF/ESI departments.

6.5   International Marketing Incentive

Registered KAVGC companies will be provided reimbursements of 30 percent of the actual cost incurred in -

- International marketing, sales promotion etc.
- Trade show participation
- Publications
- Subscription to market research material

The incentive will include registration, travel, boarding and lodging expenses, and exhibition stall rentals, for up to a maximum of INR 5 Lacs per year per company. They can apply for the same on a half-yearly basis, within six months of the expense incurred.

6.6   Power Tariff Concession

Industrial Power Tariff (instead of commercial power tariff) will be applicable to registered KAVGC companies including start-ups, MSMEs, large scale units engaged in production of movies, game development, VFX, comics, post-production AVGC labs set up in Karnataka, and other associated industry within the state. This will be subject to KERC regulations.

6.7   Production Grant for Animated Episodic Series

For animated episodic series produced with Indian Themed Content

Registered KAVGC companies that have produced an animated episodic series of 13 episodes and above, for TV/VOD/SVOD platforms, will be eligible to apply for a reimbursement of 20 percent of the qualified expenditure. This incentive is applicable for either content produced by the company and marketed in their brand name (in which case it must have been telecast once), or for content produced for another production house under a defined service contract.

The total reimbursement will be up to a maximum of INR 30 Lacs 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 Lacs for a single sanction.

6.8   Production Grant for Animated Feature Film

For movies produced with Indian Themed Content

Registered KAVGC companies that have produced animation films of 90 minutes and above, will be eligible to apply for a reimbursement of 20 percent 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.

6.9   Production Grant for VR/AR/VFX Projects

For domestic productions

Registered KAVGC companies working on projects involving VR/AR/VFX work for domestic productions, where the contract value of the project is above INR 15 Lacs, will be eligible to apply for reimbursement of 20 percent 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 Lacs 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 Lacs for a single sanction.

6.10 Production Grant for Game Development

For games produced by Indian game developers

Registered KAVGC companies that have developed online/mobile games will be eligible to apply for reimbursement of 20 percent of the qualified expenditure. Companies to be eligible for this incentive should showcase 2 Lacs collective downloads on iOS/Google Play/Windows or the game should be award winning or nominated in reputed gaming conclaves similar to NASSCOM Game Developers Conference.

The total reimbursement will be up to a maximum of INR 5 Lacs 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.

6.11 Production Grant for International Productions

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

For international PDV activity (excluding games)

International projects undertaken by registered KAVGC companies in areas of animated feature films, animated TV series (with minimum of 13 episodes), direct to DVD, CG ride films, VFX projects, and content creation for

VR/AR/MR will be considered. This will be 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.

Multinational companies and Indian subsidiaries of global (international) companies will be eligible to claim reimbursement for projects or only portion of projects qualified as 'high value chain work', such as -

- VFX / VR Projects (features as well as commercials): end to end shot work, modelling and surfacing of primary assets of the project, lighting, effects, matte painting and compositing.
- Animated Feature Films: end to end sequence work (layout to final renders) amounting to more than 35 minutes of footage, or a department specific work amounting to at least 45 minutes of footage (e.g. contracts for either animation or lighting or compositing or effects). Standalone projects for just modelling and texturing will be eligible for reimbursement for only the primary assets of the film.
- Animated Episodic Series: minimum 13 episodes of end to end work (layout to final renders) with each episode cost of more than INR 70 Lacs.
- Direct to DVD / Special Projects / Ride Films: end to end work (layout to final renders), or portions of the film/project, amounting to at least 25% of the footage, for projects with a total cost of more than INR 30 Crores.

Additional conditions for this grant include:

- Minimum project value of INR 5 Crores to qualify.
- For projects valued above INR 5 Crores but below INR 20 Crores, 10 percent of their qualified expenditure will be reimbursed, up to a maximum of INR 2 Crores per project.
- For projects valued above INR 20 Crores, an additional 5 percent of their qualified expenditure will be reimbursed, which means 15 percent reimbursement up to a maximum of INR 3.75 Crores per project.
- An additional 5 percent uplift may be given to 3 select projects during the policy period, amounting to a total of 20 percent reimbursement. The selected projects will have resulted in additional economic benefits to the state, over and above those accrued due to the qualified expenditure. Only projects valued above INR 20 Crores will be considered for this purpose.
- The total reimbursement will be up to a maximum of INR 5 Crores for one company in a year, with a limit of 3 sanctions per company per year.

For game art development projects

This grant is only applicable for international projects in the area of game art and development. The various conditions for this grant include:

- Minimum project value of INR 2.5 Crores to qualify.
- For projects valued above INR 2.5 Crores but below INR 10 Crores, 7.5 percent of their qualified expenditure will be reimbursed, up to a maximum of INR 75 Lacs per project.
- For projects valued above INR 10 Crores, an additional 5 percent of their qualified expenditure will be reimbursed, which means 12.5 percent reimbursement up to a maximum of INR 1.5 Crores per project.
- An additional 5 percent uplift may be given to 3 select projects during the policy period, amounting to a total of 17.5 percent reimbursement. The selected projects will have resulted in additional economic benefits to the state, over and above those accrued due to the qualified expenditure. Only projects valued above INR 10 Crores will be considered for this purpose.
- The total reimbursement will be up to a maximum of INR 2.5 Crores for one company in a year, with a limit of 3 sanctions per company per year.

6.12 Incentive Applicability at a Glance

S. No.	Grant / Incentive	Applicable for Company	Applicable Restrictions	Max amount per application	No. of claims allowed for a single Company	Remarks
1	Patent Registration Incentive	All KAVGC companies	Patent should be filed or granted within the policy period	INR 2 Lacs for domestic; INR 10 Lacs for International	5 successful claims in the policy period	75% given when patent is filed, rest 25% when it is granted
2	PF/ESI Incentive	Only Companies which are less than 2 years old	Maximum of INR 2000 per person per month for 2 years	INR 12 Lacs	1 in policy period	Only for new employment
3	International Marketing Incentive	All KAVGC companies	-	INR 5 Lacs per year	1 per year	To be claimed within 6 months of incurring the expense
4	Power Tariff Concession	All KAVGC companies	-	N.A.	1 in policy period	-
5	Production Grant for Animated Episodic Series	Companies producing Indian themed content	Minimum of 13 episodes	INR 20 Lacs	2 per year	Maximum of INR 30 Lacs per year per company
6	Production Grant for Animation Movies	Companies producing Indian themed content	Minimum duration of 90 minutes	INR 1 Crore	1 per year	-
7	Production Grant for VR/AR/VFX Projects	Companies working on domestic productions	Project value INR 15 Lacs and above	INR 10 Lacs	3 per year	Maximum of INR 20 Lacs per year per company
8	Production Grant for Game Development	Companies producing games in India	More than 2 Lacs collective downloads	INR 5 Lacs	2 per year	-
9a	International Productions – PDV	Mid-sized productions	Project value INR 5 Crores and above	INR 2 Crores	3 per year	Maximum reimbursement of INR 5 Crores for a single Co. in a year
9b		Big-size productions	Project value INR 20 Crores and above	INR 3.75 Crores		
9c		Additional Economic Benefits	Project value INR 20 Crores and above	Additional 5% of qualified expenditure	1 in policy period	

9d	International Productions - Game Art Development	Mid-sized Projects	Project value INR 2.5 Crores and above	INR 75 Lacs	3 per year	Maximum reimbursement of INR 2.5 Crores for a single Co. in a year
9e		Big-size Projects	Project value INR 10 Crores and above	INR 1.5 Crores		
9f		Additional Economic Benefits	Project value INR 10 Crores and above	Additional 5% of qualified expenditure	1 in policy period	

7. Definitions

General Terms

- **AVGC Sector -** The AVGC 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 development of software used in pre-production, production and postproduction pipelines, education and advanced research, development of AVGC subjects, related technology and its business management.

- **AVGC Company** - Any company in the AVGC sector as defined above.

- **KAVGC Company** - Any AVGC company (as defined above), which is working out of Karnataka and registers with KBITS is referred as a KAVGC Company. Through this registration, the company becomes eligible to avail any incentives or subsidies mentioned in this policy.

- **Policy Period** – The duration for which this policy will remain enforced, either 5 years from the time this policy is launched or the launch of a newer policy that supersedes this policy, whichever is earlier.

- **ABAI -** It is an association originally started by and for Bengaluru Animation Industry was formed in 2006, is a non-profit association. It has since spread its wings to become a strong catalyst to promote the Animation, Visual Effects, Gaming and Comics (AVGC) business activities in India.

- **Animation -** Animation is the technology of displaying frames in succession to create an illusion of motion. Animation is used in entertainment, education, design, game development, simulations, etc. It is basically categorized into 2D traditional animation that is done manually by hand and 3D-digital animation that is done by using various software applications. It is finding its use in mobiles, software applications, movie visual effects, visual communication, and advertising.

- **Animation Entertainment -** Animation Entertainment includes animated movies, TV broadcast of animated cartoon series through 2D cell animation (using 2D bitmap or vector graphics), 3D CGI animation or 3D motion capture animation.

- **VFX -** Stands for Visual effects. It is the grouping of various processes by which imagery can be created without actually shooting for it live. It can also be used to enhance a live footage to exhibit sequences which is impossible or not feasible to shoot live.

- **VR** - Stands for 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.

- **AR -** Stands for 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.

- **MR** - 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 co-exist and interact in real time.

- **Game Development -** Game development relates to development of video games, interactive games, simulation games, electronic games, mobile-based games, online games etc. Video Games are software applications that involve interaction with a user interface to generate visual feedback on a display device. Interactive games are used for entertainment, education (edutainment) and for non-entertainment applications such as serious games (games that are designed primarily to convey information or a learning experience of some sort) and simulation. The electronic systems used to play video games are known as platforms. For example, personal computers, video game consoles such as PlayStation, Xbox and Nintendo Wii, handheld consoles such as Nintendo Gameboy Advance, PlayStation Portable (PSP) and mobile devices such as mobile phones and iPhones. The Internet is also a platform for various forms of web-based games. For the purpose of clarity, gambling software applications are not a part of interactive games.

  - **Online** - Online games are played on the internet through web portals. These games range from basic single-player games to multiplayer online role-playing games (MMORPG). MMORPGs enable several players to simultaneously interact during a game on the Internet.
  - **Mobile** - These games are played on mobile telephone devices. Mobile games typically cost under INR 500 and are sometimes adapted from popular console or PC games.
  - **PC** - Games in this segment are played on a PC, which is usually upgraded with gadgetry such as an additional graphics card for an enhanced gaming experience.
  - **Console** - This segment of gaming requires a separate hardware known as a console that is loaded with the games software. The main brands in this segment include the Sony PlayStation, Nintendo Wii and Microsoft Xbox. Typically, a generation of console lasts for a few years, also called console cycles and is upgraded or replaced by a new generation of gaming hardware and software.

- **MMORPG -** Massively multiplayer online role playing games. These are role-playing games where thousands of gamers play strategy or action theme based games in a virtual and persistent end-user through the World Wide Web, by way of a web browser or other web-enabled software like internet television clients, micro blogging clients and RSS readers.

- **Comics -** The term derives from the mostly humorous early work in the medium, and came to apply to that form of the medium including those far from comic. The sequential nature of the pictures, and the predominance of pictures over words, distinguishes comics from picture books. Comics are combination of cartoon with a story line, laid out in a series of pictorial panels across a page or a digital media and concerning a continuous character or set of characters, whose thoughts and dialogues are indicated by means of "balloons" containing written speech. The comic strip form can be employed to convey a variety of messages (e.g. advertisements, value education, entertainment, etc.)

- **Direct to DVD -** A film that is released direct-to-video (also known as made-for-video, straight-to video and straight-to-DVD) is one which has been released to the public on home video formats (historically VHS) before or without being released in movie theaters or broadcast on television.

- **SVOD -** Stands for Subscription Video On Demand. It refers to a service that gives users unlimited access to a wide range of programs for a monthly flat rate. The users have full control over the subscription, and can decide when to start the program. They can also pause, fast forward, rewind and stop the show as preferred.

Terms Used in Animation

The production pipeline for Animated and Live action movies can be divided into three phases.

- **Pre-production:** Pre-production is the process of fixing some of the elements involved in a film. Many of the key elements such as principal cast members, director and cinematographer are set. By the end of pre-production, the screenplay is usually finalized. During pre-production, the script is broken down into individual scenes, storyboards and all the locations, props, cast members, costumes, special effects and visual effects are identified. An extremely detailed schedule is produced and arrangements are made for the necessary elements to be available to the film-makers at the appropriate times. Sets are constructed, the crew is hired, financial arrangements are put in place and a start date for the beginning of principal photography is set.

- **Production:** During the 'Production' phase, the movie is actually made. For live action movies, principle photography takes place, for animated movies actual process of modelling, animation etc. takes place.

- **Post Production:** Post-production is many different processes grouped under one name. These typically include:
    - Writing, (re)recording, and editing the soundtrack
    - Adding visual special effects - mainly computer-generated imagery (CGI) in live action movie footage
    - Sound design, sound effects, ADR, Foley, and music, culminating in a process known as sound re-recording or mixing with professional audio equipment
    - Transfer of color motion picture film to video or DPX with a telecine and color grading (correction) in a color suite

The post-production phase of creating a film usually takes longer than the actual shooting of the film and can take several months to complete because it includes the complete editing, color correction, and the addition of music and sound.

- **Idea/Story**: Story writer comes up with an idea. A story is written on the idea adding dramatic scenes, sequences, characters, themes etc.

- **Storyboarding**: A storyboard is a graphic organizer in the form of illustrations or images displayed in sequence for the purpose of pre-visualizing a motion picture, animation, motion graphic or interactive media sequence.

- **Animatic Review**: In animation and special effects work, the storyboarding stage may be followed by simplified mock-ups called "animatics" to give a better idea of how the scene will look and feel with motion and timing. At its simplest, an animatic is a series of still images edited together and displayed in sequence with rough dialogue (i.e., scratch vocals) and/or rough soundtrack added to the sequence of still images (usually taken from a storyboard) to test whether the sound and images are working effectively together. This allows the animators and directors to work out any screenplay, camera positioning, shot list and timing issues that may exist with the current storyboard.

- **Design**: In this stage look of the movie is designed. Designs of how the characters will look, how the world where the story takes place, how the sound is going to be, is decided. Design goes through multiple iterations until finalizing.

- **Layout**: Once the storyboards have been approved, they are sent to the layout department which then works closely with the director to design the locations and costumes. With this done they begin to stage the scenes, showing the various characters' positions throughout the course of each shot. Environment assets and camera are setup in each shot and flow of camera movement is decided.

- **R&D**: Depending on the theme/period of movie story, research is done to finalize the look of assets like clothes, architecture. These assets should make the look of movie more authentic.

- **Modelling**: 3D modeling is the process of creating a 3D representation of any surface or object by manipulating polygons, edges, and vertices in simulated 3D space. 3D modeling can be achieved manually with specialized 3D production software that lets an artist create and deform polygonal surfaces, or by scanning real-world objects into a set of data points that can be used to represent the object digitally. All the 3D characters, assets, environment assets are created following the same process.

- **Texturing**: Texturing is the process of adding colors, texture, skin, etc. on the 3D models.

- **Rigging**: In its simplest form, 3D rigging is the process of creating a skeleton for a 3D model so it can move. Most commonly, characters are rigged before they are animated because if a character model doesn't have a rig, they can't be deformed and moved around.

- **Animation**: After the 3D models are rigged, animators add life to them by setting different poses. These poses follow a timeline. When played in sequence they look like an animating live character.

- **FX**: Special effects like fire, explosion, water flow, wind are added on top of character animation to give it a sense of realism.

- **Lighting**: In this phase lighting effects are added to the scenes. Ambient light, specular reflections and shadow effects create realistic environment for the shots.

- **Rendering**: Rendering or image synthesis is the process of generating an image from a 2D or 3D model (or models in what collectively could be called a scene file) by means of computer programs. A scene file contains geometry, viewpoint, texture, lighting, and shading information as a description of the virtual scene. The data contained in the scene file is then passed to a rendering program to be processed and output to a digital image or raster graphics image file. These image files collectively make a video file.

- **Compositing**: Compositing is the combining of visual elements from separate sources into single images, often to create the illusion that all those elements are parts of the same scene. At this stage all the different elements like animated characters, background, environment etc. are integrated together. Background are created in Matte Painting stage of production.

- **2D FX/ Motion Graphics**: At this stage special effects, texts, titles etc. are integrated with the shots.

- **Color Correction**: Depending on the mood of the scene, shots are color corrected. Life night time shots are given bluer tint, daytime shots are made more yellowish. Happy moments in movie are shown with bright and vivid range of colors whereas sad moments as shown with dull colors.

- **Final Output**: Finally we get the final output as movie.

Terms Used in VFX Production

- **Story:** Story is written with multiple iterations overs scene, shots and character development.

- **Story Board:** Story is converted to a set of drawings showing different instances in the story line.

- **Concept Art:** Concept arts are the drawings showing the look of the characters, sets, world where the story takes place.

- **2D Animatic:** A 2D animatic sequence is created out of the story board and concept arts to check the overall flow of the events in the story.

- **Assets Creation:** The 3D models of the characters, world, environment, clothes etc. are created in this stage. Other than computer 3D models, physical assets are created like weapons, antiques and other items as per the story.

- **Modelling:** The 3D models created in assets creation phase are update with texturing and rigging so as to make them usable in the later stages.

- **UV\Texturing:** Texturing is adding colors or textures on top of 3D models. Animals, humans' 3D models are layered with skin, clothes like textures.

- **Rigging:** In this stage 3D models are added with skeleton structures to animate them. It is very much similar to adding strings on puppets. These skeletons are then used to add animation to them.

- **FX:** Special effects like explosions, storms etc. are created in this stage.

- **Matte Painting:** A matte painting is a painted representation of a landscape, set, or distant location that allows filmmakers to create the illusion of an environment that is not present at the filming location. Backgrounds paintings like dramatic, beautiful looking skies, mountains, cityscapes are created in this stage. They are used to enhance the world look of the movie.

- **Shooting Reference:** For special effects, real world reference videos are captured in this stage. They include shots on fire, animal movements, explosions, flying birds, smokes etc. These videos are then used as a reference to create computer generated special effects.

- **Shooting Live Action:** Life action videos of the movie, also called principal photography happens in this stage. These videos are shot with actual actors either at actual locations or inside studios.

- **Roto:** Rotoscoping (often abbreviated as "roto") has often been used as a tool for visual effects in live-action movies. By tracing an object, the moviemaker creates a silhouette (called a matte) that can be used to extract that object from a scene for use on a different background.

- **BG Prep:** Chroma key compositing, or chroma keying, is a special effects/ post-production technique for compositing (layering) two images or video streams together based on color hues (chroma range). The technique has been used heavily in many fields to remove a background from the subject of a photo or video – particularly the newscasting, motion picture and videogame industries.

- **Match Move:** In cinematography, match moving is a cinematic technique that allows the insertion of computer graphics into live-action footage with correct position, scale, orientation, and motion relative to the photographed objects in the shot.

- **Set Extension:** Digital additions to actual performing environments.

- **Lighting:** In this phase lighting effects are added to the scenes. Ambient light, specular reflections and shadow effects create realistic environment for the shots.

- **3D Live Animatic:** After all these effects are added, we get a 3D live action video.

- **Animation:** The 3D models of animals or monsters created to add an extra element of dramatization are animated in this stage.

- **3D Render:** Rendering or image synthesis is the process of generating an image from a 2D or 3D model (or models in what collectively could be called a scene file) by means of computer programs. A scene file contains geometry, viewpoint, texture, lighting, and shading information as a description of the virtual scene. The data contained in the scene file is then passed to a rendering program to be processed and output to a digital image or raster graphics image file. These image files collectively make a video file.

- **Compositing:** Compositing is the combining of visual elements from separate sources into single images, often to create the illusion that all those elements are parts of the same scene. At this stage all the different elements like animated characters, background, environment etc. are integrated together. Background are created in Matte Painting stage of production.

- **Final Render:** Finally the videos are rendered to frames/images which collectively makes the movie.

Glossary

AVGC	Animation, Visual Effects, Gaming & Comics
KAVGC	Karnataka AVGC
KBITS	Karnataka Biotechnology & Information Technology Services
ITeS	Information Technology Enabled Services
BPM	Business Process Management
BIAL	Bengaluru International Airport Limited
SEZ	Special Economic Zone
R&D	Research & Development
CAGR	Compound Annual Growth Rate
MoU	Memorandum of Understanding
VFX	Visual Effects
DAC	Digital Art College
DAS	Digital Art Symposium
SHLCC	State High Level Clearance Committee
SLSWCC	State Level Single Window Clearance Committee
MOOC	Massive Open Online Courses
IP	Intellectual Property
CG	Computer Graphics
PPP	Public Private Partnership
DBFOT	Design Build Finance Operate Transfer
FOF	Fund of funds
BTS	Build to Suit
TTT	Train the Trainer
SME	Small and Medium-sized Enterprises
PDV	Post Digital and Visual Effects
SVOD	Subscription Video On Demand
VR	Virtual Reality
AR	Augmented Reality
MR	Mixed Reality
AEB	Additional Economic Benefits
NSDC	National Skill Development Corporation
NSDA	National Skill Development Agency
SSC	Sector Skills Council
PF	Provident Fund
ESI	Employees State Insurance
KERC	Karnataka Electricity Regulatory Commission