

Forward March

Technology is increasingly driving the filmmaking process, from special effects to the content supply chain itself. What's the next big surprise?

NAMIT MALHOTRA

**FOUNDER, EXECUTIVE CHAIRMAN AND GLOBAL CEO,
PRIME FOCUS WORLD**

When **Box Office India** asked me to look back at my career and document the seven major changes that I have witnessed in the technology of cinema for this special 7th Anniversary edition, it made me consider anew just how much our industry has changed since we set up Prime Focus almost 20 years ago.

Technological advances have touched and changed almost every area of our lives over the last two decades, and the same is true for the technology of cinema. And so, rather than include 'sea-change' moments such as the introduction of sound in cinema, or the transition from black & white to colour (my grandfather, the noted cinematographer Shri M N Malhotra, shot India's first colour movie *Jhansi Ki Rani* in 1956), I'm going to focus on the major changes that I have witnessed first-hand during my own journey, and the impact that these changes have had, both on my company and on our industry.

1. THE INTRODUCTION OF DIGITAL INTERMEDIATE

At Prime Focus, we pride ourselves on always being at the forefront of cutting-edge technology. Since our earliest days, we have always recognised the importance of staying ahead of the curve, and we have a proud history of adopting and utilising new tools and technologies – from high-end finishing systems, to HD cameras, to motion control rigs. But the first major change on my list would have to be the completion of India's first Digital Intermediate in 2003.

Digital intermediate, or DI, has changed the way filmmakers approach the post-production process. The time saving and artistic benefits of working from a single digital master may be taken for granted these days, but back in the early 2000s, when we were putting together the first DI workflows in India and bringing over India's first Discreet Lustre system, the idea of scanning and finishing an entire feature film digitally was a new

concept for many of our clients.

It quickly became clear, though, that this was a revolutionary new process, that allowed more powerful colour grading, advanced keying and tracking, easier dust-busting and a smoother integration of visual effects, as well as pipeline robustness and workflow efficiencies.

And as more films began to shoot digitally, we've never looked back. Over the last year alone, we have delivered DI services on over 60 Bollywood movies, including *Mohenjo Daro*, *Bajirao Mastani*, *Fan*, *Dilwale*, *Prem Ratan Dhan Payo*, *Brothers* and many others.

2. THE RISE OF VISUAL EFFECTS

The Indian Visual Effects (VFX) industry has transformed almost beyond recognition in the last few years as domestic VFX companies adopt new technologies, techniques and pipelines, driven in some instances by the outsourcing of work from Hollywood. Movies such as *Bahubali – The Beginning*, which is cited as being 90 per cent VFX work, and recent blockbusters that Prime Focus has delivered such as *Bajrangi Bhaijaan* and *Prem Ratan Dhan Payo*, are testament to the fact that filmmakers are employing visual effects more effectively than ever before, feeding the demands of Indian audiences for bigger, better and bolder visual experiences.

Bollywood has yet to fully embrace the big VFX movie experiences that Hollywood creates, but as someone who has been at the forefront of VFX in India for over a decade, I can tell you that VFX has become an integral part of the Indian filmmaker's arsenal, and an essential tool in helping them to tell their stories.

The nature of the films that we produce in Bollywood is such that VFX is deployed in support of the storyline, and is generally invisible to the viewer, in contrast to the more 'in your face' effects of many Hollywood films.

VFX allows filmmakers to achieve shots that would be otherwise impossible to



film, either logistically or financially, and as technology advances and the creative vision of more and more of our talented filmmakers is able to be captured on screen, I can say that I am extremely proud to be at the leading edge of this VFX revolution

3. CREATING THE THIRD DIMENSION

Prime Focus is the largest and most prolific provider of stereo 3D conversion services in the world. We deliver the 3D theatrical versions of some of the biggest Hollywood movie releases, employing thousands of artists here in India, and our work has entailed the creation a 3D knowledge base and suite of proprietary 3D technology that is second-to-none.

We even have a US patent for our stereo processes and tools, and we were the first company in the world to deliver the full stereo conversion of a major Hollywood movie. Furthermore, the resurgence of 3D filmmaking, kick-started by the release of *Avatar* in 2009, has brought Hollywood studios advantages such as additional revenue per ticket, and the prevention of piracy.

And yet India has not yet embraced the technology in the same way that the biggest international film markets such as the US and China have.

Is this because of a lack of infrastructure

investment in 3D cinema screens, or poor projection quality resulting in an inferior experience, or just lack of interest from the cinema-going public? Whatever the reason, I urge Indian filmmakers to reconsider the 3D format in terms of the creative opportunities that it opens up, and ask distributors and theatre chains to look again at the continuing international success of 3D.

4. VIRTUALISING THE CONTENT SUPPLY CHAIN

When we set up Prime Focus Technologies (PFT) in 2009, we had a clear vision of the future possibilities and opportunities for content owners in the Media & Entertainment industry, and we set about building a platform that would revolutionise the way they work.

The realisation of this vision came for me in 2011, with the announcement that STAR TV had commissioned PFT to deploy the world's first integrated, multi-platform content operations infrastructure specifically for broadcasters, based on our CLEAR™ technology platform.

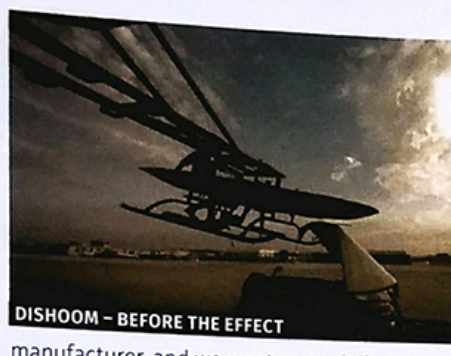
This allowed STAR TV to not only drive operational efficiencies within its organisation, but also to take more creative control of its content, and leverage the opportunity to monetise new multi-platform delivery models.

In the last five years since STAR TV's great step forward, we have seen many more content owners come on board and roll out our transformational solutions to virtualise their business processes around content, and CLEAR now manages over 1.25 million hours of content, and 10 million files of Syndication and Video on Demand fulfilment every year, working with more than 300 clients globally.

5. ANIMATION AND THE IMPORTANCE OF INTELLECTUAL PROPERTY

Animation in India has leapt up the value chain over the last decade – from a traditional outsourcing model to creating its own intellectual property – and we have seen hits such as Harry Baweja's *Chaar Sahibzaade* and TV series *Chhota Bheem* enjoying great success.

Prime Focus launched its own animation offering in 2012 to work on a major broadcast series for a global toy



DISHOOM – BEFORE THE EFFECT



DISHOOM – AFTER THE EFFECT

manufacturer, and we went on to deliver 41 x 22 minutes of full CG animation for the property over the next three years. This special relationship continues, and we are now delivering four full broadcast seasons of another property for the same client, as well as many other projects.

We are also currently in production on two animated feature films, one of which is *Chaar Sahibzaade – The Rise of Banda Singh Bahadur* for Harry Baweja. This 120-minute fully CG-animated movie will be released in 2D and 3D, and we're hopeful that it will replicate the success of its predecessor.

This type of 'home-grown' animated content and IP is vital to the future of the animation industry in India, and government initiatives such as 'Make in India' and 'Digital India' have helped to provide a renewed focus on animation, with studios beginning to realise the advantages of owning and monetising their own content.

6. TRANSFORMATIONAL PARTNERSHIPS

2014 was a transformational year in the life of Prime Focus, which elevated us into the position of being the world's largest integrated media services group. First, we announced our partnership with Double Negative, one of the world's leading VFX companies, closely followed by the announcement that Reliance Group was combining its global film and media services business, Reliance MediaWorks, with Prime Focus Limited. Then Prime Focus Technologies announced the acquisition of US technology company DAX, owner of the Primetime Emmy® award-winning Digital Dailies® production solution.

These transactions were positive proof of our success in building Prime Focus from a four-man start-up in a garage in Mumbai to an international powerhouse

playing on the same field as the biggest in our business. I am proud to say that Double Negative has gone on to win two Academy Awards following the merger.

This may be seen as a change that is very specific to Prime Focus, but it highlights the importance of industry partnerships and consolidation to enable growth and the move to the next level. And so it stays on my list!

7. THE NEXT BIG TECHNOLOGICAL CHANGE

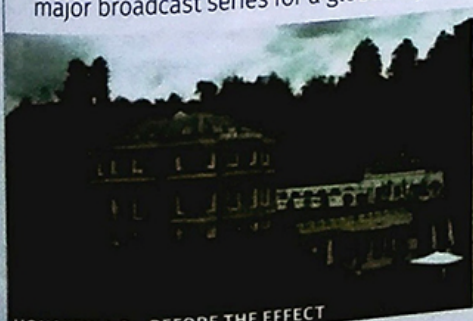
One thing you can be sure of when you are working in our industry is that the next big technological change is just around the corner. The skill is in being ready to accept change, identify viable opportunities, and then capitalise on it effectively. So what new technologies are heading our way?

One exciting new technology that we have recently been involved with is the Barco Escape theatrical format. Digital Cinema leader Barco has developed this immersive, ultra-wide screen format in an effort to encourage audiences back to cinemas by offering an enhanced theatrical experience that cannot be replicated in the home.

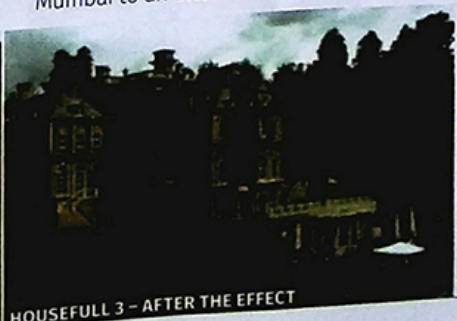
We provided VFX content for the Barco Escape release of *Star Trek Beyond*, and the experience is compelling – both for audiences, who are drawn into the action in a whole new way, and for the filmmakers who are presented with a much broader canvas on which to create.

But perhaps the biggest technology opportunity, and certainly the most talked about, is Virtual and Augmented Reality. This new market is forecast to grow exponentially over the next few years, and Asia is seen by many as a prime growth driver in this field.

Of course, there are many transferrable skills, processes and technologies that can be exploited between VFX / stereo conversion and VR, and the creative challenges are just as exciting as the technological challenges. We've recently announced our intention to form a joint venture focused on VR and advertising in India with Digital Domain Holdings Limited. This is an exciting time in this space, and the opportunities are there for the taking. It will be very interesting to see how this plays out over the next few years.



HOUSEFULL 3 – BEFORE THE EFFECT



HOUSEFULL 3 – AFTER THE EFFECT