

Indian Institute of Mass Communication
**National Centre of Excellence for Animation, Visual Effects,
Gaming and Comics**
Project Information Memorandum

JULY 2017

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1. BACKGROUND

The Indian animation, visual effects and gaming industries have grown and evolved over the last two decades. The budget of Indian animation movies has been steadily increasing and there is increased adoption of visual effects (commonly abbreviated as VFX) in Indian movies and television content. Indian Companies in the gaming industry have also evolved from being outsourcing companies for western game studios to being pioneers in designing and developing games.

The AVGC (Animation, Visual effects, Gaming and Comics) sector is emerging as an important sub-segment of the Media and Entertainment (M & E) industry constituting around 7%¹ of the overall M&E industry. In 2015, the market size of AVGC sector was estimated to be INR 8,242 crore. The sector is expected to grow at a healthy CAGR (Compound Annual Growth Rate) of 15% and its market size is expected to be INR 16,959 crore by 2020 and INR 29,661 crore by 2025. Within the AVGC sector, the animation sub-segment is expected to grow at a comparatively slow rate, with the major push in the sector coming from the VFX and gaming sub-segments.

The sector employs 85,000 people mostly (>80%) in the production and post-production segments of the value chain and is expected to employ an additional 80,000 people by 2025². Local Intellectual Property (IP), creations and outsourcing work for western studios are the key drivers of growth for the AVGC sector. Majority of the incremental employment is expected to be in pre-production and marketing with highly skilled job roles such as storyboarding, content creation, design, planning and promotion that require NSQF(National Skills Qualifications Framework) levels 4 and above with a graduate degree.

Key drivers of demand include increased consumption of VFX and digital post production in film and TV, increased 2D to 3D conversion, increased mobile and internet penetration and rise of social media gaming. Supply side drivers in the AVGC include increased co-production deals with international studios and increase in the number of start-ups in the gaming industry.

Going forward, the AVGC sector is expected to have a greater impact on the society – fostering creativity at a grassroots level and being a medium to communicate Indian values to the next generation. The animation, comics and gaming segments have a tremendous potential to present Indian mythological content, culture, values and traditions to the children and youth of India.

¹ FICCI –KPMG Indian Media and Entertainment Industry Report

² KPMG in India Analysis

1.1 Project Brief

Given that in the next 10 years, the AVGC sector will require 24,000³ professionals with a graduate degree or above and there will only be around 16,000³ students graduating from recognized degree awarding institutes, there is a strong case for setting up an NCoE (National Centre of Excellence) which will augment the supply of graduates in the AVGC sector.

The NCoE will act as a think tank for the industry to guide the policies for the growth of this sector, establish standards for AVGC education in India, actively collaborate with industry and international AVGC institutes, and enhance the global positioning of the Indian AVGC.

In its pursuit of becoming the apex institution in the AVGC sector, NCoE will focus on alleviating the following challenges:

- Limited focus on IP creation in this sector in India;
- Lack of educational institutions following a holistic or integrated approach to AVGC education across all sub-segments ;
- Existing education set-up in this sector is dominated by training institutions, most of which are lacking in the quality of programs inputs (infrastructure, teaching resources etc.) and outputs (quality of students graduating);and
- In the absence of supply of talent with a formal education, industry stakeholders have expressed their concern in finding highly skilled professionals as a major challenge to sustain growth of the industry.

³ KPMG in India Analysis

2. PROJECT CONCEPT

This section describes the key components of the operating model of the National Centre of Excellence.

2.1 Vision & Mission of NCoE

The Vision of the National Centre of Excellence is “*to become **one of the leading institutes globally, by offering world-class education and training in the field of Animation, Visual Effects, Gaming and Comics industry and proactively engaging with the industry.***”

The Mission of NCoE is as below:

- “Offer world-class education to develop highly skilled professionals in the field of Animation, Visual Effects, Gaming and Comics.”
- “Undertake research to create cutting edge knowledge in the areas of Animation, Visual Effects, Gaming and Comics.”
- “Emerge as a premier Centre in Animation, Visual Effects, Gaming and Comics, set academic standards and advise the government at the policy level.”
- “Foster an ecosystem of start-ups and entrepreneurship in the Animation, Visual Effects, Gaming and Comics Industry”

2.2 Governance

NCoE in AVGC will be set-up under the Indian Institute of Mass Communication [(IIMC). Indian Institute of Mass Communication is a Society promoted by the Ministry of Information and Broadcasting]. The Government will take measures to provide a high level of recognition for the NCoE to ensure academic and operational autonomy. The Government will provide requisite land and initial capital for setting up the NCoE.

A Governing Council will be constituted with the requisite powers to govern the NCoE and shall have the mandate to drive the formation and development of the NCoE. The Governing Council would have representation from the Central Government, State Government, academia and the AVGC industry. An advisory board with experts in the fields of Animation, Visual Effects, Gaming, Comics and higher education will also be constituted.

2.3 Land and Infrastructure

NCoE would be set up on land measuring around 20 acres. The following table mentions the various facilities that would be available in the proposed campus.

S. No.	Facilities proposed
1	Faculty wise Academic blocks – Classrooms, Labs, Research Centres, Lecture halls and Staff blocks
2	Central Library
3	Incubation Centre
4	Auditorium
5	Residential Infrastructure: accommodation for students, accommodation for faculty, guest houses and accommodation for MDP students
6	Support/ Recreational Infrastructure : Sports block (swimming pool, football pitch/ cricket pitch, basketball court, lawn tennis and an indoor sports complex for badminton, TT, snooker), canteen/ cafeteria, pharmacy, cafes and supermarkets
7	Administrative Blocks – Career support cell, administrative offices
8	IT Infrastructure : Wi-Fi enabled campus, LAN ports in classrooms/ hostels, projectors, digital learning aids in classrooms, biometric systems for attendance, ERP(Enterprise Resource planning) : Student Lifecycle Management system, Learning Management system

The Centre aims to provide accommodation for all the students in UG (Under Graduate,) PG (Post Graduate) and Ph.D. programs thereby making the academic program fully residential. This will facilitate a fully immersive learning environment for the students which are particularly important for institutes which have a strong focus on research and training like the proposed Centre.

The proposed Centre can collaborate with leading organizations in the AVGC space to set-up research facilities in the Centre. This will allow the students to work on real-life projects in collaboration with the industry thereby enriching their learning experience. This is particularly important for a sector such as Animation and Visual Effects where the course content has to be very closely aligned with the industry.

Proposed location of NCoE is in Film City, Mumbai.

2.4 Programs

NCoE will offer UG, PG and Doctoral programs in the fields of Animation, Visual Effects, Gaming and Comics. The rollout of the programs will be such that the Centre

will start with UG programs. The UG programs are being launched initially as there is a shortage of supply of good quality graduates with formal AVGC education in India. The PG programs will commence only after the first batch of UG students graduate. Subsequently, the doctoral programs will be launched.

In addition to the regular programs, short-term professional development programs for working professionals, diploma/ advanced diploma and skill development programs in the AVGC sector will also be launched from 2018-19. These will typically be programs for 1-2 weeks duration (short-term programs) and 3 – 6 months duration (diploma/ advanced diploma programs).

NCoE is planned to commence operations from a temporary campus in academic year 2017 and move to a fully-fledged campus in 2018. Following is an indicative list of the programs to be introduced in the proposed Centre:

Type of Program	Duration(years)	Program
Under-Graduate	4	Bachelor of Design : Animation and Interactive Media
		Bachelor of Design – Games
		B.F.A. in Digital Art & Animation
		B.F.A. in Animation
	4	B.A. (Hons.) Computer Animation Arts
		B.Sc. (Hons) Games Technology
		B.A.(Computer Animation & Visual Effects)
		B.Sc.(Computer Animation)
		B.Sc.(Game Development)
Post-Graduate	2	Master of Animation, Games and Interactivity
		M.Sc.(Computer Animation and Visual Effects)
		M.A. in Digital Effects
		M.A. in Games Design & Development
		M.A.(Concept Art for Games & Animation)
		M.A.(Character Animation & Animated Filmmaking)
		M.B.A. in Media and Entertainment

The batch size and duration of the various programs are given below:

- UG programs: 4 years, batch size of 30 students per batch;
- PG programs: 2 years, batch size of 15 students per batch;
- Doctoral Programs: 5 years;
- Professional Development Programs: 1-2 weeks 15 professionals per batch;

- Skill Development Programs: 2 – 4 weeks, batch size of 15 students/professional; and
- Diploma/ Advanced Diploma Programs: 3 to 6 months, batch size of 15 students/ professionals.

2.5 Research

In a sector specific centre, the relevance of research in its ability to provide solutions to the industry is critical. NCoE is expected to lead the industry in being able to pursue research objectives that benefit the industry through development of practical solutions which could be tested, piloted and rolled out for the advancement of the industry. Such research could also be of use to individual companies that lack the infrastructure for research. This key characteristic is enumerated below:

- Collaboration with industry players and Government for research thrust;
- Involvement of Government, industry and academia in research;
- Emergence as a centre of excellence in research due to strong collaborations with the Industry;
- Fostering a culture of entrepreneurship and innovation; and
- Promoting business skills in designers.

Proposed research areas in Animation and VFX include: Stop Motion Animation, Motion Capture, Rendering, Animation for Non-Entertainment: Retail, Education and Training, Healthcare, Simulation in Animation, Pre-Visualization and Preproduction, 3D Pre-Visualization, Development of Animation Software, Experience in Digitally Immersive environment, Experimentation and Simulation in emerging animation sectors.

Proposed research areas in Gaming: Some of the possible areas of research which the Centre can focus on for research are: Artificial Intelligence and Game Design, Game Driven learning tools for education, Location Based Services in Gaming, Mobile Gaming and Gaming in Social Media.

Proposed research labs for NCoE include: Motion picture lab, Stop Motion lab, Claymation lab, Puppet animation lab, Art gallery & Museum, Editing studio, Green room, 2D lab, Digital lab, Sculpture studio, gaming lab and Computer labs.

NCoE will also foster a culture of entrepreneurship in the AVGC sector in India. To achieve this objective, the Centre will set-up incubation centers that will support startups and mentor entrepreneurs. The proposed Centre should also have an Intellectual Property Cell to educate students on various aspects related to IPR. The Cell will also help students, faculty in getting designs, ideas patented and copyright protection. This could also be an important source of revenue for the Centre.

2.6 International Academic Partnerships

To ensure NCoE is set-up and operated in line with international standards and best practices in AVGC education, an international partner with adequate experience will be engaged by IIMC for a period of 5 years. The key roles and responsibilities of such partner would include:

- Assist in development of content and curriculum for the programs to be launched in NCoE by working closely with the Indian operating partner. Curriculum will be developed for Undergraduate, Postgraduate, Executive Development Programs, Advanced Diploma Programs and Short-Term Skill Development Programs;
- Assist in faculty development and training through a series of faculty exchange programs (inbound and outbound) and faculty training programs conducted in NCoE to impart best practices in teaching and research in AVGC education;
- Facilitate international exposure to students through student exchange programs (inbound and outbound programs). Programs could be short-term exposure programs or long-term research oriented programs, etc.; and

2.7 Student Intake

Good quality students are critical and one of the key elements for building a world class educational Centre. NCoE will have to select the most academically qualified students by offering scholarships and awards. Moreover, the National Centre of Excellence should ensure there is a significant strength of graduate students as graduate students typically tend to be involved in research activities of the Centre. NCoE also needs to ensure a mix of both national and international students to encourage diversity and transfer of knowledge.

NCoE is planned to operate with a student intake of around 1,480 students with 60% of the students in the UG program in the steady state. The NCoE in its endeavor to become a renowned education Centre in the AVGC sector globally will seek to attract students from abroad for its various programs. At least 10% of the students in UG and PG programs will comprise international students. An indicative student intake/ capacity plan is shown below:

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
UG 1	15	30	30	30	30	30	30	30	30	30
UG 2	15	30	30	30	30	30	30	30	30	30
UG 3	-	15	30	30	30	30	30	30	30	30
UG 4	15	30	30	30	30	30	30	30	30	30
UG 5	-	15	30	30	30	30	30	30	30	30

PG 1	-	-	-	-	10	15	15	15	15	15
PG 2	-	-	-	-	10	15	15	15	15	15
PG 3	-	-	-	-	10	15	15	15	15	15
PG 4	-	-	-	-	-	10	15	15	15	15
PG 5	-	-	-	-	-	10	15	15	15	15
Ph.D. Full Time	-	-	-	-	-	5	5	5	5	5
Ph.D. Part Time	-	-	-	-	-	5	5	5	5	5

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
CPE/EDP/MDP	-	1	4	7	10	12	15	16	16	16
Skill Training Programs	-	5	10	15	20	25	30	30	30	30

The intake in UG, PG programs, has been assumed based on student intake in other reputed higher education institutions in India. Based on the duration of the programs and the student intake, the total strength is calculated

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
UG 1	15	45	75	105	120	120	120	120	120	120
UG 2	15	45	75	105	120	120	120	120	120	120
UG 3	-	15	45	75	105	120	120	120	120	120
UG 4	15	45	75	105	120	120	120	120	120	120
UG 5	-	15	45	75	105	120	120	120	120	120
PG 1	-	-	-	-	10	25	30	30	30	30
PG 2	-	-	-	-	10	25	30	30	30	30
PG 3	-	-	-	-	10	25	30	30	30	30
PG 4	-	-	-	-	-	10	25	30	30	30
PG 5	-	-	-	-	-	10	25	30	30	30
Ph.D. Full Time	-	-	-	-	-	5	10	15	20	25
Ph.D. Part Time	-	-	-	-	-	5	10	15	20	25
CPE/ Dip./ Short Term Courses	-	90	210	330	450	555	675	690	690	690

Total UG	45	165	315	465	570	600	600	600	600	600
Total PG	-	-	-	-	30	95	140	150	150	150
Total Doctoral	-	-	-	-	-	10	20	30	40	50
Total CPE/ Dip/ Short Term Courses	-	90	210	330	450	555	675	690	690	690
Total	45	255	525	795	1050	1260	1435	1470	1480	1490

Another critical avenue to be explored is the admission procedure for students. A detailed mechanism needs to be developed for profiling, filtering and selecting the best students who can significantly contribute to the media and entertainment industry in the future. An admission procedure similar to that of NID (National Institute of Design) could be followed. It may include an entrance test, followed by a studio test and a personal interview. This would help the National Center of Excellence enroll top-notch students with an inclination towards gaming, animation, visual effects and comics. Theoretical approach coupled with practical knowledge forms a sound basis for an admission procedure. Moreover, different levels of programs (UG, PG and Doctoral) will have different selection criteria. Tests will need to be conducted in metros such as Pune, Chennai, Hyderabad, Bangalore, Mumbai, Delhi, Ahmedabad, Lucknow, Chandigarh, Guwahati and Kolkata. Students who clear the first level assessment will be allowed to appear for the studio test and personal interview.

Based on the level of programs (under graduate, post graduate and doctoral), the selection process could vary, but the principle of selecting the best quality talent shall never be compromised. Reservation of seats as per Government of India mandate will be followed by NCoE i.e. 27% for OBC, 15% for SC, 7.5% for ST and 3% for differently-abled. Student selection would be based on assessment conducted by NCoE.

2.8 Faculty Recruitment

The presence of an outstanding and a strong faculty base is a prerequisite for a world-class educational Centre. There has to be an appropriate mix of international and domestic faculty. The presence of talented people from across the globe who are experts in their respective fields, encourages cross-culture and exchange of ideas which is essential for an institution which seeks to become a world class Centre. Mobilizing resources will also enable the Centre to enhance its knowledge-networking capacity.

It is equally important to maintain an appropriate faculty-student ratio as prescribed by the University Grants Commission (UGC) at the minimum. The UGC Norms mentions faculty-student ratio of 1:12 for PG programs and 1:15 for UG programs. However, a world-class Centre ought to have a faculty-student ratio even better than this. The NCoE must strive for a faculty-student ratio which is at par with the world class institutes i.e.1:12 for the UG programs and 1:10for PG programs.

Some of the options which could be explored include, tapping into foreign faculty base, and collaborating with a foreign university for faculty. To attract and retain good quality staff, NCoE could adopt various strategies such as paying a premium salary, reward their teaching faculty on a regular basis, and encourage them to undertake more research and training activities, offer start-up grants and share consulting income with faculty members. NCoE plans to operate with around 65 faculty members, with around 60% of the faculty being industry faculty.

2.9 Key Financials

2.9.1 Operating Expenses

2.9.1.1 Salaries to Faculty & Staff

Salary levels for faculty members, administrative staff should minimum confirm to UGC scales/the Pay Commission scales of the Government.

2.9.1.2 Other Operating Expenses

Other major operating expenses include:

- **Scholarships and Stipends:** In order to attract good quality students, the Centre will provide scholarships in the form of fee waiver to the students in a year. The fee waiver would depend on the merit of the student to be approved by Managing Committee. The scholarships would be applicable for both the UG and PG students. Students pursuing doctoral programs would get minimum monthly stipend as per the JRF/SRF norms of UGC. The type of Scholarship could be need based, need cum merit based and/or purely merit based (optional).
- **Collaboration Fee:** It is important for the NCoE to collaborate with leading international academic institution such as Sheridan College or California Institute of the Arts to inculcate best practices of these institutes. This would

involve payment of an annual royalty fee to these institutes. This has been considered to be around INR 1 crore per year for the first three years.

- **Faculty and student exchange programs:** The Centre will sponsor faculty exchange programs for around 20% of the resident faculty. Similarly, around 10% of the students in the third year will be sponsored for international exchange program.
- **Other Expenses:** Some of the other expenses include general administrative expenses – maintenance, technology, lab consumables, and rental expenses for operating out of a temporary campus. Private Partner is expected to maintain the infrastructure and equipment with due focus on Quality.

2.9.2 Capital Expenditure

Residential Infrastructure:

- The programs have been considered as full time residential programs. Twin accommodation rooms will be provided for UG students and single accommodation are provided for PG students. A MDP block will be constructed to provide accommodation for professionals attending short-term courses
- Faculty accommodation will be provided for associate professors and professors in the campus. Visitor accommodation is also considered to be provided for visiting faculty, conference participants, etc.

Academic Infrastructure

- Around 4 different academic blocks have been considered catering to different faculties/ departments. Each academic block houses classrooms, lecture halls, labs, staff cabins.
- An incubation centre will be launched in the third year of the operation of the Centre.
- Research infrastructure includes editing studio, green lab, digital lab, gaming lab, sound studio, motion picture lab, stop motion lab, claymation lab, puppet animation lab, art gallery & museum etc. Also software packages for the animation and VFX domains are considered as part of the research infrastructure.

Common/ Shared Infrastructure

- Some of the shared infrastructure facilities considered include auditorium with a capacity of 500 people, library to stock over 50,000 books, sports complex, administration blocks, dining hall, etc.

- Landscaping, parking spaces, amphitheater, and playground has been considered.
- Other Capital expenditure includes IT infrastructure, development of online portal, etc.

2.9.3 Operating Revenue

The fee should be kept at affordable level to attract talented students from different sections of the society.

NCoE will also conduct Management Development Programs, (MDP), Executive Development Programs, (EDP), short-term skill development courses, Advanced Diploma Programs.

- Fee for short-term programs: Upward of INR 30,000 per program per person for EDP/MDP;
- Fee for skill training/diploma/ advanced diploma programs is upward of INR 40,000 per program per person and fee for EDP/ MDP may be around INR 30,000 per person.

The long-term programs have been considered as fully residential programs in order to create an immersive learning environment for the students. Managing Committees concurrence for fee structure has to be taken.

2.9.4 General Corpus

This section captures the key expenditure heads for which the General Corpus fund can be utilized. The physical targets to be achieved by incurring these expenses are also captured. The release of the General Corpus fund would be contingent on the achievement of physical targets. The Managing Committee of NCoE will be directly monitoring the utilization of the General Corpus fund.

General Corpus fund will be towards meeting student aid expenses, faculty development expenses, academic collaboration expenses, library, content development expenses and meeting the excess of operating expenditure over income in the initial years of operations of NCoE. Subsequently, when there is an operating surplus, it is envisaged that the same will be returned to the General Corpus fund. This corpus fund will be setup during the launch of NCoE on which interest will be earned.

Pre-operating Expenses

- NCoE will operate out of a temporary campus in 2017 when the infrastructure for the main campus is being set-up. Rental for the year accommodation to be factored as operational expenditure.

- Other pre-operating expenses include fee to be paid to architect, technical consultants, meeting of Managing Committee, etc. who will assist in setting up of the Centre.

Excess of Operating Expenses over Operating Revenue

The Centre is expected to return an operational surplus from year 5. Operational surplus is the excess of operating income (income from tuition fee, short-term programs, research and consultancy income) over operating expenses (salaries to faculty, leadership, staff, technology expenses, marketing expenses, research project related expenses, payment to private partner).