GenstarMate MatePlus AVISON YOUNG

STUDIO MARKET REPORT

April 2023

CONTENTS

How the studio thrive in the real estate field in Korea?

As the content industry grows, the idea of developing studios is becoming active in the market.
In the United States, in 2020, investment giant Blackstone began investing in the studio business in partnership with Hudson Pacific.

Going beyond just investing, Blackstone acquired a content production company called 'Hello Sunshine' in 2021 and announced plans to invest around £700 million (approx. KRW 1.1 trillion) in 2022 to build a digital production park in the UK. Blackstone's move is also having an impact on Korea commercial real estate.

Korea is growing in the field of exports of various contents such as games, broadcasting, advertisements, and movies based on K-content, and the production cost per episode is significantly lower than that of Hollywood, making it a very cost-effective environment for production.

Based on this background, various companies including management companies, leading investment organizations, content-based companies such as CJ ENM and YG, and platform companies such as Naver and Kakao, are joining hands to the studio development projects.

In this report, we will analyze the studio development business from the perspective of commercial real estate to see if it can be established as a new investment source in the commercial real estate market, and analyze the current studio supply, operations, and investment potential as of April 2023.

1. Studio Industry Trends

(1) Virtual Production and Virtual Studio

COVID-19 has changed many aspects of life around the world. As countries become more isolated from one another, the field of media content has also changed significantly.

With the difficulty of location shooting and the increasing trend of pre-produced dramas, the development of content production technology has led to the new production method called 'virtual production'.

Image: SKT Team Studio LED VFX Studio

Advantages of virtual production over traditional content creation structures

'Virtual production' is a term that refers to the entire technology and environment that enables simultaneous production by LED wall and special camera effects in real time, and a studio equipped with such technology is called a 'virtual studio'. Virtual studios utilize large LED screens that cover the walls and ceilings of the set to create a variety of backgrounds for video shoots, and are widely used for sports events, games, new launching show of Apple and Samsung, broadcasting presidential election results and etc.

Virtual studios are characterized by time and cost savings. Unlike a typical content production structure that involves post-production work such as CG/VFX after the main production, the simultaneous production and post-production not only saves time and money, but also ensures that the intentions of the original planning stage can be consistently realized and the results can be modified in real time. In addition, various background sets can be created on the fly, which is especially important in a pandemic environment where location shooting has become difficult.

Typical content production structure

Pre-production
(Planning/Preparing for production)

↓

Main production
(Shooting)

↓

Post-production
(Editing / Recording / CG,VFX)

Virtual production production structure

Pre-production
(Planning/Preparing for production)

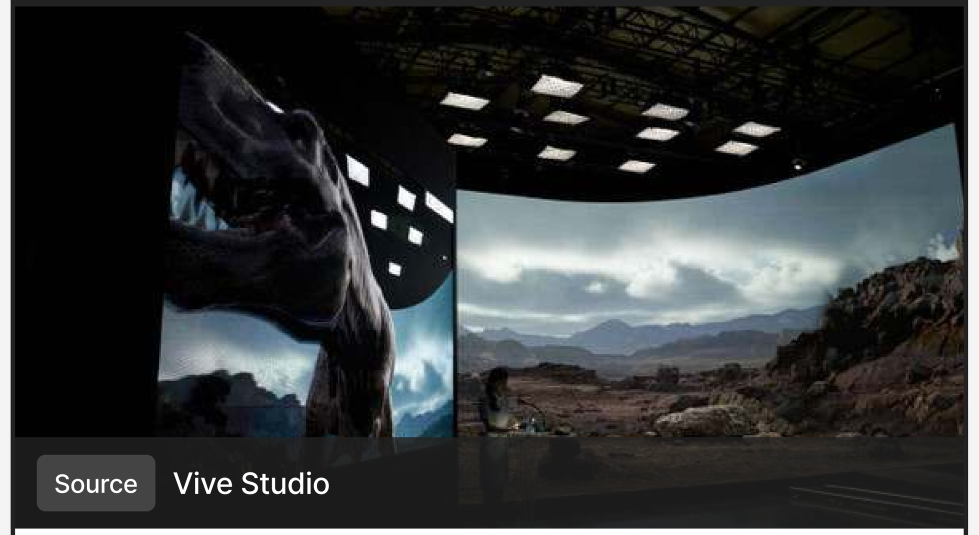
↓

Shooting with CG/VFX simultaneously

Minimize post-production
Editing / Recording / CG,VFX

Virtual Studio terms

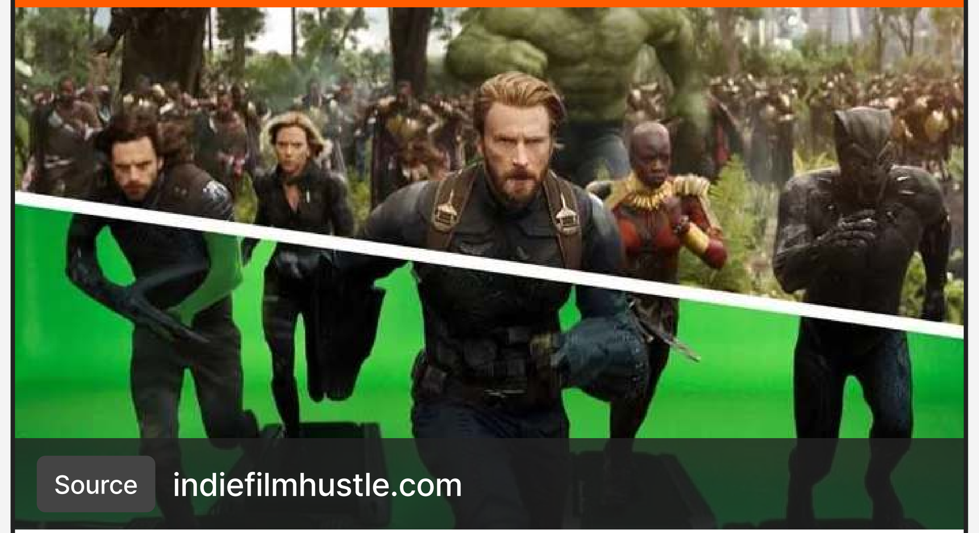
Virtual Studio



Source Vive Studio

A studio with real-time projection of LED walls and the ability to shoot actors and backgrounds simultaneously.

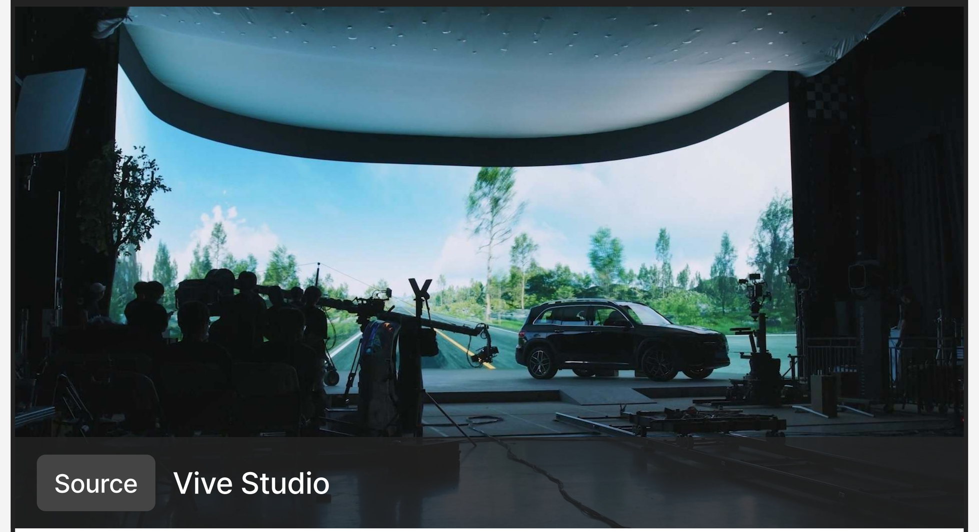
VFX



Source indiefilmhustle.com

Visual special effects. Any filming technique to give special effects to products.

ICVFX



Source Vive Studio

In-camera visual effects.

CG

Source m.cine21.com, ALAMA

A computer-generated graphic image. Universally refers to 3D graphics

XR

Source Bloomberg via Getty Images

Extended Reality

Micro LED

Source Holst Centre

Next-generation displays with better image quality and efficiency than LCD and OLED

(2) Content Market Analysis (Domestic and Global)

Due to the advantages of virtual production, the number of virtual studios is increasing in Korea and abroad. In Korea, not only companies that specialize in producing special visual effects such as Dexter and Giant Step, but also large media content companies such as CJ ENM, telecommunications companies such as SKT, and entertainment and platform companies such as YG and NAVER are jumping into the virtual studio business.

The CG/VFX, etc. are getting emphasized as the increasing production of large-scale blockbuster movies that require special effects. So, the race to dominate the virtual studio market has begun with the predicted high growth of the immersive content industry and metaverse such as VR/AR.

According to market research firm Grand View Research, the global virtual production market is expected to grow from $1.6 billion in 2022 to $4.7 billion in 2028.

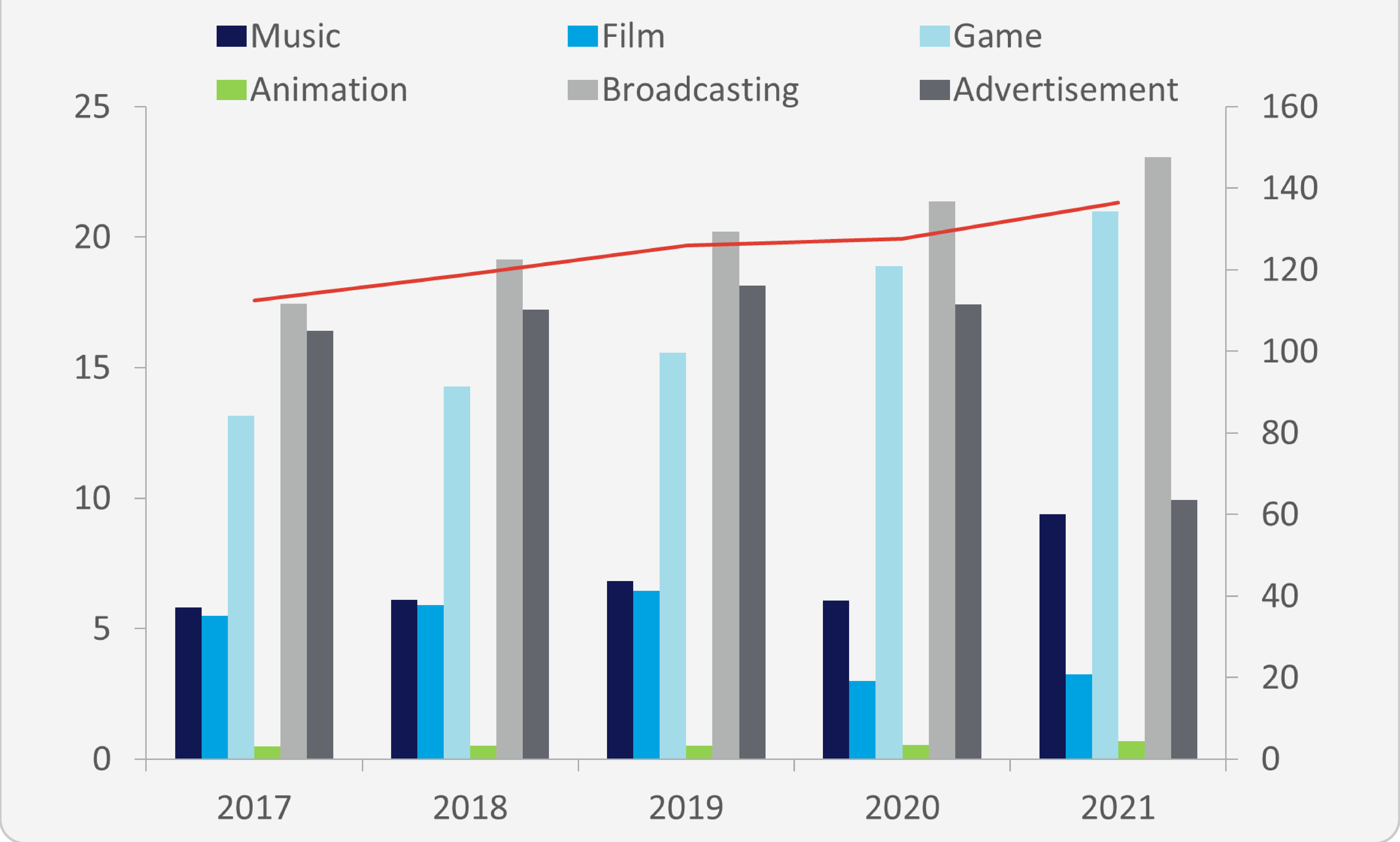
In this situation, K-contents such as ‘Squid Game’ are attracting attention on the global stage, and the domestic content industry is also on the rise. The rising trend of export value and sales can be seen mainly in the game and broadcasting industries, and the export value recorded an average annual growth rate of 9.0% over the four years from 2017 to 2021.

According to the Content Industry Survey released by the MCST(Ministry of Culture, Sports and Tourism), the number of independent production companies* and their sales reached 732 and KRW 4.569 trillion as of 2021, up 9.1% and 15.6% YoY, respectively, proving the high demand for K-content. In the case of representative mid-sized well-known content production companies such as Samhwa Networks, sales increased steadily, and the company even succeeded in turning its operating profit into a surplus after 2020, when external activities were restricted due to the corona pandemic.

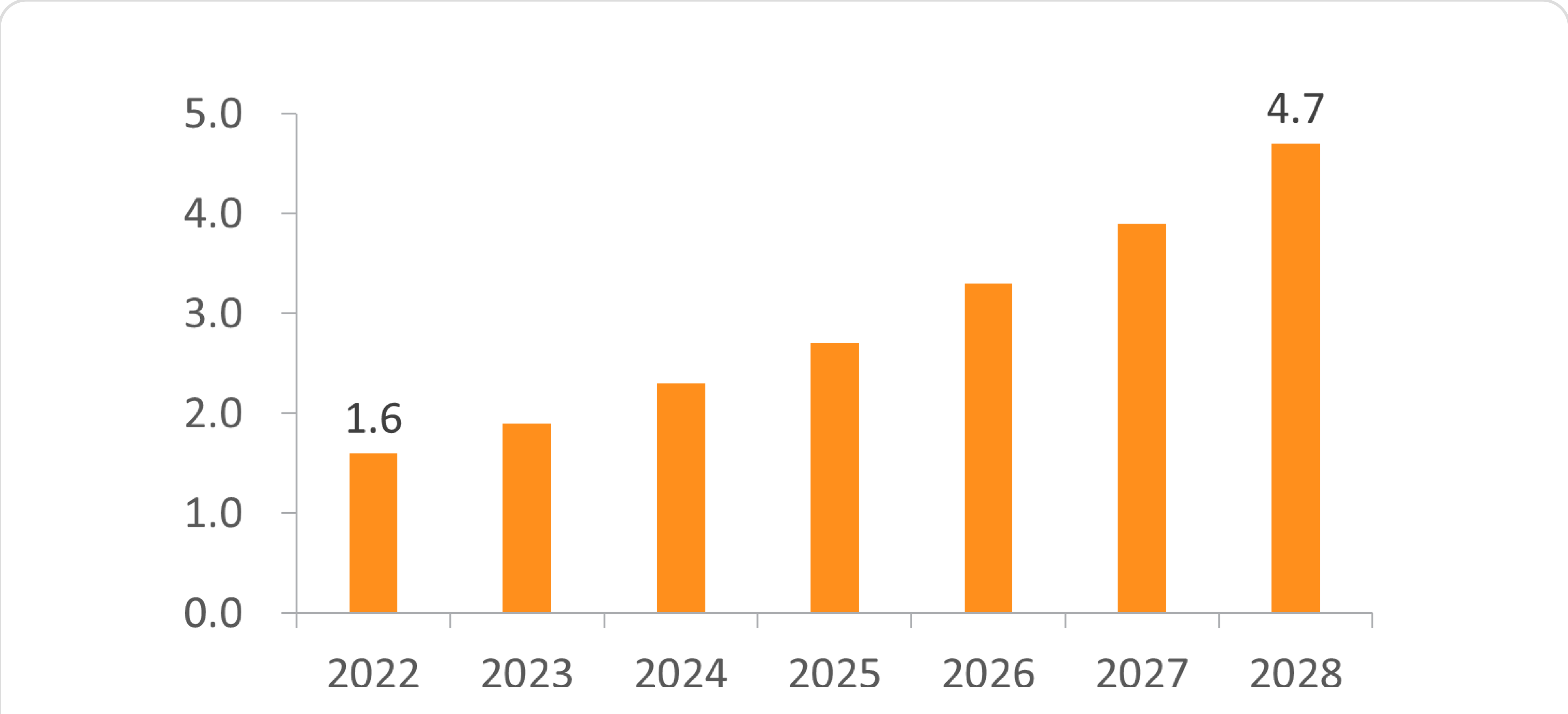
*independent production companies are not part of a large or well-known production company.

Domestic Content Industry Sales (2017~2021, Unit: KRW trillion)

Source: KOSIS



Global Virtual Production Market Size Forecast (2022F~2028F, unit: USD hundred mil.)



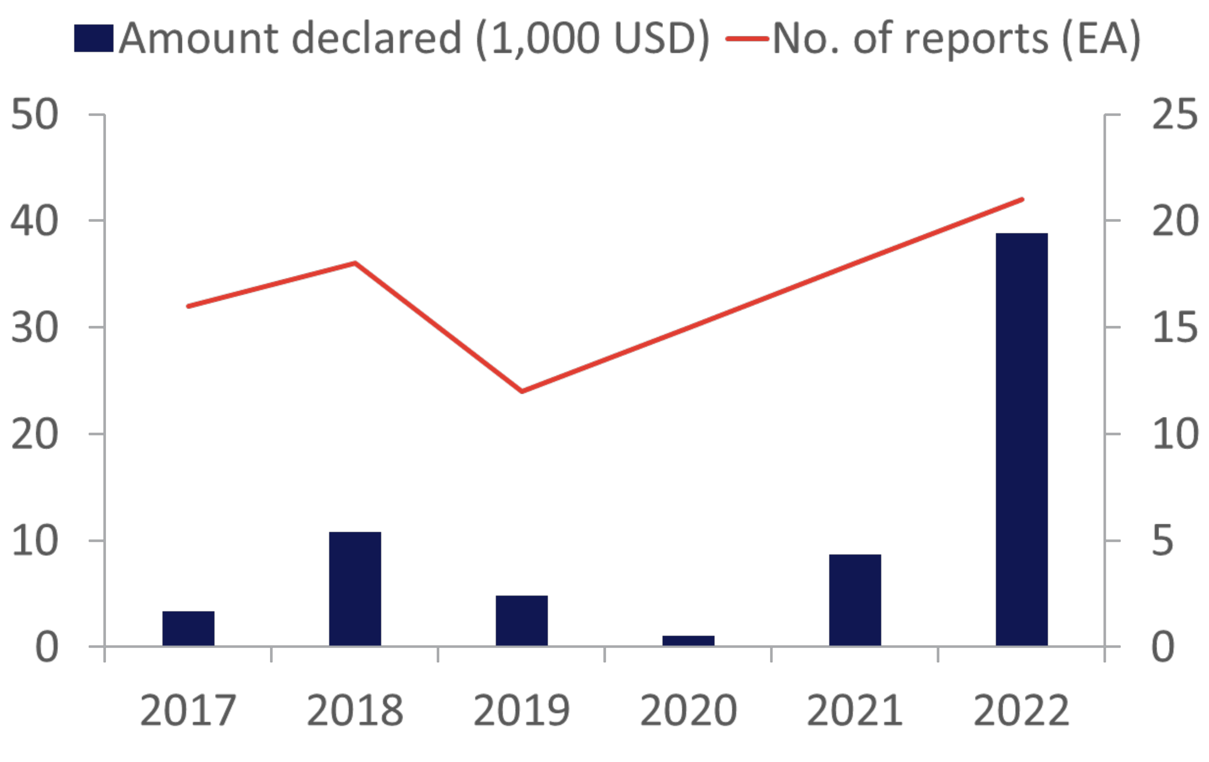
Soutce: Grand View Research

Korean content is booming in the global market, due to the high maturity of the domestic content production market, which enables stable content production and high cost-effectiveness compared to overseas content.

Netflix, a leading OTT company, is estimated to invest KRW 800 billion to KRW 1 trillion in Korea by 2022, as Korean contents have the advantage of being easily accessible to new global audiences, while costing 20 to 30 percent less than Hollywood productions.

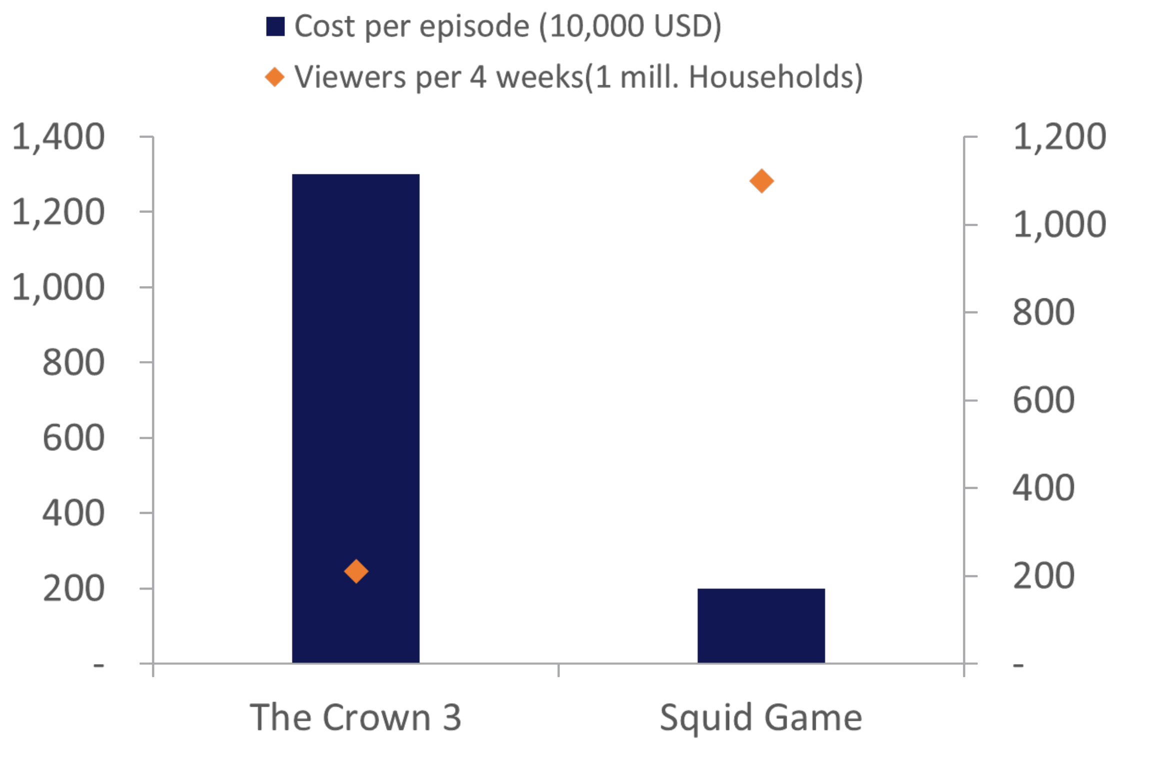
The production and distribution of films, videos, and broadcast programs are expected to receive $388 million in FDI in 2022, the highest amount since 2010.

FDI in related industries (2017~2022)



Source: KOSIS

Netflix Content Production Cost vs. Performance



Source: Netflix, Articles

(3) Content Production Analysis

Domestic content production companies can be categorized into broadcasters, entertainment companies, independent companies, and other production companies based on the characteristics of their parent companies. Broadcasters have built large-scale recording studios in and around Seoul and the Seoul metropolitan area, and most of them are used for filming dramas and broadcasts for their respective broadcasters.

Among the entertainment affiliates, CJ ENM owns the CJ ENM Studio Center in Paju for its own content production, and it is understood that it operates a total of 13 buildings, including LED virtual studios. Other production companies such as SKT and KT, and SKT Team Studio is known to be planning to build a virtual studio in Pangyo 2nd TechnoValley Complex that enables real-time content production that combines telecommunications technology.

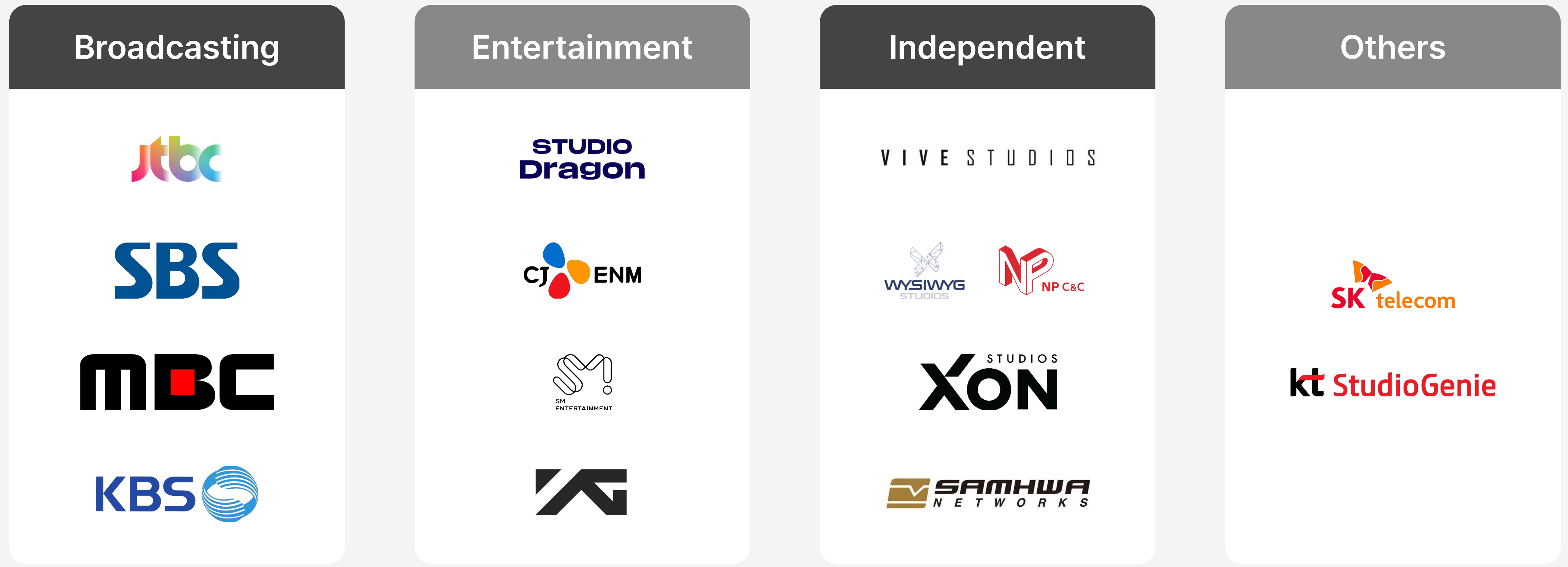
Among various content production companies, broadcasters, video production companies, and digital content production companies are the main ones utilizing virtual studios. Among them, commercials, dramas, movies, documentaries, and music videos are the most common, especially among video production companies.

Excluding broadcasters, operating profits of mid-sized production companies such as Samhwa Networks, Studio & New, and ASTORY have been rising sharply since 2021. In addition to mid-sized production companies, sales of independent production companies that mainly outsource production have also been steadily increasing.

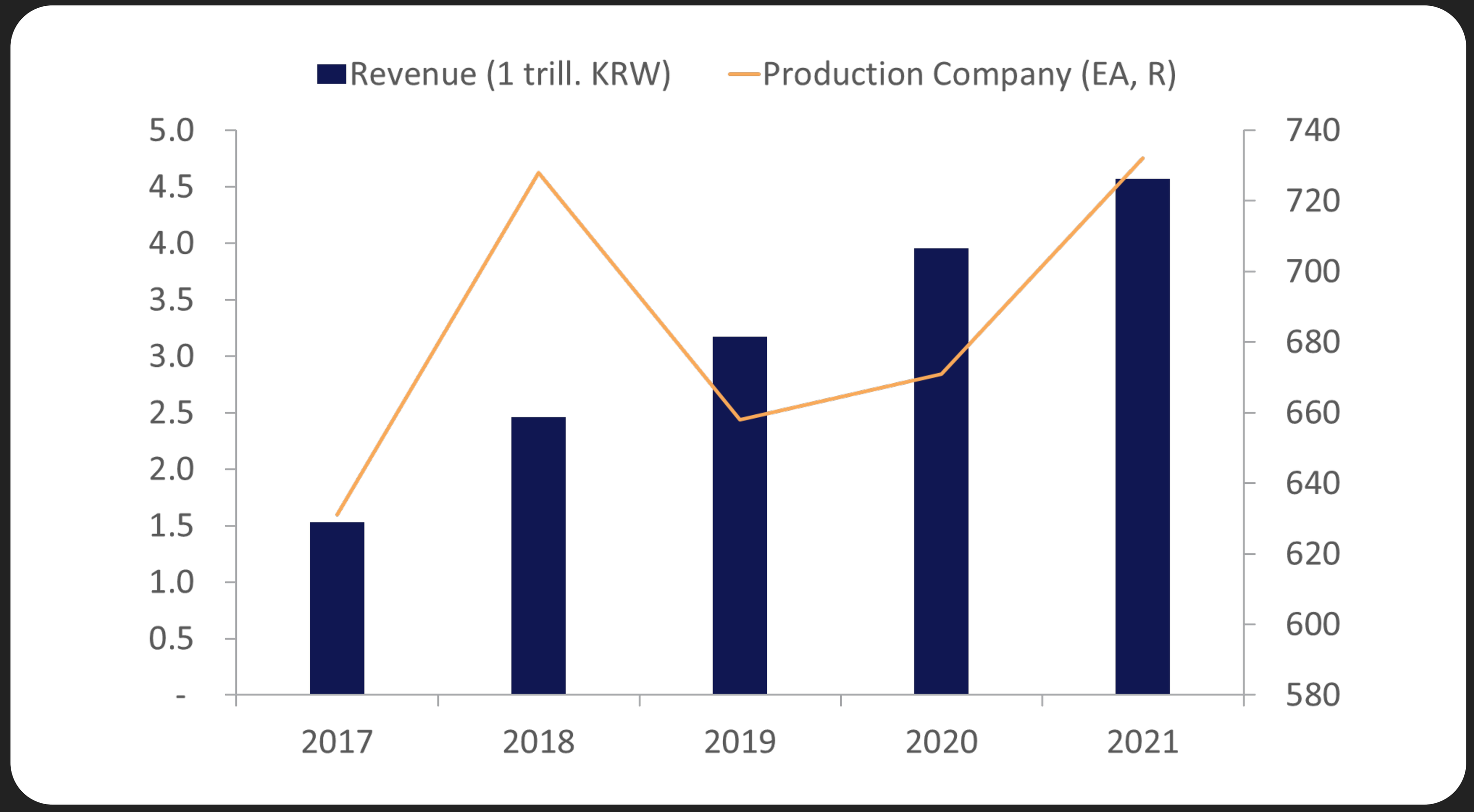
Compared to the development of the content industry, the development of physical studios has been slow. While production companies with their own stations or virtual studios are able to produce in high-quality environments, most small and medium-sized production companies, which are mainly independent production companies, are more likely to produce in poor environments, and there are barriers to entry for them to utilize virtual studios compared to medium-sized production companies.

According to a survey conducted by the Korea Communications Agency (KCA), more than 70% of the reasons for not using virtual production are due to cost and lack of facilities, and 75% of the tenants of Bitmaru Studio, mostly small and medium-sized production companies, expressed the need to build new studio for virtual production. About 41.6% of the tenants said they will use the government's virtual production studio if it is built, indicating that many small and medium-sized production companies need to improve their production environment.

Categorizing domestic content producers

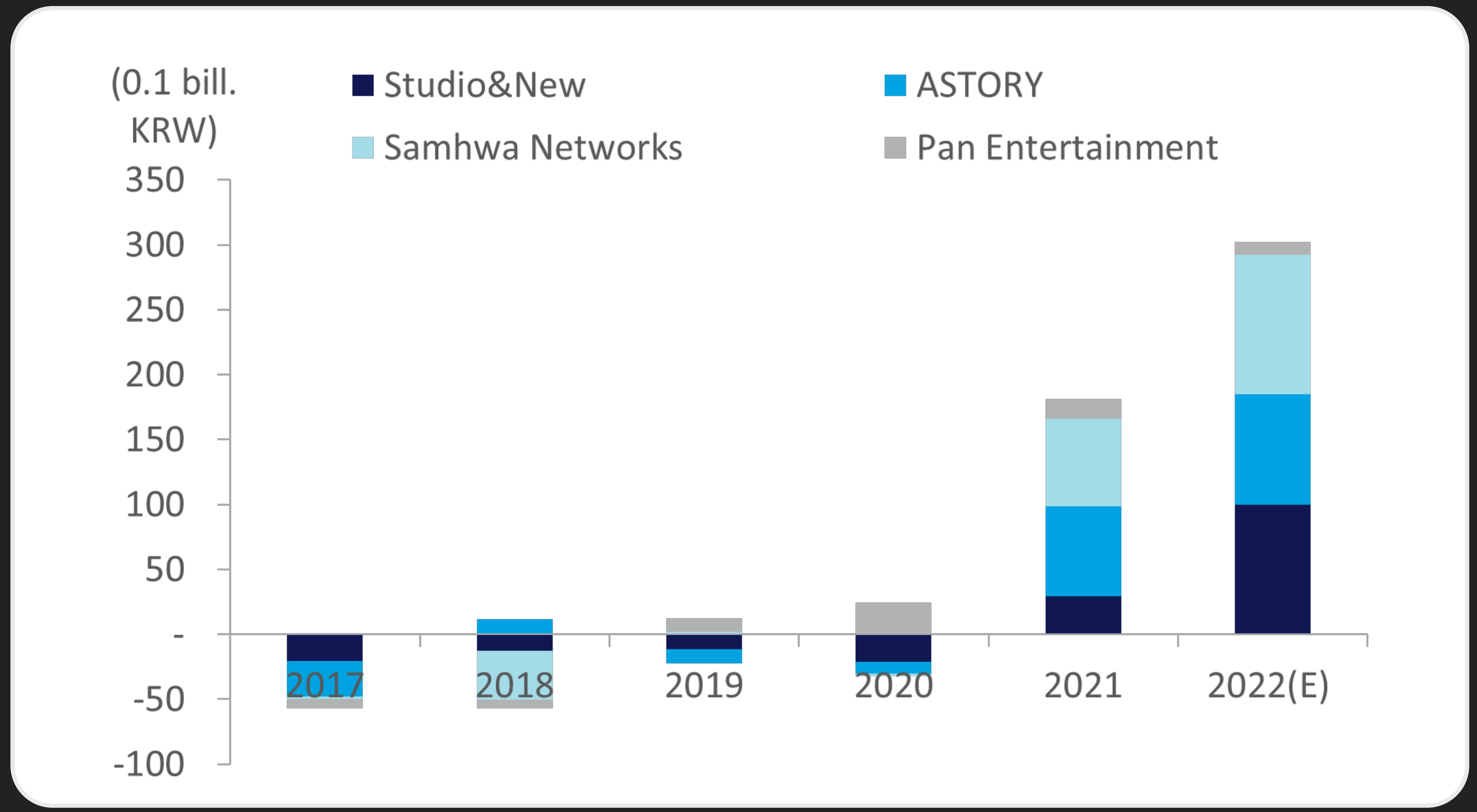


Independent Production Company Revenue and Number of Businesses (2017~2021)



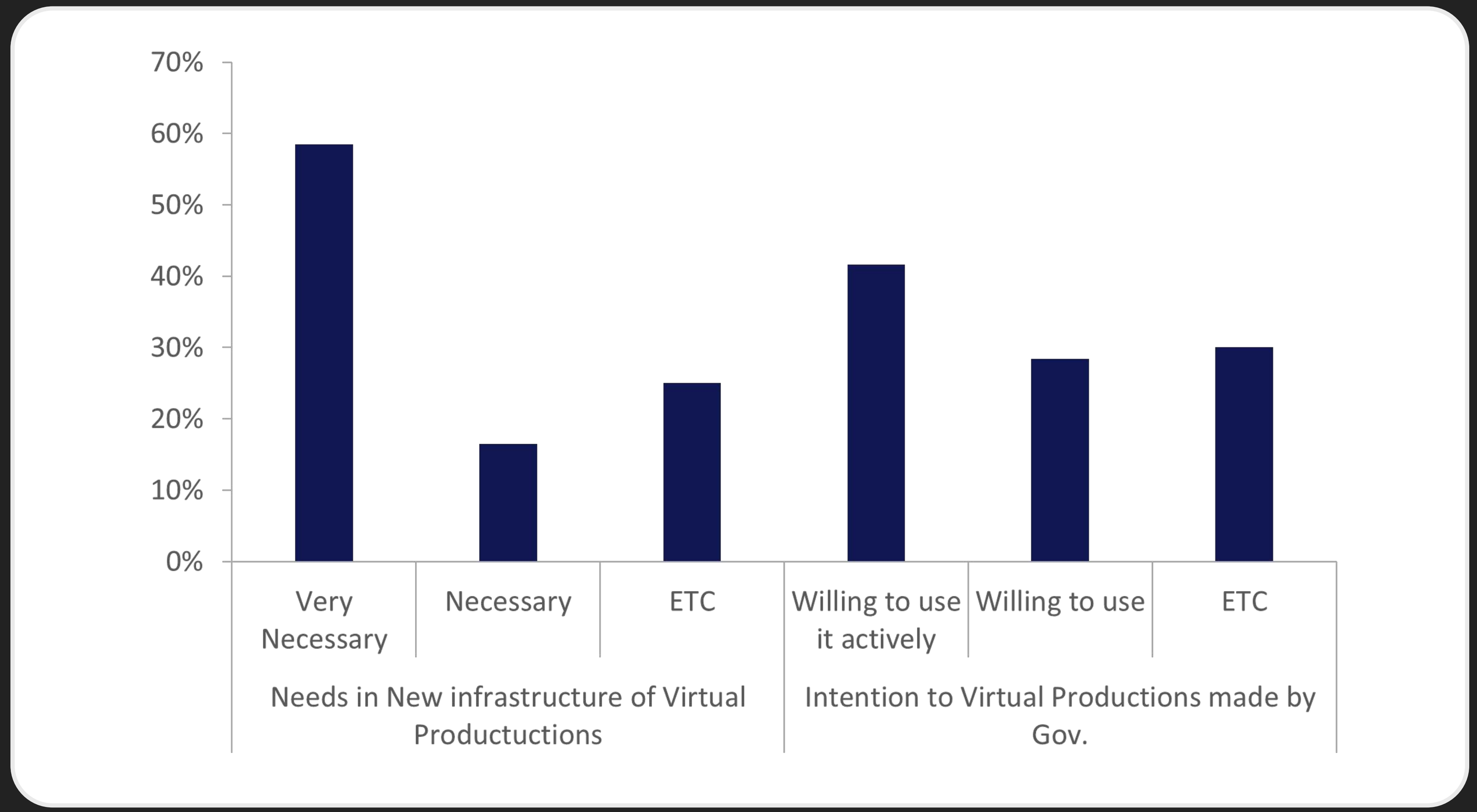
Source: KOSIS, MCST

Midsize Production Operating Profit (2017~2022.E)



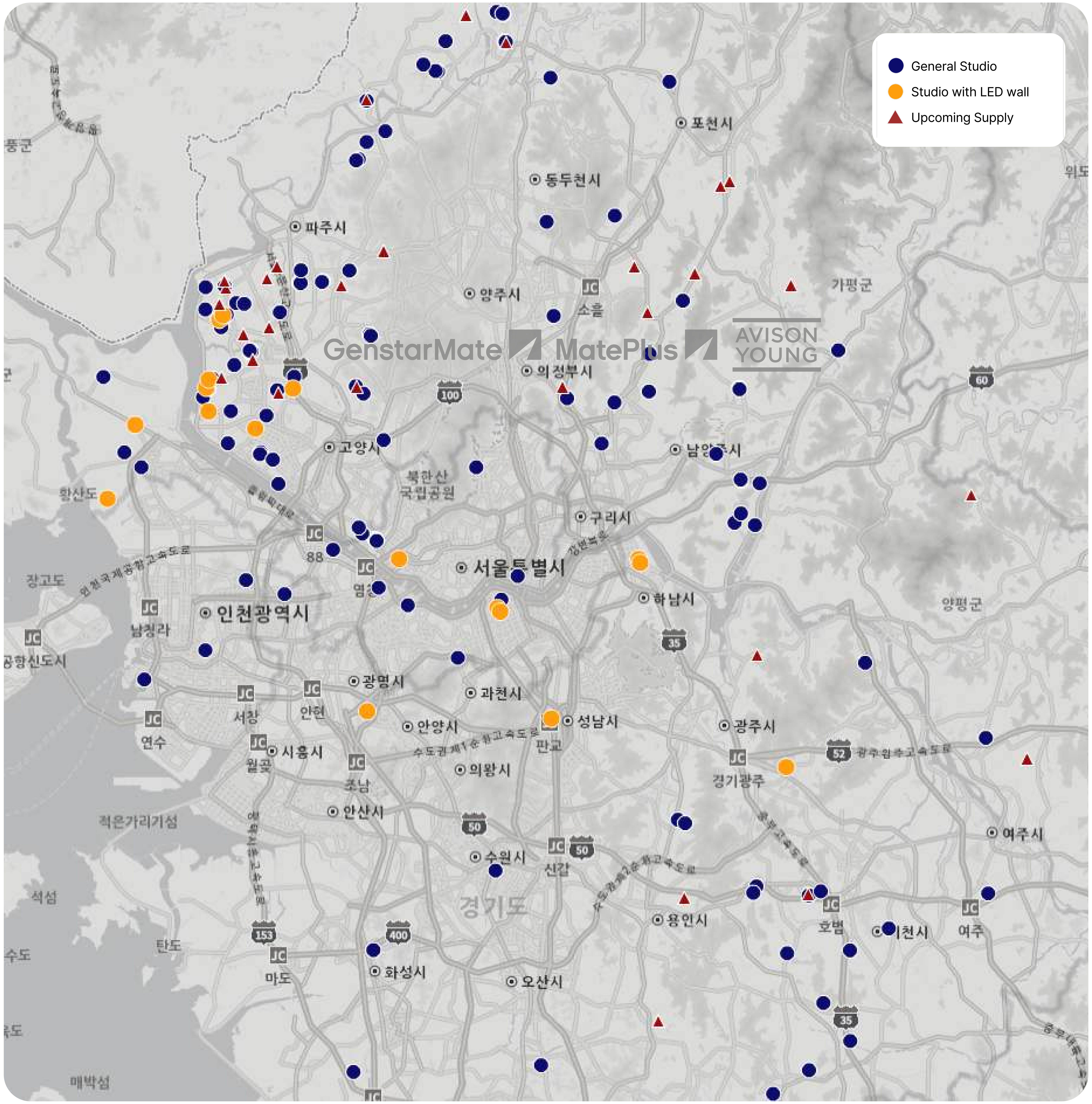
Source: Dart, Hana Securities

Survey for virtual production infrastructure (2022.11)



Source: Article, Genstarmate Research Center

2. Studio Supply Analysis



(1) Studio Supply Status

In the Seoul metropolitan area, there are about 241 general and virtual studios.

The percentage of studios with LED walls, the virtual production, is 7.5% (18 buildings) as of 2022, a very low percentage compared to the total number of studios, potentially suggesting that there is room for growth in virtual studio developments.

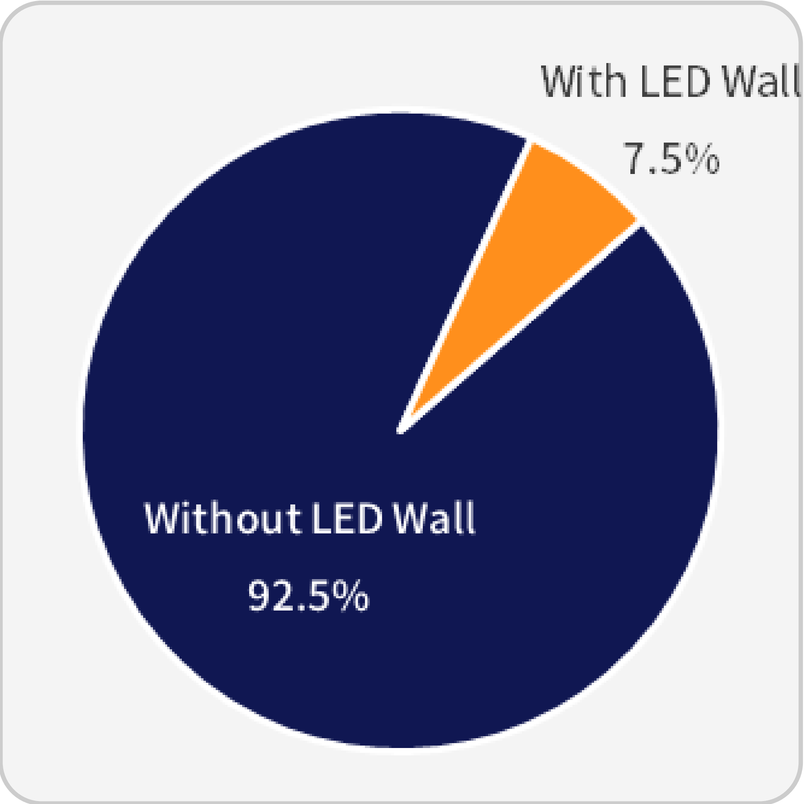
Studios with LED walls are represented by CJ ENM Studio Center, VA Studio Hanam, and Studio D1, of which 33% are located in Paju, Gyeonggi Province, due to low land prices and proximity to broadcasters and content producers.

Among the sample of studios in the Seoul metropolitan area, the uses are categorized into four types: rental, self-owned, combined (rental + self-owned), and broadcasting. 73.9% of studios are for rental purposes.

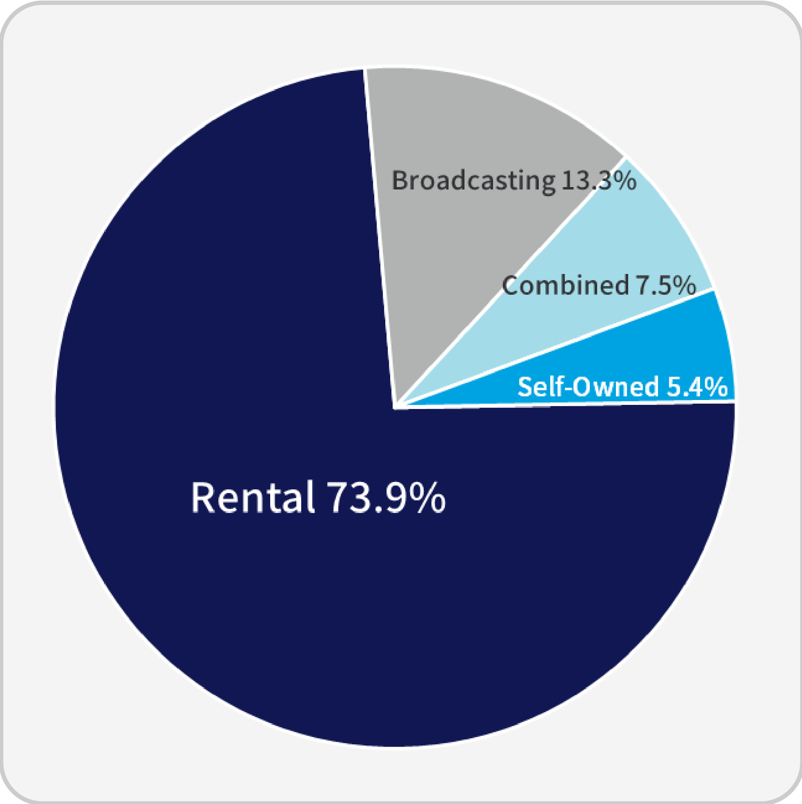
The 7.5% of studios in the mixed type are used for both in-house content production and external leasing, such as CJ ENM Studio Center (CJ ENM), K-Film Studio (Daewon Media), and SBS Tanhyun Production Studio (SBS).

it is identified that 33 studios are in the pipeline, and among them, studios with LED walls including I-DMC(TBD) in Uijeongbu Rhythm City are widely known, and are being developed by YNC&S.

Studios with or without LED Wall



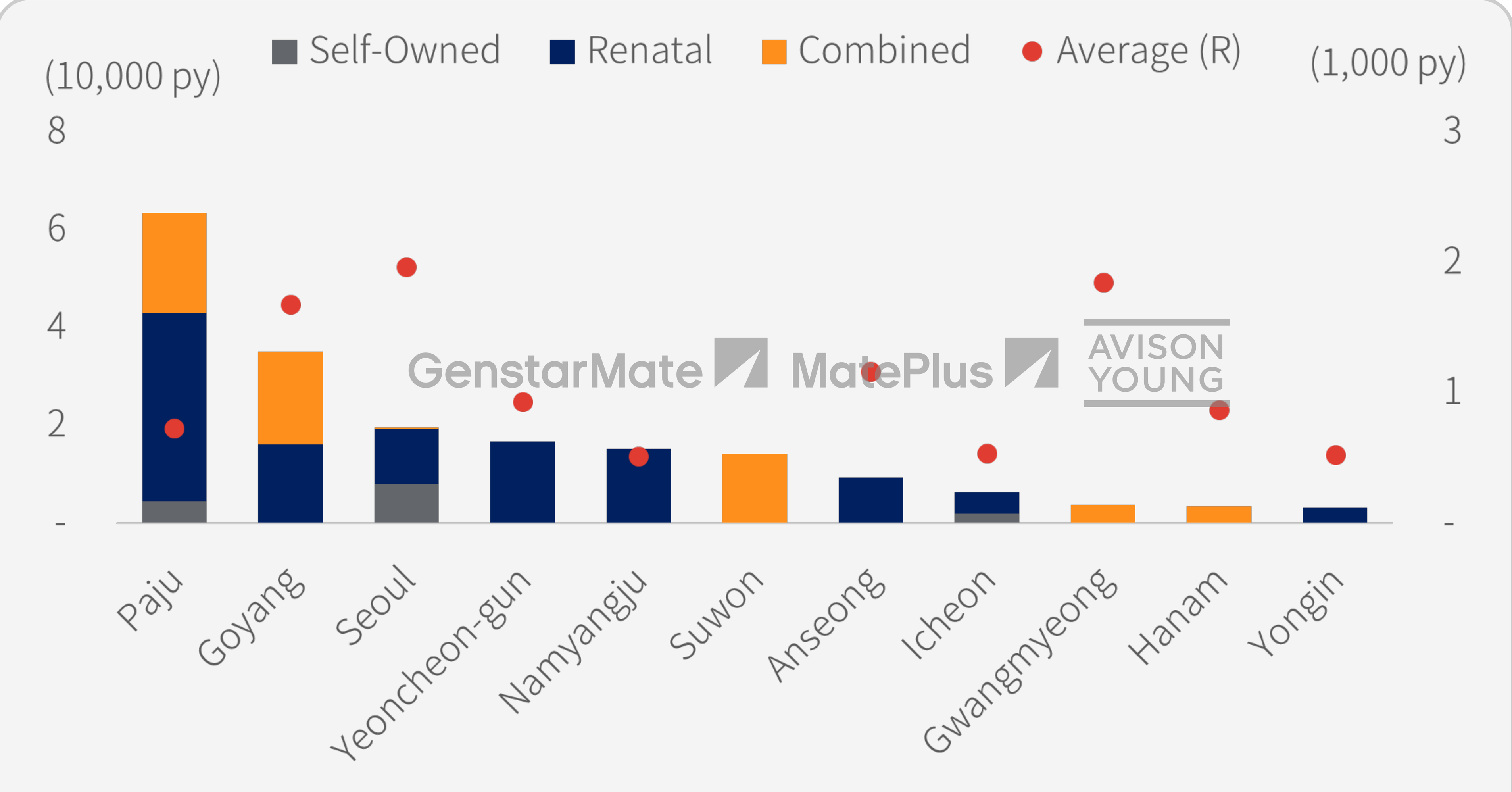
Studio Types



Source: Genstarmate Research Center

2. Studio Supply Analysis

Distribution of studios by municipality



Source: Genstarmate Research Center

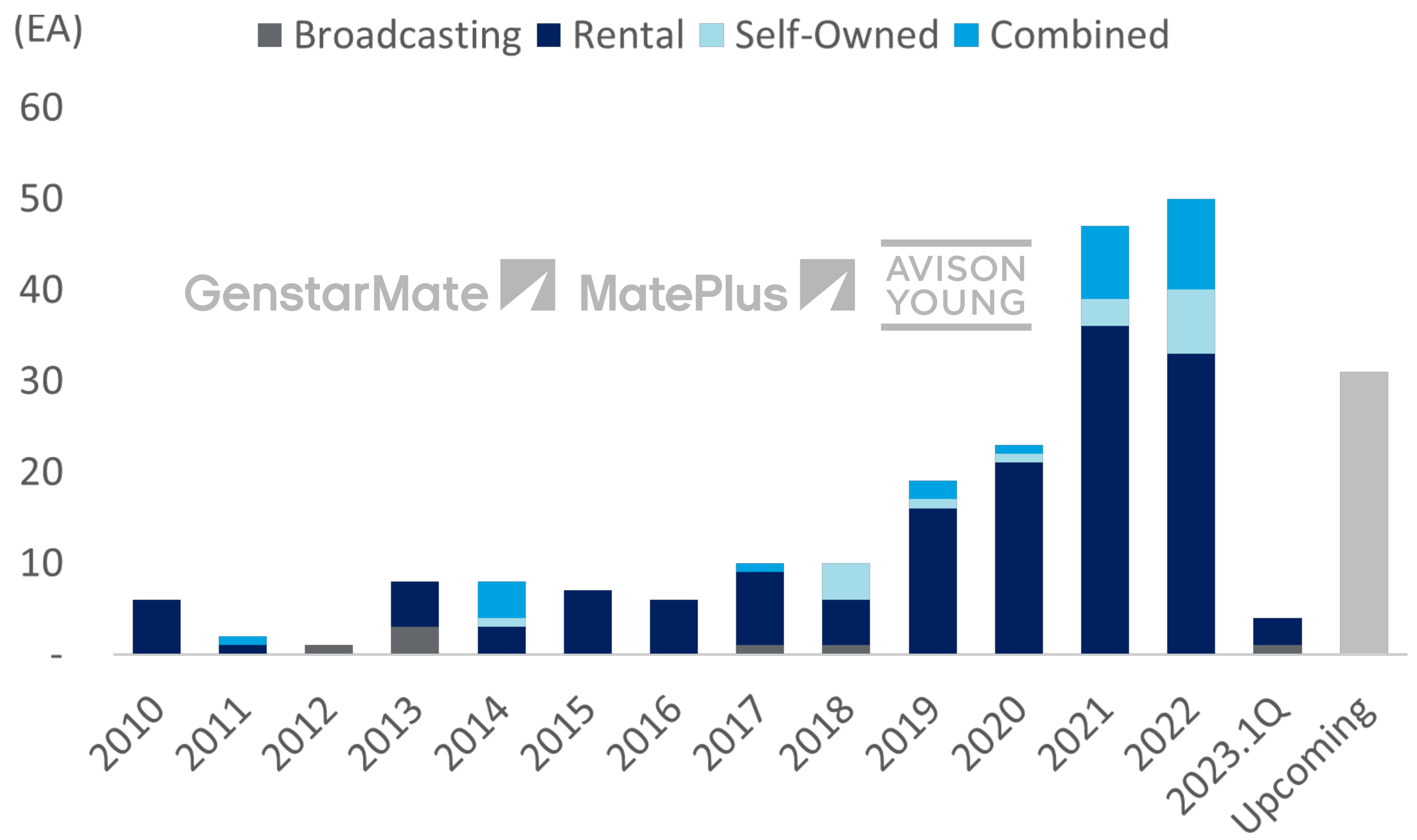
(2) Studio supply by use / municipality

According to the distribution of studios by local government*, Paju City, Gyeonggi-do, has the highest concentration of studios with 6.3 million pys, and about 31% of the total studios in the metropolitan area, followed by Goyang City, Seoul, and Yeoncheon County.

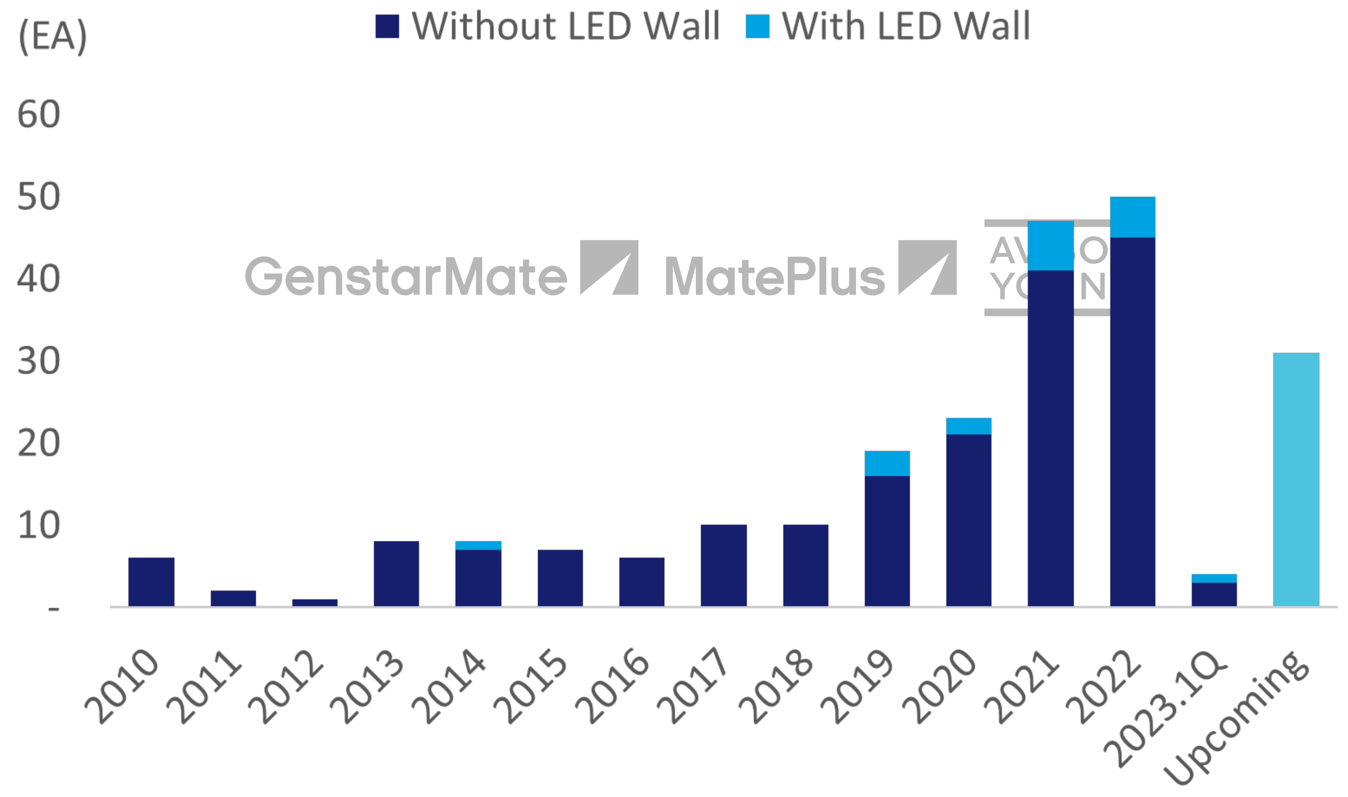
Studio location conditions are similar to those of logistics centers in that they should be 1) within 1.5 hours of a broadcasting station, 2) lower land cost, and 3) have good access to Seoul, so existing logistics development sites are often considered for studios. However, unlike logistics centers, accessibility to content producers and broadcasting stations is a more important factor than highway adjacency condition.

*Excluding broadcasting stations

Studio supply trends by use



Supply of studios with LED walls



Prior to 2010, traditional rental studios were often warehouses, factories, etc. that had been temporarily converted into filming sets, and these studios had a strong space rental concept with chroma-key screens or large warehouse-style sets. Many of these rental studios were aging and lacked amenities for cost-benefits.

The newer studios are being built with comfortable facilities and excellent amenities. With higher story height, it allows multiple structures for content creation and ample parking and cafeteria space. In addition, various infrastructure improvements such as sufficient water capacity and fast internet speeds have been made to provide a working environment where filming and editing can be done in real time.

In the 20 years from 2001 to 2020, an average of only 1.1 million py (0.4 million pys excluding broadcasting stations) of new studio space was supplied annually, but since 2020, an average of about 30,000 py (40 buildings) have been supplied annually for the last three years, showing the growth of the content industry. In particular, since the first LED wall appeared at CJ ENM Ilsan Studio, which opened in 2014, the supply of studios with LED walls has been increasing since 2019, supporting the demand for virtual production utilizing VFX and XR.

Source: Genstarmate Research Center

(3) Studio supply and upcoming supply cases

Major Supplied / Upcoming Studios

Studio Name	Location	Studio Area(py)*	Operator	Type	Opening year
Studio D1	Paju	400	Dexter Studio	Multi	2019
VA Studio Hanam	Hanam	3,400	VA Corporation	Multi	2021
VIVE Studio	Gwangju	300	VIVE Studios	Multi	2021
CJ ENM Studio	Paju	19,200	CJ ENM	Multi	2022
Team Studio (SKT)	Seongnam	900	Team Studio(SKT), Duribeon	Lease	2022
NSN Studio	Paju	11,400 (GFA)	Nama Art Center, Native	Lease	2023 (E)
I-DMC	Uijeongbu	20,500 (GFA)	YN Culture & Space **	Multi	2026 (E)

Source: Genstarmate Research Center
* The area of each building or floor that is actually used as a studio
** Joint ventures of YG Entertainment, Naver, Wizwick Studios, Nexon, etc.

3. Studio Operation

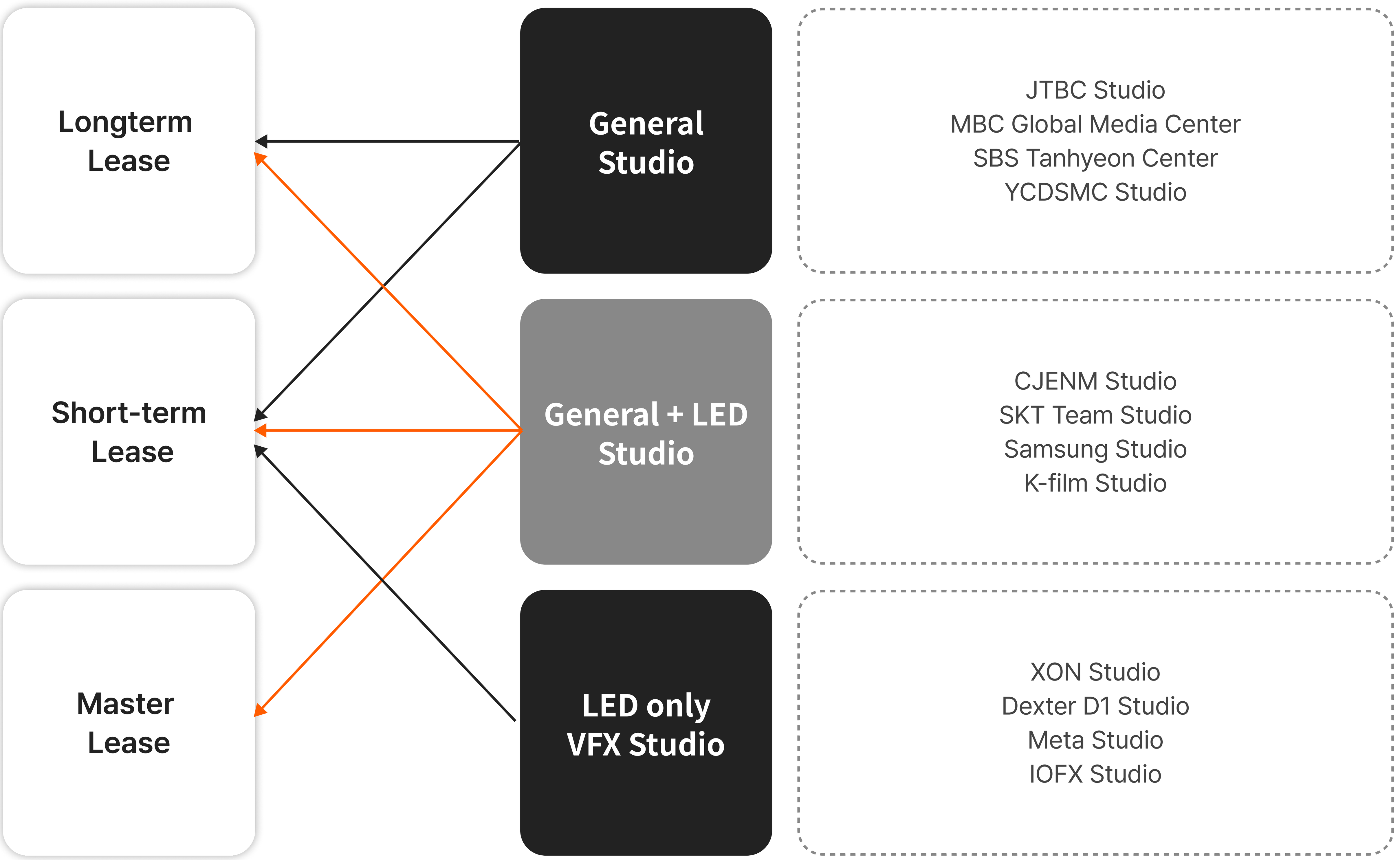
Studio Leasing Structure and Cases

Domestic rental studios are categorized into master leases, long-term leases, and short-term leases. A master lease is a contract for more than one year to several years, a long-term lease is a contract for several months to one year, and a short-term lease is a contract for one month or less. In terms of physical specifications, studios are divided into general studios, general + LED mixed studios, and LED-only (VFX specialty) studios depending on whether or not they own LED walls, and each studio applies their own operation method that suits the individual studio.

In the case of general studios, most of them are broadcasting studios, and it is possible to guarantee steady revenue by leasing or using a single program or broadcaster for long-term drama or broadcast products. LED-only studios are mainly utilized for special scenes, or for commercials or music videos, and due to their specificity, they are mainly operated on a short-term lease basis on a daily basis.

In case of master lease, Netflix is leasing the YCDSMC studio in Yeoncheon, and JTBC leasing the Wonbang studio in Paju. VA Studio and Xon Studio, which are studios for VFX functions, are used only for special scenes and are rented on a daily basis or based on content production fees. From a commercial real estate investment perspective, when developing and investing in studios, it is recommended to develop a mix of general and special functions to enhance business performance.

Studio Leasing Structures



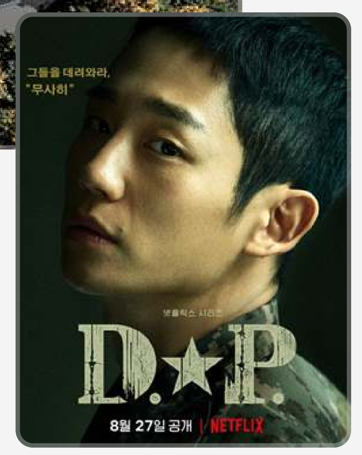
1. CJ ENM Studio Center **LED + General**

CJENM Studio Center is a studio optimized for content production that combines indoor studios, outdoor open sets, and virtual studio. It serves as a global content producer that can support the recent surge in demand for the K-content industry.

Operator	CJ ENM
Add.	1778, Beopheung-ri, Tanhyun-myeon, Paju-si, Gyeonggi-do
Open	2022. 04. 15
GFA	19,206.1 py (63,491.3 m²)
Spec.	12 general studios (1,600 / 800 / 500 py studios), 1 LED studio
Main use	Specialized drama and filmmaking (VFX) studios, performances
Features	Collaborating with Samsung to use "The Wall" LEDs
Works	Yumi's Cells, Voice4, MAMA

Source : CJENM STUDIO CENTER , tvN drama Youtube

2. K-Film 4th Studio **LED + General**

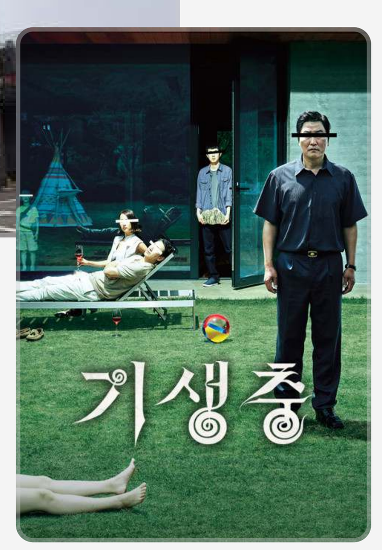


Operator	K-film
Add.	266, Bongam-ri, Paju-eup, Paju-si, Gyeonggi-do
Open	2022. 07. 01
GFA	2,146.3 py (7,095.2m²)
Spec.	1 unit of 300 py / 2 units of 400 py / 2 units of 500 py
Main use	Commercials, movies, music videos, and video production
Features	Operates a total of 4 studios in Paju City, including a 4th studio (1~3 studios are general studios)
Works	Movie 'heroes', drama 'D.P.', music videos of Red Velvet, etc.

Source : K-Film , Open News(21.08.05)

3. Dexter D1 Studio **LED Only**

Operator	Dexter Studio
Add.	632, Moonbal-dong, Paju-si, Gyeonggi-do
Open	2019. 12. 10
GFA	400.2 py (1322.83 m²)
Spec.	Planning and Directing In-Camera VFX-XR
Main use	Create immersive content for movies, TV shows, commercials, and more
Features	ICVFX (4.3 billion won) and signing a movie digital asset NFT MOU with Lotte Culture Works
Works	The Parasite, Baekdu Mountain, The Moon, etc.



Source: Naver Maps, TVING

4. Studio Investment

Domestic Studio Investment Movement

In Korea, an increasing number of AMC and investors are considering developing studios. There is also a move to convert land previously secured for the development of logistics centers into studios, or to utilize vacant logistics centers as studios by rezoning them. Some industrial complexes have recently been rezoned to provide land for the production and distribution of video and audio recordings, such as Wolong Industrial Complex and Papyong Industrial Complex in Paju.

We surveyed transactions for studios with a gross floor area of 300 py or more, and found some deals centered in Paju and Yeoncheon. The price per py ranges from 1.5 to 6 million won, with large price differences depending on the time of the transaction and the each case story. Most of the buyers are based in the content business, and in some cases, the transactions are aimed at repurposing warehouse facilities into studios. In the case of Namyangju General Studio, it was expected to be developed after being sold to Bupyeong Housing in 2019, but the development did not proceed due to various difficulties, and it is still unknown whether it will be able to resume filming again or be developed in the future.

The public is also interested in developing studios, and local governments are planning film and cultural complexes while supplying large development sites such as Cheongna, Bucheon, and Saemangeum to carry out studio development projects. In particular, the Studio Saemangeum project is being organized by the Ministry of Culture, Sports, and Tourism, Jeollabuk-do, Gunsan-si, and the Saemangeum Development Agency to develop a large-scale studio development project through a public-private joint venture. It will be developed under the concept of an international university for special effects, a comprehensive studio, and a video theme park, and includes 10 indoor filming locations including SFX, VFX, recording rooms, and editing rooms specializing in special effects, and 2 outdoor filming locations. The company plans to collaborate with global content companies such as Disney, Fox, and Warner Bros. on operations and marketing, and the project is expected to bring development to the entire domestic studio industry.

Private developments are also taking place, with CJ ENM developing and operating the CJ ENM Studio Center, and YNC&S developing the Immersive Digital Media Center (I-DMC) in Uijeongbu Rhythm City, a virtual production-focused video studio complex that will consist of various production studios and R&D centers. YNC&S is a joint venture between YG Entertainment, NAVER, Wizwick Studios, and Nexon, and has the distinction of developing technology and talent for the development of the content industry. IGIS, a leading Korean asset management company, also announced that they will start a studio development industry by signing a business agreement with Vive Studios to create a future business for the media and entertainment industry.

Studio Transactions

(unit: 1,000 won)

Studio Name	Land area (py)	GFA (py)	Completed	Transaction	Price	Unit Price	Seller	Buyer
201K Studio	1,851	725	2011.4Q	2017.4Q	3,800,000	5,328	Private	Goo NC
Studio108	2,801	1,137	2018.4Q	2017.4Q	1,720,000	1,513	SPC	Zoom Media
Namsan Drama City	3,270	1,238	2010.4Q	2020.4Q	3,000,000	2,423	Private	KCM Motors
201K Studio	1,851	725	2011.4Q	2021.4Q	4,400,000	6,066	Goo NC	Hansung Academy
Yoo Sung Media	1,837	1,173	2021.4Q	2023.1Q	2,900,000	2,472	Private	Yeoncheon Media

Source: Genstarmate Research Center
* Transaction histories of sudios with GFA of 300py or more

Saemangeum Studio & Academy

I-DMC

Contacts

Genstarmate Real Estate Institute

Hyoung Goo Lee
Head of GREI
02.3775.7290
hg.lee@genstarmate.com

Rita Kim
Head of Research
02.3775.7252
rita.kim@genstarmate.com

Inkoo Park
Lead Analyst
02.3775.7269
inkoo.park@genstarmate.com

Yuseon Jeong
Senior Analyst
02.3775.7261
ys.jeong@genstarmate.com

Jihee Baek
Senior Analyst
02.3775.7224
jihee.baek@genstarmate.com

Jiyoon Bae
Analyst
02.3775.7922
jy.bae@genstarmate.com

Moonkyung Jang
Analyst
02.3775.7236
moonkj98@genstarmate.com

Studio Development Business Inquiry

Jongsu Noh
Head of Department
02.3775.7334
jsn007@genstarmate.com

Sangsik Kong
Team Head of Development
02.2003.8128
sangsik.kong@genstarmate.com

Jangyoon Baek
Team Head of Logistics Development
02.3775.7339
bjy77@genstarmate.com