# FILMMAKING 2.0 THE EVOLUTION OF REAL-TIME VFX FOR TRADITIONAL FILMMAKERS

...AND OTHER EMERGING SOLUTIONS IN THE FILMMAKER'S VIRTUAL PRODUCTION TOOLBOX



## Filmmaking 2.0 A responsive framework for films, episodic and other narrative visual media productions

- How advances in responsive and collaborative workflows are changing the process of ideation, content creation and story development
- How this is different from traditional VFX workflows
- The significance of the *flexibility* AND visibility this brings to pre-production
- Production Strategies Real-time VFX vs traditional VFX solutions
- The cohesive integration of pre, production and post content development
- Some thoughts on the growing impact of AI in this mix. Keeping it all in perspective



## Filmmaking 2.0 A responsive framework for films, episodic and other narrative visual media productions

It's not about using shiny new tools just for the sake of it. More directly, it's about about allowing directors, DP's and other key creatives to work in organic ways that support what they already know how to do; empowering them to work with more freedom and control, to explore and refine their work in efficient, meaningful ways, and to give more visibility of that process to the other stakeholders and collaborators.



## Filmmaking 2.0 Promoting Confident Methodologies & Production Strategies

The effective use of Virtual Production tools and workflows has the potential to be hugely impactful on how filmmakers strategize their approach to projects. Even for non-vfx films, the ability to visualize how you are going to approach the filming of actors, action and locations can be the difference between getting the shot that tells your story, and squandering your time on set trying to figure out how to accomplish the shot you're after.



## Filmmaking 2.0 Meaningful Director Informed Advance Visualizations

For VFX oriented projects, the value of various aspects of the virtual production workflow are even more impactful. All too often, the director may not see meaningful versions of the team's work until very far into the post-production schedule, when there is either no time left to make anything but minor adjustments and/or the funds available for those adjustments have already been used on less informative iterations. An effective Virtual Production workflow can be key to avoid ending up in this situation.



## Filmmaking 2.0 **Establishing Common Terminologies and Concepts**

- The integrated Art Department
- Real-Time vs Responsive vs Near-Time vs Offline

 What do we actually mean when we say Virtual Production? Virtual production actually is VFX (but with limits - for now) Preproduction VFX - traditional VFX meets Virtual Production The many flavors of Visualization (rethinking 'pre-vis')



# DNEG + DIMENSION

# **DNEG**



#### GODZILLA-KONG THE NEW EMPIRE





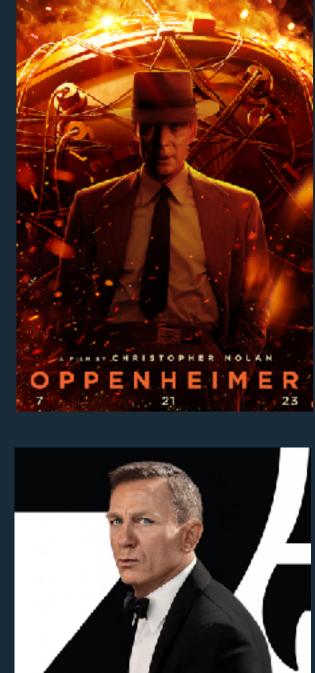




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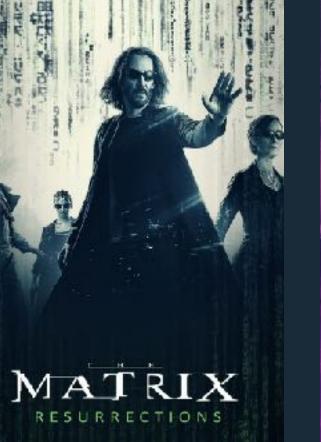


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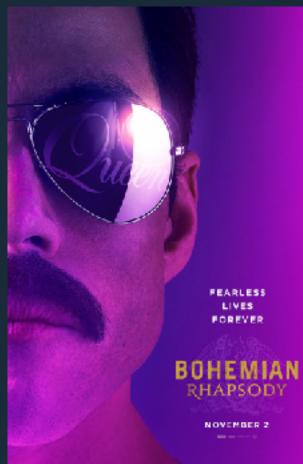
















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## TIME BANDITS



# "FILM-MAKING IS THE ULTIMATE TEAM SPORT"

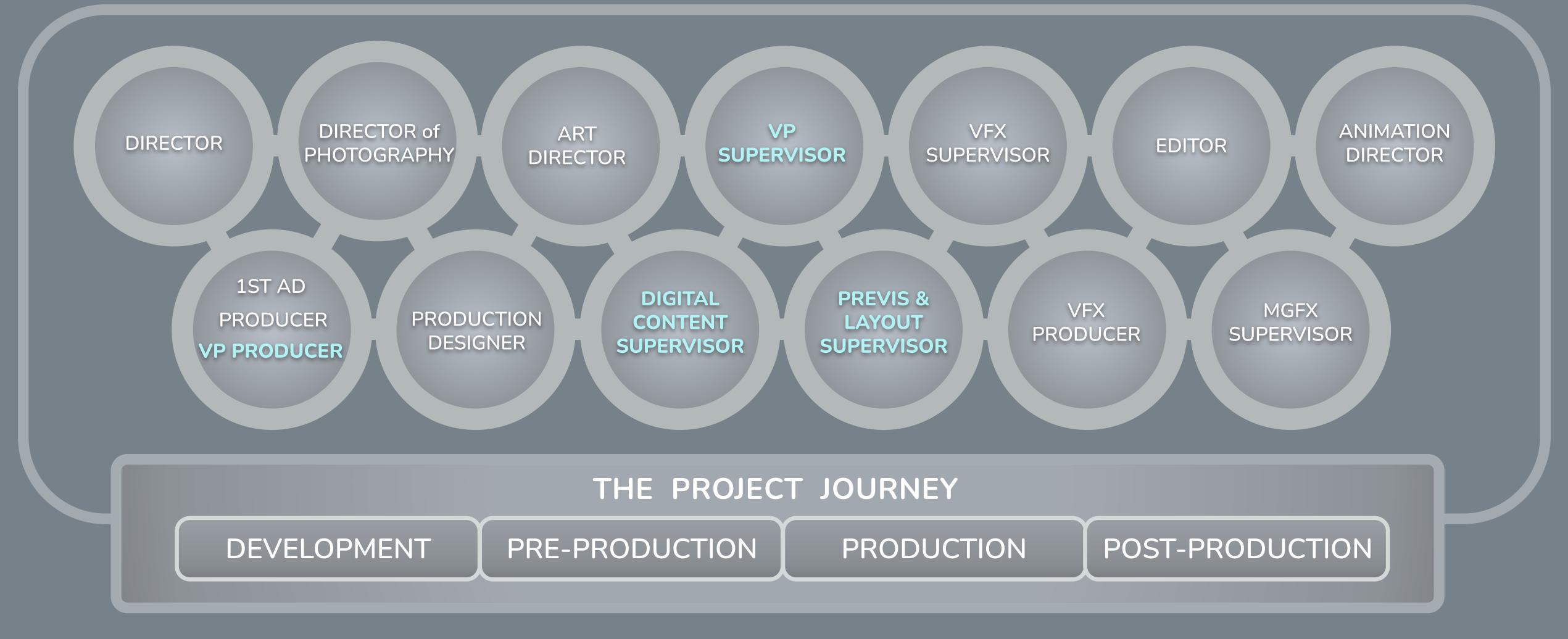
Michael Keaton

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## A Client Team (Film-TV-Media Production Company)

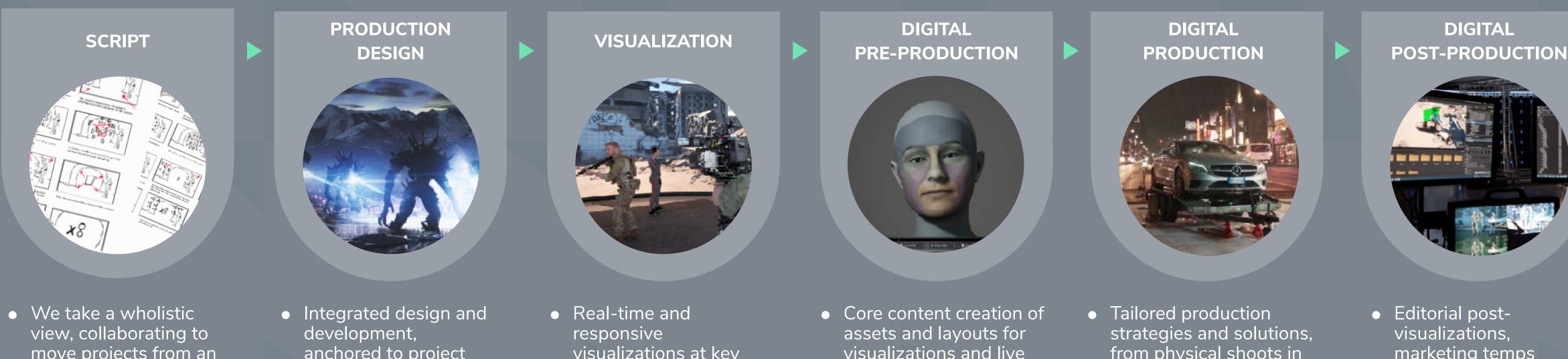
An effective virtual production workflow brings additional roles into the client team mix with collaboration of key contributors across the creative journey.





## The Evolution of the Script-to-Screen Workflow

From the initial script, through development, pre-production, production and post, the integration of real-time and responsive tools and workflows can influenced every aspect of the filmmaking process; in particular how we approach the integration of both real-time and off-line visual solutions into that process.



- move projects from an idea to a strategized, costed production aimed at targeting the most productive mix of solutions.
- anchored to project requirements for both the physical and digital aspects of each production stage
- visualizations at key stages throughout projects; enabling narrative and action development, cinematic design and technical planning

- visualizations and live production, including technical prep. and final QC for various production styles
- from physical shoots in LED Volumes to on-set AR solutions, to virtual cinematography for performance captures
- marketing temps and curated turnover packages for final VFX and DI



## Script Treatment

- Story Development
- Methodologies, Costs & Strategies

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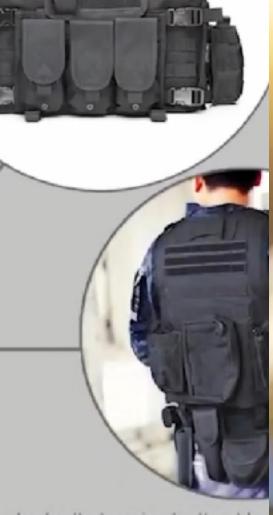
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• Production Development

• Production Designer

Design

- Rapid Prototyping Assemblies
- Front-to-Back Design Support



ed to attach wings to the body

## Production

## **Pre-Production** Visualization

• Integrated Digital Art Department

- Virtual Scout & Block
- Story-Vis
- Cine-Vis Slice
- Stunt-Vis
- Sketch-Vis
- Tech-Vis



## Digital **Pre-Production**

- Digital Captures
- Asset Creation
- Animations & FX Simulations
- Other Pre-Production VFX
- MGFX Components for Live Sets
- Content Review & QC
- Live Technical Rehearsals
- Preflight & QC

## Digital Production

- Pre-Light
- In-Camera Composites
- On-Set Tools for Live Action
- V-Cam
- Performance Capture

## Digital **Post-Production**

- Post-Vis
- Marketing & Promo Temps
- MGFX for Post
- Turnover Packages
- VFX Post-Production
- Extended Media IP Support



## Script (Pre-Green Light)

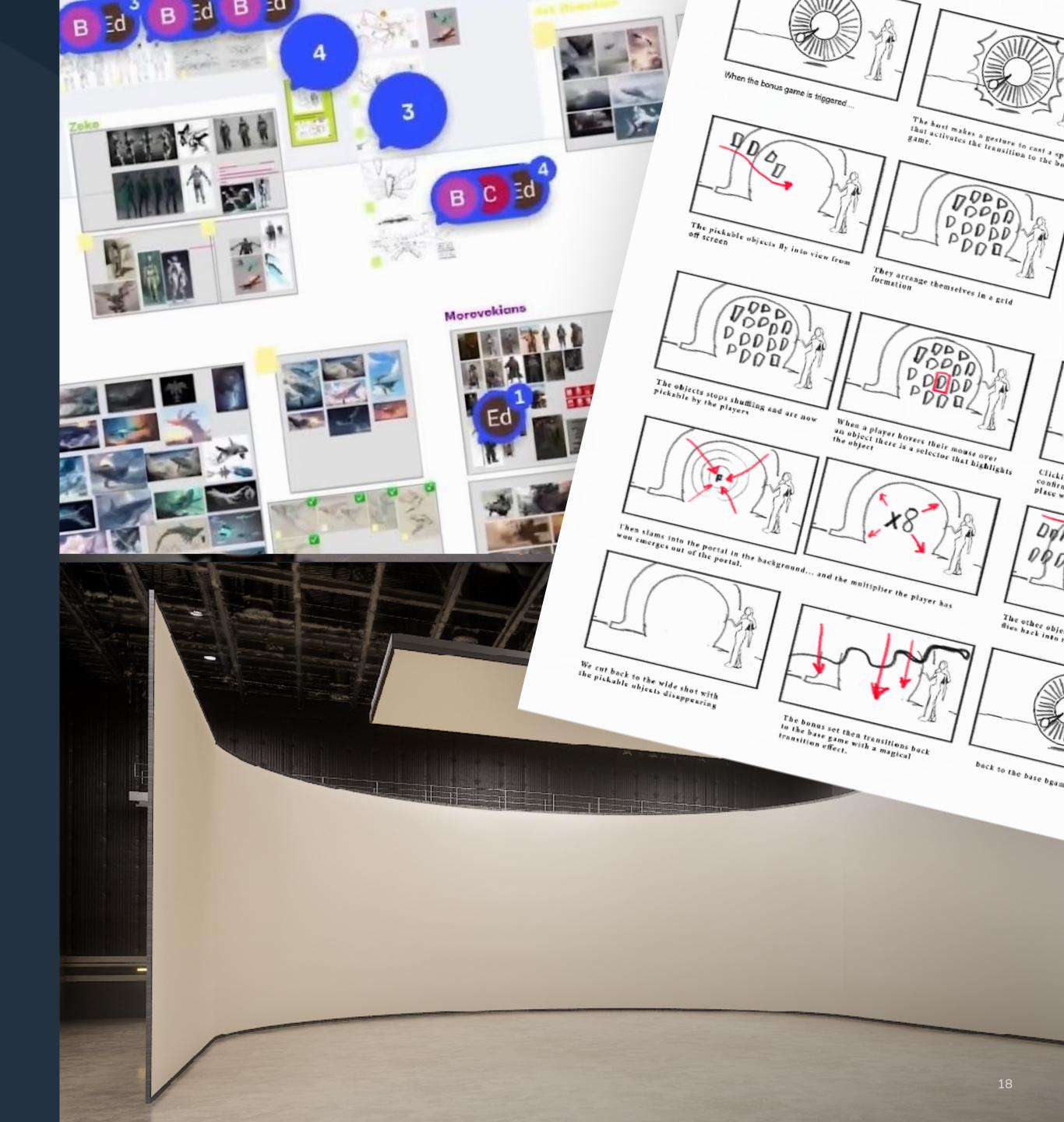
- Story Development
- Methodologies, Costs & Strategies

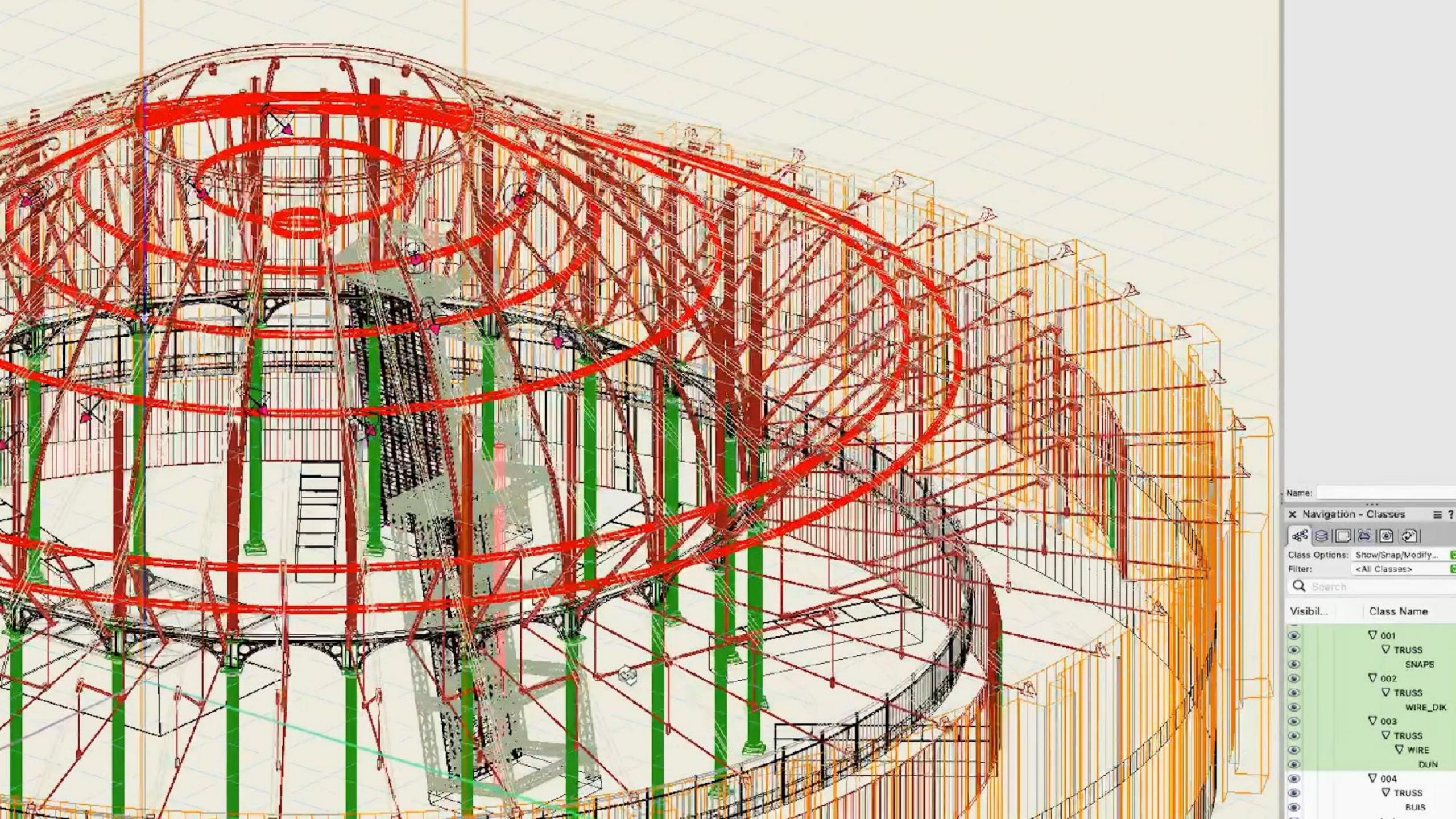
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• Production Development





## Pre-Production Visualization

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- Virtual Scout & Block
- Story-Vis
- Cine-Vis Slice
- Stunt-Vis
- Sketch-Vis
- Tech-Vis





## **Digital Pre-Production**

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- Digital Captures
- Asset Creation
- Animations & FX Simulations
- Other Pre-Production VFX
- MGFX Components for Live Sets
- Content Review & QC
- Live Technical Rehearsals
- Preflight & QC

"In Virtual Production, The Heavy Lifting Actually Starts Before The Cameras Roll"



## **Digital Production**

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- Pre-Light
- In-Camera Composites
- On-Set Tools for Live Action
- V-Cam
- Performance Capture



## **Digital Post-Production**

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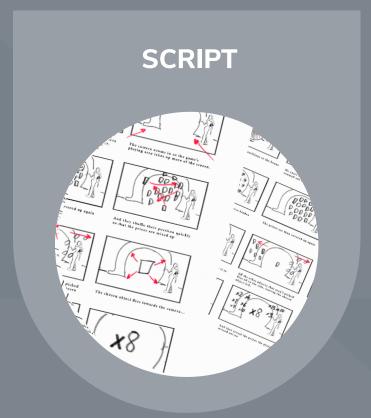
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- Post-Vis
- Marketing & Promo Temps
- MGFX for Post
- Turnover Packages
- VFX Post-Production
- Assets & Dev. Support for Extended Story-World IP



## Script-to-Screen: Virtual Production

From the first script, through development, pre-production, production and post; Dimension x DNEG 360 have end-to-end global capabilities and experience garnered over 1000 virtual production shoot days to date.



- Story Development
- Methodologies, Costs & Strategies
- Production Development



- Production Designer
- Digital Art Department
- Rapid Prototyping Assemblies
- Ongoing Design Support



- Virtual Scout & Block
- Story-Vis
- Cine-Vis Slice
- Stunt-Vis
- Sketch-Vis
- Tech-Vis

- Alignment of Physical & Virtual Art Departments
- Synchronized Design for Real-Time & Post Work

#### DIMENSION

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- Digital Captures
- Asset Creation (Physical & Digital)
- Animations & FX Sims
- Pre-Production VFX
- MGFX Components
- Content Review & QC
- Live Technical Rehearsals
- Preflight & QC

### DIGITAL PRODUCTION



- Pre-Light
- In-Camera Composites
- On-Set Tools for Live Action
- V-Cam
- Performance Capture

#### DIGITAL POST-PRODUCTION



- Post-Viz
- Marketing & Promo Temps
- MGFX for Post
- Turnover Packages
- VFX Post-Production
- Extended Media IP Support

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n Support

Some insights into where rapidly advancing technologies around machine learning and generative imaging fit into the filmmakers toolbox.

Distinguishing between the very specific intent that is driven by creative authorship on professional productions, vs minimally directed AI generated content.

- Story & Visual Ideation
- Al Content Enhancement
- Technical Efficiences such as Data & Content Management

## The AI of it All

Red Flags & Green Flags: Opportunities | Ethical Guidelines & Hazards

Style Transfer & Performance Transfer: Building upon Original Content

Non-Creative Image Used Tasks (i.e. Image Segmentation, Camera Tracking) VFX Post-Production - Machine Learning, Deep Fakes & other assisted content



**D N E G** 3 6 0

## Thank you

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