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Global Expert Mission Immersive Media in India 2018

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1. Welcome

Innovate UK’s global missions programme is one of its most important tools to support the UK’s Industrial Strategy’s ambition for the UK to be the international partner of choice for science and innovation. Global collaborations are crucial in meeting the Industrial Strategy’s Grand Challenges and will be further supported by the launch of a new International Research and Innovation Strategy.

Innovate UK’s Global Expert Missions, led by Innovate UK’s Knowledge Transfer Network, play an important role in building strategic partnerships, providing deep insight into the opportunities for UK innovation and shaping future programmes.

In May 2018, a group of leading industry experts from the UK immersive tech sector, flew to India on a six-day mission to gather market insights, understand business priorities, identify sustainable collaboration opportunities and align innovation policy.

This report summarises the information and insights gathered during the mission.

1.1 Immersive Media Expert Mission to India

India has a highly developed entertainment industry and is among the world leaders in digital enterprise, with a highly skilled workforce and government support for start-ups. There is a high level of technical expertise across both larger corporations and early-stage start-ups. However, we are yet to see much evidence of Indian content or hardware being distributed internationally. India has recently seen a rapid expansion of smartphone penetration and mobile data capacity – driven in part by a price war – which provides a wider potential user base for the lower end of the Virtual Reality/Augmented Reality (VR/AR) market.

Given that we are on the threshold of a rapidly booming

new industry it felt timely to assess the future prospects for collaborations between British and Indian enterprises and organisations. In April 2018, a group of thirteen leading experts in the UK immersive industry visited Hyderabad, Bengaluru and Mumbai on an Innovate UK Immersive Media Expert Mission.

1.2 Mission Summary

In common with many countries around the world, we found an immersive technology sector at an early stage of development, seeking to establish revenue models and content use cases ahead of a projected rapid growth.

However, the combination of exponential expansion in the connectivity and scale of the potential consumer base, and the significant and targeted investments – across national, state and corporate development, puts India in a different position. The potential to scale is significant.

Aligned with this, we found an openness to collaboration and desire to benefit from UK experience and expertise in delivering innovative, immersive technology solutions and strategies. A supportive ecosystem for the growth of a creative technology sector is quickly being established.

2. The Indian Landscape

In evaluating the opportunity for immersive technologies within the Indian market, there are a number of crucial wider factors, and trends, which need to be understood. The section below will explore some key environmental factors.

2.1 The Media and Entertainment Sector

The Media and Entertainment (M&E) sector continues to show very strong growth in India, yet there are specific factors underlying those figures which are relevant to understanding an immersive technology opportunity. For example, that content produced within the M&E space is overwhelmingly for local audiences and produced in multiple languages.

The sector grew to INR 1.5 trillion

The Indian M&E sector reached INR1.5 trillion (USD 22.7 billion) in 2017, a growth of almost 13 percent over 2016. With its current trajectory, we expect it to cross INR2 trillion (USD 31 billion) by 2020, at a CAGR of 11.6 percent.

Segment	CY2016	CY2017	CY2018E	CY2020E	CAGR 2016 - 20
Television	594	660	734	862	9.8%
Print	296	393	331	369	5.7%
Filmed Entertainment	122	156	166	192	11.9%
Digital media	92	119	151	224	24.9%
Animation and VFX	54	67	80	114	20.4%
Live events	56	65	77	109	18.0%
Online gaming	26	30	40	68	27.5%
Out of Home media	32	34	37	43	7.7%
Radio	24	26	28	34	8.6%
Music	12	13	14	18	10.6%
TOTAL	1,308	1,473	1,660	2,032	11.6%

All figures are gross of taxes (INR in billion). (FICCI/EY M&E sector report 2018)

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2.1.1 Film

Whilst a relatively low-value figure compared to television, film is the culturally dominant media content and the personalities, more than specific titles, are clear drivers of influence and

brand engagement across multiple other sector lines here (e.g. music). In the region of 1,400 – 1,600 films are produced in India each year.

2.1.2 Games

The Indian games market is relatively very small, and there is almost no console games market, with cost and availability of hardware being a major factor. Similarly, there is a limited culture of personal computer (PC) games, again due to access to PCs and also the reliability and spread of quality bandwidth connections. Where there is growth, and significant potential, is in the mobile games marketplace – but this will start from a low base point.

2.1.3 Animation and Visual Effects (VFX)

This market segment is growing fast, not necessarily driven by local market production but more as an outsourced resource to international business. Major global VFX players such as Framestore¹, DNeg², and Technicolor³ (The Mill, MPC) have a significant India presence as part of a global supply chain. The skills level and sophistication of these operations have rapidly improved, delivering Oscar-winning VFX work and multiple VR projects, and in doing so establishing a fast expanding skills base which can underpin future development of immersive content.

2.1.4 Print

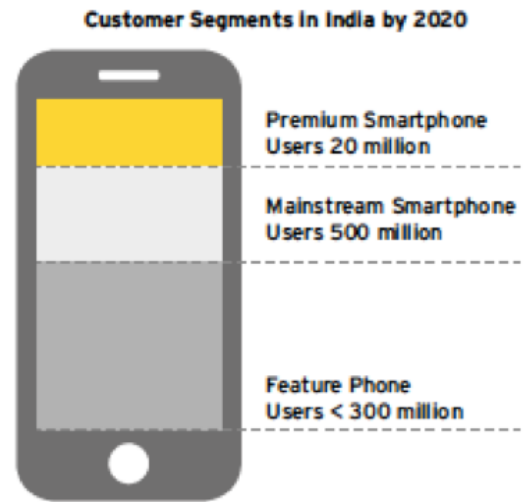
Worth noting is that the print sector in India is large and still growing, an anomaly compared to other markets but potentially a driver for entry-level augmented reality. A clear market differentiator is evident on payment models and this may require adaptation and localisation of the business model for any international company. Indian consumers prefer subscriptions to one-off purchases, and so the vast majority of business-to-consumer (B2C) offers follow this format, or bundle subscriptions into a mobile contract, for example.

2.2 Smartphone Penetration and the Massive Expansion of Data

The most significant driver of disruptive activity in the Indian marketplace is the rapid expansion of the availability of 4G data. A phenomenon of the past 18 months alone has been driven by the aggressive market entry of Reliance Jio⁴. At present Jio is giving away 4G data at zero cost to the consumer and has also introduced a lower cost smartphone to the market.

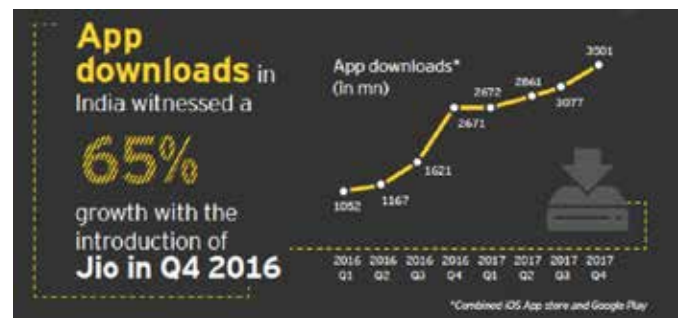
In a speech at Mobile World Congress in Barcelona, a senior Jio executive forecast 99% 4G coverage by November 2018 and boasted of the acquisition of 100 million customers in 170 days during 2017⁵.

India is already the second largest smartphone market in the world with considerable room to grow into a young and aspirational population. Forecasts estimate a smartphone market of over 500 million consumers by 2020.



One contact talked about India “leapfrogging” technologies, e.g. going straight to mobile computing rather than having to replace an existing marketplace for PC (constrained by hardware cost and connectivity issues). In this instance, the landscape has gone from limited 2G to rapidly and widely available 4G.

This expansion of capacity has implications for content creators and digital service providers. The diagram below shows the immediate impact on consumption, with this trajectory continuing as new lower-cost phone models afford access to zero cost data packages.



The phenomenal and rapid growth of a 4G mobile consumer base was cited constantly through the mission as an entirely game-changing enabler of new products and services, and strategic business expansions into content streaming, interactive games and mobile TV channels were very much in evidence. This matches to a burgeoning middle class, with an increasing desire for new experiences.

¹ www.framestore.com

² www.dneg.com

³ www.technicolor.com/create/vfx

⁴ www.jio.com

⁵ www.livemint.com/Industry/uTOwhZKQ8sY6H2NfcqHTfK/Reliance-Jio-to-cover-99-population-by-Diwali-says-officia.html

At an Indian Premier League (IPL)⁶ cricket game, the delegation noted the significant use of mobiles throughout the game, mainly photo and messaging (WhatsApp⁷ is the dominant communications platform). A lack of compelling digital content use cases was often cited as the only thing holding back an explosion of gaming and AR in particular, and it appears clear that there is now infrastructure and audience to represent a potential product opportunity.

2.3 State vs National Governments

A thread throughout the visit was the significant autonomy of Indian state governments from the national government. This gives state authorities, such as Telangana (Hyderabad) or Karnataka (Bangalore), the ability to assign significant long-term resource and budget allocations in support of very targeted local strategic development – delivering economic impact, ecosystem growth and infrastructure construction.

⁶ www.iplt20.com

⁷ www.whatsapp.com

3. The Immersive Technologies Landscape

The current immersive technology landscape in India can best be described as embryonic. But, as in many countries around the world, there is a strong belief in “not if, but when” – and that this technology will form a significant future market. However, no organisation appears willing to, publicly at least, put a figure on the likely revenue growth in the market (our group asked Google directly several times).

YesBank⁸ (an Indian challenger bank with a strong media profile) characterised the immersive sector issues as:

- Awareness: consumer access low, investors deem the opportunities too risky.
- Infrastructure: access to hardware issues.
- Funding: no scale to production.

Restricted hardware availability means that there is no real high-end HMD (Head Mounted Display) market at present – costs are too high for the consumer market and PC penetration is limited; Vive⁹ and Oculus¹⁰ models are not even on sale in India. As a result, the notation “VR” when applied to a description of creative content is often in fact 360^o video.

There are exceptions in the visibility of a small market for location-based experiences, whether brand activations on cinema chains (e.g. PVR) or VR arcades within retail environments and even more high-end outsourced projects producing VR content for an international client.

However, the position for Enterprise VR production was markedly different.

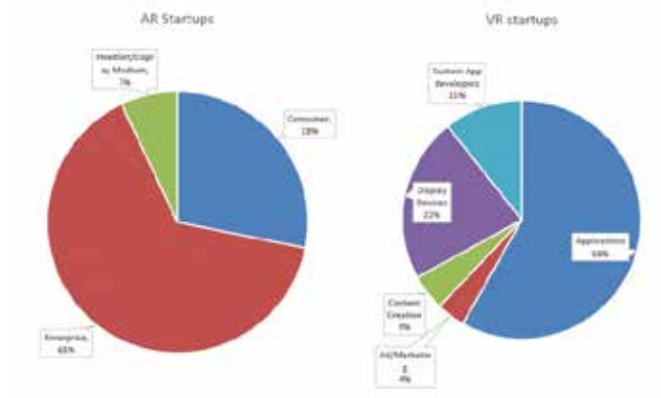
A consistent feature of Indian start-ups met during the Expert Mission was that their approach to VR was focused on enterprise models – training, healthcare, education, defence. This was particularly true away from the media industry in Mumbai. Estimates are that the VR landscape is currently 80% enterprise and 20% entertainment, but that balance felt even more purpose-dominated in Hyderabad and Bangalore. Two reasons were given for this trend:

- Revenues – simplistically, given that there is no scale market in entertainment VR, start-ups need to look for a client base which will return revenues in the short term. Defence and particularly the private hospital/healthcare sector represent tangible client markets.

- “Bigger problems” – a rather pithy response to a question on this subject was “growing up in India we see bigger problems”, with immersive tech being a way to generate significant efficiencies and real-world impacts rather than just entertain.

This slide from Ideaspring Capital¹¹ reinforces the picture:

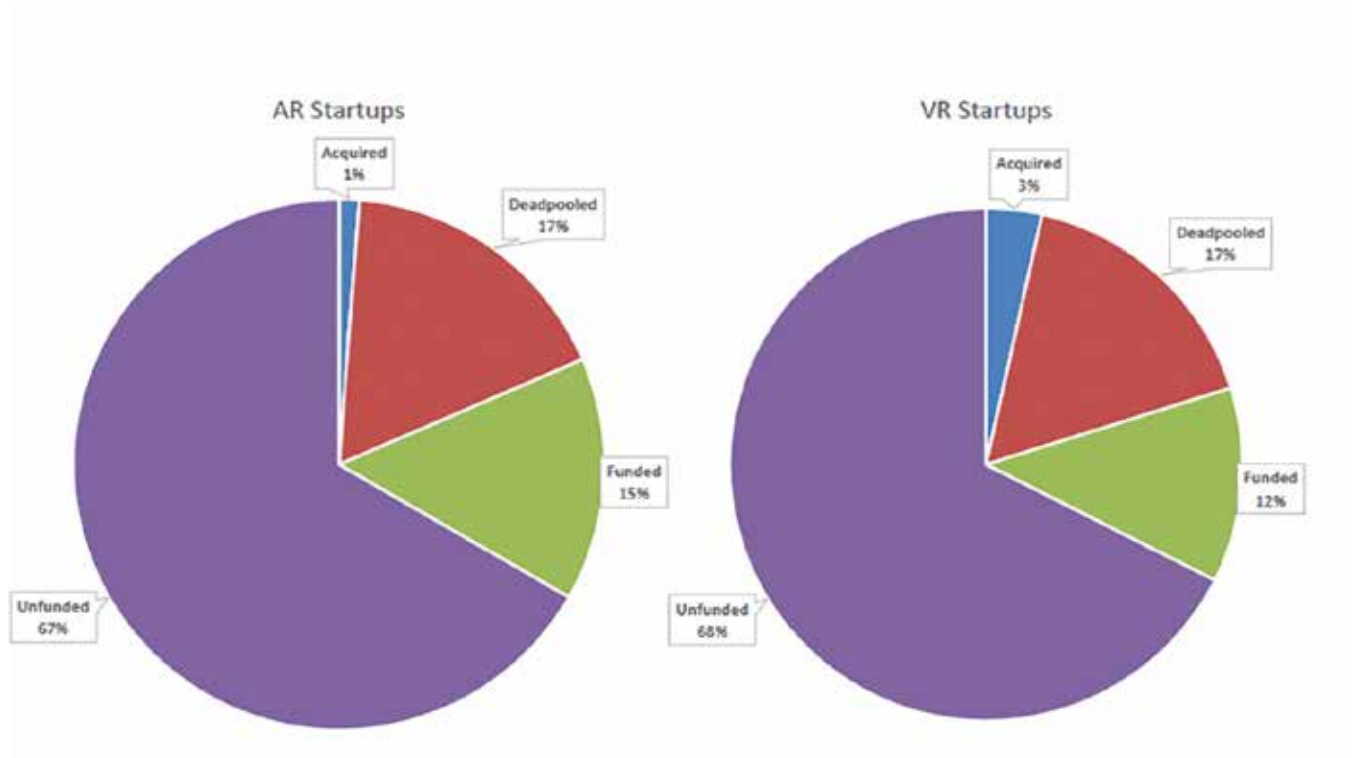
Domain wise distribution



Ideaspring also provided an interesting insight into the maturity of the start-up landscape for this sector, with limited investment appetite at this stage ahead of the emergence of an addressable market.

⁸ www.yesbank.in
⁹ www.vive.com/uk
¹⁰ www.oculus.com
¹¹ www.ideaspringcapital.com

Current status



While the slides above cite AR start-ups, our experience was that AR was to some extent conspicuous by its absence, with only some very basic deployments shown – the clear, compelling use cases, especially within a consumer market, appear yet to emerge.

The 2017 Growth Enabler report¹² highlights their 15 top Indian VR/AR start-ups, dominated by solutions for training, education and real estate/construction with the AR examples focusing on retail. It does, however, also note that AR has the potential to grow faster than VR over the next five years. Clearly, this is a challenging market for start-ups, and in Hyderabad, in particular, some of the signifiers of a supportive developing ecosystem were in place:

- A Facebook-sponsored VR accelerator which took nine Indian start-ups (from 90 applicants) through a 14-week development programme.
- The Bonfire VR community which brings together nearly 390 people active in VR in the city to collaborate and share experience.

¹² www.growthenabler.com

4. Insights

Over the course of the programme, the Expert Mission delegates were able to identify a coherent set of insights, creating a broad understanding of the environment and overview of the key conditions and initiatives which will influence the future of this emerging creative technology sector. These insights have been set out below against headings of market, interventions and skills.

4.1 Indian Production Market

Across the visit there were specific takeaways related to content production and immersive platforms.

4.1.1 Content

The content market is, in the main, very internally-focused, driven by the requirements of the home market rather than any strategic intention to export. Work on international content tends to be a function of fulfilment within international partnership relationships – especially in animation and VFX.

Engagement with content and advertising tends to be very personality driven rather than revolve around specific intellectual property. The position of the influencer is well-established and the principle of leading marketing with a Bollywood star (e.g. Shah Rukh Khan or Amitabh Bachchan) or cricket star (e.g. Virat Kohli), is in constant evidence. There is limited brand engagement within the VR/AR space at present and TV remains the dominant route for advertising spend, despite a 30% year-on-year growth of digital advertising.

The speed of change across India is tangible – this is a young nation, soon to be the most populous on the planet, which is experiencing a revolution in communications. It has a tendency to “leapfrog” technologies and the leap from 2G to 4G currently underway will have fundamental changes across consumer services and behaviours. For example, as we left India, Walmart bought a majority stake in leading Indian e-commerce business Flipkart for £12 billion.

The CEO of Ramoji Film City¹³ indicated his response to the changing landscape, with an investment plan for fifteen mobile TV channels in multiple languages, branded E-Television and with a focus on education and film.

Notwithstanding the above, low disposable incomes and the predominant subscription model rather than one-off payments pose logistical difficulties for incoming businesses, both in localisation of business model and price point.

4.1.2 Immersive

The current market for VR in India is embryonic, with some very real constraints. For example, the costs of head mounted displays and lack of retail availability means that consumer VR is very much 360°-video-content-focused. There is some London-based entertainment penetration in cinemas and malls (Smaaash¹⁴, Wonderla¹⁵, PVR¹⁶) providing an entry point for computer-generated imagery (CGI) or room-scale VR experiences – in some ways similar to the US in seeding a market.

Outside of the major media rights-owners enterprise, rather than entertainment, is the major focus of activity with innovation looking at defence, healthcare, education, visualisations and training. This is partly the existence of a tangible client base and, anecdotally, an awareness of “bigger problems” that predicate a desire for societal change outcomes.

According to key software production tool, Unity, the key missing ingredient is “killer content” – but an example of a mobile game with 15 million monthly active users was held up as an exemplar of the right content beginning to open up a market.

Reflected by one of our delegates: “TV is still the dominant form of entertainment, and a mass market switch to games and immersive is still a way off – which is good news as it represents an opportunity in an emerging market with large numbers of potential customers.”

¹³ www.ramojifilmcity.com

¹⁴ <https://smaaash.in>

¹⁵ www.wonderla.com

¹⁶ www.pvrcinemas.com

4.2 Interventions

Grouped below are targeted interventions, at a series of different levels, which the Expert Mission identified as seeking to catalyse strategic development in India - impacting either directly on the immersive technology opportunity or the wider supporting infrastructure.

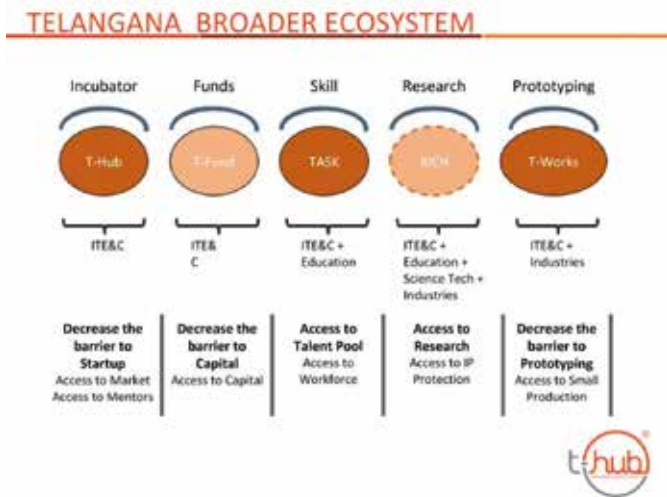
4.2.1 State Government Investment

State governments in India have significant autonomy on policy and budget from the national government. This affords them leeway in the development of strategic campaigns of activity in support of specific local sector growth.

Telangana state government (with Hyderabad as the main city) has three types of investment which are good examples of intervention models:

1. Direct investment - mainly in capital infrastructure.
2. PPP – public/private partnerships with developers but with strategic goals and long-term break-even strategies.
3. Incentivising programmes – grant investments against ICT/AVGC policy tailored to the individual company.

These models of investment underpin an overall vision which seeks to intervene across a broad range of targets to build out the entire ecosystem, as outlined in the figure below.



Similarly, in Bangalore, the Karnataka State Government has developed an Innovate Karnataka policy (modelled in part on Innovate UK) to drive strategic interventions. For example, their Elevate or K Tech Now initiatives which are designed to take ideas to prototype in the creative and technology sectors.

Infrastructure is a major factor in city development at this

scale – and all three cities were constructing major metro system expansions – but the T-Fibre initiative¹⁷ in Hyderabad displayed an interesting view of a country building both basic utility and future potential simultaneously. In the process of providing clean drinking water to 40 million citizens, they are laying last-mile fibre connectivity at the same time as water pipes.

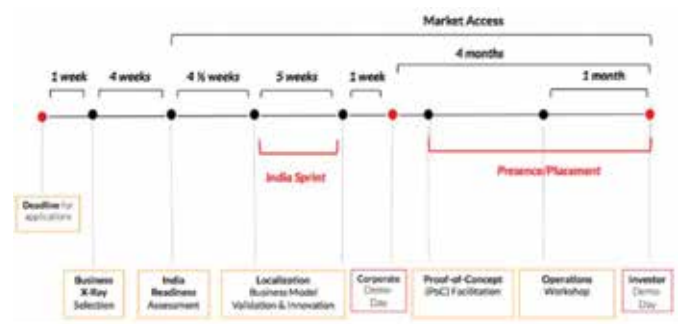
4.2.2 International Partnerships

In all cities, we found a strong willingness to look at the benefits of international partnerships in order to move their emerging creative technology sectors forward – and the potential for a commercial win/win for both parties in strategic alliances which afford supported access to a two-way market opportunity.

Some existing models are in place which could form the framework for quick development of productive relationships. For example, T-Bridge, based out of T-Hub in Hyderabad¹⁸, is a programme which has the following three elements:

- India market access support (with advice and “sprints” on localisation).
- A co-creation programme with 3-month bilateral development seeking solutions to a sponsoring corporate problem.
- Bilateral exchange of people and ideas as part of a collaborative knowledge share.

India Market Access Bridge



After a visit in February 2018, The Landing in Manchester has established an MoU with T-Hub to explore a Manchester-Hyderabad T-Bridge¹⁹. The intention is to establish the type of exchange and support framework described above between two organisations which display similar profiles, in terms of start-up support and available facilities.

Similarly, the Knowledge Corridor model in Bangalore²⁰ looks for international collaboration on skills, soft landing,

¹⁷ <http://it.telangana.gov.in/sectors/telangana-fiber-grid-t-fiber/>
¹⁸ www.t-hub.co
¹⁹ <https://t-hub.co/t-bridge>
²⁰ <http://startup.karnataka.gov.in/wp-content/uploads/2018/04/GIA-Updates-V1.pdf>

innovation funding and knowledge exchange. For example, an agreement is in place with the Netherlands focused specifically on cybersecurity and elderly healthcare.

The India Centre of Immersive Media²¹ in Mumbai has yet to put agreements in place but is actively interested in partnership approaches which deliver its vision to be the centre of thought leadership dialogue around immersive and the catalyst for development in an emerging market. In addition to strategic input (for example on Women in Tech) there is a desire to create a joint IP prototyping/co-design programme.

4.2.3 Start-up Development

Indian state governments are putting significant investment into start-up initiatives – matched to a national government Start-up India policy. In each city we found public sector funding for programmes or infrastructure in support of the development of new, often tech-enabled businesses:

- In Hyderabad, T-Hub is already India’s largest accelerator, and the Telangana Government is supporting the development of Image Tower. This mix of office space and tech facilities will also be the site of T-Hub 2, a 300K sq-ft £20 million investment to host 1,500 start-ups – it will be the largest accelerator in APAC with construction starting end 2018. MediaCity²² Manchester was cited as an inspiration for the wider development.
- In Bangalore, NASSCOM has a substantial base as part of a national programme looking to support 10,000 start-ups by 2020 (5,200 so far). There are now five Wework’s²³ in the city catering to this more agile company growth pattern.
- In Mumbai, ISDI is running an accelerator with very strong links to industry and academia in supporting start-ups from development to market.

In addition, the national Design4India²⁴ policy (we saw in Bangalore but also in Mumbai and Delhi, with links to Pune and Hyderabad) has a vision of building a resilient design ecosystem including academia, government, industry and start-ups.

As one delegate noted the “potential impact of the major start-up investment in Hyderabad and Bangalore over a five-to-ten year timeframe could be really significant.”

4.2.4 Corporate Development

Activities within the major international corporates were more recognisable to the group and felt more likely to have the scale and resource to be able to shift a substantial change.

- Tata Elxsi’s²⁵ use of immersive technology in product design and brand engagement is recognisably the transition of a company with a strong CGI background onto a new platform.
- At Technicolor²⁶, the servicing of c.65 VR projects in the last year for group companies like The Mill and MPC did not have a market impact in India but have contributed to the development of a substantial skills base.
- Tech Mahindra’s²⁷ experimentation with 5G and AI-driven photogrammetry points to an innovation strategy with a global view and impact.

Closer to the consumer market, Star TV’s experimentation with 360° within their IPL cricket coverage and interactivity via their Hotstar app²⁸ were a perfect example of the opportunity and the challenge – and that significant scale is required to address.

Star²⁹ has the rights to all domestic cricket in India and paid £4.6 billion for a five-year deal - 85% of the global cricket economy resides in the country, and it is the major attention driver, particularly IPL. Star’s 360° coverage of IPL is optimised for a download speed of 1-2MB in recognition of the likely available bandwidth (seen as max 4MB). It concentrates on providing a compressed view which is about delivering a sense of the atmosphere in the stadium, with a small “pop up” window at the bottom of the screen providing better quality on the actual detail of the play. This IPL season they have delivered 4.5 million streams of 360° content and have a weekly audience of over 200,000.



Their Hotstar mobile app has 130 million downloads and is experimenting with interactivity e.g. watching cricket in

²² www.mediacityuk.co.uk

²³ www.wework.com

²⁴ https://design4india.in

²⁵ www.tataelxsi.com

²⁶ www.technicolor.com/create/immersive-vr-ar-mr

²⁷ www.techmahindra.com/DAVID.html#index1

²⁸ www.hotstar.com

²⁹ www.startv.com

portrait mode reveals a prediction game on the live stream where guessing the outcome of the next ball correctly wins emojis and vouchers, and the best player each IPL game wins a car.

A subscription for Hotstar including all IPL and Premier League football is c.£2.50 per annum. So whilst they are experimenting with the form and delivering significant numbers, the ability to drive a price point is difficult at scale.

YouTube India also highlighted corporate experimentation in this space. The music video Mera Joota Hai Japani feat. Arjun Kanungo³⁰ is a 360° piece highlighting multiple different fashions worn by the two characters. It instructs the viewer to move around the scene with messages on screen (e.g. “look left”) in order to get across the principles of control. The video has 10 million views and was funded by Indian e-commerce giant Flipkart³¹. Another example is a partnership with Mahindra Racing “Experience Formula E Excitement In 360°”³² which has had 30 million views.

4.3 Skills

An exchange between Indian participants in our Mumbai workshop highlighted an interesting dynamic when it comes to skills development. There is a clear concern that India is seen as the “digital sweatshop for the world” – a perception which is not necessarily true in practice, but changing this view is seen as a key requirement for the Indian industry in re-educating the wider international market (for example 25% of the world’s graduates are Indian). The experience of some of those on the mission with a prior view is that the technical skills base for this sector has improved rapidly over recent years.

Public-private partnerships form the key skills interventions for state governments, concentrating on building facilities which create a focal point for access to resource and technology. Both Bangalore and Hyderabad are establishing Centres of Excellence for skills development in AVGC and, by extension, immersive content.

These represent substantial investments in generating the conditions for a consistent pipeline of talent into a growing industry. As an exemplar, the upcoming Bangalore Centre of Excellence in AVGC, a partnership with industry association ABAI, has received £3.5 million funding from the Government of Karnataka. The vision is to accelerate skills development

in emerging technologies by providing access to shared resources (e.g. rendering solutions or motion capture) – with the economies of scale and public intervention also allowing these facilities to be made available to external studios, further developing the professional cluster.

The India Centre for Immersive Media (ICIM) in Mumbai had a similarly blended support framework, which they defined as:

- Endorsers e.g. FICCI, Nasscom.
- Funders e.g. government and industry.
- Partners e.g. creators and VR community.

All contributing to the provision of a space for experimental development and the capacity for collaboration to upskill across a broad view of VR/AR applications.

FICCI also cited a separate future plan for an IIT (Indian Institute of Technology)³³ the elite academic institutions in India for AVGC.

In parallel, it is standard for technology businesses to establish their own training courses and provision in-house, in evidence at both Tata Elxsi and Technicolor. This has the dual effect of ensuring that their new intake is both familiar with their production software and processes, and also engenders a company loyalty. There is a limited culture of freelancing in this segment of the industry, so growth comes from full-time recruitment and necessitates internal skills progression.

And finally, two slightly different views from academic institutions:

- A visit to the major film school in Mumbai highlighted a less urgent approach. Whistling Woods regarded the craft of 360° filming and immersive animated content as still unproven and at an experimental phase. For them, the strategy was to aim at 2020 as the year when the models of production would be clearer, and therefore a form of established practice and universal standards could be expanded into the curriculum.
- A contrasting more strategic, and interestingly broad, view came from the Institute of Art Design & Technology in Bangalore which had a particular focus on the concept of “creative capital” – the incorporation of art and design ideas within development work and the value of driving creative design approaches to technology-enabled innovation.

³⁰ www.youtube.com/watch?v=AtvaurDuhAk

³¹ www.flipkart.com

³² www.youtube.com/watch?v=kkqoFUsoxaQ

³³ https://en.wikipedia.org/wiki/Indian_Institutes_of_Technology

Conclusion

The impression of the group was of a country in a state of rapid transformation, which is opening up a wealth of new opportunities. In conversation, our Indian hosts felt there was real value in understanding the UK’s crucial ability to experiment in an emerging market. The contention, although maybe open to challenge, was that India is less experimental and more likely to “learn from and then adapt”.

Potentially another way to express a similar perspective is that there are limited local use cases for these new models of communication, and therefore exemplars and best practice from elsewhere help both make a market and highlight potential development directions for the future.

For UK businesses, notwithstanding the significant challenges of localisation, the disruptive impact of over 500 million 4G-enabled mobiles in particular - and the knock on for immersive (VR and especially AR), gaming, e-commerce, digital marketing and film/TV content distribution – represents a huge new market opportunity.

Assertions at this stage are based on limited evidence, but there were a series of broad conclusions which the delegation was able to draw:

- Mumbai is the most western-facing city and the commercial and entertainment capital, but state support and the strategic needs of other cities visited drives an openness and motivation to collaborate within very well-defined and structured development strategies.
- There is an extraordinary commercial opportunity developing due to the rapid expansion of digital mobile connectivity, but at present no clear use cases which access that potential at scale.
- It would be easy to be distracted by start-up culture, and so might be more effective to target larger corporates who can affect real change – especially incumbents whose markets are being disrupted.
- Indian participants regarded UK content creators as demonstrably ahead of the curve and therefore potential strategic partners in expanding the Indian market for all.

- There appear to be tangible connections to be made at academic research and training levels, for example around a desire to transition from pure IT to design-led thinking, or the emergent content production skills for an immersive tech future.
- The existence of models in place for prototype co-design as creative equals is a potential opportunity - there are significant insights to be gained from access across cultures and product localisation.

One of the Expert Mission delegates neatly encapsulated the position:

.....

“There are lots of challenges - access to latest hardware, infrastructure, bandwidth, investment into content, training, undervaluing of creative skills and lack of confidence in any ability to take the lead. However, every single one of these things is changing rapidly. This is the right time to get involved if we want to build something together.”

.....

Annex 1

List of UK Participants

BIMA	https://www.bima.co.uk
Bristol VR Lab	https://bristolvrlab.com
Crossover Labs	http://www.xolabs.co.uk
Framestore	https://www.framestore.com
Innovate UK	https://www.gov.uk/government/organisations/innovate-uk
KTN	https://ktn-uk.co.uk
Kuju	https://www.kuju.com
Motion Impossible	http://motion-impossible.com
Opposable Group	http://opposablevr.com
Skignz	https://www.skignz.com
Vision 3 Ltd	http://vision3.tv
vTime	https://vtime.net

India Participants

APAC, Unity Education & Centre of Excellence (Unity 3D)	https://unity3d.com/coe
BhasinSoft	http://www.bhasinsoft.com
Bonfire VR community	https://www.meetup.com/BonfireVR/
British Deputy High Commission Hyderabad	https://www.gov.uk/world/organisations/british-deputy-high-commission-hyderabad
British Deputy High Commission Mumbai	https://www.gov.uk/world/organisations/british-deputy-high-commission-mumbai
British High Commission India SIN & DIT	https://www.gov.uk/world/organisations/uk-science-innovation-network-in-india
Centroid3D	http://www.centroid3d.com/contact
CreatFX	http://creatfx.com
Cusmat Technologies	http://www.cusmat.com
Design4India	https://design4india.in
Famous Studios	http://famousstudios.com
FICCI	http://ficci.in
FusionVR	http://www.fusionvr.in
GatewayVR	http://gatewayvr.io/#1
GoLive Games	http://golive.games
Google - Mumbai	https://www.google.com/about/our-company/ https://india.googleblog.com
Government of Karnataka	http://www.karnataka.gov.in/English/Pages/k-departments.aspx
Government of Telangana, Information Technology & Communications Department	http://it.telangana.gov.in
HotStar	https://www.hotstar.com

IdeaSpring Capital	http://www.ideaspringcapital.com
India Centre for Immersive Media (ICIM), Indian School of Design and Innovation (ISDI)	http://www.isdi.in
Innov4sight Health	http://www.4sight-health.com
Loop Reality	https://loopreality.com
MerakiVR	http://merakivr.com
NASSCOM	http://www.nasscom.in
PerspectAI	https://perspect.ai
Raesta	
Ramoji Film City	https://www.ramojifilmcity.com
Red Chillies	http://www.redchillies.com
Rotomaker	http://rotomaker.com
Screenyug	
Star TV	http://www.startv.com
Stumagz	https://www.stumagz.com
T-Hub	https://www.t-hub.co
TATA Elxsi	http://www.tataelxsi.com
Technicolor	https://www.technicolor.com
Whistling Woods International /Film City	https://www.whistlingwoods.net
WTA Studios	http://www.wtastudios.com

