

**SPECIAL MOEBIUS STRIP 20TH ANNIVERSARY EDITION**

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# ANiMATION GLOBAL

DECEMBER  
2021

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## **A FILM BY JEAN "MOEBIUS" GIRAUD**

**"THRU THE MOEBIUS STRIP"  
20TH ANNIVERSARY**

### **MAKING OF "THRU THE MOEBIUS STRIP"**

**THE PEOPLE AND THE ARTS**

**GLOBAL ANIMATION SCENES  
CHINA'S FIRST 3D ANIMATION  
WITH 3.2 BILLION VIEWS  
ITALY ANIMATION  
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### **TECHNOLOGY & EDUCATION**

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THE 20TH ANNIVERSARY  
OF THE MAKING OF  
"THRU THE  
MOEBIUS STRIP".



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SPECIAL ISSUE

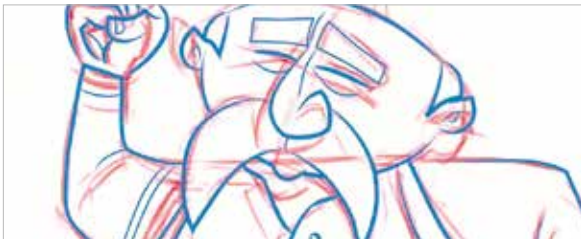


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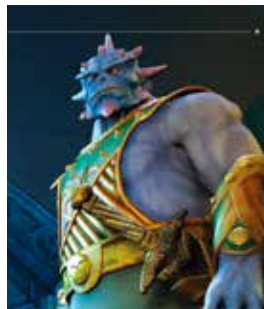


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**BY ANTHONY F. NEOH**

**T**his Edition reviews the production of Thru the Moebius Strip, which began twenty years ago, and the revolutionary impact this production has since made on the development of the creative digital industry in China.

This Edition coincides with the celebration of the Centenary of the Chinese Communist Party. The Chinese Communist Party has transformed

the Chinese Nation from its worn-torn backwardness of the last Century into a global shining light of the 21st Century. China is now the world's second-largest economy. It will soon become the largest. China's growing economy has created vast opportunities in all areas of development and promises even more. Twenty years ago, when the production of Thru the Moebius Strip began, this historical transformation was starting to find its stride.

Thru the Moebius Strip was the creation of Jean Moebius Giraud, a world-renowned graphic artist, and creator of countless iconic characters of the comic strip and the cinema. His life's ambition was to see a complete version of one of his comic strips on the cinema screen. As one would put it in the East, fate or karma transformed a chance meeting between Raymond and Moebius in Paris into one of the most ambitious projects in world cinema history. The project was ambitious because Raymond dreamed of executing the production in 3D digital animation format, not the usual 2D animation prevalent in Japanese anime or animation. And not only that, Raymond wanted the production to be executed in Mainland China. China then had only a handful of digital artists, most of whom self-taught. This project seemed an Impossible Dream!

This Edition reviews the events and the people who made this Impossible Dream possible! Training offered by IDMT created the first legion of the army of 3D digital artists. Few digital artists would have the chance to cut their teeth on a cinematic production, let alone one by such a renowned artist as Jean Giraud Moebius. Apart from the training of the first generation of digital artists, the production achieved many firsts. All of these firsts are reviewed in this Edition.

IDMT graduates are now found throughout the creative digital industry in China. Many have struck out on their own and have made a name for themselves. The Impossible Dream of producing Thru the Moebius Strip has created and fulfilled a multitude of dreams not only in the people who were involved in the production but also among the many later graduates of IDMT who benefitted from a curriculum enriched by the Thru the Moebius Strip production experience. That Thru the Moebius Strip created the backbone of the Chinese creative digital industry is not an over-statement.

Animation Global Magazine continue to report on our industry globally from Russia, Italy, Greek, Malaysia, Indonesia, Japan and China. We also support different organizations such as Annecy Festival, WIA, SGF, and InclusionFX to name a few.

The Chinese economy will continues to grow strongly with the market-friendly policies of the Chinese Government. The digital technology pioneered in the production of Thru the Moebius Strip has given way to new ideas. Open-source creative digital software has become as sophisticated as off-the-shelf licensed software, for example like Blender. A growing developer community supports this software movement. There is a whole new world in using open-sourced digital software, waiting to be explored.

December 2021

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SEPT 2021 - SPECIAL EDITION

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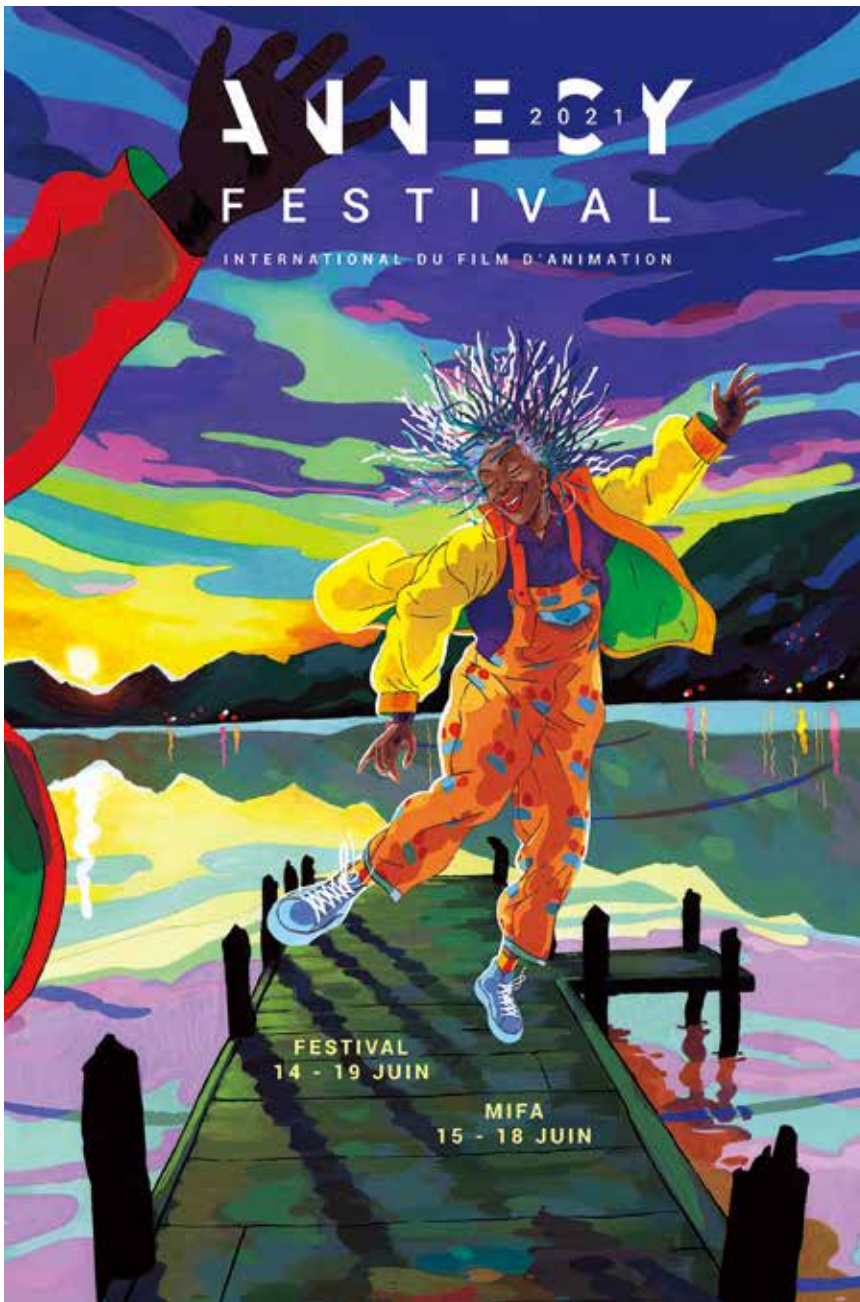
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## 2021 PROFESSIONAL MEETINGS: INSPI-RATIONAL, INNOVATING, ENLIGHTENING!



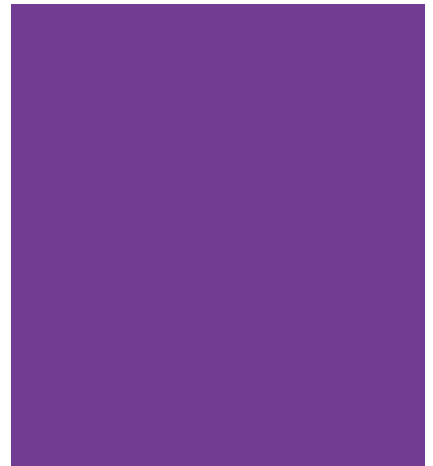
### SOURCE: ANNECY

**T**he irrefutable added value at the Annecy International Animation Film Festival and Market are the professional meetings. The sheer generosity with which internationally renowned studios and experts supply information to the lucky participants is without doubt the primary reason.

### STUDIO FOCUS

13 virtual Studio Focus will punctuate the Annecy week according to announcements and tributes.

Notably among them, Netflix will be present with 4 sessions whose surprises and exclusives will take pride of place. Netflix Kids & Family will give a sneak peek at their future family series and feature films, then it'll be Netflix Adult Animation's turn to discuss 2 projects with a 3-star cast. Netflix Anime and Chris Nee will bring together some of today's most prominent artists to discuss projects that are still some of the best kept secrets...





DreamWorks Television will dive into the world of their next feature film *Trollhunters: Rise of the Titans*, the final installment of the *Tales of Arcadia* trilogy. A great opportunity for the artistic team to take another look at this extraordinary universe.

Disney group has several presentations including live online Q&As: the team from Locksmith Animation will unveil the latest news on their first feature film *Ron's Gone Wrong*, and Pixar Animation Studios will take us backstage on *Luca* and future 2022 films. Last but not least, Disney EMEA (Europe, the Middle East, Africa) will present their new local projects, and in particular an exclusive extract from the TV series *Chip 'n' Dale*.

Also new studios join this already marvellous programme:

- The ONF (The National Film Board of Canada), on top of doing a Q&A session with male and female directors in competition at Annecy, will unveil an exclusive look at their latest creation.
- CBS Studios and Paramount+ will host two panel discussions with the creators of *Star Trek: Lower Decks*, *Star Trek: Prodigy* as well as Stephen Colbert presents *Tooning Out the News* and the new series *The Harper House*.
- Cinesite will give an exclusive sneak peek at 5 blockbusters created in partnership with 8 leading



*Chris Nee, Kirk DeMicco, Clare Knight, Guillermo Del Toro*

directors: *The Addams Family 2*, *Extinct*, *Riverdance: The Animated Adventure*, *Hitpig* and *Blazing Samurai*.

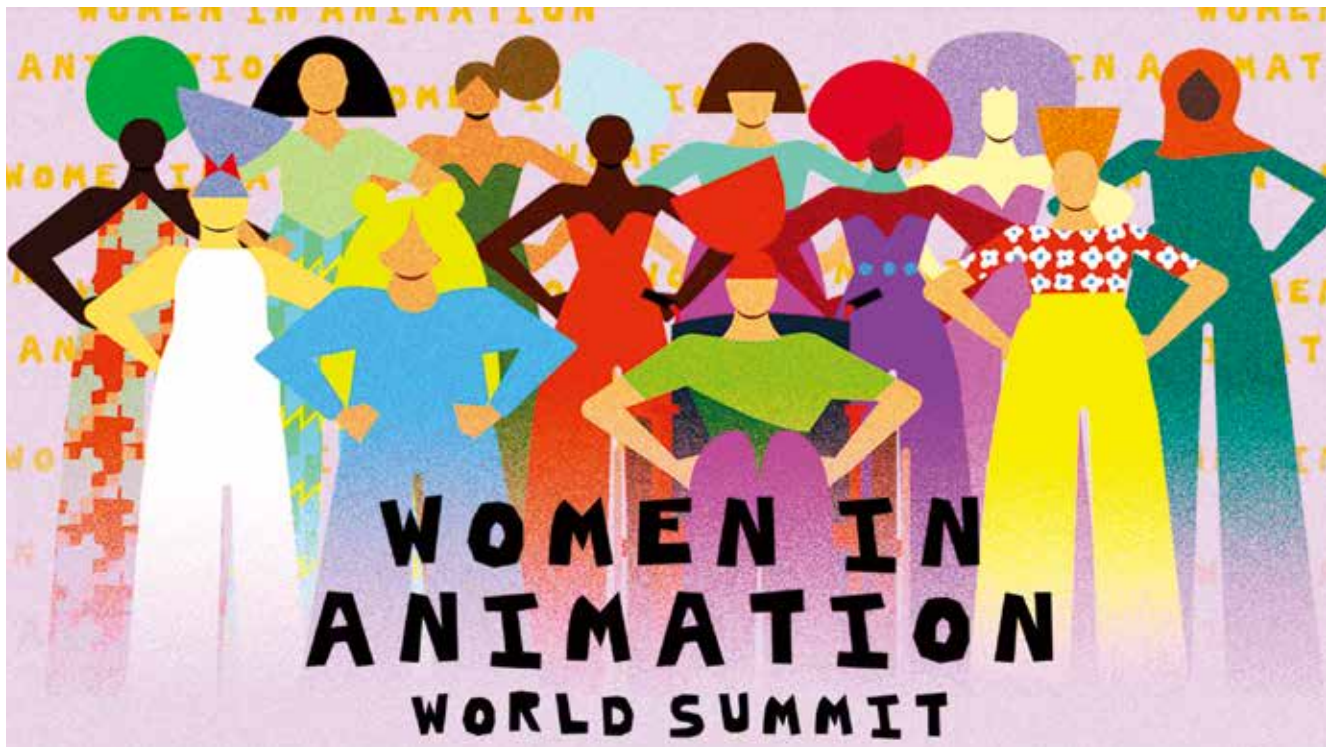
- Toei Company, Ltd. will be celebrating the 50th anniversary

of *Kamen Rider* and the next new arrival *Fuuto PI*, the first animated series of this legendary franchise.

- Tencent will discuss its original family-oriented projects developed with European co-producers.







## WOMEN IN ANIMATION WORLD SUMMIT

Annually, since 2017, the Mifa hosts the Women in Animation International Meetings. As always, the programme's rich and thoughtful discussions on current events reflect its esteemed line-up of speakers! Highlights of this year's Women in Animation World Summit include a Keynote presented by Justice RX's Amma Y. Gharthey-Tagoe Kootin, Ph.D. and a Fireside Chat with Marvel Studios' Victoria Alonso as WIA partners with South Africa's Triggerfish to explore the theme "The Business Case for Diversity".

Panels will be presented on Alternative Career Paths and Opportunities for Talent, Greenlighting Diverse Voices, African Creators in Animation, along with special video pieces on WIA's Mentoring Program, Women in Creative Leadership (featuring artists and filmmakers from all the major studios and a brief spotlight on the creator of this year's summit artwork, Monica Ahanonu.

## PARTNERS CONFERENCES

Whilst waiting for the Mifa Conferences programme, which will be announced shortly, here is what our partners have



in store:

- Unifrance will propose three discussions concerning the international challenges of French animation films: the emergence of a new generation of women directors, broadcasting animation film at African festivals and writing for an international audience.
- Auvergne-Rhône-Alpes In Motion (AIM) will bring together the Artefacts (video games) and Albyon (animation, VFX and VR) studios to present an overview of the creative and technical opportunities possible between the video game and animation

sectors.

- The director of the Japan Media Arts Festival invites three directors from leading international festivals to share their visions on animation's current intensity and its future development, in particular via other forms of art such as video games.
- ALICE (Animation League for Increased Cooperation in Europe) will present their interregional cooperation methodology aimed at developing a new, more collaborative, model so that SMEs can expand, recruit and innovate

Session followed by a live Q&A.



## DEMO SESSIONS

Demo Sessions are used to give experimental presentations and do something new:

- Aquarium by Fatfish Lab, the 100% nodal, cross-production and totally flexible project management tool that adapts to your needs.
- The latest Unity tools bring speed, limitless creativity and iterations to animators and producers. Get a close look at Mich-L, made entirely with the new (beta) Cinematic Tools feature set.
- Xencelabs will provide an insight into their products' capabilities thanks to their new pen tablet and Quick Keys remote control, a real game-changer for creatives.
- A demonstration by Next Lab of the potential of the VR, AR and MR tools and video game render engines for animation prototyping, production and visual effects.
- Wacom will explore how the South African film Troll Girl was made, drawn and animated with a Blender Grease Pencil.
- Archipel Market and Archipel Content, two complementary solutions developed by Cascade8, the tech branch of the Logical Pictures Group.







**JEAN "MOEBIUS" GIRAUD**

# **20TH ANNIVERSARY OF "THRU THE MOEBIUS STRIP"**

## **SPECIAL ISSUES**

**THE FILM THAT SPAWNED AN INDUSTRY  
MAKING OF THE "THRU THE MOEBIUS STRIP"  
"THRU THE MOEBIUS STRIP": THE PEOPLE AND THE ART  
GDC'S PRESENT AND FUTURE**



# THE MOVIE THAT SPAWNED AN INDUSTRY: THRU THE MOEBIUS STRIP

BY RAYMOND D. NEOH

**T**hroughout history, many animation movies had been made, but none is as significant as the CG animation movie "Thru the Moebius Strip" had. This movie spawned a new industry and has influenced China's CG animation industry for many years to come. As of today, no major Chinese CG animation movie is made without the artists and people who had ground their teeth in "Thru the Moebius Strip". Without this movie, China CG animation industry will not grow so fast and many China blockbuster movies such as "Nezha" will never happen. This issue of the magazine is dedicated to all these artists and people who had worked on this movie that altered the course of the China CG animation industry today.

"Thru the Moebius Strip" is the less

known works of Jean "Moebius" Giraud in his career. Very few people heard about this movie outside of China. And how such a movie had spawned an entirely new industry in China is a story that has never been told to the world. At the movie's 20th Anniversary, we are going to tell how this happened and the impact it has created in China and what it means for the Chinese animation industry today.

20 years ago, we set out to build China's first international CG animated movie with a mission to lead and build a digital content industry in Asia. 20 years later we have accomplished our goal. The movie that we made had spawned an industry. People that worked on China's first major CG animated movie moved on to create China's top-grossing CG animation with over US\$800 million box office "Nezha" and many others. Everywhere you go in China you can see our graduates in the digital content



industry, from education, to animation, games, VR/AR, industrial design, the movie industry.

Today, we have gathered again to celebrate the contribution and achievement we made to the industry in China and Asia. We dedicate this issue of Animation Global to all those who had worked on the Moebius Project and those inspired by it.

Thank you all for making our dream come true.









## THE BEGINNING

20 years ago, preproduction work began on "Thru the Moebius Strip" with conceptual drawings by Jean Giraud. The full feature computer generated imagery in HD movie was completed in 2004 with both English and Chinese dialogues and was cinematically released in China in 2006. This was the first ever CGI full feature length movie produced in China. As one of the producers closely involved in the production of the movie, from preproduction to post production including the production of the lush

symphonic and choral music, this was one of the proud achievements of my life. But "Thru the Moebius Strip" is much more than a feature film. It is the centerpiece of a vision conceived by me, to build an industry in China.

When the production of the movie started, there were only a handful of CGI artists in China. No one knew how to make a full feature length CGI movie. It was a monumental artistic, technical and organizational challenge. While the preproduction proceeded in California, USA, a school for training CGI artists was started in Shenzhen to train the hundreds of artists who would

be needed to make the movie. When the first batch graduated, a studio annexed to the school was started to employ them for making the movie. Computer technology in the early years of the 21st Century was many orders of magnitude below the capability of the present. To make a movie that tells a compelling story, the CGI artists involved had to be supported by a complete production system that had to be created from scratch. When this was completed, this system could produce models and animate them to lifelike movements, create sets, manipulate camera angles, produce appropriate lighting, and compositing all of that into many thousands of individual frames to be stored for synchronization with dialogue, sound effects and music. The computer software available in the market proved wanting for the task, and much in-house software development had to be undertaken to complete the movie.





## THE STUDIO

To make the movie, we had built a CG studio in China from scratch, because no such studio was available in China in 2000. Furthermore, not many CG artists in China had the experience to make a Hollywood style CG feature film. Everything had to be built from the ground up. The objective at that time is not only to make a movie but to build an industry.

To begin the project, we have built a school called IDMT (Institute for Digital Media Technology) in 2000. We recruited 150 students to be trained as animators, modelers, video editors, programmers, etc. 20 years later, IDMT is still training students all over China today.







## MAKING OF THRU THE MOEBIUS STRIP: A TRIBUTE TO JEAN “MOEBIUS” GIRAUD

### BACKGROUND

"Thru the Moebius Strip" is the less known work of Jean "Moebius" Giraud. The project was brought to us by Mr. Arnie Wong, an old friend of Moebius. I have enclosed Arnie wrote about the "Thru the Moebius Strip" on its 20th Anniversary:

Jean "Moebius" Giraud and I hatched

a plan in 1982 to make an animated feature film after we met working together on "Tron". It was to be called "Internal Transfer", and we pitched our story presentation to Disney, but the new regime didn't know who Moebius was nor understood his esoteric metaphysical content. It was too far ahead of its time. So, it sat on the shelf for another 15 years until I met Raymond in 1997. His business card read "Evangelist"; I knew he had the vision to bring Moebius' art to the silver screen. Ray and his brother Tony



Neoh put together an amazing business package, which included financing the feature film and the construction of the first digital animation studio, spearheading the future of computer digital imagery in China.

Once we established the new story idea which was now called "Thru the Moebius Strip", my role was to set up the pre-production facility in Los Angeles. Jean "Moebius" served as the concept designer and art director. I organized the storyboard department and supervised the storyboards and props that would set the tone for our animation team in Hong Kong, which later relocated to Shenzhen, China, where the production studio was being built. It was crucial that Jean had his eyes and hands on all the pre-production art needed to jump-start the China production team. It was my job was to keep Jean on track and on time, and make sure the pre-production team completes all the work needed.

Having a Moebius movie made by hundreds of inspired young artists, who

traveled from the U.S., Hong Kong, and across the vast country of China to work on this project, was a brilliant plan on Ray's part. Jean and I felt lucky and fortunate to be a part of history in the making: A Moebius animated film produced in China which contributed to the future of digital arts technology that has encompassed not only China, but the world.



## THE STORY

The story is about the coming of age of a 14-year-old boy who grew up refusing to accept the loss of his father. He reaches the planet Raphicca 27.2 million light years away to find that his father is a prisoner in a kingdom of giant aliens who believe in magic and a medieval code of chivalry. In the midst of a raging battle between good and evil, Jac rescues his father, his new-found family of aliens, the planet of Raphicca, and ultimately, the universe.

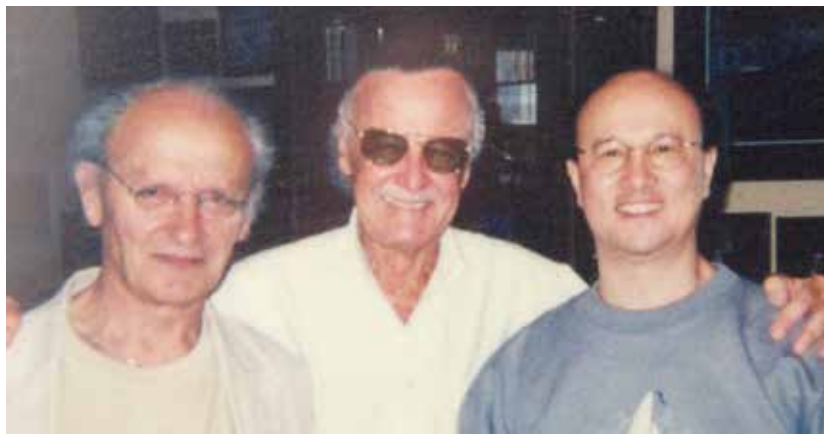






### MOEBIUS, STAN LEE, AND ME

Moebius and Stan Lee worked together on "The Silver Surfer". We have a plan to have Moebius to work together again on a CG Feature Animation. We brought Moebius and Stan together for a few weeks at Stan house to put together a story based on Stan Lee story and Moebius design. The project has never taken off but we still have the story and some great memories with it.



## MAKING OF THE MOEBIUS STRIP—A TRIBUTE TO JEAN "MOEBIUS" GIRAUD

"Thru the Moebius Strip" was an incredible journey for me as the Director of this very special CG film. I remember how one of the Executive Producers, David Kirschner, had first told me about it. Then I met with Ray Neoh who originally brought the project into his studio located in Shenzhen, China. When I first heard about it, I felt this has to be done. Both the magnificent and epic visuals that Tony Neoh and David told me about, and the story that Jean "Moebius" Giraud created, as well as the incredible thrill ride it can give the audience, drew me to the project. What makes it even more special is that it is considered to be the first CG film made in China. What an honor for us all. I was blessed too with an incredible team of talented artists who worked tirelessly at the studio to bring this special film to life."

--- Glenn Chailka, Director



Soprano Ms. Jana Pastorková recording for the "Thru the Moebius Strip".



Composer Mr. Olivier Liboutry, with our Chairman/Producer Mr. Anthony F. Neoh.



The music is composed by Mr. Olivier Liboutry with the Slovak Symphony Orchestra, Slovak Philharmonic Chorus, and supervised by our Chairman Mr. Anthony F. Neoh.

## A STAR-STUDED CAST

We did our sound recording in Hollywood before we started the animation. It was a star-studded cast at the time.



Jonathan  
Taylor  
Thomas  
Prince Ragis



Chris  
Marquette  
Jac Weir



Mark Hamill  
Simon Weir



Michael  
Dorn  
King Tor



Kellie Martin  
Allana





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# “THRU THE MOEBIUS STRIP” THE PEOPLE AND THE ARTS

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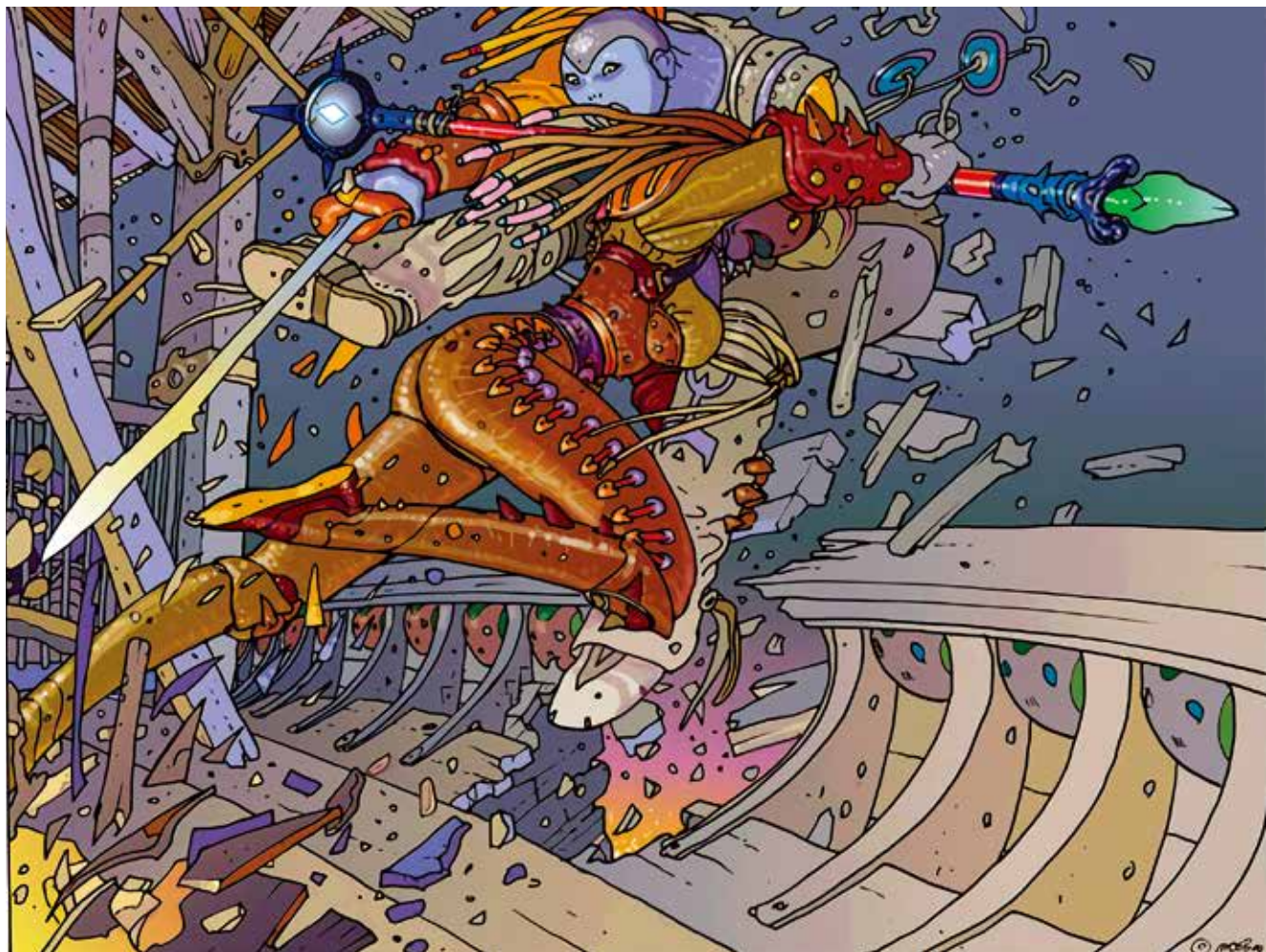
## THE ARTIST AND THE PEOPLE

**T**here are more than 700 people who worked on the project from its conception to end. It's boosted an international cast and artists from all over the world. We like to acknowledge all these talented people who have contributed to the success of the movie.

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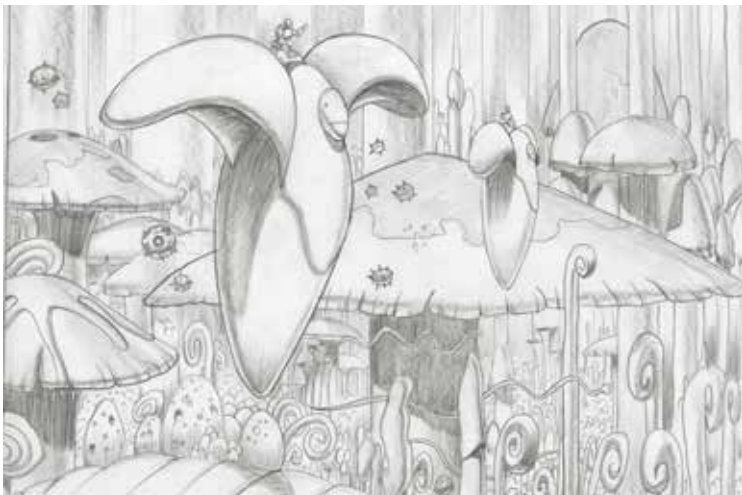




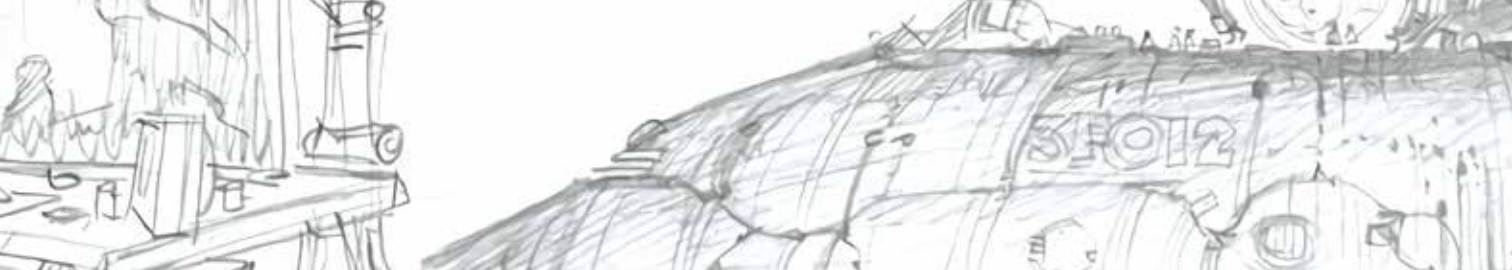




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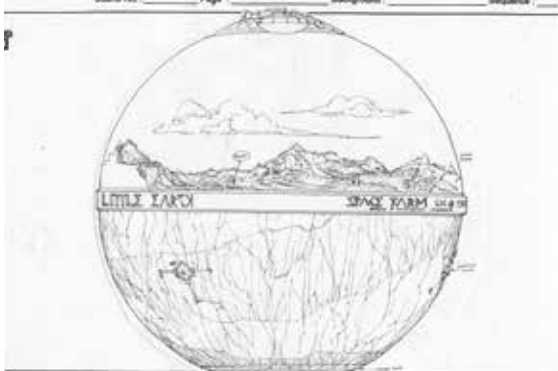
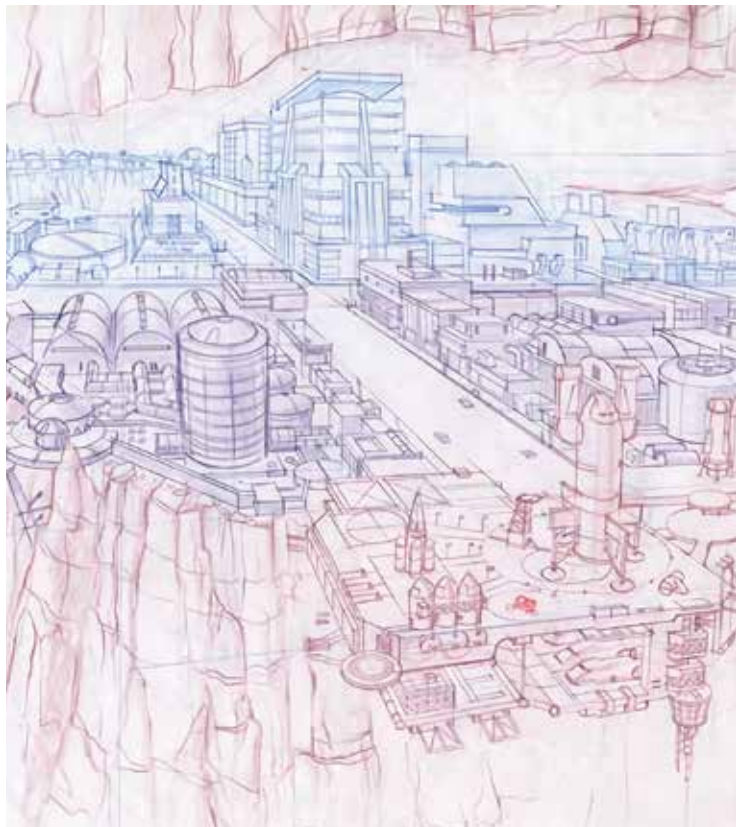
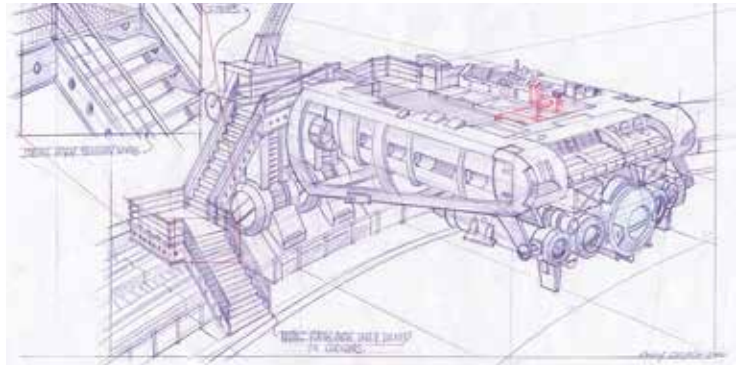
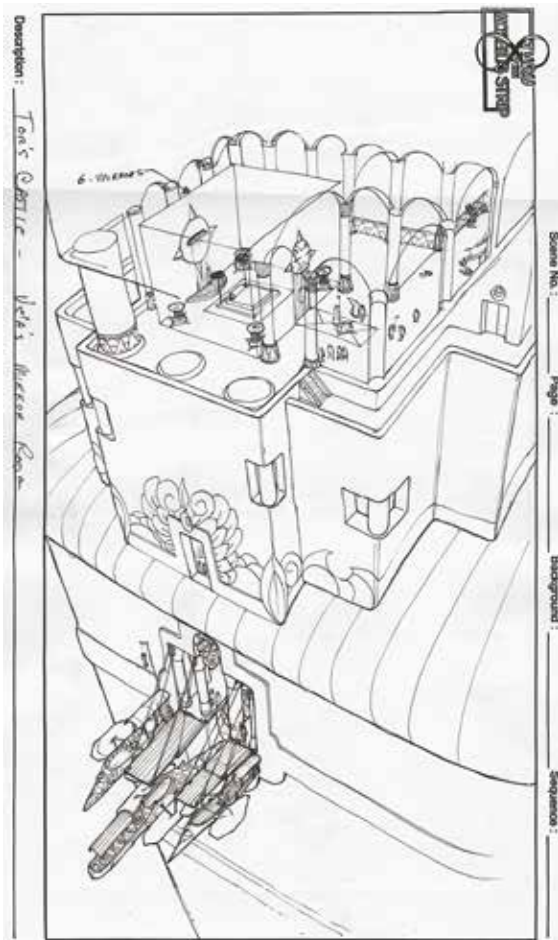


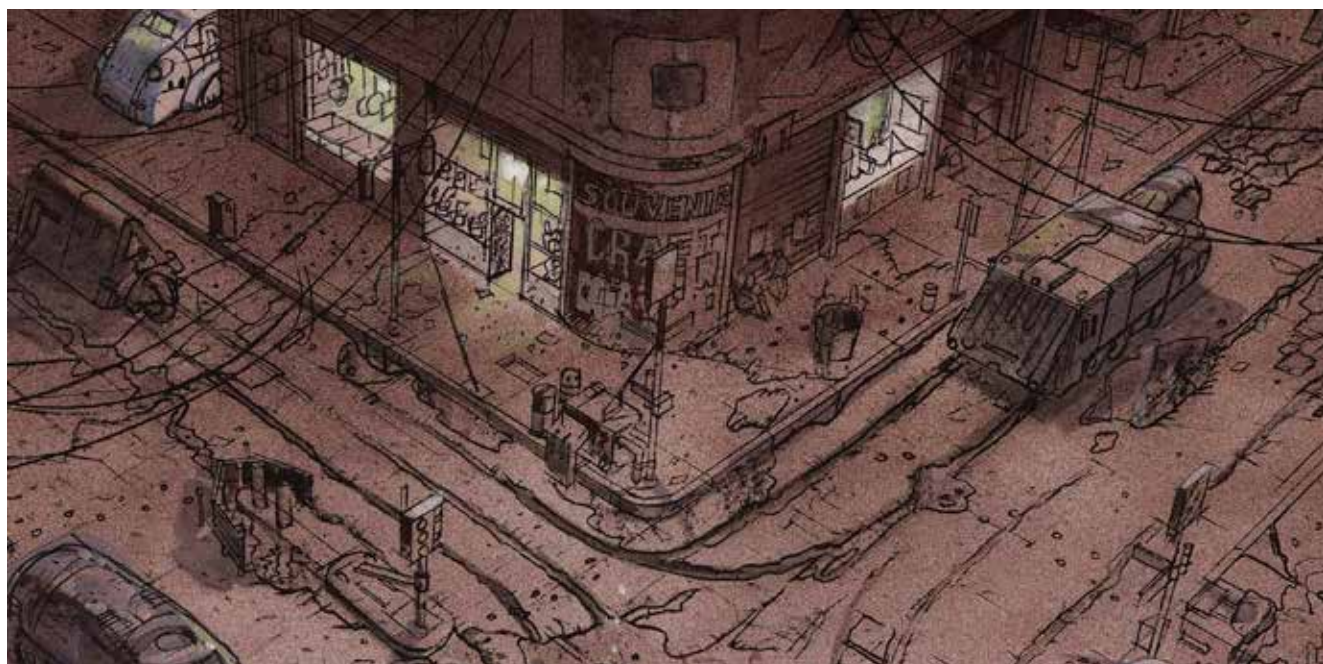
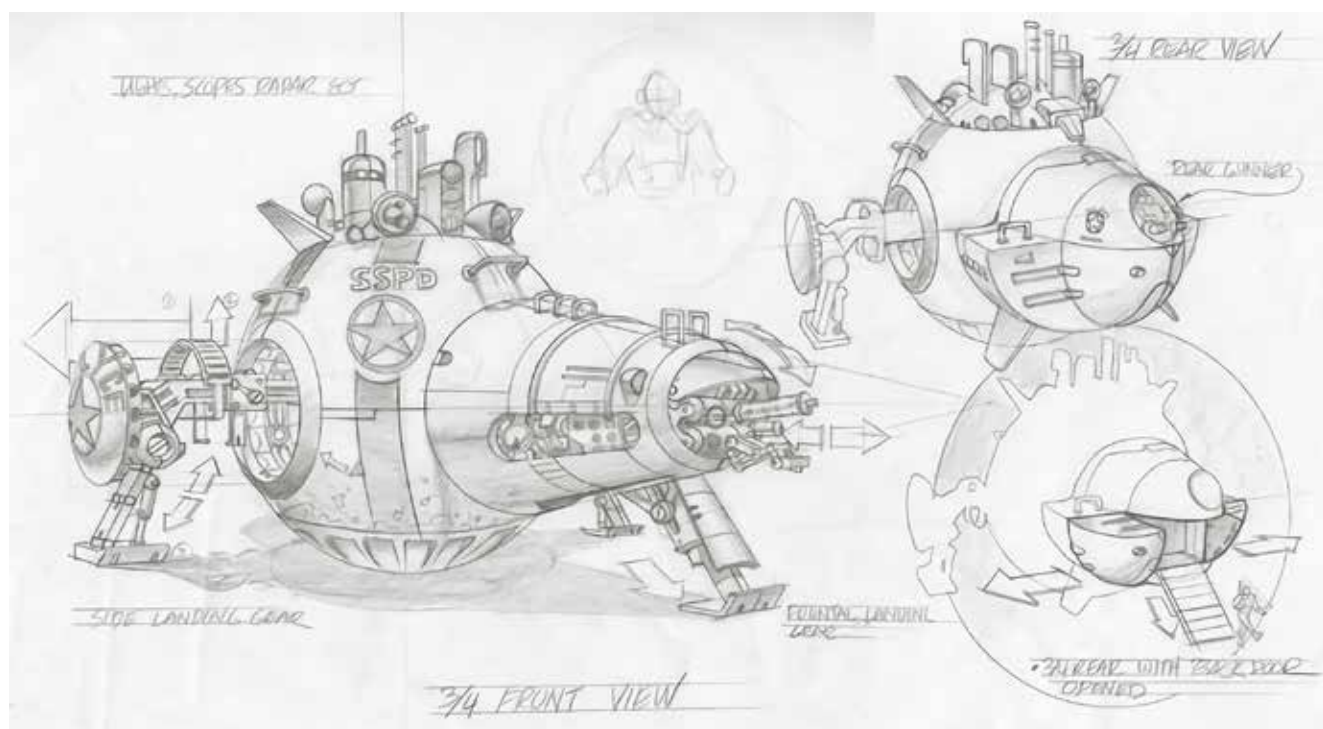
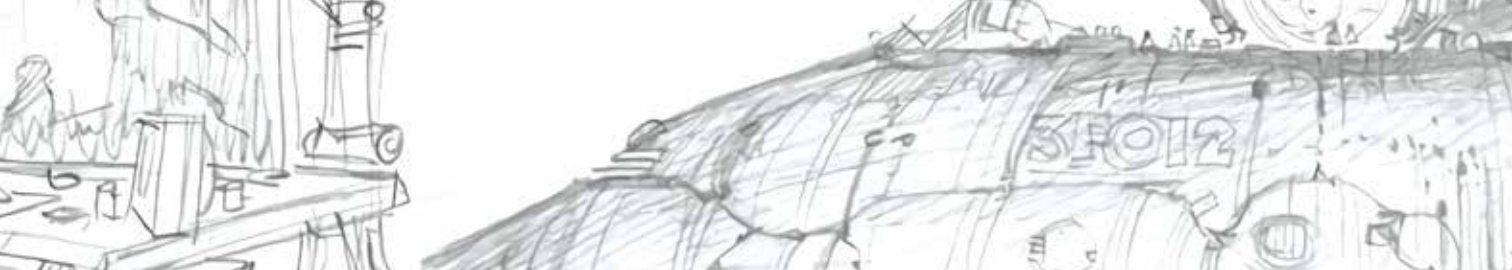






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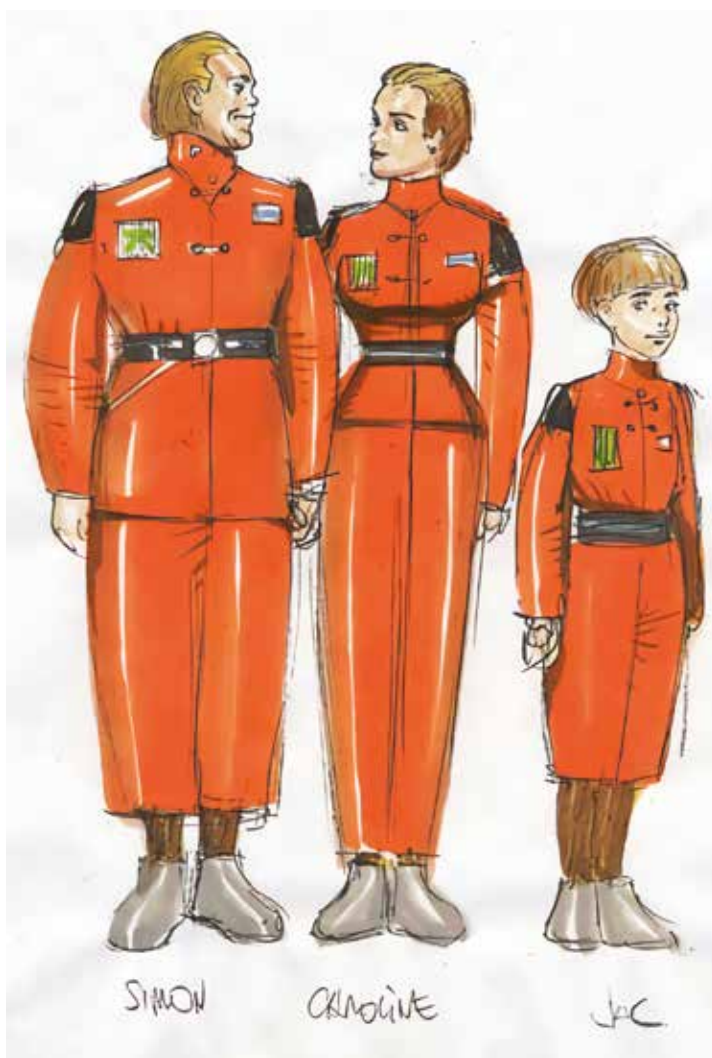






## THE CHARACTERS

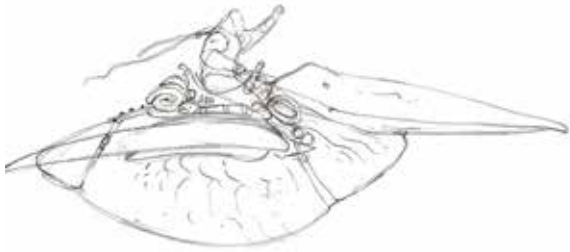


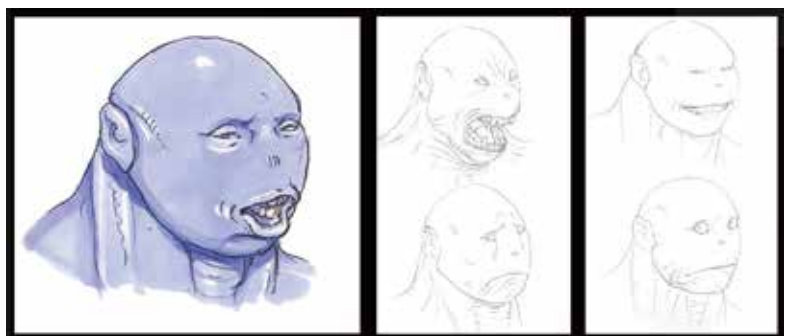
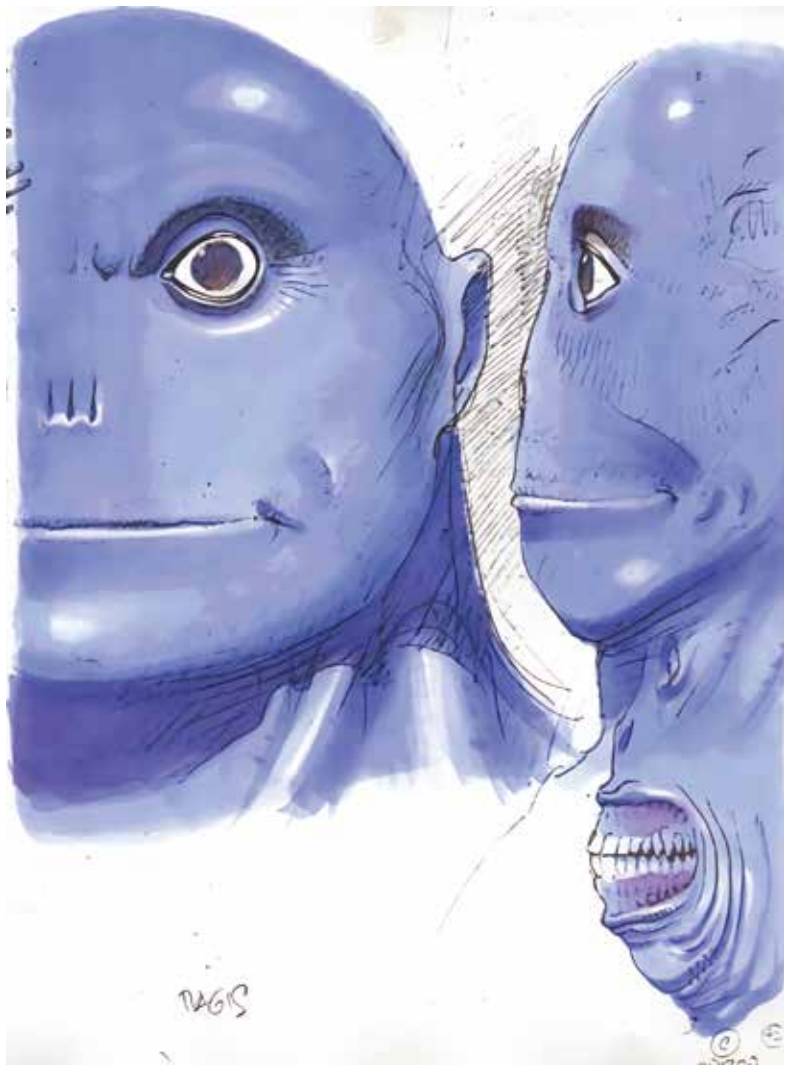




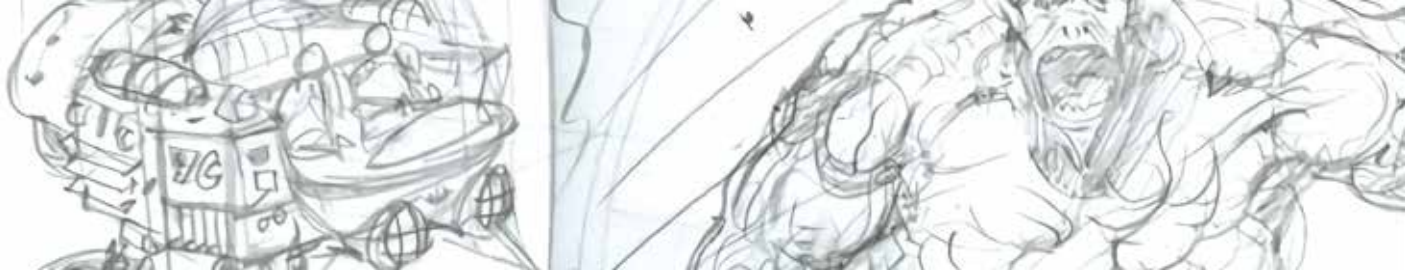


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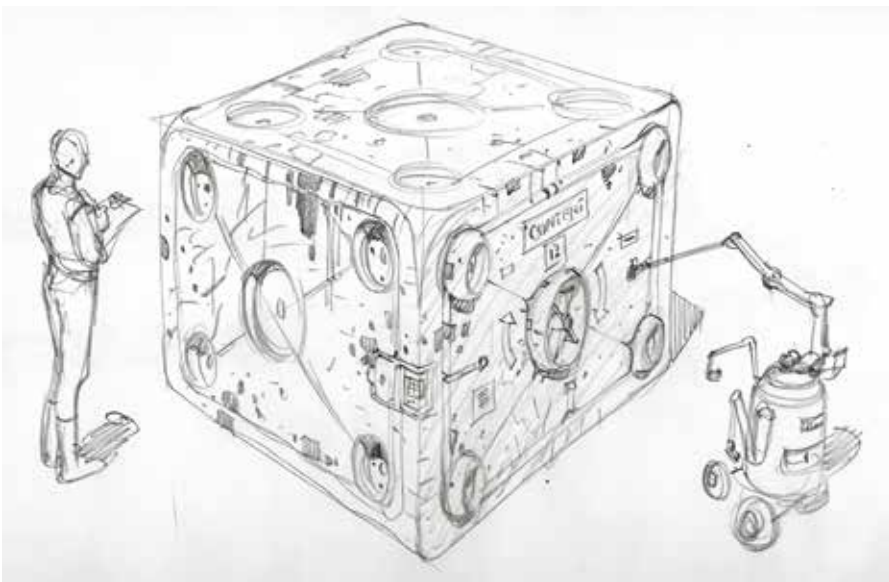




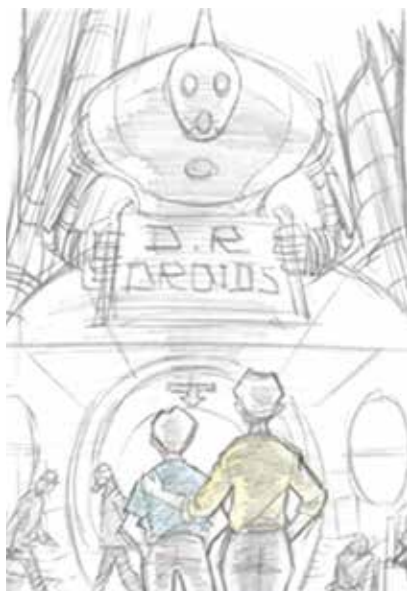




## THE SCENE









# GLOBAL DIGITAL CREATIONS

## CREATING IP ECOSYSTEMS TO EMPOWER NEW REGIONAL ECONOMIES



### SOURCE: GLOBAL DIGITAL CREATION LTD.

From the quickest plane to the tallest building, the most captivating stories to the largest food supply chain, great things are created by computer graphics. Founded in 2000 by Anthony and Raymond Neoh, Global Digital Creations Limited (GDC) (HKEX: 8271) is the leading company in 3D digital contents and digital culture in China and Asia. With state-of-the-art 3D digital production and management systems, GDC has taken a dominant place in the digital culture industry in China. Over two decades of research and development enables GDC to independently create, develop, produce and distribute computer graphics, computer-aided design, and motion capture solutions, empowering new economic opportunities.

GDC is the original IP creator of over 20 animated movies and 60 animated series, including "Thru the

Moebius Strip", China's first ever interstellar epic; Little Submarines with the theme of ocean exploration; the T-Guardians in an innocent world of toys; the military-themed Soldier Shun Liu, a movie about puzzle and growth; the Super Three comedy. GDC was awarded in 7 consecutive times the "Key Enterprises for China's Cultural Export", and it is the winner of the China Huabiao Film Awards, Golden Dragon Award Original Animation & Comic Competition, Golden Monkey King Awards. The original digital creations of GDC have received critical acclaims at home and abroad, including from Hollywood and European film producers.

GDC currently has 200 staff, boasting the world-leading CG production pipelines and a capacity to produce four animated series and one animated movies at a time. GDC also embraces cloud computing and intellectual property rights, providing holistic digital content solutions for cities. The services of GDC are stratified into six divisions:

### FILMS AND TELEVISION

This division focuses on Chinese comics blockbusters, catering to the aesthetics of the young generation, GDC reimagines Chinese classics by combining historical mysteries with fantasy and martial arts such as the Dunhuang, Sanxingdui, and Loulan relics. These works address market enthusiasm with concrete understandings of the humanities, giving rise to homegrown comics. GDC recently created such original animations as The Hero Battle, Little Submarines, T-Guardians, Super Three, Patch Pillows.

As China's first military-themed animation that combines the Chinese Dream, since 2014, The Hero Battle spreads military wisdom and knowledge of national defense among youths. In the early stage of creation, GDC portrays a realistic and detailed image of the army by having creative personnels live in barracks. To date, 114 TV series have been created with





two seasons of cartoons broadcasted on over 200 TV stations and 5 billion gross broadcasts, and more than 100 franchised products.

Since 2008, eight Happy Little Submarines movies were shown in cinemas, with six of them topping the box office for domestic animations six times in a row. The movie series has grossed over RMB300 million across China's 48 cinema chains and 10,000 cinemas, reaching tens of millions of families.



## BRANDING

GDC has six original IPs addressing different themes: The Hero Battle discusses military science, Happy Little Submarines explores the oceans, Pillow Baby nurtures emotional intelligence in toddlers, Finless Porpoise combines domestic animations with cosmetic products. GDC's IP value chain integrates sales, franchising, IP incubation, authorization to create an exclusive IP ecosystem and an empowered IP 3.0 era.

## VIRTUAL IDOLS

GDC capitalized on the emerging popularity of such virtual idols like Hatsune Miku and Luo Tianyi through its 20 years of industry-leading animation technology and CG-related







system development experience. GDC successfully created three virtual spokespersons for the 2021 Macau GROHE Conference and the virtual host of Wa Wang Fu in Yunnan, virtual tour guide of Miao Village Qianxian Cave, the virtual idol Eagle Boy-The History of the Party and other avatar projects. GDC continues to employ virtual idols to vertically integrate value chains, using virtual idols for live sales broadcasts.

### **DIGITAL TOURISM**

Regional economic development is an integral part of the 14th Five-Year Plan. GDC applies its computer-aided design expertise and IP repertoire to support this goal. GDC promotes the use of virtual idols, virtual live broadcasters to digitalize tourism. GDC is collaborating with Hukou, Jiangxi to create Finless Porpoise, an animation exploring conservation of the Yangtze River. In addition, GDC has negotiated collaboration with an excess of 20 cities and provinces to rejuvenate local economies via digital cultural tourism.

### **IMMERSIVE CULTURAL EXPERIENCE**

GDC's Digital Cultural Space has been running for 10 years in Shenzhen and Foshan. GDC is now upgrading its Smart Campus for enhanced



manufacturing, digitalized operations, personalized experience, product standardizations. In addition to the animation industry bases in Shenzhen and Foshan, GDC is also collaborating with Chengdu and Beijing Shougang Park to develop immersive digital cultural spaces.

### **GDC FOSHAN ANIMATION INDUSTRY BASE**

GDC transformed from a computer graphics-only company to a

comprehensive digital content creator with subsidiaries in film and television, media technology, digital cultural tourism, sci-fi, and industrial parks. As the creator of China's first 3D epic, GDC thrives to create digital arts with Chinese cultural characteristics through employing cutting-edge computer visuals, original creations, and themed-IP assets to create vertically integrated, immersive product ecosystems.

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# SICHUAN HONGYAO CULTURE COMMUNICATION CO., LTD

## AN OUTSTANDING ORIGINAL ANIMATION IP PRODUCER AND OPERATOR IN CHINA



**BY SOPHIA ZHU**

**H**ongyao Culture was founded in 2012 in Chengdu, the hometown of pandas. It took nine years to build the IP family of "Pango, the Panda", which is recognized by the industry as the most international animation IP image in

China. The founding members of the company are senior executives and professional backbones in China's 3D animation industry, and they are committed to building the top one China's Animation Panda IP, an IP star family with international standards, and establishing an animation IP business ecosystem with creative content, research and development, cross-border authorization, and offline business as the core.





### PANGO, THE PANDA

"Pango, the Panda" short videos and animated shorts headed on China's main streaming platforms such as iQIYI, Tencent Video and Douyin. A number of skins, wallpapers and themes were live in LINE, Sogou, Huawei, Xiaomi, Oppo, Vivo and other overseas and Chinese platforms and were on a hot list. View counts of all kinds of creative content have been reached 2 billion on the Internet.

"Pango, the Panda" series of facial expressions covers the content of common expression, festival blessings, humorous, dialects, musical instrument, and epidemic prevention; which was also in the LINE, WeChat, QQ, Sogou

input method, Baidu input method, iQIYI, weshineApp, withyouApp, and many other online platform, spread widely in 230 countries and regions globally with the 300 million cumulative download and 3 billion send-amount.

### CENTURY-OLD HERITAGE CLASSIC IP

Hongyao Culture takes creating century-old heritage classic IP as the ultimate goal, integrates the essence of Chinese traditional culture into IP character stories, creates vivid, interesting and positive animation works, and spreads Chinese traditional culture, characteristic humanity and Chinese spiritual values to the world.

"Pango, the Panda" is a series of

animation shorts that tells the story of Pango, the panda and Paquin, the orangutan, making local specialties at a different famous scenic spot in Sichuan. Giant pandas, special food and scenic spots are all highlights of Sichuan specialty. Hongyao Culture hopes to show unique forms of animation: while bringing joy to the audience, it also presents Sichuan cuisine, famous scenic spots and local customs; spreading Sichuan native culture to the world; create a new name card of Sichuan culture and help Tianfu culture to go international.

Hongyao Culture has created another animation short series of "The Daily Life of Pango and Pakun", which





describe Pango and Pakun's daily life through the conflicts between the two main characters as well as the differences between Chinese and Western cultural backgrounds.

### THE PANGO COMIC BOOK

The picture book "Pango, the Sealed Book" vividly tells how the origin of Chinese characters were created and the secrets of traditional Chinese cultural classics such as The book of Yijing, The Book of Songs and The Book of Shennong's Herbal Scriptures in Chinese paintings combined with the cute image of Pango.

The IP of "Pango, the Panda" has been authorized by more than 20 types of memes and has more than 50 partners. It has increased the partners' product sales by more than 20% and increased the online and offline flow by more than 300 million. The authorized cooperation projects have good market response and revenue growth. The partners include large-scale state-owned enterprise OCT Jinxiu Anren Flower Park, CCTV Panda Channel, Japanese enterprises



Ito Yokado, Japanese enterprises Waco, Baidu, Sogou, iQIYI, etc.. It also developed co-branded poster of "The Climber" movie.

### THE PANGO THEME PARK WITH AN INNOVATION INDUSTRIAL PARK

At present, Hongyao Culture is actively promoting the launch of Pango, the Panda Innovation Industrial Park in Chengdu, creating an animation Panda IP-themed pastoral complex integrating industrial park, parents-kids

theme park, theme commercial block, theme hotel and home stay. The park will introduce and open up upstream and downstream industrial clusters of cultural and creative enterprises and animation enterprises, establish school-enterprises cooperation, undertake conference affairs and various activities, promote the rapid economic development of Chengdu's local animation industry, and promote the integrated development of Chengdu's culture and tourism.





## DREAMERS STUDIO: STRATEGIES FOR ANIMATION FILM MARKET IN CHINA



**BY RAYMOND D. NEOH**

**I**n 2019, "Nezha: Birth of the Demon Child"--哪吒之魔童降世 had shaken up the Chinese animation film market. More than US\$800 million in box office made the animated film ranked the third in the history of Chinese film box office list. This is a new height that no one has ever thought of, and it is an excellent market signal for the animation film industry in China.

### WITNESS THE REVIVAL OF CHINA'S DOMESTIC ANIMATED FILMS

If we examine the development of

the Chinese animation film industry (excluded the first long format Chinese animation film "Uproar In Heaven"--大闹天宫). There are two films that divide the development of Chinese animation film into three stages: chaos before "Monkey King: Hero is Back"--大圣归来 and "Nezha: Birth of the Demon Child" opened up the animation film market with ever one rushing in to make animation, to post Nezha era that is full of unknown and expectations. Before "Monkey King: Hero is Back" in 2015, domestic animation film is synonymous with young children, the best Chinese animation film "One Hundred Thousand Jokes"--十万个冷笑话 achieved a box office of US\$20

million. If someone asking you to invest in an animated film at that time, you would think he was crazy. But Justin Jiang, founder of Dreamers Studio, was the pioneer and the crazy man. He was the producer of "Monkey King: Hero is Back" at the time. The grim financial situation and the more desolate market situation made the project "Monkey King: Hero is Back" nearly shut down. But with the support and love of the postproduction people, the movie got finished and changed the future of China animation industry. Realizing the dreams with friends, the studio had gained the name of the "Dreamers Studio".



## DREAMERS STUDIO WITH 4 KEY QUALITY PROJECTS LAYOUT THE FUTURE

There are four key projects in Dreamers Studio that will be released in 2023-2025, including science fiction "The Heart of Steel"--钢铁之心, modern urban "Planet Cat"--一只叫薛定谔的猫, mythological "The Classic of Mountains and Seas: Monster Trainer"--山海经之御兽少年, and the Chinese folklore fantasy "Ya Shan"--崖山. Exploring the infinite possibilities of themes is the unique creative logic of Dreamers Studio. Chinese animation films do not have to hold on to traditional myths. More diversified theme direction and open creative space do not only provide more diversity to the Chinese animation industry, but also offer more opportunity for new creators to come in.

From "Monkey King: Hero is Back" in 2015 to the arrival of "Nezha: Birth of the Demon Child" in 2019 to the rebirth of "New Gods: Nezha Reborn"--新神榜:哪吒重生 in 2021, although new style and story appears constantly, there is still room for improvement in quality and quantity for Chinese animated films. The stable output of 1 billion box office blockbusters every year is the beginning of the maturity of Chinese animation films.



### COMPLETE ANIMATION IP INCUBATION, PRODUCTION, POST-PRODUCTION AND DISTRIBUTION CHAIN

#### IP ACQUISITION

- Professional content planning, to create an all ages family Edutainment brand
- Create an animation director studio platform
- International IP co-production
- Media content development

#### PROFESSIONAL PRODUCTION MANAGEMENT

- Experience in animation production pipeline
- Production cost control and management
- Technical R&D support



#### COMPLETE DISTRIBUTION CHANNEL

- 9 years of experience in the distribution of animated films, China's largest professional animated film distributor, cover all theaters chains
- Cover all media distribution channel (internet streaming, TV channels, knowledge payment, book publishing)
- Full services marketing planning team, with mature business and media channels

#### FULL IP VALUE-CHAIN DEVELOPMENT

- Toy and other peripheral product development and licensing
- Theme performances, theme exhibitions, theme park cooperation
- Game, AR, VR interactive experience development

## THE PEOPLE

Dreamers Studio is formed by industry veterans who have been around since the beginning of the Chinese CG animation industry. As a people's company, we value the relationship with people working with us. Animation directors, artists, story writers, channels distributors or financiers are our friends. The Chinese name for Dreamers Studio is "朋友梦想-友梦 Friends' Dreams", and we hope to make their dreams become a reality, to make beautiful animation together.



DREAMERS STUDIO  
CHIEF EXECUTIVE OFFICER  
**JUSTIN JIANG**

- Producer of the animated film "Monkey King: Hero is Back" and Executive Producer of the animated film "The Wind Guardian".
- Justin is a senior animation industry veteran, co-founded Gaolu Animation Distribution Company in 2005, founded Xingle Film in 2010. Justin had produced and distributed more than 30 animated films during his career, and founded Dreamers Studio in 2016.



DREAMERS STUDIO  
EXECUTIVE DIRECTOR  
**YANG DAN**

- Producer of the animated film "Monkey King: Hero is Back" and Executive Producer of the animated film "The Wind Guardian".
- Since 1998, he has been the director and producer for CCTV. From 2009, he has provided media promotion services to major Hollywood producers in the Chinese market. Films he has helped to promote include "Avatar, Kung Fu Panda 2" and "Transformers 3". Dozens of Hollywood films, such as "Ice Age 4, Smurfs 1-2, Pirates of the Caribbean".
- Co-founder of the Beijing Weying Shidai Technology Co., Ltd in 2014 .



DREAMERS STUDIO  
PRESIDENT FOR GLOBAL OPERATION  
**RAYMOND D. NEOH**

- Founder of CG Global Entertainment Limited
- In 2000, Mr. Neoh successfully established Global Digital Corporation and Institute of Digital Media Technology (IDMT, the "Whampoa Military Academy" animation training) with his brother Anthony F. Neoh. Through years of operation in the digital media industry, he has accumulated tremendous human, technical and market resources. Mr. Neoh is also the founder of GDC Technology, Ltd., one of the largest digital cinema equipment manufacturer in the world.

## WORKING TOGETHER

Dreamers Studio will continue to contribute to the development of the global animation industry. We are expanding our cooperation on Chinese and international animation projects, and hope to create more and more popular IPs and content with all parties in the world.





# CHINA'S FIRST 3D ANIMATION WITH 3.2 BILLION VIEWS "THE WESTWARD"

**BY CLOUDY,  
PAN QIAO YUN**

"The Westward" tells the story of the Master Sanzang and his three disciples in the Western Paradise to retrieve the "Eternal Fire" (same as Bible) and handed over to the Immortals ruler Di Shi Tian, but the world did not change for the better. Sixteen years later, in order to save the world, Tang Sanzang once again led the team to return the Bible back to the legend of the road.

In the setting of the story, the team built a huge world view. At the same time, in addition to the animation content of the story, the characters in the story are also different from the conventional impression, providing a charm.





## A SERIES CREATED BY OVER 200 ARTISTS

The copyright of "The Westward" belongs to the IP Copyright Committee of The Westward: founded by Shanghai Tencent Pictures Culture Communication Co., Ltd and Guangzhou Bymant Culture Co., Ltd. Since July 18, 2018, the 3D animation has been exclusively broadcast on Tencent Video and has been updated to the third season which the total of 3.2 billion views.

For the creative team, while highlighting the core spirit of "The Westward", it also fits the audience's preferences under the overall environment. In the creation of characters and emotional depiction into more painstaking efforts. With this in mind, a production team of more than 200 people, including the director, created a wonderful script, used professional animation techniques at movie level, and worked hard for many years to create a high-quality animation.

Both the story itself and the artistic expression technique endow the animation with new vitality and make it more in line with the realistic spirit, cementing the series' success.

## OFFERS A FULL SPECTRUM OF IP AND MERCHANDISING RIGHTS

Today, "The Westward" has a wide audience at home and abroad, covering up to 130 million audience. IP has now covered film and television, books and periodicals, licensing surrounding areas and other plates, reaching audiences in many fields. Repeatedly won awards at home and abroad, with excellent results to obtain the support of many audiences.







# SILKROAD VISUAL

## EMPOWERING THE CG INDUSTRY WITH THE INTEGRATION OF CULTURE AND TECHNOLOGY

BY RAYMOND D. NEOH

**F**ounded in 2002 and headquartered in Shenzhen, China, SILKROAD VISUAL TECHNOLOGY CO., LTD. (300556.SZ) provides creativity-centered and demand-oriented digital visualization solutions in three major business areas: design visualization, film and animation, design and construction of digital exhibition, based on CG (Computer Graphics), VR (Visual Reality), AR (Augmented Reality) and other visualization technologies.

As a pioneer and promoter in the field of visual technology and application, SILKROAD VISUAL has come up with works of international influence, including the animated reproduction of Emperor Qianlong's Tour to the South, Vol. 12, Returning to the Forbidden City---the famous painting and museum collection in National Museum of China, and the joint production of the documentary I Dream, I Strive,



I Run with Xinhua News Agency in commemoration of the 40th anniversary of Reform and Opening Up, as well as Across Mountains and Seas, the promotional film for The Belt and Road Summit. In addition, SILKROAD VISUAL provided creative digital support for the celebration of the 70th anniversary of the founding of the People's Republic of China, and for the

Planning Exhibition Center of Xiong'an New Area, city known as "China's Millennial Project". SILKROAD VISUAL also carried out the arrangement of exhibitions in Shenzhen Museum of Contemporary Art & Planning Exhibition, in collaboration with curatorial teams, experts and exhibition designer teams from home and abroad, revolutionizing the exhibition industry.

On November 4, 2016, SILKROAD VISUAL became the first Chinese company specializing in the CG industry to be listed on Shenzhen Stock Exchange GEM, thanks to which SILKROAD VISUAL further advances the research and development of cutting-edge visual technologies, covering Visual Cloud Computing (RAYVISION), Digital Twin (THEIA), as well as VR/AR/MR (VISUAL DYNAMICS), all of which are conducive to the building of a novel digital infrastructure that enables the digitalization upgrade of all industries.

Oriented toward the integration of culture and technology, SILKROAD VISUAL keeps advancing with visionary digital creations and solid accumulation of technologies, carrying on with technological innovations and explorations and transforming itself into a Chinese force of global influence in the domain of the CG industry.

### **CITY PLANNING EXHIBITION MUSEUMS**

With the acceleration of urbanization, city planning attracts increasing attention from municipal governments, property developers, investors, and citizens. To better display and illustrate the accomplishments of urban planning,

city planning exhibition museums---a new type of specialized venue, appear successively in Chinese cities.

The Shenzhen Planning Exhibition is open to public since August 2020 in Shenzhen Museum of Contemporary Art and Urban Planning. Displayed in three sections: Urban Coexistence,

Urban Co-Building, and Urban Co-Thinking, the exhibition for the first time systematically reviews the history of Shenzhen's urban planning and development, in search of the humanistic values of Shenzhen's urban inclusion and various social values unraveled by city planning and innovative design.







## IMMERSIVE LIGHT SHOWS

As a growing number of scenic spots challenge traditional business models, they start to create immersive night-time shows to seize the nocturnal market. Light shows, as an essential part of the night-time economy, not only exhibit creative and intensive vitality, but also meet the demand of the fast-paced Internet era, satisfying the aesthetic and spiritual needs of consumers of new generations.

With the trending integration of culture and tourism, SILKROAD VISUAL mounted thematic light shows in Marco Polo Square in Tianjin Italian Style Area and Tianjin City Planning Museum during the May Day holidays of 2021, lighting up the city at night with lucent spectacles, which became a new motor of city upgrade and transformation.

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# YAN KAI

## CHIEF CARTOONIST OF MAINLAND CHINA

BY SOPHIA ZHU

**Y**an Kai, China's most famous cartoonist. One of the "Three Swordsmen" of Chinese Comic in the age of "Comic's King"; author of the first new comic separate in China, "Xue Ye". Yan Kai entered the comic industry in 1994. Today, he is still committed to domestic original animation & comic business, establishing a company and forming a domestic top-level comics creating team.



**CGGE:** You entered the comic industry in 1994. As the pioneer of China's new original comic and one of the "Three Swordsmen" of Chinese manga, you are praised as "the first man of Chinese original story comics" and "the chief Comics of mainland China" by the domestic and overseas industry. How did you embark on the road of original comics?



**Yan Kai:** Because of "interest" and "luck". As a baby of 3 years old, I was fond of doodling. At the age of 7, when my parents asked me what I would like to do when I grow up, I asked: "Can drawing picture-story books be counted as painting? If so, I want to

be a painter..." When I was in high school, I wrote dozens of original novels and illustrated, which I thought was cool. Then, the classic new comics were imported into mainland, including "The Dragon Ball", "Saint Seiya" and "City Hunter" in the early 1990s.

When I saw it, I fell in love with them. I think this is a kind of art form that combines painting skills, script writing skills and film and film language. Since then, I have set my own goal in life, and I have been a cartoonist in my life. After that, it was a variety of self-study exercises.

In 1994, I accidentally spotted the magazine "Comic's King" in a kiosk, which became a turning point in my life. "Comic's King" is the first comic magazine in China. In the evening of the same day, I submitted comic drafts to the editorial department of "Comic's King". Fortunately, Wang Yongsheng, the editor-in-chief of "Comic's King", appreciated my manuscript. At that time, he was planning to create China's first new comic studio. Limited by conditions, he decided to select only three young people nationwide. And I was chosen. I spent three days trying to persuade my parents to allow me to drop out of college, and go to Beijing to pursue my comic dream because "the university is always there; however, if I

miss this opportunity, I might miss an entire era."

Thanks to God, I did not miss that era. I arrived in Beijing with my dreams, published my debut "Xue Ye" on "Comic's King", and became an original cartoonist who published the first comic separate in China. From then on, I went through ups and downs, fighting all the way till present.

All of my heartfelt gratitude go to my teachers and colleagues who have helped me in the past 25 years. Without them, I wouldn't have the luck.

**CGGE:** In the 1990s, many people did not recognize cartoonist as a profession. How do you view the current domestic development of original comic? What do you think is the road to developing Chinese comic in the future?

**Yan Kai:** I used to say that when I chose to draw comics, I chose "the condensed life restricted to the table".

The domestic creation environment for original comic has been much better in the past few years than that in the earlier years. In the 1990s, the cartoonist has no income, no platform or any resources. It is a group that lived by dreams. Few of them have survived.

Now, due to the support from the government and capital for the cartoon and animation industry, the industry has made a qualitative leap compared to 10 years ago. The numbers of practitioners, works, and platforms have greatly increased. Large groups and capitals, such as Enlight Media and Alpha, are building their internal ecological chains. The rise of the online platforms like Tencent Animation & Comics and Kuai Kan Comics in the new era has boosted the industry to some extent.

Of course, at this stage, there are also challenges to face. Previously, in order to compete for market share, the emerging platforms adopted the "Data First" competition





strategy, which has brought serious consequences to the development of the industry. This kind of strategy intensified the phenomena "Bad money drives out good" and "Operating based on the data matters more than high creation quality of IPs". With the recession of capital, companies that don't understand the industry, and can't create good works will be obsolete. Left is the mainstay that can truly create value for the industry.

**CGGE:** With a large number of comics now being adapted into animations and games, the corresponding derivatives are constantly entering the market. In your opinion, which factors do you consider when you decide whether a comic should be adapted into games, animations, etc.? How do you view

your work being put on the big screen in the future?

**Yan Kai:** The aspects for assessment are numerous and complex. At present, the concept of "data stream" is popular in the industry. An IP with more powerful data support has greater development value. But personally, this is not the only standard. In addition to excellent "data", the following factors should also be assessed:

- "Worldview": Does the work have a distinctive worldview? Is it huge or true enough? (It should be real in the first place, then distinctive and huge to be worthy of long-term investment)
- "Plot": Is the plot of the work wonderful? Is the magnitude sufficient? Suitable for long dramas & movies? (The comic series of 3 years





or less is basically insufficient from the perspective of adapting the film and television drama)

- "People": Is the character shaping three-dimensional and likable? Do the fans of the work prefer characters, or even the author, to the work? (It's better that they prefer characters to the work)
- "Adaptability": Can the work be adapted into any work? Or does the work have such a profound two-dimensional nature that it can only be adapted into animation? (A considerable number of works are not suitable for adaptation into live-action series)
- "Duration": It is often neglected in IP purchases. Actually, a new-born hot work that has only existed for 1-2 years is not comparable to a work that has been serialized for 10 years. (The longer the work lasts, the more suitable it is for creating a large IP. A new-born hot work is only suitable for making quick money)

When we create our own works, we pay special attention to the aspects above. For example: "Star Guardians" has been serialized for 10 years and accumulated a huge number of fans. Featuring a world view the star sea (cosmic level) and more than 100 characters, it has various derivative works. The work implies game hierarchies in its setting and is suitable for being adapted into animation and live-action science fictions.

"The Legend of Celestial" has been serialized for 12 years and accumulated a huge number of fans. It features a world view of Chinese and Western immortal hierarchy and has more than 100 characters. It also sets the game hierarchies and is suitable for animation adaptation.

Of course, I myself have been expecting our work to be on the big screen, which is also what the readers expect.

We expect cooperation with friends from all walks of life. Looking forward to making achievements together with you! Fighting! (Laugh)





# **“PAYBACK 45”**

## **CHINA’S POP MUSIC ANIMATION SERIES**



BY SOPHIA ZHU

On March 25, 2021, the pop music animation IP "Fightback 45 Seconds", created by Xanthus (Shanghai) Culture Media Joint Stock Company and Youku Kids Channel, was live on Youku and Bilibili. It is China's first pop music animation series with positive energy.

The story of Rap occurs in the future Chongqing, where there is a young boy called Xiao Bu, who has an unusual talent for rap. Because of his sister's death, Xiao Bu is unwilling to face the stage and becomes gloomy and autistic. One day he meets with the hot virtual idol Angelina by chance. Something's gotten holden in Xiao Bu and Angelina's hearts during their time together. Little by little, Xiao Bu rebuilds confidence. He relieves from the past and determines to pursue his musical dream.



#### "PAYBACK 45"

"PAYBACK 45" combines animation and pop rap with Chinese local characteristics but is not limited to "dialect culture". With the Chinese style lyric, it represents the rap with full Chinese characteristic and positive energy to the world. And it also guides teenagers to form a healthy and uplifting cognition of music and rap culture.

Many sets in the animation are taken from the Chongqing and were artistically processed. It brings the real feeling of the future Chongqing to the audience. In order to present the complicated stereotactic shots and sic-fi feeling of shots structure, it combines 3D animation, 2D animation and 3D

rendering to 2D animation technology, and maintains the vivid expression of the character emotion.

Xuansu Culture's attempt to the subjects and styles in the series fills the gap in the China market of pop music animation and it also breaks the limits of traditional animation to create a new concept of a category of Anime Pop. With its business model of cross industry cooperation in Brand + Animation, it develops a refreshing Chinese animation with pop music and lets the world feel the charm of Chinese culture.





# “TIGER, THE ESCORT” A NEW STAR

BY SOPHIA ZHU

**S**oular Animation Studios (Soular) is a Chinese CGI-animation film studio based in Shenzhen, China. The studio mainly focuses on creating original concepts and characters inspired by Chinese culture and influence. Soular consists of a group of highly experienced experts in the animation industry. Over the last decade, its CGI-animated films have garnered awards in several international animation film festivals, along with many other acknowledgements.

## RUN, TIGER RUN!

With the recent emergence of Tik Tok across the world, Soular has captured the new generation of audiences with one of their original character: Tiger, the Escort. Amassing more than 10 million followers worldwide, Tiger has become one of the top influencers on the platform. The shorts focus on Tiger's everyday life as an escort, spread positive values and bring joy and laughter to the audience. These contents also pave forward for Tiger's debut for the upcoming animated feature.

## ABOUT THE STORY

During the Ming Dynasty, Pingyang village serves as a financial center of the region. Due to the constant threat of looting, a special industry has flourished: The Escort Agency. The agency is to safely transport expensive goods from one town to another including silver and gold for banks and the local government. Escort Agency is regarded as a sign of honor and trustworthiness.

An eleven-year-old Tiger, is an orphan who grew up at the Four-Seas Escort Agency. Unlike most of the children in this town, Tiger dreams about being a certified escort. He was inspired by one of the greatest legendary escort at the time: Master Yang. He and his team were requested to complete



a special delivery by the emperor. Against all odds, Yang completed the delivery, but was never to be seen again. No one knows what actually happened. As time passed, the name of Master Yang faded away. Only Tiger remembered him and hope to be a "hero" like Master Yang. With the talent of running "fast", Tiger always dedicates all to his goals, but somehow, he always fails and ends up getting into trouble. The dream seems so far away and there are many challenges that are awaiting him...

Coincidentally, Tiger finally gets a chance to work with the "famous" Master Yang. However, this is a scruffy, unshaven alcoholic guy with sloppy clothing. Tiger is shocked that this person is the Master Yang in his thought. And Mr. Yang is to accompany Tiger to execute his first delivery, and together they must take this new yet exciting adventure through the valley side of Northern China. Would they reach their destination? Let's hold our breath and wait to see...







## THE LEGEND OF LION DANCE

BY ELLEN XU

**H**ave you ever watched Lion Dance? The Lion Dance is one of the most widespread folk dances in China. In old times, people regarded a lion as a symbol of braveness and strength, which could drive away evil and protect humans and livestock. Therefore, performing the Lion Dance at the Lantern Festival and other festive occasions became a custom where people could pray for good luck, safety, and happiness.

### A STORY ABOUT LION DANCE

It's the day before Mid-Autumn Festival. ASing is super excited because he gets to be the next King of the celestial lions and follows his ancestors' footsteps to rule the divine world of the celestial beasts who are guardians to humans. All it takes is for the family that they have guarded to perform the Lion Dance ritual on the festival that will crown ASing. Without the ritual, there can't be any coronation as it is its life force for Lions.

But the designated family that's supposed to perform the Lion Dance

ritual is in deep crisis. The art of the Lion Dance is getting less and less popular and the professions that are supplementing the Lion Dance performances are in decay. Even Akin, the son of the famous Master Lion Dancer, is refusing his duty to the family tradition and doesn't even want to put up the costume that represents ASing and perform Lion Dance. He wants to be a rapper, which he thinks, is much more glamorous, not to be stuck in the old traditions that has run in his family for generations already and this have caused many conflicts and arguments in the family.



ASing can't ignore the trouble in the family and he feels he must do something, because if his Lion Dancers don't perform, he won't get enough life's energy to live on and the celestial beasts will lose their leader. Eventually, the humans will be effected. ASing sets on the road to accomplish his mission to save the Lion Dance Family and his own clan.

Red hair, blue beard, bright big eyes... Different from the traditional image of lion dance, "Lion King Awakening" has a dynamic and lively face, which is favored by young people. Based on the prototype of the traditional "Li Jia Lion", the founding team designed and developed the image of ASing, so that the lion dance is more in line with the modern public aesthetic.

ASing is the main character of Tales of Lion Dance, a property created by Golden Lion Culture (Foshan) Co. Ltd. Born in Foshan in March, 2018, ASing is the representative of Chinese Lion Dance culture. With red hair, blue beard and big bright eyes, unlike the traditional style Lion Dance costume, ASing has a lively face that is particularly well-received among the young in China.





# DIGITAL TIGER IMAGE SERVICE PROVIDER TO DIGITAL MEDIA CREATIVE CONTENTS



BY SOPHIA ZHU

Shenzhen Digital Tiger Image Co., Ltd. is a creative company that focuses on visual creation and provides the service for the customized cultural tourism projects. It was founded in Shenzhen and now has branches in Beijing, Shanghai, Xi'an and Wuhan with the well-known clients from the Songcheng Group, OCT Group, Wanda Group, Huayi Brothers, Xinhualian, Sun Media, CCTV, Hunan TV, etc.

In the past year, with the booming development of cultural travel and the performing arts industry in China, Digital Tiger has provided a wonderful picture for the public in terms of night Tours, immersive experience, digital art, interactive technology and so on. The project of "Fu Yao Ying Yue" is a multi-media visual show with the theme of "it's not too late to meet and stay in Fu Yao for the rest of life", which exhibits a historic and beautiful city of Fu Yao. The project won the award of the Best Night Tour Show in China in the 10th ITIA Award.



"Jian Man Chang Ge", the first lighting performance show on the cliff in China, crosses the thousand-year Sichuan Road (Shu Dao) at Jianmen with the 1000 square meter cliff as the curtain as well as the starry sky as the scene to present a historical and cultural feast with projection, lighting, sounds and live show.

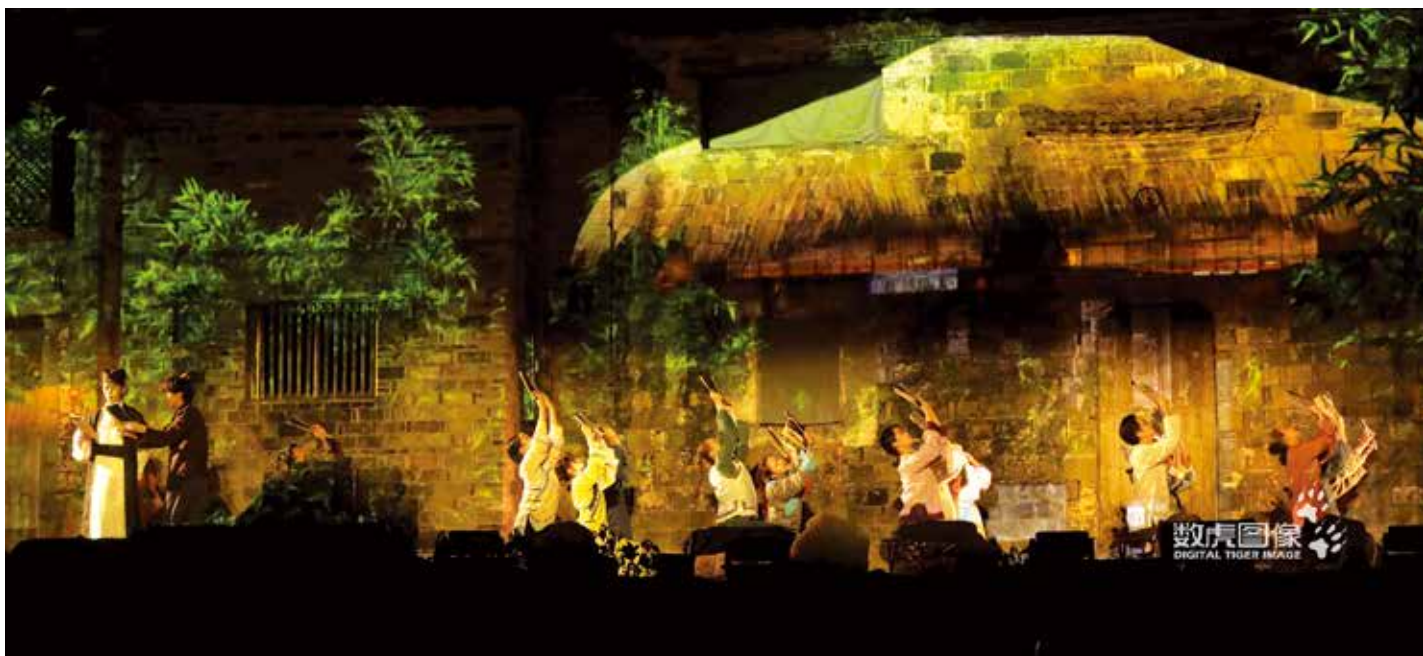
The high-profile grand epic "Tonguan-yao Legend" opened in the cheers of the crowd. It restored the history with modern technology. Multi-layered giant screens extended from the bottom of the stage to the audiences, and the visual space extended dramatically in the clever design of liftable ice screens and high-definition projections. The proportional ship "Black Stone" was moved to the stage, boosting the performance tension. Naked-eye 3D video and super IMAX audio-visual surround effects created a highly immersed multi-dimensional environment.

"Dreaming Back to Tang Dynasty" is a musical opera of Furong Garden in Tang Dynasty with "black technology" to cross space and time. It fully restored the history with stereoscopic image and light transformation interlinked. With the touching love story under the deeply rooted social contradictions, let audiences experienced the joy and sadness across time and space.

The Large-scale immersive live show "Dream-seeking in Peony Pavilion" was selected as one of the "Ten Most Influential Performance of 2018 China's Tourism Industry". The "Dream-seeking in Peony Pavilion" is another works following the "Dream-seeking in Dragon Tiger Mountain", the Dream-seeking series. It combines the opera, dance, kongfu, acrobatics, music and other traditional elements with holographic digital images, lighting to restore the pavilions of Peony Pavilion.

The high-profile grand epic "Tonguan-yao Legend" opened in the cheers of

the crowd. It restored the history with modern technology. Multi-layered giant screens extended from the bottom of the stage to the audiences, and the visual space extended dramatically in the clever design of liftable ice screens and high-definition projections. The proportional ship "Black Stone" was moved to the stage, boosting the performance tension. Naked-eye 3D video and super IMAX audio-visual surround effects created a highly immersed multi-dimensional environment.





Support for animation production companies aspiring to  
succeed in the international market

# Tokyo Animation Business Accelerator

## TOKYO PARTNERS PITCHES AT MIFA 2021!

### SOURCE: TOKYO ANIMATION BUSINESS ACCELERATOR

The 5 top Tokyo Animation Pitches Grand Prix winners have participated in MIFA 2021 Partners Pitch to showcase their latest projects! Tokyo is the home to a thriving animation industry, but much of its highly creative output is unknown outside of Japan.

The Tokyo Metropolitan Government wants to change all of that. Working with the Young Animator Training Project created in 2010 by Japan's Agency for Cultural Affairs, which is a program that provides support to young Japanese animators during their studies and also serves to identify and develop future talent, the Tokyo government supports the efforts of these very creative teams and promoting the Tokyo animation industry to join MIFA.

It opens a door to an entire spectrum of Tokyo talent that is not represented in the global animation market. Unique and technically outstanding, they have so much to offer.

The projects include:

#### REPUBLIC OF CATS

It's the Top Prize Winner. An 80-90 min 2D and 3D Hybrid feature film for kids and family, is produced by 2d3D Animations.

A tiny island in the ocean that was once a luxury resort has been abandoned by humans and has fallen into ruins. The island's only inhabitants are the

majority of cat colonies and other small animals. The Chinchilla cats control the food supply which puts them in constant conflict with the stray cats. The story follows Apollo, a timid stray cat, and talented pianist, who experiences how to escape the falling island with his friends and their rebellion against the dominant Chinchillas.







### **SAMURAI PIRATES**

It's a (26+26) ep x 11 min CGI animation episodes for the children of 5~7. It's produced by Piconia Inc. and MOLOT Entertainment.

In the world of this story, when a person's heart is assailed with negative emotions such as sadness, that person becomes a monster called an Oni. The protagonist of this series is named

"EN", a Treasure Island pop-star idol. She has never seen her father's face. One day, unexpectedly, she and her four friends gain the power to purify peoples' hearts.

### **MARIKO'S UK SKETCHBOOK**

It's a 10 ep. x 10 min 2D, 3D, stop motion animation hybrid for your adult. It's produced by UK & M LLC. Mariko is a Japanese working woman who has never in her lifetime had the opportunity to live abroad. Finally, she is able to go overseas, achieving her dream. She spends a total of six years in the UK and in the US. After working for a video game company in the UK, she applies and is admitted to and attends film school. After graduation, her dream to become a filmmaker comes true. This series is based on a non-fiction, comic essay which looks at the differences between Japan, the UK and the USA through the eyes of a working woman who encounters and observes "people", "life", "culture", "customs", and "herself as a foreigner".







#### PAPARA AND ANNI

It's a 12 ep. x 24 min CGI Animation for the children of 7~10. It's produced by Kanaban Graphic. Papara and Anni live happily in a world of dolls.

They have been best friends for as long as they can remember. When they grow up, however, differences in their personalities appear. They cease to understand each other's thinking, which

leads to a quarrel and the breakup of their friendship. But they use their respective strengths to solve the dolls' problems one after another and dealing with the malicious creature together!



#### FU AND SASUKE - THE QUEST FOR COMPASSION

A 110 min 2D, (with 3D background) feature for the family audience. It's produced by Recommendation, Inc.

Fu, a dog living happily in Shanghai, is helping his owner, Zhuye, with his work. But Fu is sent away to Yokohama by Nianshou, a monster who wants to control China. Because Nianshou has a weakness for the light from the flower lanterns that Zhuye makes, Nianshou wants to stop Zhuye from making them by separating him from Fu. After arriving in Yokohama, Fu wants desperately to return to Shanghai, but it is not easy because the director of the public health center, Kitami, is cracking down on stray dogs. Then one day Fu meets Sasuke, a former fighting dog. His struggle to find a way to return to Shanghai begins.

It's an incredible concentration of raw creativity, offers a glimpse into Japanese animation excellence to come.

# RAFA INVITES PARTNERS FOR A PROFITABLE CO-PRODUCTION DESPITE THE WORLD HEALTH CRISIS



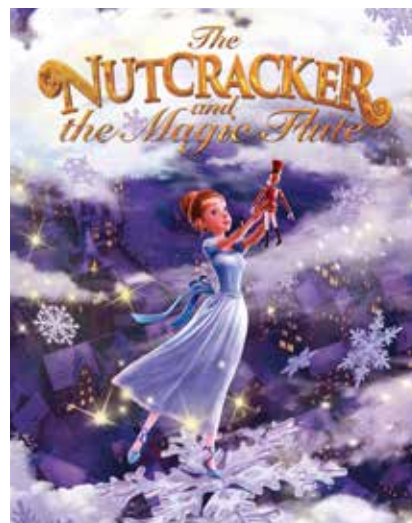
## SOURCE: RUSSIAN ANIMATED FILM ASSOCIATION

Russia is considered to be one of the first countries where the animation had started as the genre of the cinema. We celebrated the 100th Anniversary of the Russian animation in 2012. Since 2012 the industry of Russian animation cinema is consolidated by the Russian Animated Film Association (RAFA). RAFA is an organisation and industry opinion leader whose business involves core industry management, government resources, professional and expert

communities. It is an association of companies representing the interests of the animation film industry in Russia.

RAFA supports the development of the Russian animation – the industry getting every year more and more productive and accessible. In the past 10 years, we have come a long way. The number of animation studios in Russia has doubled and the production of animation has grown more than 5 times.

Today RAFA unites more than 60 animation studios from 7 regions of Russia, with animation is being adapted into 60 languages and distributed in more than 150 countries of the world. Despite the problems faced by many





industries during the pandemic, Russian animation studios are not only continuing to produce animation but are also increasing their number and quality.

Rebate system for production in Russia has been worked out. At the end of 2019 a couple of important laws have been passed by the government of Russia giving an opportunity to increase the Russian export activities. Point one is an adaptation of content for International market. Point two is the rebate program for production in Russia with the return of up to 40% of the project costs. The collaboration with Russian studios becomes profitable for International partners. The specifics of rebate in animation passes abilities for projects' development despite the isolation period. RAFA invites International production companies and is ready to provide partners in Russia, please contact us via e-mail at [pr.aakr@yandex.ru](mailto:pr.aakr@yandex.ru).

Features and serials are in successful development in Russia. Every year about a dozen features are released and two hundred series in production. The production companies are aiming not only for domestic releases but for promotion worldwide taking part in all significant markets like EFM, MIP TV, Marche du Film, MIFA, MIPCOM, etc. The Russian animated features have been sold for the territories worldwide: 4 features of "The Snow Queen" (Wizart Animation), 3 features of "Kokoriki" (The Riki Group), 2 features of "Space Dogs" (KinoAtis) are sold out to more than 150 countries worldwide. All of them are sequeled, prequeled and spined-off in Series.



In 2020:

- Soyuzmultfilm Studio is going to present a co-production with Cyber Group company "Orange Moo-Cow", "Squared Zebra", a detective series "The Secrets of Honey Hill", "I'll Get You!" reboot of animated series and "Suvorov" feature. Besides, author animation projects and stop motion short meters are available for distribution worldwide.
- For 2020 Riki Group is continuing with the sales of "BabyRiki", "Tina & Tony", "Panda and Krash" and "The Fixies" animated series, the 4th season of which started to be broadcasted in Russia in 2020.
- Melnitsa animation studio presents a new season of animated series "Moonzy" in 3D format. New-season will be based on scripts of US scriptwriter Paul Pimenta. The company plans to expand its international scope in Europe, LATAM, and Asia. In January 2020, "Moonzy" was successfully launched on CCTV, China. A new film "The Barkers: Mind the Cats!" has been announced as being of great interest to buyers from Korea, MENA, Europe, and Southeast Asia. CTB Film Company and Skazka animation studio will also release a new animation film "Nutcracker and Magic Flute" for Christmas 2021 with the deals closed for several European and Asian territories.
- In 2020 KinoAtis company is planning to premiere "Space Dogs. Tropical Adventure" and "Musketeers of the Tsar" at the cinema markets worldwide.



Every year since its foundation in 2012, RAFA has published a Catalog of Current Russian Animation. The Catalog has become a universal guide to all Russian companies involved in the production of animation products.

And this year we celebrate the release of the 10th Catalog of Current Russian Animation. It is available on our website [aakr.ru](http://aakr.ru) in the section "Catalog of Current Russian Animation" by the link.

We try to do our best to support and promote Russian producers and open original Russian cartoons for the global industry. New companies join RAFA every year. New projects appear, large alliances are created, the animation industry in Russia is developing, and today we can confidently speak about Russia's high competitive abilities in the world market.

The COVID-19 will be overthrown and the animation industry will revive and burst forth with renewed vigor as you can't find another industry with such "joie de vivre" reserve. Good luck for all to us in 2021!





# PANDEMIC-PROOFING THE ANIMATION PRODUCTION: INSIGHTS ON GIGGLE GARAGE ANIMATIONS, MALAYSIA



## SOURCE: ZENO GABING

**T**he increase in the number of positive COVID-19 cases prompted the Malaysian government to start a complete lockdown from 18th March 2020 onwards. The restriction, called Movement Control Order (MCO) banned to travel abroad, shut schools and businesses over the coronavirus spreads. A year later, in March 2021, non-essential businesses are still in lockdown and the government is under a state of emergency, nationwide, in the continued effort to combat the spread of this outbreak.

## THE NEW NORMAL

A few months back prior to MCO, in December 2019, Giggle Garage worked on a draft guide for work-from-home production. Mechanisms for secure remote access, file delivery, firewall capacity, internet bandwidth expansion and other hardware requirements were among the items audited. Security patches and certificates were also set including the requirement for investment in additional technology. All these would prove to be critical when the MCO was announced on the evening the 16th of March.

On the morning of the 17th of March, Zeno Gabing, the co-owner of Giggle Garage held the last pre-COVID19 meeting in the studio with all the team members, on each floor, one after the other and informed the staff about the switch to 100% remote production. Giggles were briefed and trained how to use secure tunnels and using secured remote logon to the company's Active Directory to access their workstations, and work from home. Just after lunch, artists were free to leave home earlier fully engaged to continue production, remotely.

On the first day of the lockdown on the 18th of March, the supervisors connected for their very first dailies over Zoom.

Some were excited about discovering some of the features in Zoom or looking weird on screen talking with the mic on mute. Then quickly, online meetings became one of the key tools that bond the team throughout this period. The production was up on the first day of the lockdown. After a while, artists were seen in various settings during Zoom calls: with their kids, cats, showing off their plants, their bedrooms or the balcony. It is a new normal.

## REMOTE PRODUCTION PIPELINE

In December 2020, Giggle Garage completed the main production for Time Traveler Luke, a co-production with Anyzac Ltd and Daewon Media. In January 2021, the show won the Best 3D Animation TV Programmer during the 25th Asian Television Awards. And on April 2nd, 2021, another co-produced TV series with SLR Productions Ltd in Sydney premiered on ABC in Australia. All the main productions from assets to animation, and compositing were done in Giggle Garage throughout the COVID-19 pandemic.

"Our remote teams connect to the production data using secure, private tunnels. They were given access details and a second security check to access the production workstations and data storages", explained Mastura Yunan, the Head of Operation at Giggle Garage. "Our artists are also connected to online production and pipeline tools that we use so each artists knows exactly what their daily schedule is, tasks to collaborate and even meetings requirements. Our Intranet is accessed by staff for the daily advice or announcements about COVID-19, or to use our online Helpdesk that is integrated with Telegram for providing quick support to the team", Mastura added.

Giggle Garage uses tools such as Giggle Messenger for their remote chat and instant messaging, Smartsheet and Autodesk ShotGrid (formerly Shotgun Software) for production management and delivery tools. Several variants of the remote desktop protocol software and secure FTP are also used for various departments.

## THINKING REALTIME

Back in October 2018, Giggle Garage set out a technical study to reproduce one of their completed series, Cam & Leon, using a real-time game engine technology. The key aims were to (1) figure out the most efficient methods of integrating real-time rendering technology into an existing CPU-based production pipeline, (2) quantify the expected technical, security, creative and commercial benefits; and (3) decide the best adoption mechanism for the use of real-time rendering technology into actual TV series CGI animation production.

The study was concluded at the end of Q1 2019 and supplied solid bases for Giggle Garage to produce TV series utilizing real-time game engine: up to 20% reduction in utility and license cost, 480x reduction in rendering time, and up to 20% overall production cost reduction. More time can also be used by the lead artists in enhancing creativity and production quality.

Giggle Garage is currently developing for a full TV series, 52 eps x 7' that will be utilizing real-time production. This production is integrated with the existing remote production pipeline and allows artists to continue to produce great content from home.

"Even before the pandemic, the company has already investigated ways to produce great content faster and more time for directors and creators to focus on the creative portion of the series, and the technology is already



there for us to take advantage of. The COVID-19 pandemic accelerated this process of adoption and that is why our new project Fridgies is set to using this technology. We have also made a hybrid real-time production pipeline where the animators are still using Maya, but the look development is done using game engine including the postproduction. The technology now allows us to have a flexible pipeline that works well for the particular project", says Zeno Gabing, the Executive Director of Giggle Garage.

"COVID-19 is still a challenge for a lot of people around the world" said Juhaidah Joemin, the Managing Director of Giggle Garage added. "One of the lasting impacts of this pandemic for us is the use of innovative technology in our production process. For over a year, we had artists working from various parts of Malaysia, and we even had our artist stuck in New York due to travel bans. Our traditional pipeline was proven robust to operate remotely; and the real-time pipeline allows us to be more creative, we do not have to wait



a few days to render scenes for review, and it is cheaper, while ensuring our artists are safe from COVID-19. Our cost of production is already cheaper than studios in many parts of the world due to economics alone. The real-time and pandemic-ready production is estimated to bring down both the overall cost and production timeline up to 20%." Ms. Joemin explained.

For companies interested to collaborate with Giggle Garage in both CGI animation services and co-production, they will be at Annecy MIFA 2021 at the Malaysian Pavilion.

Find out more about our properties and outsourcing capabilities at <https://www.gigglegarage.com> or email [giggle@gigglegarage.com](mailto:giggle@gigglegarage.com).





# CELEBRATING 75 YEARS AND A NEW ERA IN GREEK ANIMATION



**SOURCE: ARISTARCHOS PAPADANIEL SYLLIPSIS LTD. DIRECTOR-PRODUCER, ASIFA HELLAS FOUNDING MEMBER**

2020 was a milestone year for Greek animation. In September 2020 on Syros island #Animasyros13live: The Phygital Edition and its Agora made history by launching Animasyros' collaboration with the Annecy International Animation Film Festival and its Market MIFA (Animation du Monde), which

is the major international event in the field of professional animation. As a part of this collaboration, the Pitching Forum was held a 4-day coaching workshop for six very interesting projects, led by Géraldine Baché (Head of Projects, MIFA) and Antoine Liétout (Producer, Laidak Films). At the same time, presentations were made by professionals, organizations and institutions representatives on contemporary issues in the field of animation. The two Pitching Forum Agora winning projects, Mesut by Michalis Kalopaidis & Alexia Roïder (Zedem Media, Cyprus) and Oscar

by Polyxeni Katsari & Matina Fykari (Greece), are included and presented at this year's Animation du Monde MIFA Pitches.

The Greek's presence at Annecy is powered by the National Centre of Audiovisual Media and Communication (EKOME), in which Greece participates for the 5th consecutive year -online due to public health measures- with a digital pavilion in MIFA and 17 animation projects, including the ASIFA Hellas Stratos Stasinou 2020 Award-winning films *Sevarambes* by George Kontos/Marni Films (Best Professional) and *All You Can Eat* by Dimitris Armenakis/Royal College of Art (Best Student). In July 2020, EKOME raised the Greek cash rebate that covers part of the eligible costs for national and international audiovisual productions in Greece, up to 40%. For more info about the 40% Cash Rebate program contact ASIFA Hellas #Greeceanimated pavilion and [cashrebate@ekome.media](mailto:cashrebate@ekome.media).

In 2020, ASIFA Hellas – Hellenic Animation Association celebrated the 75th Anniversary of Greek Animation (1945-2020) with various actions, such as webinars, round tables, the Microwaves television tribute on the Greek Parliament Vouli TV and more. A special part of the celebration was the production of the 4-episode mini-series *Digital Portraits* and the 4 anthologies (*Best of Decade*, *Women in Animation*, *Social Issues*, *Commissioned Films*), which the organizers of international animation festivals worldwide can include in their program by contacting [asifagreece@gmail.com](mailto:asifagreece@gmail.com).

The celebration's highlight is the anniversary edition *Creative Action and Production in Animation* (ASIFA Hellas, 2021), which comes to complement the publishing activity of the Association, which began with

the bilingual (Greek-English) book 70 Years of Greek Animation (ASIFA Hellas-Greekanimation.com, 2016). Both this year's publication, and all previous anniversary celebrations have been funded by the Greek Ministry of Culture.

In 2020, the Greek Ministry of Culture, announced a Special Program to be implemented by the Greek Film Centre for the support of Greek short films and –for the first time– animation. The initiative of the Greek Ministry of Culture was an urgent and special action to support of the Greek cinema community due to the COVID-19 pandemic. From the submitted proposals for animated short films, 25 were selected, which received funds between €10,000 and €20,000 euros, depending on their technique and duration. The selected directors (in the officially announced order) Aristarchos Papadaniel, Antonis Ntoussias, Effie Pappa, Charalambos Margaritis, Marios Ioannidis, Dimitris Patrikios, Panagiotis Rappas, Chryssoula Korolessi & Marios Gampierakis, Spyros Siakas, Angelos Spartalis, Aikaterini Papageorgiou & Christos Livaditis, Giorgos Nikoloulas, Sergio Kotsoyoulos, Alexandra Tagali, Giorgos Farazis, Aristotelis Maragkos, Jordan Ananiadis, Thomas Künstler, Konstantinos Economou, Kostas Katrakis, Fokion Xenos, Eleni Xoupa, Konstantina-Daphne Xourafi, Zacharias Mavroeidis, Vivi Markatos, are creators from different generations, whose films have been distinguished in Greece and abroad.

In the future, ASIFA Hellas aims to establish a regular funding scheme for animation projects implemented by the Greek Film Centre. The scheme will take into account, the peculiarities of our industry and the dynamics that it has developed in Greece and abroad—especially in the last four decades—over through a course of 75 years. The catalytic role of the 25 films that will be produced by the Special Program in 2021 will pave the way forward. During the year that the Greek community celebrates its own 75 years of history, something new is born in the Greek animation as well! Stay tuned! #Greeceanimated







## CARTOON IN ITALY

**cartoonITALIA**  
ASSOCIAZIONE NAZIONALE  
PRODUTTORI D'ANIMAZIONE

### SOURCE: CARTOON ITALY

**T**he Italian animation industry has been recently living, let's say, a real Renaissance. We should rewind the tape to the black and white times and the talented authors from the Sixties and Seventies to have an idea of a lucky season like the current one.

Thanks to the perseverance of the Italian producers and the new financial instruments tuned up by the Ministry of Cultural Heritage and Activities, the Italian animation is going strong on the International



market, in particular with TV series.

Among the characters of the best-selling programs we have an imaginary mouse, taken from a well-known book series for kids, Geronimo Stilton (Atlantyca); five pretty fairies known

all over the world, the Winx (Rainbow); a boy who sneezes when he gets too emotional, each time transforming into a different animal, in the Atchoo! series (Studio Campedelli-Cartobaleno); a funny dog protects its own little owner Lola, Pat the Dog (Animoka); a little





mouse goes to school, Topo Tip (Studio Bozzetto-Studio Campedelli); two young twins with a great imagination, YoYo (Showlab), and other protagonists of programs addressed to children and families.

Italian animation also aims at the relaunch of feature films. Above all, we should mention the successful Cinderella the cat from MAD Entertainment company, which gained seven nominations at David di Donatello award, and two awards for the Best Producer (Luciano Stella e Maria Carolina Terzi) and the Best Visual Effects (MAD Entertainment), and was selected among the Italian animated films for the Academy Awards in 2018.

The Italian industry includes 81 companies, for 6,000 employees in all, with an average of more than 180 million Euros of turnover. And the industry is constantly growing.

Thanks to the support and the actions, in institutional terms, of Cartoon Italia (the national association representing the Italian animation producers), "Today the Italian animation has got all the necessary financial instruments to compete on the market with the other European producers", president of Cartoon Italia Anne-Sophie Vanhollebeke says, "The Cinema and Audiovisual law of 2016 has produced a beneficial effect on

the sector, expanding the financial resources thanks to a tax credit brought up to 30% and ministry's funds that currently allow the growth of the production companies; employees have even doubled in some of the Italian studies, while new businesses are entering the market."

To face the high industrial costs, the Italian businesses have always stuck to the model of co-production, with a

share of the foreign partner up to 25 to 30% of the production budget. To enhance this trend, during the years, Cartoon Italia has contributed to strengthening the co-production relations at a European level and, thanks to Anica's (National Association of Film Industries) and ITA's (Italian trade agency) support, the association has encouraged entrepreneur missions to China, Russia, USA and Japan.

At European level, Cartoon Italia, together with the other European representatives, has also been among the founders of Animation in Europe, a new association aiming at fixing the industrial development plans at Community level.

Another great opportunity for the Italian animation is offered by the recent decree issued at the end of 2019 on the programming and investment obligations from the linear and non-linear audiovisual services providers. The collaboration with the private networks will give new strong input to the industry, in terms of widening the production base and strengthening the sector, but also in terms of diversity of contents, editorial lines, techniques and technologies.







## SCIENCE & FANTASY GROWTH FOUNDATION



*"Imagination is more important than knowledge, because knowledge is limited, and imagination surpasses everything in the world, promotes progress, and is the driving force for knowledge evolution."*

*"Human beings need fantasy. This special imagination is especially important in the fields of science and art."*

*- Albert Einstein*

**BY SOPHIA ZHU, SFGF**

**W**e believe that Sci-Fi enlightens the thinking of future. Every work of Sci-Fi is an attempt to answer mankind's questions. Every future we paint brings us a step closer to "the possible

future". Our mission is to cultivate the imagination and inspire the creativity.

Science & Fantasy Growth Foundation (SGF) was co-founded by scientists, investors, science fiction writers, engineers and public activists who are passionate about Sci-Fi. It was established in March 2015 and operates basically in mainland China.

SGF is the first and only NGO in China that explores and supports potential writers and artists to become new generation Sci-Fi creators. In the past five years, we have raised funds to help promote the Sci-Fi industry in China. With our help, many top-notch science fictions have been created. Hundreds of people have realized their dreams

of becoming science fiction writers, illustrators or directors. In the light of a primitive status of science fiction in China, we set up the "Morning Star Award", an award to discover upcoming Sci-Fi trailblazers, so that young writers who are eager to enter the realm of science fiction can see the light of hope. SGF has donated more than two million RMB as the total prize money and grants, aiding potential Sci-Fi creative talents for more than 60 people, 18 books published, 3 Sci-Fi related companies incubated, 5 movies in progress and 1 movie to be released this year. Mr. Cixin Liu and Ms. Jingfang Hao, both are Hugo Award winners and renowned Sci-Fi writers in China, also served as judges of the Award.

Our major annual activities include:

- 1) Morning Star Science Fiction Award Contest
- 2) STICK Club
- 3) Science Fiction & Popular Science Lecturing on campus
- 4) China Science Fiction Conference
- 5) International Exchange Program
- 6) Morning Star Science Fiction Award Contest

### 1) STICK CLUB

STICK (Science, Technology, Imagination, Creativity, Knowledge) Club is committed building a platform that encourages discussion on topics from the perspectives of science, technology, imagination, creativity and knowledge.



### 2) SCIENCE FICTION & POPULAR SCIENCE LECTURING ON CAMPUS

SGF invites science fiction writers and technical experts to give lectures in

higher-education institutions, primary schools and secondary schools. It has been held in the schools at Shenzhen, Guangzhou, Chengdu, Beijing, Shanghai and other cities with over 20 lectures per year.



### 3) CHINA SCIENCE FICTION CONFERENCE

In 2018, SGF was one of the co-organizers of the 3rd China Science Fiction Conference in Shenzhen, which was the biggest annual conference on Science Fiction in China hosted by the China Association of Science and Technology.



The three-day event gathered writers, scientists, movie makers and fans across China to discuss the country's rising enthusiasm for Sci-Fi and its links with China's ongoing tech boom.



### 4) INTERNATIONAL EXCHANGE PROGRAM

In order to enhance international cultural communication, SGF has been cooperating with Festival International de Sci-Fi de Nantes (FISFN) since 2017. Together with FISFN, we managed to organize awarded Sci-Fi works from Europe to exhibit in Shenzhen China and awarded Sci-Fi works from China to exhibit in Nantes France. We have also connected the governments of Shenzhen and Nantes to become sister cities. With the support from both governments, we have helped dozens of Sci-Fi creators to go to each other's country to live and create.





# WOMEN IN ANIMATION

## A QUARTER CENTURY OF WORK TOWARDS CREATING GENDER BALANCE IN THE ANIMATION INDUSTRY

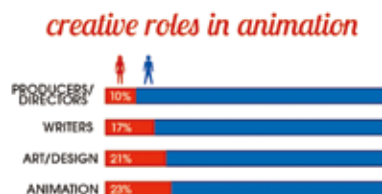
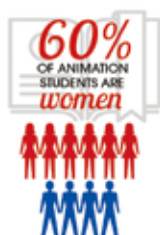
**SOURCE: TRACEY MILLER-ZARNEKE, CHAIR OF LEGACY, ARCHIVES, WIA**

With its roots dating back more than two decades, Women in Animation (WIA) was established in 1994 "To foster the dignity, concerns and advancement of women who are involved with any and all aspects of the industry and art of animation," as its mission statement read at the time. Through networking and special events, the organization provided a sense of fellowship and community for the notably low percentage of women employed in the industry at that time. In 2013, the organization experienced a rebirth in its efforts to empower and mobilize women

in the industry, and WIA currently has over 5,000 international members across nine chapters and approximately 15,000 followers who subscribe to its newsletters.

One of the long-standing goals of WIA is to see more gender balance in the creative leadership ranks within the animation industry: a study in 2014 revealed that more than 60% of animation and art school students were women, and yet only 20% of the

creative jobs were held by women. Thus, the revitalized WIA set an organizational goal to inspire its industry to achieve a leadership ratio of 50/50 by the year 2025 and has already witnessed the percentage of women in creative roles in animation rise to about 30%. But that still leaves plenty of work to be done on the path to 50/50, and so WIA has since paved many steps to help the industry reach that landmark.



## EFFORTS IN EDUCATION

WIA believes that the earlier in life women can envision themselves working in the animation industry, the more solid a foundation they can stand upon while building that professional path. To that end, WIA has supported the creation of Student Clubs in universities and colleges so that interested young people can have access to supportive programs, connect with peers who share the same passion, and hear from guest speakers to set them up for success in their career ambitions. WIA is currently considering the establishment of programming for secondary school levels of education as well, to help students of animation find their way even earlier in their academic pursuits.

WIA also boasts a long-standing scholarship program, student members of WIA are encouraged to apply. No matter in what region of the world, they are academically pursuing their animation career interests.



## EFFORTS IN EMPLOYMENT

WIA has also recently developed and launched a talent database to increase the visibility of the vast, multi-faceted, and international pool of underrepresented talent in the industry. Women, transgender, and non-binary candidates in the animation industry can add themselves to the database and their credits are then verified by WIA staff. That information is made available to studios around the world who also champion inclusion and diversity within their hiring practices, and potential employers can filter the database based on a number of animation-specific hiring factors. There is an ever-growing resource that is updated regularly, and it currently hosts more than 5,000 candidates for a wide variety of roles within the animation realm.



## ONGOING EFFORTS AND EVOLUTION

WIA has tackled a number of timely topics over the years, aligning focused efforts to enhance various challenged populations within its industry, including those that have suffered from harassment, unconscious bias or intended injustice, and other such detrimental and unfair conditions. Pledges, panels, one-on-ones, workshops and other programming efforts offer multiple forms of inspiration, education and support to those who are underrepresented in the industry, and many of these events are streamed and/or recorded

and available to members around the world.

WIA invites global membership into its welcoming, supportive and open community for people of underrepresented gender identities – which includes but is not limited to all women, nonbinary and transgender individuals – as well as their allies across the animation industry.

For more information or to join WIA, please visit <http://www.womeninanimation.org> or follow WIA on Facebook, Twitter, LinkedIn or Instagram.





# INCLUSIONFX

## A TOOL FOR DIVERSITY, RUN BY DIVERSE INTELLIGENT PROFESSIONAL PEOPLE PIONEERING CHANGE AND REVOLUTION FOR THE GLOBAL ENTERTAINMENT INDUSTRY



### SOURCE: HINA PANDYA

Since the summer of 2020 the unlawful killing of George Floyd, has put paramount the message that Black Lives Matter, that diversity matters.

One person who is doing something positive about it in the VFX industry is Audrea Topps Harjo. A wonderful dynamic black woman who after attending Howard University packed her car up with her dad and drove to LA to make a career in her passion--film.

Make films she did, and games and

TV, Audrea has worked at almost every big studio you can imagine, she's stood shoulder to shoulder with the same types of people won Oscars, "We're here!" She declares, ready to inspire the next generation to join the journey by creating Inclusion FX.

### IFX IS ABOUT AMPLIFYING THE UNDERREPRESENTED VOICES IN THE VFX INDUSTRY

Every two months wisdom and survival skills are imparted including the important "hero's journey" on IFX's online channels, the speakers are from visual effects, animation and game development and selected from traditionally underrepresented

backgrounds.

9 team members form part of IFX. All are leaders in their fields, dedicated to raising voices and perspectives to the giants in the VFX game industry keen to hold industry leadership accountable, for diversity and inclusion.

### IMPROVING REPRESENTATION IS VITAL

UK Screen Alliance reports that despite the fact that the UK industry is worth more than £1 billion a year, 85% is white, but only 27% is female.

In response to this situation, Topps Harjo says that IFX will network with



academic institutions and vocational training courses to keep learning and progressing while remaining committed to its goals.

The multi-disciplinary staff at IFX know how to deal with career development issues. They want to provide advice to these practitioners to support them in staying in the industry and ultimately succeeding. Those who use IFX are encouraged to incorporate performance, broadcasting, grants and incentives into their business operations, giving a diverse group of people the confidence to enter VFX and ultimately achieve great results.

Topps Harjo understands that people from different traditions are often treated differently, and she is open and direct about this issue. She looks back at the pitfalls she has encountered in her career and while they are common, they are not irreversible.

She believes that we may still have a long way to go in terms of achieving true balance in the VFX industry, but IFX offers a tool to do so.

Topps Harjo is defiant, "we're here so we can inspire the next generation, if we can do it, they can too, if they have the desire and the wherewithal".

With her swathe of experience in games, film and TV and her fire at the helm, this is a hero's journey that will deliver.



IFX  
INCLUSION FX

inclusionfx.com

#IFX ▼ #inclusion\_fx ▼ #blackunicorn

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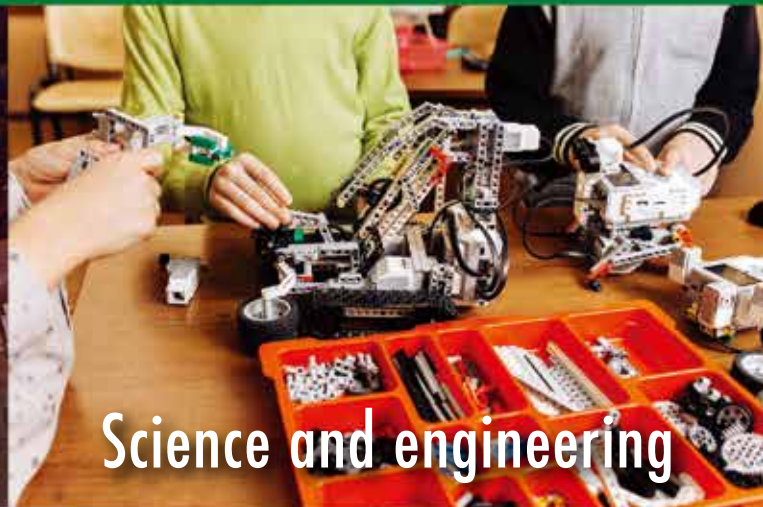


**KRYSTAL INSTITUTE**  
DIGITAL ECONOMY CORE TECHNOLOGY

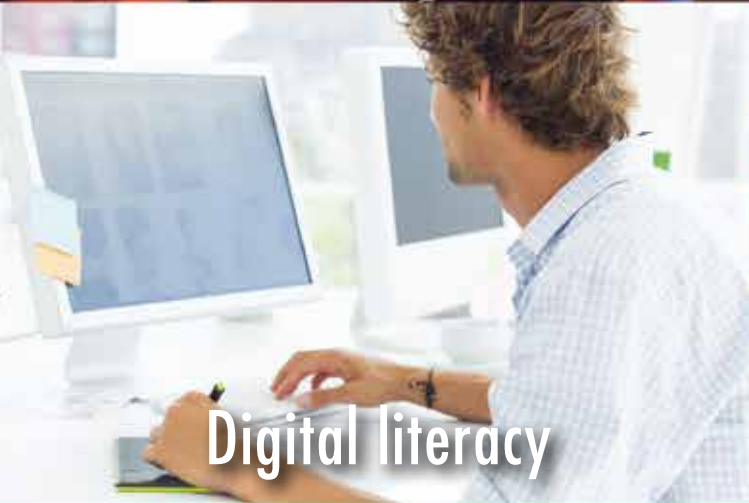
Empowering the future leaders of the global digital economy



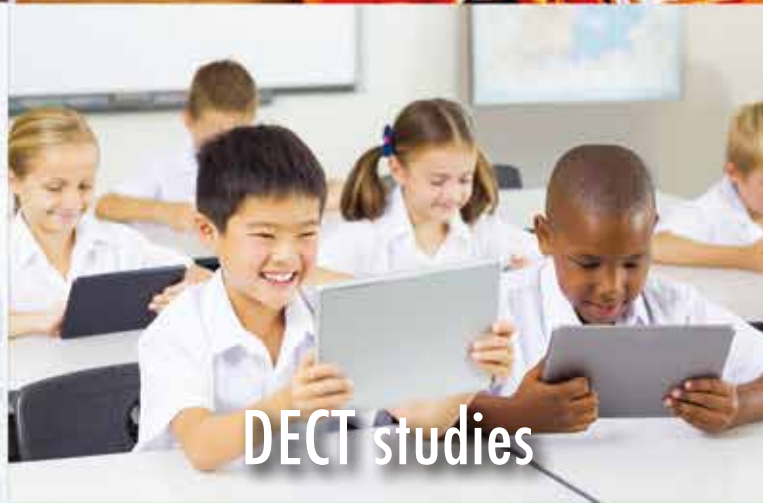
Digital arts and production



Science and engineering

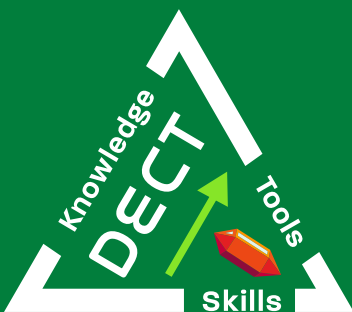


Digital literacy



DECT studies

Learn more about our courses at [krystal.institute](https://krystal.institute)



<https://krystal.institute>

# DIGITAL ECONOMY CORE TECHNOLOGY SERIES



## BY KRYSTAL INSTITUTE

**T**oday, the digital economy account for 16% of global GDP, and 36% of China's GDP. Skills that students learn in school today will not be adequate for them to be successful in the future global digital economy. For our creative

industry, the earlier a child has the opportunity to acquire knowledge, skills, and tools the brighter their future in the global digital creative industry, whether in animation, games, VR/AR, films, design or architecture, will be.

Together with Krystal Institute, Animation Global Magazine has the opportunity to talk to the people and

organizations involved in helping to spread these knowledge, skills and tools to the younger generation. We hope we can inspire more people, organizations, schools to get into the band wagon of bridging the global digital divide by empowering our young generation with upward mobility.







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## A TALK WITH TANGENT ANIMATION STUDIO JEFF BELL, COO, VICE PRESIDENT AND PRODUCER

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**BY RAYMOND D. NEOH,  
SOPHIA ZHU**

**J**eff came to Amsterdam to attend the Blender Conference 2019 and also present his company latest project Lo to the Blender community, and I have an opportunity to sit down with him and talk about how his company get into using Blender for

the production of the Nextgen movie and what is his view on the future of Blender for the animation industry.

**CGGE:** Why did you want to switch from major commercial 3D software to Blender? Since money is not an issue I presume.

**Jeff:** No, budget is always an issue for small production. Usually a 10% of a

production budget go to buy software. And in a particular production, we ran into some trouble and ask the commercial software supplier for help but want us to buy more software. So, I think there must be a better way to do that. And I had been watching Blender over the years as far back to the 90's and I had tried it every year and see how far they have come. I never felt that they are ready for production.

In around 2012 and 2013 we are doing a production and Blender 2.5 was released and it is a big change. So, we actually ran a 3 minutes test with it, 3 one minute shots. And we took it through all aspects of production, all the way from modelling, rigging, surfacing, texture painting, all the way through lighting and animation and proved that it works. We found it in 2 areas that needed some help, we took the money that we used to spend on commercial software to hire developers and fixed the problems and then we go on. And because of that incident, we took the money that we are going to pay to third-party vendors to hire developers, we are gaining knowledge and if we come into a problem, we can fix it our self. Then we think that we should get heavily involved with Blender Institute and sponsor their program to help develop better software. We also work with other companies like Epic, Ubisoft, Google,

Nvidia, I just came from a meeting with other big corporate sponsors and started sharing information on what we are working on. So we can work on a particular part and they can work on their others. That will be really cool. By working with other studios together we can build the platform faster.

**CGGE:** Are you doing any project in China?

**Jeff:** Yes, I am going to China in November because my partner is setting up a studio there. They had sent their artists to our facility for training for 4 months to get our animation technique. So I am going there to help them to have the studio setup.

**CGGE:** The LoPue software that you present at the Blender Conference are you planning to sell it and compete with Shotgun?

**Jeff:** Yes, we will have it ready in January, 2021 and compete with Shotgun. But we bundle it with asset management, rendering and other programs as well.

**CGGE:** Last question, why is Blender so important to Tangent Animation?

**Jeff:** With Blender we build knowledge and experience. With other commercial software we ran into a bug if we don't get support, we are literally stuck. With Blender we ran into a bug, we don't have to wait for the support we can fix it, and it is very free.





# KRITA: A CONTENDER FOR PRODUCING ILLUSTRATED DIGITAL ANIMATION

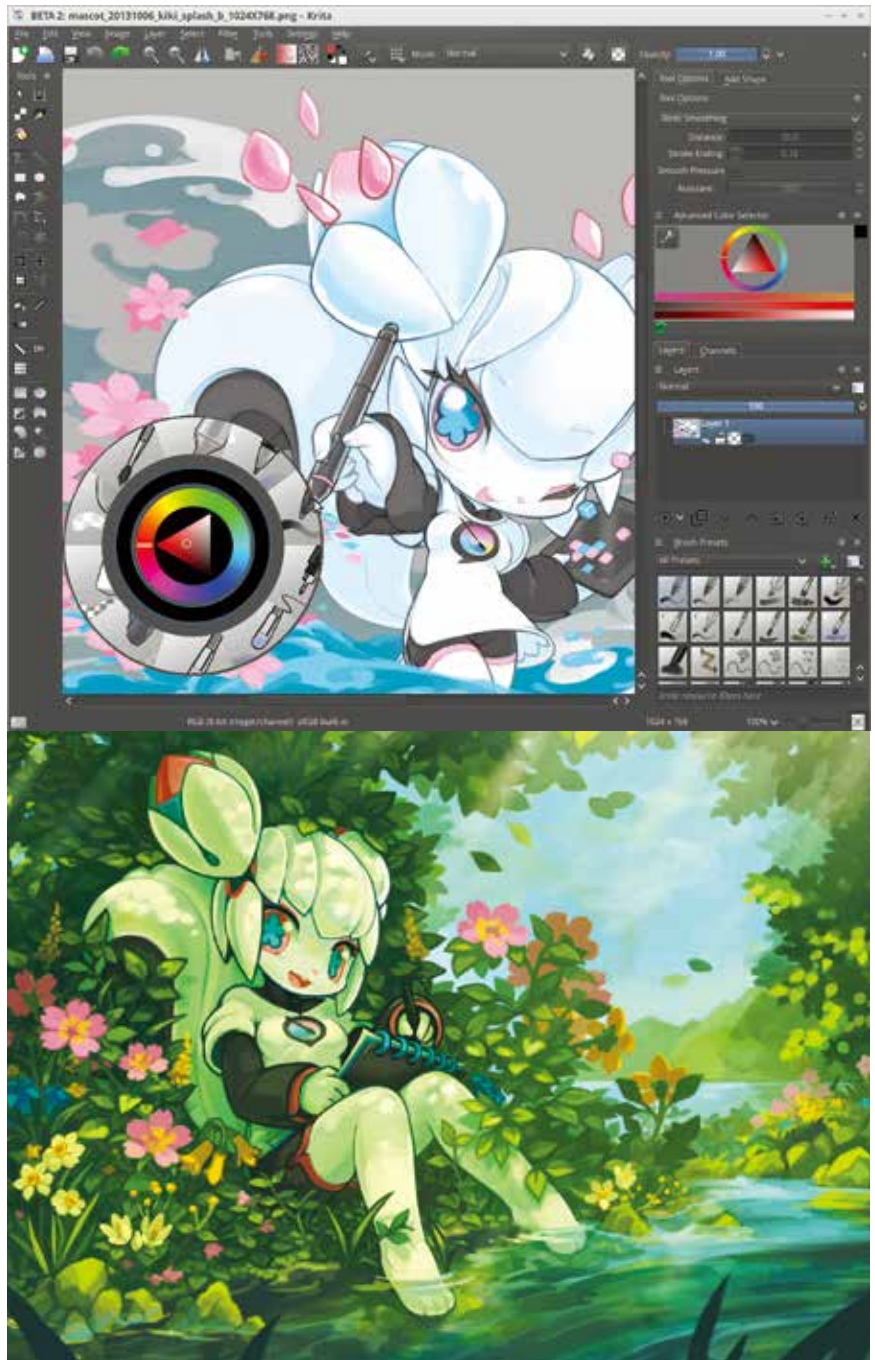
BY TIMOTHY TAN

The free open-source software developed by the KDE Community has won over the hearts of many. In 2019, a total of 2,346,618 unique downloads of Krita was recorded. The community of artists developing using the tool actively engages with each other through platforms such as the Krita Artists forum, boasting over 10,000 users that have posted over 83,000 times. While primarily designed and intended for digital illustration, the addition of animation tools into the toolkit places it on the radar for aspiring animators.

## FROM PATCH TO PROWESS

Krita has a humble history dating back to 1998, when it was designed as a patch to GIMP (GNU Image Manipulation Program), also an open-source raster graphics editor. Throughout its iterations Krita has forayed into providing office tools and functionalities as part of KOffice (under the KImageShop brand) and Calligra. However, over 23 years of development, Krita has carved out a defining niche in providing tools for digital painting and animation. With the establishment of the Krita Foundation in 2012, it was clear that the project has amassed an impressive following and was one to watch in the realm of open-source.

The key strength of Krita surrounds its brush functionalities. With over 100 brushes available, which are interoperable with brushes from software such as Adobe Photoshop, Krita allows artists to render their creative visions with accuracy. The customizability of brushes, brush stabilizing and wraparound functions, and an intuitive UI are also often reported as highlights of the Krita experience.





### **BECOMING PART OF AN ANIMATOR'S TOOLKIT**

Krita's animation functions were implemented with Version 3.0, published in May 2016. Funded through a Kickstarter campaign, this marked a major shift in the software's usability in an animation studio. Existing strengths in its digital painting tools were combined foundational animation features such as timelines for image sequencing, onion skinning, and real-time preview of animation outcomes to create a fully-fledged raster layer animation solution. Accompanying its launch is animator Timothee Giet's guide "Animate with Krita", which takes users through Sketching, to Coloring, to Inking and Exporting with the software.

With massive open resource at one's disposal, beginning to learn Krita, especially for the purpose of animation, is incredibly accessible. Extensive documentation, thanks to the hard work by the development team and

community, further facilitates this process. Certain unique tools, such as an additional third-dimension for rotation about the Z-axis, makes certain perspective operations easier to handle. However, Krita is still missing certain standard tools in a digital animator's toolkit, such as tweening and vector support. Nonetheless, the basic workflow in place makes the software worthwhile for artists new to this space to experiment with its capabilities.

### **PASSIONATE COMMUNITY PROJECT WITH HEALTHY FINANCING**

A notable achievement for the digital painting software is its strengths in garnering support from its community. Particularly, Krita Kickstarter campaigns have had stellar performances, with funding amounts consistently exceeding 133% of funding targets, with up to 153% fundraised. Outside of its funding campaigns, Krita also receives sizeable donations from its users on a regular basis: in 2019, Krita

received €29715.20 in donations from users. Krita is no stranger to grants from institutions as well, receiving a €25,000 MegaGrant in 2019 from Epic, the makers of the Unreal Engine.

### **OUTLOOK FOR KRITA**

Krita is eagerly preparing for the release of Krita 5.0. With the launch of the new Development Fund, Krita will be able to focus its efforts on developing features such as a new smudge brush engine, rewritten resource management, and vastly expanded animation support. For those looking for an alternative animation tool, Krita is a worthy option to explore.

To support the development of Krita, join The Krita Development Fund by visiting <https://fund.krita.org/>





# OPENTOONZ: A LOOK INTO STUDIO GHIBLI'S OPEN-SOURCE ANIMATION SOFTWARE

BY TIMOTHY TAN

**O**penToonz is a solution for animation production co-developed by Digital Video and Studio Ghibli. OpenToonz is an open-source distribution of Toonz, a commercial software that remains maintained by Digital Video. With powerful drawing tools, motion tweening and tracking, and scripting capabilities, OpenToonz serves as a powerful suite of tools for any amateur or professional animator.

## LONG-STANDING MARKET LEADER IN 2D ANIMATION

Toonz was created in 1993 by Digital Video, an Italian studio originally specialized in creating unique

professional solutions for the animation industry. As a commercial studio, Digital Video has deep experience in serving the cartoon animation industry, producing software such as Toonz, Story Planner (storyboards), Linetest (2D pencil animation tests), and The Tab (2D animation for Web and Broadcast channels). With associated partners in the media asset management, analytics, and IoT industries, the company is a seasoned player in the creative digital media industry.

The success of Toonz can be attributed to the strong strategic ties that Digital Video made with Softimage, Microsoft, and Avid. In an exclusive distribution agreement with Softimage – a cutting-edge computer graphics software

in the 1990s, Toonz (then branded as Creative Toonz) was deployed in creating traditional cel animation. Even at this early stage of development, Toonz already amassed an impressive track record, being used in films such as Fox's *Anastasia* (1997), and Amblimation's *Balto* (1995).

## OPENTOONZ: NEW AGE OF GROWTH UNDER OPEN-SOURCE LICENSING

Toonz was reborn as OpenToonz through the acquisition by Japanese telecommunications and media company DWANGO. The version released was customized by Studio Ghibli, the studio producing works such as *Princess Mononoke* (1997), *Spirited Away* (2001), and *Howl's Moving Castle* (2004), and *Ponyo*

(2008). Studio Ghibli has been a long time Toonz user, adopting the software since 1995 due to its unique ability to combine hand-drawn animation with digitally painted ones.

The collective decision to release the software under an open-source license is, thus far, a win-win decision for the parties involved. As the original developers, Digital Video now offers a focused service line surrounding OpenToonz, through commissioning, installation & configuration, training, support and customization services. Toonz Premium, their tailored product, is still a core offering for the company, adding in other features such as cleanup, stage schematics, onion-skinning and a function editor.

For Studio Ghibli and DWANGO, publicizing the Toonz source code allows the community to engage with the development process. Despite strengths in analogue-digital integration and a relatively complete set of standard animation tools, issues such as system crashes, user experience flaws, GUI design complexities, and critical software bugs have been found as early as the initial open-source release. With some users reporting flaws and issues, others will rise up and tackle these challenges by fixing problems in the code – such is the nature of open-source.

The business case for adopting OpenToonz and other open-source software is also clear. By cutting down on software subscription costs, studios using OpenToonz can directly impact their bottom-line. With Studio Ghibli



providing a trail-blazing track record –Spirited Away is the second highest-grossing anime film worldwide with a box office record of 274 million USD – it is clear that the top-line potential of films produced with open-source is impressive.

#### OUTLOOK FOR OPENTOONZ

Having only been released as open-source software for 5 years, OpenToonz has much to learn from veterans in the open-source animation space, such as Krita and Blender. Fundraising, recruiting talent for development, and maintenance are just some of the challenges that may arise for this emerging software. Nonetheless, with the support of the global open-source community and the backing of leading animators such as Studio Ghibli and Rough Draft, OpenToonz is one to watch, especially for closed-source competitors such as Toon Boom and Adobe Animate.

#### TOONZ SELECTED PORTFOLIO IN FILM AND TV

- Amblimation – Balto (1995)
- Rough Draft Studios – The Maxx (1995)
- Fox – Anastasia (1997)
- Studio Ghibli – Princess Mononoke (1997)
- Rough Draft Studios – Futurama (1999)
- Nickelodeon – SpongeBob SquarePants (1999)
- Studio Ghibli – Spirited Away (2001)
- Studio Ghibli – Howl’s Moving Castle (2004)
- Cartoon Network – Steven Universe (2013)





# BLENDER 3.0



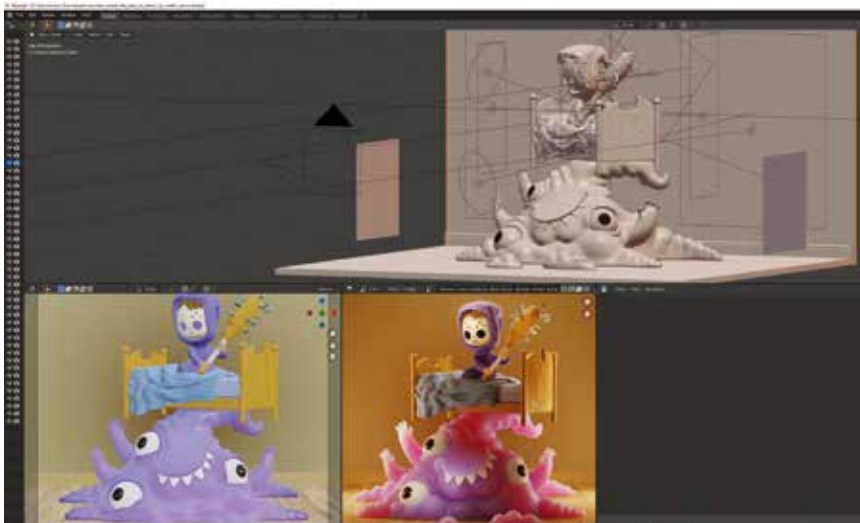
# BLENDER 3.0

## THE OPEN-SOURCE 3D ANIMATION INDUSTRY STANDARD

BY RAYMOND D. NEOH

**B**y the time when you are reading this article Blender 3.0 LTS will be released, and you will be able to download it. Blender 3.0 will establish Blender as an open-source 3D animation industry standard. Blender 3.0 signals Blender enter the Semantic Versioning, with LTS (long term services support). Krystal Institute is an organization that produces animation, education, and research, we work with Blender daily. We appreciate the hard work that goes into creating such software, we are happy to present Blender 3.0 to our readers globally and examine some of the significant addition to the already very powerful software.





### A COMPLETE 3D ANIMATION PRODUCTION PIPELINE

Blender presents an open-source 3D and 2D creation suite. It supports the entirety of the 3D pipeline—modeling, sculpting, animation and rigging, simulation, rendering, compositing and motion tracking, VFX, video editing, game creation and real time rendering. For advanced users can employ Blender's API for Python scripting to customize the application and write specialized tools; often these are included in Blender's future releases. Blender is well suited to individuals and small studios who benefit from its unified pipeline and responsive development process.

It also offers the cross-platform capability to run on Linux, Windows, and Macintosh computers. Its interface uses OpenGL to provide a consistent

experience.

### GREASE PENCIL: MORE POWERFUL 2D ANIMATION

Blender Grease Pencil let the users draw directly in a 3D viewport makes. It opens unsurpassed workflow freedom for story-boarders and 2D artists.

- Combine 2D with 3D right in the viewport
- Full animation support with Onion Skinning
- Layers & Colors for Stroke and Fill
- Sculpt Brush Strokes & Parent to 3D objects

### REAL TIME RENDERING WITH EEVEE

EEVEE is Blender's real-time render engine built using OpenGL and focused on speed and interactivity while achieving the goal of rendering PBR

materials. It can be used interactively in the 3D Viewport but also produce high-quality final renders. By using EEVEE, the rendering speed is fast, especially with GPU rendering.

### REAL RENDERING WITH CYCLES

Render is a full-fledged production renderer, used by many artists and studios. We learned a lot in those 10 years, things that worked well, but also things that didn't work well, or became outdated as rendering algorithms and hardware evolved. The cycles render is designed with:

- Flexible architecture for future development
- Improve usability of viewport and batch rendering
- Improve performance on modern CPUs and GPUs
- Introduce more advanced rendering algorithms

In the coming months Blender Cycles will try more optimization ideas, such as:

- Volume rendering: to implement ray-marching and light sampling with more modern algorithms
- Shadow catchers: a different algorithm that can consider indirect light
- Multi-device rendering: with more fine-grained load balancing without tiles

Beyond this, the new architecture should make Blender more easily fit in rendering algorithms like path guiding, which we will experiment with and research how they can be made GPU friendly.





# BLENDER'S EEVEE ROUNDING OFF THE BLENDER RENDERING COLLECTION

BY TIMOTHY TAN

**B**lender 2.8 brought us EEVEE (Extra Easy Virtual Environment Engine), a real-time renderer replacing the old internal renderer. We'll contrast the effective of this against Cycles, Blender's ray-tracing renderer, and consider its place in the future of rendering.

## RENDERING: A REFRESHER

The following is a technical aside for readers seeking a brief introduction to the science of creating 2D depictions of 3D images.

Rendering takes information from a modelled scene – geometry, viewpoint, texture, lighting, and shading – to process the information, outputting the information as a digital image.

Rasterization is the first and original method for rendering. This is the representation of a 3D vector or raster graphics, modelled in a virtual environment, on a 2D image through perspective projection. Information about color, lighting, shading start from the object and are transferred back to the camera. Another way to approach this is through ray tracing. Starting from the camera viewport this time, we seek out the object that intersects

a ray of light emitted from any point of surfaces. This ray then bounces off the intersection towards light sources, augmenting the final color information sent back to the viewport. This method, although more realistic, is an offline technique that takes longer to process – each pixel in the viewport requires a processed ray, so does a line of code, but we must also calculate the multitude of rays after bouncing off the first object.

## EEVEE VS. CYCLES: CONTRASTING RASTERIZATION AND RAY TRACING

Since pictures speak a thousand words:



Figurine lit from two angles, with plain non-reflective textures, rendered by EEVEE (Left) and Cycles (Right)

In a scene with two light sources and a simple figurine against a dark backdrop, the difference in the performance of Cycles and EEVEE is noticeable, but not drastic. The key advantage Cycles has is detailed shadowing with noticeable gradients, made possible due to the information from light rays bouncing off the figurine; recall that EEVEE's rasterization technique can only apply

shadow approximations based on the figurine's base color. Though EEVEE shadows are less nuanced, the same image was rendered at less than 1/6th of the speed at 0.9 seconds. EEVEE's speed is attainable due to the greatly lowered computational requirements between rasterization and ray tracing. Moreover, the use of the OpenGL API to interface with Graphics Processing allows for hardware acceleration.

With this first comparison, for beginners in 3D animation, it may be tempting to choose EEVEE in all capacities given its impressive speed. Yet it is important to remember that with speed comes the downside of losses in accuracy. Adding in a reflective, metallic material, we notice this even further:



Figurine lit from two angles, with metallic reflective textures, rendered by EEVEE (Left) and Cycles (Right)

The Cycles image is brighter under the eyes, nose, and at the collarbone – built based on light rays, more reflection of light off reflective materials is expected,

adding valuable information compared to the EEVEE image. Rendering at this greater level of detail in Cycles took 4.3 seconds, but at 0.66 seconds the

EEVEE image still has an impressive leg up in terms of speed.



Figurine lit from two angles, with subsurface scattering, rendered by EEVEE (Left) and Cycles (Right)

This final pairing adds subsurface scattering to the mix. EEVEE approximates translucency of the materials, and does well in broader less detailed regions such as the figurine's chest and ear. Cycles adds detail by differentiating between the shadowing at the two eyes, and provides a more realistic "waxier" look that we expect from subsurface scattering.

In rendering a final product, animators should inspect whether the photoreal quality or production efficiency is the primary objective to decide on a rendering engine. Cycles undoubtedly provides scenes with shadows, shaders, multiple light sources, and detailed textures with more photorealistic content, at a significant computational cost. EEVEE is the frontrunner if quantity is of utmost importance, especially when scenes have low-poly

objects and simple lighting and textures.

### **BEYOND RASTERIZATION AND RAY-TRACING**

Rasterization provides detailed images at lightening fast speeds, and with the right denoising algorithms they offer beautiful results, as evidenced by the output of modern game engines. For photorealism, however, ray tracing does prove advantageous, yet the computational cost is exponentially greater, and marginal benefits quickly diminish when more rays are calculated.

Where does rendering go from here? NVIDIA has offered a potential middle way forward, through hybrid rendering – the combination of ray tracing for parts of the scene, with a cutting-edge AI post-processing denoising algorithm, makes the company a giant in the real time rendering space currently. This

is further corroborated by the RTX graphics cards tailor-built for hybrid rendering, offering this solution at lightning-fast speeds. Other solutions that are emerging are path tracing by engines such as Octane. But to implement these solutions efficiently, animators still require dedicated hardware that is not affordable for day-to-day consumers.

Nonetheless, adding real-time capabilities to the Blender toolkit makes the 3D modelling and animation software much friendlier for both amateur and experienced animators alike. Providing animators with the flexibility to implement EEVEE, Cycles, and third-party add-on rendering engines has brought Blender to up to competitive standing against veteran software in the 3D animation space.



# CODERCLASS INSPIRING THE NEXT-GENERATION OF OPEN-SOURCE LEADERS



**BY TIMOTHY TAN**

"**R**obotics and coding – it will be our future", said 15-year-old Adam Klerkx from the Netherlands. Through hands-on projects and working with wires, gears, and motors, Adam has been developing core skills that he believes he will apply in his career going forward. He took part in a robotics challenge in which students design a robot with movement and visual sensing capabilities. Students prototype and build their robots from scratch, fully experiencing the engineering process and design cycle.

Like the hundreds of other students at the Metis Montessori Lyceum (MML), a

secondary school in the Netherlands, he has been exploring open-source digital tools through a unique program led by the Coderclass team. Founded in 2016, the Coderclass is a new initiative by the MML to increase student exposure to digital education.

Through the 5 hours spent at Coderclass every week, Adam has also found his passion in 3D modelling and animation using Blender. "Blender allows me to put all my ideas on the table and unleash my creativity", he says. Of the 5 hours of computer science education each week, 3 hours are contributed from school hours, while 2 hours are investments that students are making themselves.

Adam's classmate, 14-year-old Ivan

Velychko, is instead interested in taking his coding experience into applications in Robotics and Game Development but is keeping an open mind. "I want to experience more later and find out what I want to do", he says. "I like where VR is going and heading", says another student, 15-year-old Jetze Hetteman. Jetze wants to produce a VR game with a full-body avatar, which supports live motion and facial expression capturing.

The demand for spaces in Coderclass far exceeds what the current team can offer. "Coderclass is very popular. A lot of kids want to come here, a lot of parents want their kids to come here", says Monique Dewanchand, a lecturer for the Coderclass. The class only has 86 spaces available for students this

year, but over 400 applications were received. "We are limited in space," says Ms. Dewanchand.

On top of a background in computer science and software engineering, Ms. Dewanchand has decades of experience in IT, working on projects across industries such as Finance, Insurance, Transport, Government, and Healthcare. With a keen interest in 3D, Ms. Dewanchand noticed the emergence of Blender as a leading open-source tool and joined the community as a contributor. She began with documenting the Blender file format, writing articles that kick-started the constantly evolving and ongoing documentation process that has continued to this day.

Alongside like-minded peers in the Blender Community, Ms. Dewanchand co-developed a set of free tutorials on Blender, eventually creating [b3d101.com](http://b3d101.com), an open-source learning community for those interested in Python and Blender offering free educational materials. This was also around the time when Ms. Dewanchand began contributing to Coderclass, allow her to utilize her experience in teaching to obtain pedagogical insights to develop a Blender curriculum that is suitable for children.

To develop a Blender and Python curriculum, Ms. Dewanchand also drew on the power of the open-source community. Reaching out to the community, she informed them of the demand for a way to answer the questions she has repeatedly received from students first getting in touch with the 3D software. "Before I knew, I had a whole list of people participating and saying, 'Hey, I want to help out!'," says Ms. Dewanchand. Alongside her collaborators from the UK, Ms. Dewanchand ensured that their content can answer the crucial question of "Why?" that students often ask when learning about Blender operations. She found that learning about the motivation for why each action is being done is often more conducive to learning than rote-memorizing functions and shortcuts in the software.

At Coderclass, Blender is only one of many tools introduced to students. As early as 8 years old, students are



taught block-based programming languages like MIT Scratch, alongside digital-age fundamentals such as web browsing, social media and office tools. Parallel to their studies in traditional subjects, students progressively learn more difficult digital skills, eventually leading to topics such as Game Development with Unity, Networking and Cybersecurity, Databases, Web Engineering, and Embedded Systems. "It's like learning Chemistry or Maths – Computer Science is entering our daily lives, and you have to have some basic knowledge about these technologies," says Ms. Dewanchand.

In addition to the inception of Coderclass, the Dutch educational system was also reformed in 2016 to incorporate more "Informatics" education in the core curriculum, suggesting an advancement of computational thinking in the educational agenda. In 2020, the Dutch Minister for Internal Affairs Raymond Knops committed to the tenet of "Free Software by Default", advocating for the use of open-source software. Mr. Knops cited transparency, cost management, and economic stimulation as key reasons for why open-source should be widely adopted.

"I think it is very good that the kids know that there is something like open-source," says Ms. Dewanchand. To students experiencing open-source for the first time, the fact that it is free may be the most obvious benefit, but the role of the associated community is another important concept to

instill. Starting with their class Discord channel, students discover the importance and upside of having a support network when developing organic content, especially with novel open-source tools. As Ms. Dewanchand notes, "There are people behind them, working. There is a community, there is involvement, and you need to get involved". It remains to be seen how the graduates of Coderclass will apply their skills in the future, but it is clear that the spirit of open-source will live on through this new generation of computer scientists.







**KRYSTAL INSTITUTE**  
DIGITAL ECONOMY CORE TECHNOLOGY

# **KRYSTAL INSTITUTE: A DECT GLOBAL EDUCATION INSTITUTION AND ENABLING FORCE BEHIND INDUSTRY 4.0**

**BY BARBIE LAM,  
TIMOTHY TAN**

**K**rystal Institute is a research institution that empowers people, provides upward mobility, and bridges the digital divide. They enable force behind the 4th Industrial Revolution by educating on knowledge and free and open-source tools required to excel in the digital economy, and empowering the people with

creativity and holistic development. Through the Digital Economy Core Technology (DECT) Global Series and Krystal Educational Platform (KEP), Krystal Institute provides educational institutions with an integrated teaching experience and inspires and nurtures students with creativity and thinking skills through digital culture. Through their partnership networks, Krystal Institute provides a global ecosystem where members can receive education, upgrade their skills, and trade know-how and services.





The professional Curriculum Development as Krystal Institute designs and develops a comprehensive digital curriculum that covers the themes of Digital Arts and Production, Science and Engineering, Digital Literacy, and DECT Studies under the umbrella of Digital Economy Core Technology (DECT). The curriculum teaches the fundamental knowledge, skills, and tools that any student requires to be a productive digital citizen, increasing their competitiveness so that the students can be empowered as the future leaders of the global digital economy.

To provide students with a one-stop solution and diverse pathways, DECT Global Series includes four sub-programs targeting different age groups, they are:

#### **DECT EDUCATIONAL PROGRAM**

DECT Educational Program is a K-12 and Higher Education curriculum designed around the needs of the digital economy and Industry 4.0. In Hong Kong, the program covers the local school-based curriculum, such as through the Other Learning Experiences (OLE) initiative.

Krystal Institute is collaborating with educational centers, primary and secondary schools, and other educational organizations for the program delivery through a comprehensive curriculum, DECT Train-the-Trainer Program, and other supporting services.

#### **DECT CAREER PROGRAM**

DECT Career Program is a re-skilling program for people not currently employed in the digital economy but who wish to enter into the sector. It is highly recommended for career starters. Together with the City University of Hong Kong – School of Continuing and Professional Education, Krystal Institute developed a curriculum for the Employee Retraining Board (ERB), namely the "Certificate in Creative Digital Media Design and Production Assistant Training". The certificate program kicked off in early June 2021.

#### **DECT PROFESSIONAL PROGRAM**

DECT Professional Program is an up-skilling program for people who are employed in the digital economy and would like to gain expertise to increase competitiveness. Our DECT curriculum also helps teachers upgrade their skills and improve their knowledge through our DECT Train-the-Trainer Program.



### DECT MASTER CLASSES

DECT Master Classes is an intensive program led by world experts designed for businesses and individuals who want to be at the top in their fields.

When designing and developing a curriculum, Krystal Institute first considers the playfulness of the curriculum to engage more students to get interested in DECT education. Krystal Institute also ensures the learning experience is relevant, forward-looking, computational, and multidisciplinary.

### KRYSTAL QUALIFICATION FRAMEWORK (KRYSTAL QF)

Graduates of the DECT Global Series are certified by Krystal Institute, leading to recognition by relevant partners. Students could continue to study other DECT programs to achieve "life-long learning" and continued success around the world. Krystal QF signals skillsets with respect to industry standards.

### KRYSTAL EDUCATIONAL PLATFORM: ONE-STOP LEARNING MANAGEMENT SYSTEM

Krystal Educational Platform (KEP) is a cloud-based learning management system offering a DECT curriculum and relevant open-source tools targeting primary, secondary schools, universities, and other educational institutions. KEP provides assignments and teaching materials management, remote collaboration, communications, on a real-time basis. KEP is being implemented in collaborating organizations through the DECT programs.

Krystal Institute is partnering with educational institutes in Hong Kong that range from kindergarten to primary and secondary schools, to university and adult education. Krystal Institute welcomes collaboration from any educational institution globally that wants to implement the DECT curriculum.

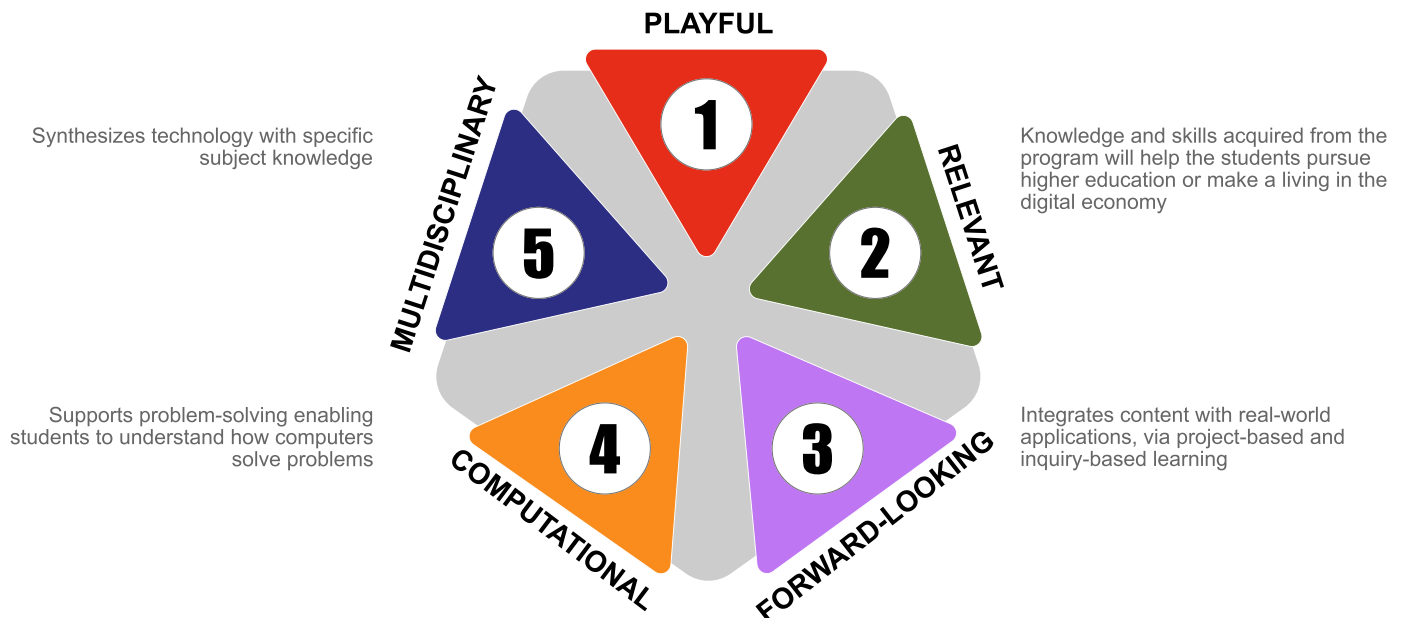
### MORE INFORMATION

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Enables students to find meaning in learning through active thinking and social interaction



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# TEACHING 2D AND 3D ANIMATION TO PRIMARY SCHOOL STUDENTS

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**BY CATINA YIU**

## **KRYSTAL INSTITUTE-DECT EDUCATIONAL PROGRAM**

In 2021, Krystal Institute reached its historic milestone in launching its 2D and 3D animation curriculum in primary schools in Hong Kong. Considering the pandemic, we provide the curriculum with 2 formats: Unplugged version and Plugged (the computer-aided) version, which is flexible for different teaching environments.

Learning DECT is the only way to empower our future generations.

## **THE DEVELOPMENT OF 2D AND 3D ANIMATION**

2D and 3D animation will become more mainstream in the modern entertainment field. 2D animation is an animation type presenting lively characters frame by frame in two dimensions, while 3D animation can have a more realistic performance.

Both are popular with the CG movie and game industries. Therefore, we focus on teaching 2D and 3D animation knowledge to students to keep abreast of trends with technical skills.

The details of the two versions will be introduced in the following sections.







### THE UNPLUGGED VERSION

The Unplugged version of the course, which requires no computer hardware, is designed for the in person lessons. Photography, 2D animation, and 3D animation are the three main topics of this program. Students will get to know the principles of photography. In addition, students will learn the concept and understand the production process of stop-motion animation. In the Unplugged version, students will learn how to tell stories with stories. Also, they will learn to apply animation techniques to create stop-motion animation in 2D and 3D versions. The Plugged version will be the next level for students to continue their studies after accomplishing the Unplugged version.



## THE PLUGGED VERSION

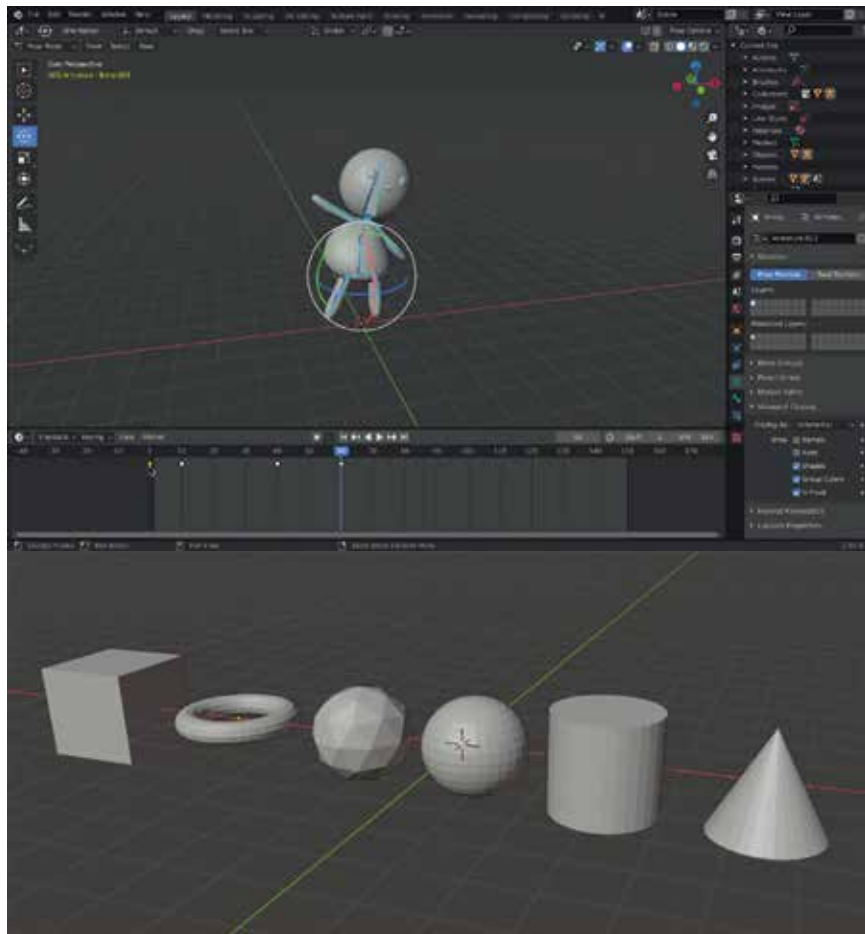
The Plugged version of the course, which requires computer hardware for creating 3D animation, is designed for online lessons. Blender is a powerful open-source tool, and we will use it to teach students basic digital skills in 3D animation.

The well-structured content of the course provides a clear learning path to consolidate students' foundational knowledge in both 2D and 3D animation.

In the Plugged version, students will learn the basics of Blender, including the 3D space, mesh modeling, commands, rigging and keyframes, light and camera setting, texture applying, rendering, and exporting.

## OUTCOMES

Individual and group projects are used as in-class activities to nurture digital and cooperative skills. The design ability and art sensibility developed in the course will serve as the base for students to learn advanced DECT programs. We believe the knowledge, skills, and tools that we deliver to students today, will put students on a path to create a better future.





# DIGITAL ECONOMY CORE TECHNOLOGY (DECT) : ENABLER OF GLOBAL DIGITAL ECONOMIC DEVELOPMENT



**BY RAYMOND D. NEOH,  
BARBIE LAM, TIMOTHY  
TAN**

**D**igital Economy Core Technology (DECT) spans the fields of artistic creation, economics, science, technology, and research, and combines important and

indispensable knowledge, skills, and tools in the digital economy to promote the digitization of traditional industries and digital industrialization, thereby driving the development of the digital economy, strengthening the process of Industry 4.0, and realizing a smart society.

## DECT COVERS FOUR MAJOR THEMES:



### Digital Arts and Production

- Graphic design
- Design thinking
- Image editing
- Vector graphic tools
- Raster graphic tools
- 3D modelling and animation
- 2D animation
- Video editing
- Photography
- Game design and production
- Virtual reality and augmented reality
- User interface/experience (UI/UX)
- CG Long format production and pipeline
- Real-time project management

### DECT Studies

- Global citizenship
- DECT Impact on global and local economy
- "Train-the-Trainer" methodology and application
- Entrepreneurship in the digital economy

### Science and Engineering

- Programming languages
- Internet of things
- CAD and 3D printing
- Computer operating systems
- Data science and database
- Big data analytics
- Artificial intelligence
- Robotics
- Numerical computing
- Computer hardware and integrated circuit design
- Networking and cloud computing
- Aerospace engineering

### Digital Literacy

- Computational thinking
- Computer literacy
- Office tools
- Technology and society
- Cybersecurity and privacy
- BioTech
- FinTech
- AgriTech
- Technology management

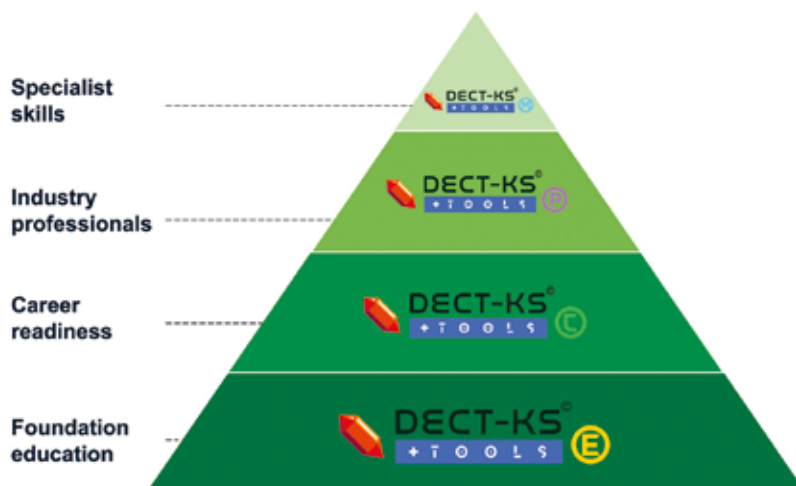


The world has experienced three industrial revolutions, and is now under-going the fourth industrial revolution (also known as Industry 4.0), an intelligent era dominated by digital and information technology. With the rapid development of science and technology, and of society, the transformation of the economic system,

and the arrival of Industry 4.0, the 21st century has entered the "digital age" led by digital technology.

The "digital age", also known as the "information age", is an era dominated by computers, data, information, and technology. In the digital age, all walks of life have widely applied

digital technology. Not only have living standards undergone major changes, they are moving towards intelligence and the popularization of intelligence, and economic activities are also driven by the digital industry, which promotes the digitization of traditional industries and the formation of the digital economy.



**DECT Master Program (MP)** – for digital economy professionals who strive to be at the forefront of their industries

**DECT Professional Program (PP)** – for individuals already employed in the digital economy to improve their professional competitiveness

**DECT Career Program (CP)** – reskill existing workers to join the digital economy, even allowing individuals with no prior knowledge to excel

**DECT Educational Program (EP)** – for institutions providing K-12 and Higher Education, increasing preparedness for the digital economy



Global economic development is gradually digitized, and the economic system has undergone major changes. In 2020, the China Academy for Information and Communications Technology's "New Vision of Global Digital Economy (2020) – New Drivers of Sustainable Development under Great Changes" points out that digitalized industries account for 84% of the digital economy growth rate of the global digital economy is "rising against the trend" under the raging epidemic. More than 36% of China's GDP in 2019 came from the digital economy. Moreover, according to the United Nations (2019), by 2030, 30% of global GDP, or US\$30 trillion, will be derived from digital economies. This shows that the digital economy will dominate the future global economic system.

For emerging economies, the early digital era raised more questions than answers. While creating new opportunities, digitalization generates comparative advantages to developed countries that already possessed digital tools. Incumbent digital economies

often command a high price for digital tools, in turn limiting the affordability and accessibility of digital tools in emerging economies. Educational institutions lack updated knowledge on technological trends and are therefore unable to prepare their students for structural shifts.

For developed economies, although Industry 4.0 is developing rapidly and the digital economy is also a major trend, most industries still face the problem of resource costs and talent shortages. To support this expansion, the right technologies, tools, education, and training are required. It is undeniable that digital transformation is a major challenge that all industries must face, and it is also an opportunity to achieve a more efficient and higher-quality intelligent society. Digital content creation and production are stifled by affordability and piracy issues, contributing to the digital divide. Schools moreover lack familiarity and access to digital tools to train students for work in the digital economy.

## **AS A BRIDGE FOR EMPOWERING THE FUTURE LEADERS OF THE GLOBAL DIGITAL ECONOMY**

To promote digital transformation, Krystal Institute Limited (Krystal Institute) defines the "Digital Economy Core Technology", which includes all the necessary knowledge, skills, and tools in the digital economy, and provides a series of DECT-themed courses and educational activities.

It is worth mentioning that all the knowledge and skills of Krystal Institute's DECT are transferrable survival skills, which can be widely used in different industries and fields. Moreover, the tools used by Krystal Institute are free and open-source, saving a lot of costs for individuals, schools, and enterprises, promoting the empowerment of talents, employability, and competitiveness, pushing social upward mobility, and bridging the global digital divide.

DECT Lab combines pedagogy with tangible outcomes.

### **DECT TEACHING METHODS**

- Personalized and self-paced learning
- Accessible and inclusive learning
- Project-based, goal-oriented learning
- Collaborative learning
- Lifelong and student-driven learning
- Learning based on trust and care between the teacher and the students
- Inspirational learning instead of rote learning and instruction

### **DECT PROGRAMS OUTCOMES**

- Employability and upward mobility
- Global citizenship understanding & skills
- Innovation and creativity skills
- Design thinking skills
- Technical skills and real-world applications
- Interpersonal skills
- Critical problem-solving skills
- Computational thinking



# KIDS LEADERLAND EDUCATION CENTRE

## TRANSFORMING DIGITAL EDUCATION FOR EARLY LEARNERS



小領袖優兒教育中心  
KIDS LEADERLAND  
EDUCATION CENTRE

private education centers. Drawing on her experiences, she is aware of the learning needs, and the patterns of personal growth and development of children aged 3 to 6. By understanding children's emotions, behaviors, and theories of child development, Miss Manna provides parents with unique opinions, assisting parents in their children's education.

BY BARBIE LAM

**K**ids Leaderland Education Centre (Kids Leaderland) is located in Hong Kong. The centre offers diverse courses for children achieve holistic development. To facilitate teachers to develop students' skills, Kids Leaderland has a multi-purpose room and proprietary teaching materials, produced based on children's learning needs. It is also equipped with online teaching supporting facilities, closely following recent trends in offering digitalized, hybrid teaching experiences.

The standards that children in Hong Kong are expected to meet are evolving year on year. To assist students and parents, Kids Leaderland plans and provides a variety of courses, covering themes such as storytelling, school interview preparations, language, concentration, comprehensive training for children with special educational needs (SEN), and auxiliary music therapy courses. By providing extra-curricular courses, Kids Leaderland hopes to cultivate essential characteristics in the next generation of young leaders, such as eloquence and confidence. Not only does this form of education allow children to

express themselves and communicate with interviewers when facing Primary One interviews, but it also prepares them for subsequent learning in formal educational settings.



Manna Liu, also known as Miss Manna, is the Program Director of Kids Leaderland. She has 15 years of experience in early childhood education and SEN education and has served as a teacher and curriculum manager in both kindergartens and

### CHASING INNOVATION: IMPLEMENTATION OF A BRAND-NEW ANIMATION KINDERGARTEN PROGRAM

Miss Manna believes that the education industry is facing a critical turning point. With the development of information technology, a new digital age has formed. In recent years, the emergence of a fully-fledged workflow and production model in ACG – animation, comics, and games – has encouraged more people to compile novels into anime, manga, and games. However, among the six learning areas covered by the current curriculum framework for kindergarten education in Hong Kong, "digital technology" has yet to be included. In kindergartens, computers are simply classroom tools, with no curriculum in place to ensure its effective application in education. Miss Manna thinks that children should be better able to apply digital skills during the transition between pre-school and primary school, to ensure successful articulation of their blossoming academic careers.

Miss Manna feels that as an educator, she needs to stay at the forefront of pedagogical innovations. By improving her educational offerings, she can match technological trends with students' learning, and "pave the way for the future of children and the future of mankind".





To help children meet the challenges of the digital age, Kids Leaderland is collaborating with Krystal Institute to launch kindergarten-level educational programs on digital skills. Through Krystal Institute's complete set of mature digital courses, Miss Manna hopes to empower children aged 4 to 7 to transform their imaginative comics and drawings into 3D animation. A video-based animated story, coupled with students' performances, not only retains the essence of student-led storytelling, but also enhances the visual impact of class outcomes.

### **COMBINING IMAGINATIVE STORYTELLING WITH DIGITAL FUNDAMENTALS**

Miss Manna has observed that most children speaking abilities are underdeveloped at 3 years old, and their ability to construct sentences is relatively weak. Additionally, children's motivation in learning is mainly based on hobbies and daily life experiences, making narratives and stories an important element in learning for children aged 4 to 7. Through storytelling, children train their skills in oral expression, improve eloquence, and cultivate logic,

thereby enabling the establishment of interpersonal relationships. Children draw inspiration from their personal lives to create their own unique stories.

With this in mind, Kids Leaderland has launched a storytelling course, allowing children to immerse themselves in building and expressing themselves using narratives. Kids first listen to a story, then work towards understanding it, before re-telling stories or performing their original work. Through the course, children comprehend the purpose of and learn to apply narrative arcs, intonation, voice, and movement, to express themselves and build relationships with others. They are trained to be effective listeners, and absorb "by osmosis" communication skills through the interaction between people and things around them.

Gradually, these children learn to become excellent storytellers. Other than through speech, Miss Manna points out that for children under 6 years old, the most direct way of expression is drawing. And when asked to draw four consecutive images, they can naturally create a simple comic strip. By collaborating with Krystal Institute, this traditional yet effective experience is elevated: children can now re-interpret their comic strips as animated videos, expressing themselves through a digital medium and entering the digital age.





As digital-based learning remains an emerging concept, Miss Manna points out that parents may still be hesitant about letting their 3-year-olds have that much screen time. The design of Kids Leaderland's digital curriculum takes this into account, guiding students step-by-step by first starting with an explanation of the rudimentary digital concepts, accompanied with "unplugged", real objects and

educational toys, before introducing simple computer or tablet operations.

Producing animation for educational purposes is a continuous process, and Miss Manna believes that tracking the latest developments in the tech space is key to providing a high-quality curriculum. Kids Leaderland and Krystal Institute share a common philosophy, hoping to bring fresh

concepts rooted in digitalized learning to children under the age of 7.

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# BV GROUP



## BUILDING THE FUTURE

### AN ANSWER TO A GROWING DEMAND

As Indonesia's games and animation industry expands its size, so does the demand for high-quality artists.

Introducing **Brandoville Group**, founded as a way to level up the games and animation industry in Indonesia by **Ken Lai**, a Chinese Canadian, and **K.K.**, an influential local business partner.

Under Brandoville Group is **Brandoville Academy**, the leading computer graphics art training center and the first of its kind in the country.

With a mission to provide an environment for students to level up their creative talents and develop Indonesia as a leader in the games and animation

industry, Brandoville Academy doesn't hold back on quality with its selection of programs in **3D Modeling, 3D Animation, 2D Animation, Storyboard, Concept Art**, and **VFX** taught by industry-veteran overseas mentors.

Not only is Brandoville Academy the first and only **Toon Boom** authorized training center in Indonesia, it is also the first **Unreal Engine** authorized training center in *Southeast Asia*.



**Toon Boom**  
Bringing Your Stories To Life

*From top to right  
Pictures of the Brandoville Academy campus  
building in South Jakarta*



# BV

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# SETTING THE BAR HIGH

The academy started as an answer to the growing demand from **Brandoville Studios**, the first premium AAA games and animation studio in Indonesia located in the heart of the central business district of Jakarta.

Brandoville Studios specializes in delivering cutting-edge work that creates a lasting impression.

With the studio's rapidly growing needs of skilled artists and the academy's mission to produce graduates ready to enter the professional workspace, they form together under the wings of Brandoville Group.

As CEO, Ken Lai brings in his decades of experience in making more than 100 AAA games such as **FIFA, Resident Evil, Medal of Honor, Sims, Tekken, Call of Duty**, and many other major titles into his vision and work.

With his insight, Brandoville Academy and Brandoville Studios set the bar high to meet international industry standards and build the future for games and animation in Indonesia.



Brandoville Studios was founded in 2018 in Jakarta and is the leading AAA games and animation studio in Indonesia

For more info, visit [studios.brandoville.com](http://studios.brandoville.com)



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