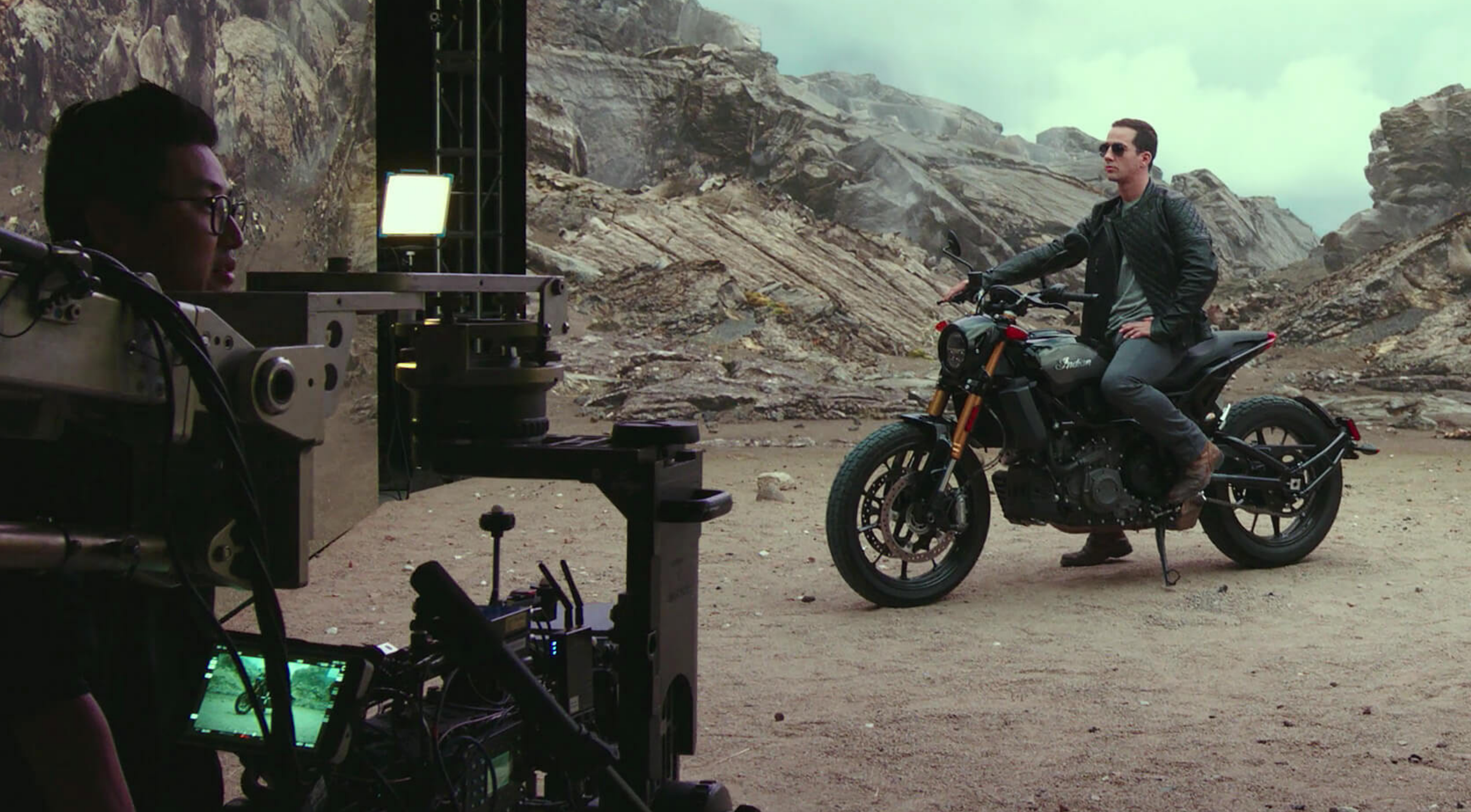


Quicktake

 FTIDELTA™



Lights, ~~Camera~~, Pixels, Action

Where Gaming Meets the Big Screen

Virtual production is paving the way for film & TV and gaming convergence

Virtual production brings the worlds of **physical reality** (film & TV-native) and digital representation (gaming-native) **closer together** in real time through different technologies

TECHNOLOGIES BEING IMPLEMENTED ACROSS **FILM & TV AND GAMING**



Volumetric stage / Volume

Backgrounds projected in real-time leveraging LED screens and gaming engines

Examples:

The Mandalorian (2019),
Thor: Love and Thunder (2022)



Performance / Motion capture

Records movements of real-life actors to create realistic digital characters

Examples:

Thanos from *Avengers: Endgame* (2018), Caesar from *Rise of the Planet of the Apes* (2011)



Volumetric capture

Real-life objects or scenes scanned into a 3D model

Examples:

Coldplay x BTS
My Universe video and live show



3D previs

Virtual 3D models of sets, characters and props for visualization before production

Examples:

Game of Thrones (2011-2019), *Logan* (2017), or *Avatar: The Way of Water* (2022)



Others

Applications of CGI, augmented reality, live chroma key¹, among others

Examples:

Doctor Strange (2016), *Guardians of the Galaxy* (2014) or *Inception* (2010)

¹ Live chroma key application replaces a specific colour in a scene with another image or video.

Sources: Visual Effects Society, Perforce, StudioBinder, No Film School, CG Spectrum, Frame.io, Wrapbook, NewCast Studio, Volucap, Virtualproducer.io, FTI Delta analysis

The industry is successfully pushing creative boundaries by implementing crossover technologies



Gaming using Film and TV native tech



Red Dead Redemption 2 and The Last of Us: Part 2 using **performance capture** to achieve dynamic and realistic, life like character movements



Film and TV using gaming native tech



Game of Thrones (above) using green screen vs. House of the Dragon (below) using a **volumetric stage** (powered by a **gaming engine**)

Virtual production enables transformational benefits, bringing the production value chain closer together



SELECTED BENEFITS

(Non-Exhaustive)

Pre, post- and production integration	Scenes can be fully executed (from pre to post seamlessly) through digital channels, such as instant previs changes on LED screens and real-time VFX overlays during shooting
Improved digital asset utilization	Same 3D models (characters, landscapes) used in a movie can now be imported for use in a new episodic project, game, etc.
Faster decision-making along the production process	Directors can make immediate creative decisions (e.g., remove a tree from the background); actors visualize the scene while performing (as opposed to green screens)
Reduced costs (OPEX and time)	Reduced need to move for scouting of locations or shooting as unique landscapes can be captured within the studio
24-hour industry	Backgrounds can project any location imaginable and shooting is no longer time-bound (e.g., sunrise and sunset filming)

Although there are still significant challenges with virtual production...

(Non-Exhaustive)



High Investment in Changing Tech Landscape

CAPEX for infrastructure, plus additional **OPEX**:

- Overhead & maintenance
- Expensive content generation
- Crew sizes remain the same or higher

Uncertainty on **cost reduction** (e.g., travel costs, reshoots)



Unfamiliarity with Technology

Early stage, **unclear applications/limitations** across productions. Filmmakers still exploring the tech



Change in Workflows

Production pipeline **shift** from post to pre

Earlier commitments (budget, concepts)

New ways of working **disrupting** traditional **workflows** (e.g., unreal engine)



New Talent Shortage

New profiles are needed (e.g., coders, engine artists)

New distribution of crew across stages (e.g., post-production crew involved in production as well)

...the industry holds positive perspectives and is optimistic about the future as talent and tech develops

“

PRODUCTION STUDIOS

“We’re only at the end of the very first cycle of this way of working.”

Managing Director of VFX creative studios

PRODUCTION STUDIOS

“I’m a firm believer of Virtual Production, yet it will take a generational shift in filmmakers to increase adoption.”

Former Physical Production Head of leading streaming platform

GAMING COMPANIES

“Once a team has finalized an asset, they can use it across mediums – linear content, experiential content, games, live events, and beyond. This means that virtual production is inherently preparing us for a new era of entertainment.”

Gaming Engine Director

CREATIVES & OTHERS

We see this kind of tech changing the scope of filmmaking and film budgeting in ways to create movies better, faster and cheaper.”

Screenwriter

”

We can support media/production companies in their virtual production and other tech strategy roadmap



Commercial Strategy

Market assessment and opportunity sizing

Where to play and right to play

Go-to-market strategy



Financial & Business Planning

Business plan and budgeting

Cost/benefit analysis

Scenario analysis



Implementation Planning

Workflows and customer journeys

Implementation plan

Delivery models and vendor assessment

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