Issue 2

The 60 Smartest Companies Thriving Post-pandemic
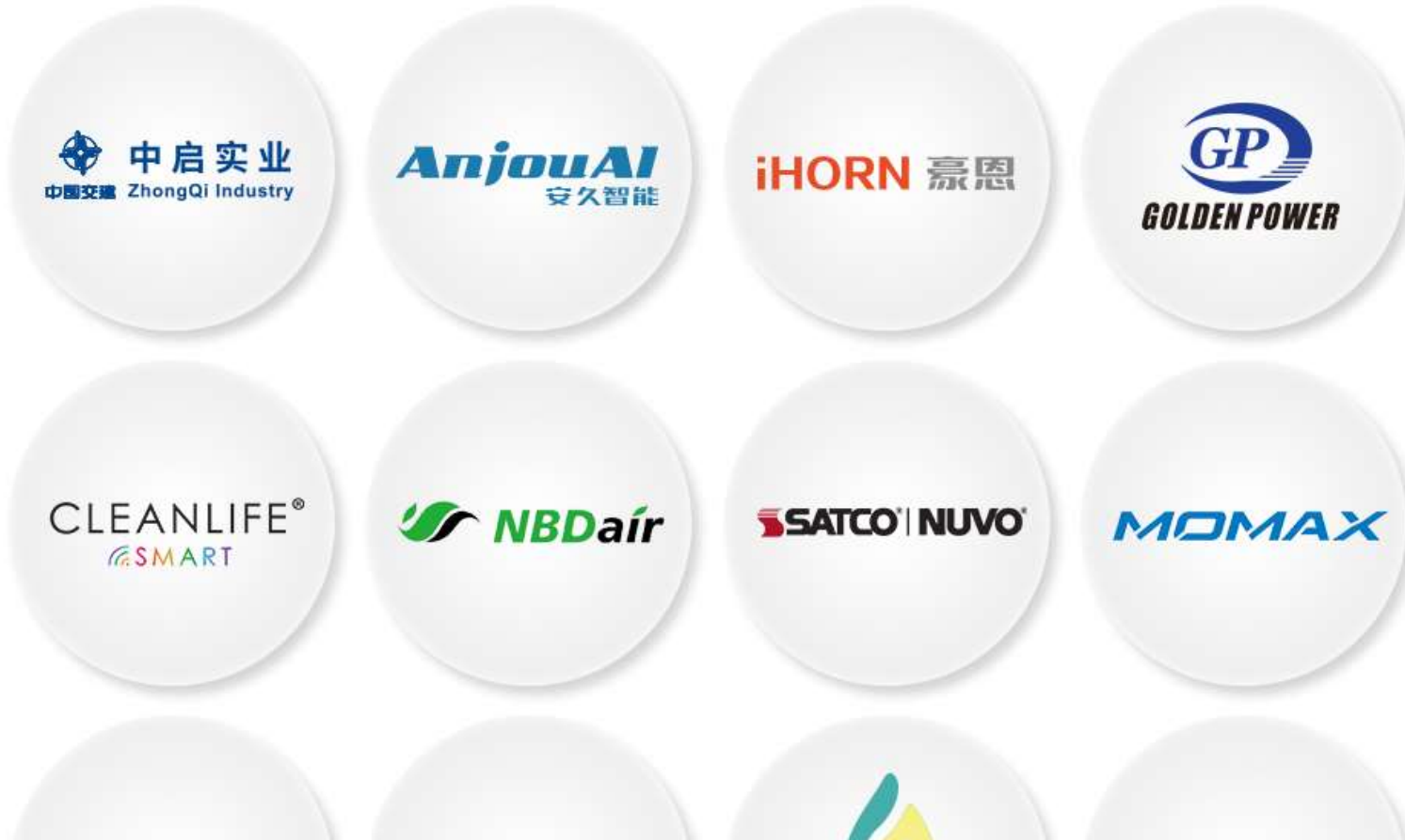
The 60 Smartest Companies Thriving Post Pandemic

The smartest companies in industrial upgrading

中启实业 中国交建 ZhongQi Industry

AnjouAI 安久智能

iHORN 豪恩

GP GOLDEN POWER

CLEANLIFE® SMART

NBDair

SATCO NUVO

MOMAX

StrongLED®

MEKO 然诺 照明

invitop

涧科创科技有限公司
Lighkeep Limited

Heiman 海曼

PHILIPS

Schneider Electric

ТЕПЛОЛЮКС
живи комфортно

AURORA
LIGHTING GROUP

tecnolite
LA LUZ ES TUYA

POLYCAB
Connection Zindagi Ka

Crompton

The smartest companies
in smart transformation

The smartest companies
in business innovation

Despite the negative impact on the global economy, two years into the pandemic the remote work, online education, and home entertainment markets are booming. Especially noteworthy is the fast growth of the global AIoT market.

In this context, Tuya Smart, IBV, has selected the 60 smartest companies thriving post-pandemic, including the smartest companies in industrial upgrading, smart transformation and business innovation. Selection criteria included whether a company had applied new technologies to adapt its business model, improve operational efficiency or to make contributions to society.

After the outbreak of the pandemic in early 2020, the world was forced to pause many endeavors. However, new technologies have continued to thrive and make considerable advancements and market growth.

These new technologies include but are not limited to IoT, AI, 5G, blockchain and quantum mechanics. As remote work and remote development have become widely adopted during the pandemic, companies have taken swift actions to address this market demand with technology breakthroughs to foster new drivers for growth.

1. The smartest companies in industrial upgrading

Zhongqi Industry

Zhejiang Zhongqi Industry Co., Ltd. ("Zhongqi Industry"), established in 2015, is the wholly-owned subsidiary of China Communications Construction Company, Ltd. In order to advance the strategy of China Communications Construction Company, Ltd., Zhongqi Industry extends the industrial chain and pursues strategic integration by focusing on four major business sectors: life and health, future parks, smart technology and new retail.

During the construction of industrial parks, Zhongqi Industry found that with the increase in the number of industrial clusters and occupants, the infrastructure and services in the parks were under increasing strain. Zhongqi Industry began to question if the traditional industrial park management approach should be followed, or if an advanced and smart management platform could be adopted based on IoT devices.

After extensive research and evaluation, Zhongqi Industry concluded that it was necessary to establish a systematic and comprehensive smart digital service platform to provide targeted value-added services and improve service awareness and industrial park quality. This new IoT smart system would restore and maintain balance in the operation of property, commerce and industry.

Empowered by the tools in IoT development platform, Zhongqi Industry has smart upgraded the hardware equipment and software systems of its industrial parks. Zhongqi Industry has also built an all-scenario smart management system to improve the efficiency of park management while reducing energy consumption and property management costs. The system will continuously extend the scope of value-added services according to the needs of the parks, and provide precise and efficient services in talent, finance, business incubation and government affairs.

In the next five years, Zhongqi Industry will continue to develop smart future parks and industries with a planned investment of more than CNY 10 billion. The Company's goal is to become a leading investor and operator of future industrial parks, manage over 50 parks and become a leading provider of comprehensive service capabilities in China.

Anjou AI

Guangdong Anjiu Intelligent Technology Co., Ltd. (Anjou AI), established in 2020, is a high-tech enterprise that independently engages in the R&D, design, manufacturing, and sales of smart electronic products such as smart sweeping robots, wireless vacuum cleaners, and sterilizing air purifiers. Its products have successively passed a range of certifications such as CCC, FCC, CE, SRRC, RoHS, ISO9001, ISO14001, ISO45001, and BSCI.

With the vigorous development of the smart home industry, population aging and the expansion of the middle class in China in recent years, coupled with the trend of upgraded consumption and lazy economy, robot vacuums are becoming a common smart home product, experiencing rapid growth. In particular, because of the COVID-19 pandemic, people are staying home more and want to have cleaner homes. Therefore, the demand for robot vacuums on the global market in 2020 saw dramatic growth.

For Anjou AI, while the COVID-19 pandemic brings a huge challenge to economic development, the trend towards a digital, information-based smart age is clearer than ever before, calling for smarter products and devices. China's smart robot vacuum market, however, is a mixed bag, with room for design improvements across the entire industry.

For that reason, Anjou AI applies gyroscope infrared sensors, visual imaging technology, laser radar technology, and algorithms in an all-around way so as to create efficient and smart robot vacuums. At the same time, it also cooperates with Tuya Smart to achieve a good user interaction experience through apps and to make smarter home devices by combining their strengths in hardware and software algorithms.

Heiman

Established in 2005, Shenzhen Heiman Technology Co., Ltd. (Heiman) is a high-tech company that focuses on manufacturing smart home, NB-IoT smart fire protection and smart sensor products, and is a solution provider that integrates independent R&D, production, sales, and services.

With 16 years of constant technological innovation, Heiman boasts a wide range of products, covering anti-theft alarm, safety monitoring, environment monitoring, home security, emergency rescue, lighting, door and window shading, etc., providing one-stop packaged solutions in multiple fields such as smart home, fire protection, elderly care, real estate, hotels, and offices.

In 2012, Heiman started smart home products R&D, launching a variety of smart home security alarm products, such as smart smoke alarms, smart combustible gas alarms, smart carbon monoxide alarms, and smart magnetic infrared alarms for doors, presenting well designed smart home sensors to end consumers which are immensely popular among users both at home and abroad.

In 2020, the COVID-19 pandemic brought both challenges and opportunities to the smart home industry. Faced with the new situation, Heiman launched the smart home whole-house linkage solution that was controlled in four ways, namely app remote control, scene control, scenario linkage, and voice control, effectively satisfying the needs of users in security, fire protection, environment monitoring, home appliance control, lighting, and door and window shading. The company also provides customized services, delivering packaged solutions automatically.

The contact-free interaction approach of Heiman's whole-house linkage solution brings a safer, smarter and more convenient life experience to people amid the COVID-19 pandemic, starting to showcase prominent advantages. After the pandemic, people will pay more attention to and pursue a safer and healthier lifestyle. Heiman's contact-free smart products will win more recognition in the market, thus embracing new development opportunities in the future.

HORN

HORN Inc., which was established in 1995, is a professional provider of security alarm products and solutions in anti-theft alarm and IoT sensing. Focused on the research, development, and manufacturing of various specialized security equipment and smart home sensors, ranging from anti-theft alarm controllers to security detectors, environment detectors, and perimeter guards, it provides distinctive solutions in such fields as smart elderly care, smart community, smart home, smart finance, and smart office.

With the rapid development of the IoT and other technologies, the sensor, as an underlying core component of the IoT, has entered residential homes with applications in a wider range of areas. However, early IoT sensors had problems such as unpolished appearance, poor smart connection experience, and unsatisfactory sensing performance. In order to solve these problems, HORN Inc. has improved the performance of its products in all aspects and launched the T3 product series in 2019, including human movement sensors, smoke alarms, door and window sensors, gas leak alarms, multi-functional gateways, and more.

Amid the COVID-19 pandemic, faced with increasingly fierce market competition and more sophisticated consumer groups, HORN Inc. has sought to enhance its competitiveness by cooperating extensively with IoT platforms and getting integrated into the industrial ecosystem while promoting innovative product design. So far, the company's sensor products have realized smart connection in both cloud and mobile terminals and formed a closed loop of the smart home system, making people's life safer, easier, and more comfortable with high-quality products and services.

Lighkeep

Founded in 2014, Shenzhen Lighkeep Tec Co., Ltd. ("Lighkeep") is a leading Chinese smart active noise cancellation (ANC) headphone brand with products sold around the world. Though the company was impacted by the COVID-19 pandemic, it still producing over 2 million noise cancellation headphones annually, with popular products sold to Europe, America, the Middle East, and Southeast Asia.

Lightkeep initially looked to integrate smart technologies into its product line as a solution to address increasingly personalized and fragmented product demands from customers and end users. However, Lighkeep was confronted with many challenges in its smart transformation. The lack of high-caliber smart technology talent made strategic planning and smart manufacturing difficult to achieve. Meanwhile competitors were quickly launching smart products, placing increased pressure on Lighkeep to quickly find solutions for skilled talent production, planning and resources.

To accelerate its smart transformation and upgrading, Lighkeep started cooperating with Tuya Smart in 2021. With the IoT development platform of Tuya Smart, Lightkeep was able to introduce smart controls by connecting all of its noise cancellation Bluetooth headphones to a user-friendly App. The App allows users to access details such as battery level, product location services, AI voice assistant and personalized setting all on one location. Introducing smart features has not only improved user experience but also given Lightkeep the flexibility to add or change smart product features down the road as user preferences and market demand continue to shift. Lightkeep was also able to shorten the launch time of its smart product from two months to roughly 15 to 20 days. Lightkeep's smart transformation and shortened product launch schedule has greatly reduced its production and sales costs and allowed it to maintain competitiveness and become a leader in the acoustic products market.

Meko Electronics

Established in 2005, Dongguan Meko Electronics Co., Ltd. provides solutions for IoT technologies, integrating software and hardware development, manufacturing, and sales. Mainly producing indoor and outdoor LED lighting and smart control products for various applications, it is a large-scale enterprise with an annual sales volume of more than CNY one billion.

However, the outbreak of COVID-19 brought great challenges to Meko Electronics in resource allocation and industrial coordination. In the face of changing circumstances, it has stayed focused on improving its capabilities and preparing for market recovery.

Meko Electronics has sped up improving its production line management, taking measures such as building an information management system that matches the actual situation of the production lines, collecting, monitoring, and managing production information online, achieving product quality traceability, and supporting material tracking for the production lines. Using digital transformation and visualization, the company efficiently controls the production process.

By enhancing business development through data sharing, Meko Electronics has further revitalized corporate resources. Measures taken include visualizing and sharing cross-regional resources and capabilities, building an information sharing network for the entire product supply chain and for all business activities, quickly mobilizing external resources, adjusting excessive production capacity, and properly allocating resources. Based on

this data, it has established a sound and favorable competitive environment to form a win-win situation between supply and demand by upgrading its factories and production lines in a smart way.

Golden Power

Established in 2009, NingBo Golden Power Electronic Co., Ltd. (Golden Power) is mainly engaged in power supply units and controllers, with products covering various areas such as conventional lamp beads, colorful RGB lamp beads, copper wire lamps, laser lamps, and desk lamps. Moreover, it has developed remote control functions for the above products, involving Wi-Fi, Bluetooth, wireless control, and infrared remote control. For Christmas lights, Golden Power has developed novel designs such as timing, dimming, and voice control, obtaining patent certificates in many countries.

While diving into the traditional Christmas light channels, Golden Power foresaw the profound impact of smart technology on various industries in 2017 and immediately invested in the research and development of smart Christmas lights. At the same time, realizing that mobile apps would replace the traditional remote control due to the portability and convenience of mobile phones, Golden Power began to develop and mass-produce single-colored, dual-colored, and RGB Christmas lights and transformers controlled by apps, with production lines both for remote-controlled and app-controlled products.

In 2020, the COVID-19 pandemic took a toll on the global market. Non-smart traditional products have become "sunset products" due to low profits and failure to meet market demand. For that reason, Golden Power began to focus on the promotion of smart products so as to achieve "industrial upgrading" which implemented smart manufacturing and gain customer's favor.

In addition, due to the impact of the pandemic, the price of copper—the main raw material of Christmas lights—has skyrocketed. As a result, the traditional market with low profits was hard hit, making it an imperative to make product lines smarter. Therefore, Golden Power follow the trend of the times, will deepen the focus on smart products, and further increase the added value of its products.

Invitop

Founded in 2011, Guangdong Invitop Technology Co., Ltd. ("Invitop") is a company that specializes in the production and R&D of consumer electronic products for home, travel and personal care. Its achievements in product design have received global recognition including many Red Dot Awards and German iF Design Awards and through a number of invention and utility model patents. According to customs data, from 2017 to 2019, Invitop's small dehumidifiers were the top products in the category by export volume, while also selling more than one million purifiers annually.

With the rapid development and application of smart technologies such as cloud computing, AI, and 5G, an increasing number of smart home products are entering more households. Since the outbreak of COVID-19 in 2020, smart home products have brought a safe, smart and convenient life to even more families by offering contact-free interactions with technology. With increasing user awareness of the benefits of smart home product, the industry is embracing new development opportunities.

At the beginning of 2019, Invitop began launching smart home product lines and since then has gradually built a smart product research and development industry chain. In the stage of product planning, it incorporated smartization into product design. Today, 90% of its products, including dehumidifiers, purifiers and air fryers, are smart enabled for user interactions.

The smart home industry is shifting from single products to the building of interconnected smart ecosystems. Invitop has begun cooperating with more clients to help more companies achieve systematic brand operation, create smart home scenarios with a variety of smart home products, and ultimately gain market share in smart home industry.

Philips Domestic Appliances

Headquartered in the Netherlands, Philips Domestic Appliances is a global leader in kitchen, coffee, clothing care and other home care appliances. With innovation, manufacturing and commercial activities in more than 100 countries around the world, the group provides products including automatic espresso machines, air purifiers, air fryers, steam irons and hand-held vacuum cleaners. It is committed to bringing high-quality products and a healthy and beautiful life to consumers across the world.

By introducing innovative IoT technologies and adopting the direct-to-consumer model, Philips Domestic Appliances strives to help enterprises in R&D, supply chain collaboration, membership systems, user experience and marketing.

In cooperation with Tuya Smart, the group has upgraded products with smart technology based on Tuya's global IoT development platform. The cooperation allows products to better meet consumer needs for a healthy life through smart products and smart scenarios.

In the post-pandemic era, digital technologies and tools are being rapidly integrated into commercial research, production, supply and marketing. Players in the industry are now tasked with the challenge of how to integrate smartization to their enterprise. In the future, Philips Domestic Appliances will continue to work with Tuya Smart in IoT to bring meaningful innovations to consumers.

Schneider Electric

Established in 1836, Schneider Electric SA is a Fortune 500 global company with localization advantages in regions around the world. It has been actively promoting the digital transformation of homes, commercial buildings, data centers, infrastructure and industry markets for many years. By integrating the world's leading processes and energy management technologies, it offers integrated enterprise-level management including terminal-to-cloud interconnected products, controls, software, and services throughout the entire business life cycle.

Since 2012, Schneider Electric has deployed its first-generation smart home system in high-end real estate projects in Asia-Pacific and other regions. With the rise of younger consumer preferences for smart products and favorable policies for IoT, smartization and customization have become driving forces in the home products industry. However, there are many variations in local needs and applications due to differences in national policies, smart home industry sales channels, and the end-to-end user experience.

In the face of these local challenges, Schneider Electric has begun to seek all-round solutions, like that found in its cooperation with the global IoT development platform, Tuya Smart. In order to cope with the impacts of COVID-19 it also rolled out a project management solution similar to a assembly line to supporting clients in tracking and managing projects in a timely manner. This platform allows customers to quickly resume and maintain project schedules even in the face of personnel changes or interruptions due to the pandemic.

For Schneider Electric, IoT is no longer an abstract concept. From smart home to smart community and overall connection, Schneider Electric hopes to create a broad community of "Works with Wiser" with its Wiser smart home system and to launch and empower solutions in a more far-reaching way to meet the ever-changing and diverse needs of consumers around the world.

NBDair

NBDair was established in North America in early 2021. It has a team with 20+ years of AIoT experience, dedicated to developing and deploying smart and highly effective indoor air health and safety products to help prevent COVID-19 and various infectious diseases. NBDair provides space-as-a-service (SPaaS) suppliers, indoor air solutions providers, and equipment suppliers with solutions to create healthy indoor spaces. Its product, welSPACE, revolutionizes the indoor air purification experience by leveraging advanced IoT, filtration, and disinfection technologies. It innovates the indoor health experience, while its real-time and historical data integrations and visualizations allow all users to gain valuable insights into the health and safety conditions to ensure occupants' safety.

Since the outbreak of the COVID-19 pandemic, indoor air purification and disinfection have become particularly important. At present, SPaaS customers desire to see real-time air data, for which NBDair's HSPaaS (Healthy Space as a Service) platform is created. It offers a fully integrated air purification solution and real-time feedback, substantially improving users' experience.

The HSPaaS platform is created by leveraging Tuya Smart's AIoT platform. Based on Tuya's global public cloud architecture, edge technology, premier device integration capabilities, and an ecosystem of over 410,000 Powered by Tuya smart devices, the HSPaaS platform is able to better satisfy customers' demands. Meanwhile, thanks to the underlying technology and ecosystem support provided by Tuya, NBDair can focus on the development of solutions. In the future, Tuya will continue to empower NBDair and help it quickly integrate a huge amount of devices and establish its position in the air purification and smart home market.

CLEANLIFE®

Founded in 2011 and based in Cleveland, Ohio, CLEANLIFE® has a network of factories in the United States, China, and Vietnam. It is committed to providing energy-efficient and environment-friendly LED lighting products.

Throughout the COVID-19 pandemic, consumers will be spending more time at home, and smart lighting will enhance the mood and comfort level in people's homes. Smart lighting products, controlled by smart phone apps or voice assistants, will make home lighting system more convenient and easier to use, enabling lighting companies to gain a competitive advantage in the market.

To adapt to the pandemic, CLEANLIFE® has shifted its strategic priority, starting to import PPE products from overseas and establishing a new joint venture for UVC lighting products. One of the products is PureLight 360™ Ultraviolet Smart Disinfection Lamp, which is jointly developed by CLEANLIFE® and Tuya Smart, with the latter responsible for smart empowerment.

Based on the IoT development platform provided by Tuya, CLEANLIFE® has successfully launched Wi-Fi and Bluetooth controlled flexible LED strips, LED panel lights, LED smart bulbs, and other lighting equipment, which are available at Lowes, on Amazon, and in various other online stores through its channel partners.

Riding the upward trend of smart lighting, CLEANLIFE® plans to offer even more smart lighting devices such as security lights, under-cabinet fixtures, and outdoor solar lights that will be available in the fall of 2021. The IoT development tools provided by Tuya can help CLEANLIFE® not only quickly private label an app for its customers but also personalize the design of the app's user interface. CLEANLIFE® and Tuya also will cooperate to create a healthier and more comfortable lighting experience with potential expansions into other IoT products and accessories such as sensors and security cameras.

Teploluxe

Teploluxe is a leading global developer and provider of residential heating cable solutions. Known for its electric underfloor heating and water leakage control systems, its products and solutions can be found throughout Russia and are exported to nearly 60 countries worldwide.

In the era of Industry 4.0 with high consumer access to smartphones, Teploluxe has become an early adopter of smart transformations and digitalization, allowing users to better interact with devices. By the end of 2020, almost 20% of Teploluxe's self-developed devices could be controlled from an App.

As a company known for hardware, Teploluxe boasts a strong R&D team, but smartization requires substantial investments of time and resources into IoT infrastructure. As their exploration of the field deepened, Teploluxe began to reconsider the wisdom of in-house development of IoT infrastructure, relative to the advantages of enlisting a strategic partner.

The global IoT development platform Tuya Smart caught the attention of Teploluxe. As part of this cooperation, Teploluxe has leveraged the App SDK, MCU and global public cloud provided by Tuya Smart. By the end of July 2021, the first batch of smart products jointly developed by the two parties were finished and ready for release. The development process only took two months.

Teploluxe quickly launched its own App on Tuya Smart's IoT development platform. Its front-end development engineer, Pozdnyakov Nikolay said, "Tuya Smart provides users with an easier way to connect smart devices. Users can control 410,000 PBT smart devices from different brands and categories within a single App, opening the door to the smart connection of all things."

MOMAX

MOMAX Technology, a leading local consumer electronics brand in Hong Kong, is committed to creating a beautiful day for consumers with its products. From 2G to the 5G era, MOMAX has developed more than 10 consumer electronic product categories, from mobile communication accessories to IoT products, with a total sales volume of more than 100 million units, covering more than 50 markets around the world.

The company's IoT brand, MOMAX SMART, is committed to building an IoT ecosystem, using innovative technology to improve living standards and convenience, helping Hong Kong to become the world's leading smart city. From 2019 to 2021, MOMAX created the MOMAX SMART Home management system on the Tuya Smart IoT development platform and successfully launched a variety of top-selling products such as smart UVC air purifiers, smart robot vacuums, smart LED bulbs, smart body scales, and smart table lamps. With the MOMAX SMART app, you can control all of the above products from anywhere through the app.

Since the start of the pandemic, the market demand for disinfection products has greatly increased. MOMAX gives full play to its market-leading corporate status in the IoT industry, quickly coordinating the supply chain, accelerating the production and manufacturing process, and providing affordable and high-quality UVC air purification products for restaurants and hotels in Hong Kong in just a few months to improve the air quality and to prevent the spread of the coronavirus. Helping the catering and hotel industries to fight the pandemic in a difficult business environment has been widely appreciated and recognized by customers.

With the advent of the 5G era, MOMAX is confident that Hong Kong will become the world's leading smart city. Based on its optimistic views concerning the potential of the smart home market, MOMAX has begun to cooperate with different telecommunications providers and household goods companies to join forces with Tuya in smart homes, smart travel, smart environments, etc. in the hope of bringing a more extensive all-scenario IoT experience to Hong Kong users in the future.

Tecnolite

Grupo Construlita is made up of two companies: Construlita, which was founded in 1984, and Tecnolite, which was founded in 1989. In 2014, the two companies were merged to form Grupo Construlita, which offers smart lighting solutions to the market.

In order to accelerate to its way into smart lighting, in 2020, Grupo Construlita launched Tecnolite Connect, a brand of smart lighting and security devices. Focusing on smart energy, security, appliances, and lighting, Tecnolite Connect follows the trend of smart devices and offers products in various categories that are in full compliance with high international standards.

Since the outbreak of COVID-19, people tend to spend more time at home and are willing to pay more to make their homes more comfortable, practical, and safe. However, there were two major obstacles for Tecnolite Connect: lack of market education in the IoT space and the fact that some consumers were hesitant to buy smart devices.

Therefore, empowered by Tuya Smart, Tecnolite Connect has launched a special app, through which all its smart devices can be controlled. What's more, it can also be interconnected with smart devices of different brands and categories as the Tuya platform is compatible with over 410,000 devices. Through the app, discount or coupon notifications may be sent to users to increase the product repurchase rate.

Within one year after its launch, Tecnolite Connect had rolled out household appliances such as air purifiers, smart lights, smart dimmers, and aroma diffusers in response to the new demands for smart devices amid the pandemic. Meanwhile, it is also exploring more product categories, such as pet, health, and hygiene products, to expand its product matrix, enabling the smart connection of all things within reach in the future.

Aurora

The Aurora Lighting Group is an international lighting organization that provides services for the residential, commercial, industrial, retail, and hospitality sectors. Renowned for its quality and service, the group serves customers through a global network of more than 50 countries. With manufacturing at the heart of its capabilities, Aurora offers decades of experience in hardware design and production, and is in full compliance with ISO 9001 and ISO 14001 quality standards.

Aurora believes that there has been a lot of hype in IoT within the lighting arena, with some traction seen in certain, such as the younger generation is more receptive to smart products, the advancement of IoT technology, and the increasing market recognition in IoT have gained from the role played by mainstream smart device manufacturers and IoT development platforms in market education sector etc. but those elements are still not mainstream. Therefore, the key to success for a lighting enterprise is to build a true use case around the key benefits to tackle the pain points of consumers.

Understanding market demand, Aurora is at the forefront of the industry in the development of customized lighting, smart lighting, and control and sensing products. In 2020, the group launched a Bluetooth-controlled, plug and play smart lighting system – AOne™ Connect.Control (Bluetooth), which includes multiple features like scene settings and scheduling. Users can easily upgrade their system by adding sensors to provide immediate and significant energy savings.

Meanwhile, following the trend of smart speakers, Aurora has launched products including downlights and LED strips compatible with Amazon Alexa and Google Assistant. In addition, it has also rolled out AOne smart dimmers. By installing the dimmer, you can smart-enable traditional home lighting devices instantly through the AOne app, thus realizing the smartization of existing devices.

SATCO

Founded in 1966, SATCO is a New York-based lighting company. With more than 8,000 power distribution and lighting showroom customers, OEM, E-commerce, A&D, designated suppliers, and distributors/retailers, SATCO operates mainly in the supply distribution space.

Thanks to advances in IoT technology, smart speakers and smart voice assistants are widely available, making the wide application of voice-controlled smart devices possible. In the era of artificial intelligence, more and more lighting manufacturers are eager to transform their business. SATCO is no exception.

In 2021, SATCO launched its first smart lighting brand, STARFISH™, which consists of more than 50 smart lighting products, ranging from recessed downlight fixtures to color-changing strip lights, electrical outlets, and switches. The growing line of products can be controlled and interconnected through the STARFISH app. Furthermore, the products can also be connected with more than 410,000 smart devices to provide consumers with the ease of inter-connectivity.

The STARFISH product line has been met with overwhelming success during the COVID-19 pandemic, with product sales increasing 100% month over month.

SATCO will not stop here. As the world looks for ways to reduce humans' carbon footprint and conserve energy, commercial and industrial applications will look towards smart control. SATCO will be anticipating the trends in these markets and applications, filling the huge market gap, and empowering industries towards a low carbon future.

StrongLED

StrongLED, an pioneer smart lighting brand, was jointly founded by Lawrence Lin, former Ledvance (Osram general Lighting) CEO, and StrongLED Lighting Systems (Suzhou) Co., Ltd. in 2021 to enter the smart, human-centric lighting market.

Smart lighting is the general trend but now it is far from mature. StrongLED believes that technological changes have brought more opportunities in the LED era. AI and IoT, in particular, will tap into the potential of lighting.

The evolution of LED lighting, with the help of AI, IoT, and other technologies, can enable applications across various smart scenarios. Research on the relationship between light and human health inspire and incentivize technological advances.

Based on technological advantages and an accurate grasp of the current trends, StrongLED believes that "intelligence + health" will create enormous opportunities for smart lighting. That is why it has decided to focus on forward-looking applications in intelligence and health, providing professional and corporate users with one-stop, personalized, and immersive AI lighting solutions and building a smart ecosystem for light applications in different scenarios.

To deliver on this vision, StrongLED has invested heavily in less than a year and has designed a system of its own consisting of three major product pillars and five core technologies. To be specific, the three major product pillars include hardware, scenarios, and IoT platforms while the five core technologies focus on INTRINSIC, N@TUR, in.Licht, LichtConnect and eSpektrum.

StrongLED has rapidly grown into a well-known smart commercial lighting brand in China, thanks to its early-mover advantage, broad product lines, and timely strategic transformation.

Polycab

Polycab India Limited is one of India's leading manufacturers of wires and cables. Apart from wires and cables, Polycab is also a top brand of FMEG (Fast Moving Electrical Goods) products such as fans, switches, switchgear, LED lights, and solar inverters. Its products are widely available throughout the country and exported to over 40 countries, with a great reputation for high quality and superior durability.

Polycab is a technology-driven brand that uses Manufacturing Execution Systems (MES) in the product manufacturing process. MES is an automatic sensor-based system that is used to record the actual consumption of raw materials in production. In addition, Polycab also uses Maynard Operation Sequence Technique (MOST) to improve productivity and optimize capacity utilization.

Unlike other traditional manufacturing companies, Polycab started researching, developing, and producing smart devices early on. In 2018, the company developed smart Wi-Fi switches. However, during the production and R&D, the company found it challenging to build a complete smart home ecosystem independently. As a hardware product provider, Polycab expected to rely on a platform to expand its smart product categories. Therefore, after several years of exploring the smart industry, it chose to cooperate with a leading IoT development platform in the industry to build its own smart home ecosystem and connect with devices of different brands and categories on the IoT development platform. With the help of its partner, Polycab has upgraded its existing products and launched multiple IoT-based smart products like lighting, plugs, switches, fans, water heaters, etc. under the new brand, HOHM, in 2020, quickly and efficiently realizing the in-depth development of its smart product footprints at low costs.

Crompton

With a brand legacy of 75+ years, Crompton Greaves Consumer Electricals Ltd. is India's market leader in the category of fans. Over the years, the organization has continuously strived to produce a range of innovative products that cater to the modern consumers including water heaters, anti-dust fans, LED bulbs, air conditioners, kitchen appliances, and personal care appliances.

Making outstanding achievements in the R&D of energy efficient products, Crompton has received the National Energy Consumer Award (NECA) organized by the Bureau of Energy Efficiency (BEE), Ministry of Power. Crompton has also been featured in BrandZ Top 75 most valuable Indian brands list for 2020 released by WPP and Kantar.

The COVID-19 pandemic presented many challenges to Indian manufacturers and businesses, but Crompton overcame these challenges by strengthening the Smart Home portfolio. In early 2021, Crompton launched its first smart bulb, Immensa, along with its IoT platform – My Crompton! The integration with Amazon Alexa and Google Assistant adds in the voice control capabilities. Consumers can also control lighting scenarios through Wi-Fi with the Crompton app.

Since then, Crompton has further launched more smart devices, including smart fans, smart air conditioners, smart plugs, etc., and it will continue expanding its smart product array.

Although various industries are severely impacted by the COVID-19 pandemic, Crompton has achieved a robust financial performance thanks to the timely implementation of its transformation strategy. Its revenue in the 2020-2021 fiscal year hit USD 640 million, a record high despite the impact of the pandemic.

2. The smartest companies in smart transformation

Arramr

Established in 2008, Arramr Lighting Technology Co., Ltd. ("Arramr") is a lighting company focused on retail store lighting, LED optical display products and new retail solutions and services. Arramr is an integrated retail lighting provider that handles production, design, sales, and installation in-house. Its products cover a wide swath of retail lighting solutions including LED commercial lighting, LED luminous signs, LED display devices, LCD display devices, smart interactive devices, new retail management system and more.

In 2017, Arramr proposed the strategy of new retail empowered by digitalization and started planning the launch of new smart retail services. In order to accelerate the development of its digital business, it established a partnership with Tuya Smart.

Arramr's smart products now offer an immersive shopping experience with different lighting atmospheres set to the retail space needs. It also offers products that can achieved cost reductions and higher product efficiency through smart lighting control and energy management. Arramr's products also ensure an optimized shopping experience for retail stores through its remote monitoring platform, which will send notifications for product issues, allow for equipment management and other functions and alerts. Arramr also offers an all-round digital store solution that automatically collects data on the number of customers entering a retail store and distribution of customers in the store to improve customer flow management, staff allocation and floor efficiency.

The commercial retail smart lighting control products jointly offered by Arramr and Tuya Smart are able to manage and control up to 600 light points at the same time. This is currently the largest number of light control points offered in China, and offers a glimpse of what can be achieved in retail spaces going forward.

LongShine

LongShine Technology Group Co., Ltd., established in 1996, has eight R&D centers in cities including Wuxi, Beijing, and Hangzhou. Focusing on the industrial internet, LongShine helps enterprises and governments to carry out digital transformation, improving user experiences, and creating new value by empowering industrial upgrading with the B2B2C model in such fields as digital life, smart cities, energy, and industrial internet.

In digital energy, LongShine is working with the State Grid Ningxia Electric Power Company to build an electric IoT platform for the comprehensive management of household energy. The platform will be State Grid's standard electric IoT platform for all household users in China. However, in building the platform, LongShine was faced with the challenge of achieving interconnection between products of various brands and categories.

Therefore, LongShine worked with Tuya Smart to offer household users services of various scenarios, such as electricity consumption metering and statistics of large household appliances, analysis and management of household electricity consumption, household appliance smartization, and home security, helping household users in conducting comprehensive energy analysis and management with Tuya's global IoT development platform and rich end products in the hardware ecosystem, such as metering sockets, power strips, wall switch panels, magnet door sensors, human motion sensors, access control components, and door locks.

At present, the platform has been applied in more than 3,000 households and is expected to serve 100,000 households within one year. In the next two or three years, it will be promoted among State Grid's household users in all Chinese provinces to facilitate the smart transformation and upgrading of the power industry.

Datang Cloud

Established in 2020, Shaanxi Datang Cloud Information Technology Co., Ltd. ("Datang Cloud") is a subsidiary of Zhongqiao Construction Group. Zhongqiao Construction Group has partnered with many leading real estate companies including Vanke Group, China Overseas Property, COFCO Real Estate, and Country Garden Group, as well as local Shaanxi province developers such as Gaoke, Ziwei, Titan and Hongfu. With the support of the group's market advantages, Datang Cloud is focused on rolling out smart home and community solutions to residential real estate in China.

According to the Qianzhan Industry Research Institute, investment in residential real estate in Western China increased significantly from 2015 to 2019, reaching nearly CNY 2.2 trillion in 2019, an increase of 55%. From January to July 2020, investment in residential real estate in Western China accounted for 22% of the country's total residential real estate. Such an enormous market provides huge space for grow in the application of smart living.

As one of the few companies in Shaanxi province developing high-tech real estate projects based on real estate constructions, Datang Cloud boasts outstanding strengths for industry partnerships. It has not only established a solid foundation for cooperation with 90% of Shaanxi's leading real estate enterprises, but also has developed a long-term vision for smart home and community.

Datang Cloud is improving user loyalty by connecting home and community services, and taping into the potential of smart home aftermarket products through a smart community platform. By cooperating with financial institutions, Datang Cloud is also able to roll out its smart community expansion with lightweight investment and phased cost recovery. This allows the model to be rapidly replicated and to attract traffic from community Apps and mini programs, thus achieving technology-oriented real estate and community operations.

SF Technology

Established in 2009, SF Technology Co., Ltd. ("SF Technology") is a supplier of data technology services committed to providing independent industry solutions. By combining its rich industry experience and data from diversified business activities with its industry-leading smart and digital technologies, it empowers clients to transform and upgrade industrial supply chains.

Based on its advantages in AI, IoT, big data, edge computing and automation, SF Technology has built an AIoT perception platform covering its entire network. The company has hundreds of thousands of perception contacts that analyze key production factors and scenarios in real-time. The platform is able to process dynamic business data from the entire network to provide customers with real-time digital smart management. This allows customers to refine operation solutions and achieve digital transformation and upgrades.

In an integrated smart park solution created by SF Technology for a leading global technology company, old workshop monitoring devices were directly connected to a workshop camera system to run AI algorithms. This provided real-time detection of vehicle movements in the park, improved park management efficiency and lowered risks of park safety accidents.

In a smart warehouse created by SF Technology for a top logistics company, visual AI was adopted to detect shipment damages, abnormalities and nonconforming behaviors and to capture real-time pictures and videos as evidence. By combining this evidence with big data algorithms, the closed-loop express security management system was able to systematically determine the cause of damages and refine its management system.

In the future, SF Technology will continue to create industry-wide digital and smart technology solutions to provide corporate users with efficient and effective high-quality technology services.

Hanpu Group

Ningbo Hanpu Group Co., Ltd. (PULY), a high-tech group consisting of Hanpu Tools and PULY Tools, is engaged in foreign trade, mechanical processing, and electronics. The group produces mid-to-high-end products for Europe, U.S., and Australia, with an annual capacity of 10 million units.

Hanpu Group is a supplier for world-renowned, large supermarket chains such as Metro AG, Carrefour, and OBI, and it ranks among the top 10 in the industry in China in leading economic indicators. By adopting advanced management models, it passed the certification of ISO9001: 2000 quality management system in 2003 and many of its products passed the certification of American UL, German GS, and EMS.

Being dedicated to traditional tools, Hanpu Group has stable business but limited gross margins. In particular, when encountering obstacles in overseas markets due to COVID-19, it started to seek changes and innovations. In 2020, the group cooperated with Tuya Smart to start its operation in smart battery packs. By connecting technology with business efficiency, it started the mass production and roll-out of smart battery packs in May 2021. Meanwhile, taking the lead in smartization, it has the first-mover advantages to further accelerate its smart transformation.

The smart products of Hanpu Group, based on Tuya's IoT development platform, have been recognized by LIDL, a German retail giant. Also, with Tuya's OEM app services, the group has quickly built its own branded application, providing effective support for expanding its client base.

NVC Lighting

Founded in 1998, NVC Lighting is dedicated to providing quality LED lighting backed by industry-leading technology. Through continuous product innovation, it has established industry-leading production lines with four manufacturing bases, international-level R&D centers and laboratories in China.

The COVID-19 pandemic has given rise to high demand for healthy lighting, posing new challenges to lighting enterprises. Commercial lighting solutions must be smart-enabled to save energy to the maximum extent, provide a healthy lighting environment and to deliver on NVC Lighting's "people first" vision.

Human Centric Lighting (HCL), or creating lighting that mimics natural daylight for a healthy user environment, is the driving approach in NVC Lighting's technology development. In both commercial and residential settings, NVC Lighting aspires to be a provider of comprehensive smart lighting solutions, ensuring people's physical and psychological well-being is improved by luminous environments with its advanced design and services.

Smart lighting development has been driven by a market tailwind. But its high development cost, turmoil in terminal market operations and limited application scenarios have held back its potential growth.

With the help of Tuya Smart IoT PaaS capabilities, NVC Lighting has built customized smart lighting systems in multiple segments of the commercial lighting sector, creating a smart transformation of the entire industrial chain from user ports to cloud data management. Lighting solutions for smart offices and commercial lighting have been applied in many projects, including NVC Lighting Shanghai Office, a high-end commercial lighting exhibition hall, and across Tuya Smart's offices.

In these projects, NVC Lighting controls light rhythms according to the response curves of occupants in the luminous environment and demand effects in different scenes based on occupant daily circadian rhythms. With the aim of delivering HCL environments, NVC Lighting uses smart lighting technology to adjust parameters of the luminous environment throughout the day to provide an optimal and healthy lighting environment for occupants.

SUNMEI

Founded in Qingdao in 2010, Qingdao Sunmei Group ("Sunmei") Co., Ltd. is a comprehensive group engaged in a variety of businesses including hotel, hotel fast furnishing, home retail, catering, culture and entertainment.

Sunmei's portfolio includes over 5,000 hotels, 200 karaoke box entertainment complexes, 30 home retail stores and 300 catering stores. Sunmei has over 5,500 brick and mortar stores and more than 120 million registered customers.

In the post-COVID era, guests have new expectations for hotels and tourism including contactless services, mobile device controls and voice-controlled scenarios.

From contactless check-in to smart guest rooms, smart guest control systems to a smart hotel management system, the smart scenes created by Sunmei interconnect all aspects of hotel services. This new smart hotel services system improves consumer satisfaction and hotel brand competitiveness for the entire guest experience including before, during and after check-in. The group has also optimized the online hotel platform and offline standard operating procedure to increase the OTA platform conversion rate, consumer loyalty and re-occupancy rate. In addition, Sunmei has adopted digital hotel management to reduce hotel costs and improve operational efficiency.

In 2021, Sunmei established a partnership with Tuya Smart's Hospitality & Apartment Cloud PaaS Platform to construct a group-wide IoT architecture and complete the smart transformation through an open supplier ecosystem. Based on Tuya's IoT PaaS, Sunmei was able to quickly connect smart hardware devices with software products to eliminate data silos and achieve unified management.

Bilinwei

Suzhou Bilinwei Intelligent Tech Co., Ltd. is a leader in industrial lighting and has undertaken projects in smart industrial and mining lamps as well as the smart transformation of street lamps at home and abroad. Its parent company, Suzhou Rongwen Kubai Group, which specializes in industrial lighting, is a Sino-foreign joint venture whose foreign investor is Cooper Industries, one of the world's largest manufacturers of commercial, industrial, road, and residential lighting devices with a history of 188 years.

Amid COVID-19, competition in the industry has intensified with a large number of lighting companies entering the market, causing challenges such as a crowded market and homogeneity. In addition, it is difficult to connect the smart lighting ecosystems as devices of different brands and categories fend for themselves with low efficiency. Furthermore, the products in the market are not smart enough as they are merely able to support smart dimming and color adjustment. There is still a long way to go toward true smart products.

In this context, Bilinwei has chosen to cooperate with the global IoT development platform, Tuya Smart. Relying on their IoT development tools, it has accomplished the smart transformation of hardware efficiently and conveniently at low costs. Meanwhile, both sides are cooperating to expand and deepen smart scenarios, jointly exploring the application space in industrial IoT.

For example, in the project of Changzhou Benniu Airport, the two parties worked together to provide smart lighting solutions for the maintenance hangar of the airport. With the lamp control modules independently developed by Bilinwei and Tuya Commercial Lighting SaaS, more than 55% of energy consumption was saved, lending a boost to building Changzhou Airport as a demonstrative template for "smart airports". The project will expand the two parties' smart footprint in industrial lighting and open up more application scenarios.

Huaxin Service

Suzhou Huaxin Technology Service Group Co., Ltd. focuses on the management of high-end residential properties in Suzhou, China and offers services that suit the city's special features. It has won many honors such as the "National Demonstration Residential Compound of Property Management" and the state-level "Green Demonstration Community." As one of the top ten property management companies in Suzhou, the group has ranked among the top 50 property management companies in Jiangsu Province for five consecutive years.

As the prolonged COVID-19 pandemic has a relatively large impact on some properties, the evolution of property management in terms of property operations and contact-free solutions show promise. Huaxin Service has always paid attention to the technology advancements in service scenarios to take advantage of development opportunities against the macroeconomic downturn.

By joining hands with the global IoT development platform, Tuya Smart, Huaxin Service conducts smart and centralized management of facilities and equipment in communities, tackling incompatibility between devices of different brands and setting up a series of community hardware systems covering parking barriers, building control, video surveillance, and security alarms. For property management, it adopts the service work order system to effectively reduce manpower costs and improve response efficiency. In order to effectively implement data-driven property management, it sets up a large visual data screen to display the community's smart terminals and business data in a centralized way, making community statistics tangible, manageable and controllable.

The construction of smart communities does not merely rely on smart hardware but also on a ubiquitous, unified community platform and various eco-partners. By leveraging a digital IoT platform, Huaxin Service opened up the closed data loop of "people, space, and services," ultimately enhancing the smart, digital, and online capabilities of community governance and property services.

Quanfangtong

Quanfangtong (QFT) is a brand under Huizhaofang, currently the largest comprehensive service provider in the long- term apartment rental industry. For six years since its establishment, Huizhaofang has been favored by institutional investors including Source Code Capital, JD.com, and Tencent, attracting investments totaling over CNY 500 million. The group offers services for 10,000 long-term apartment rental enterprises in more than 50 cities, managing more than six million apartments and serving more than 100,000 realtors and 2.6 million tenants.

By 2020, there were 220 million tenants in China and it is expected that the figure will reach 240 million by 2022. In order to thrive in the long-term apartment rental industry, an enterprise must have its own core competitive edges, and in order to improve the core competitiveness, the top priority should be given to solving pain points for users.

Problems have plagued the long-term apartment rental industry. The fundamental causes are the low thresholds and homogeneity service of the industry, and obvious information gaps between tenants and lessors, among whom a perfect match can hardly be found.

Rooted in the field of long-term apartment rentals for 11 years, Quanfangtong enables house leasing, fee calculation and payment, and daily apartment management to be completed easily online with Internet + as the point of penetration. To address the pain points of users and apartment operators in the traditional apartment renting model, it helps with the smart management of apartments, boosts the efficiency of apartment

operations, and enhances service quality, thus improving the users experience for both tenants and lessors tremendously. By working with the global IoT development platform, Tuya Smart, Quanfangtong can effectively solve problems with water and electricity billing, improve anti-theft door locks, and other functions, thus, accelerating the resolution of various problems of apartment companies and tenants. Apartment companies can have a definite goal on the service side so that the tenants can fully enjoy people-centered services and management.

Golden Lock Safety

Golden Lock Safety Co., Ltd. (hereinafter referred to as "Golden Lock Safety") is a comprehensive security service company integrating alarm operation services, equipment R&D, client services, and big data cloud computing management. With years of development after its establishment in 2011, the company has realized resource sharing and built strong alliances within the industry depending on its own branches, agencies, and cooperation with other enterprises. It was listed on the new OTC market only 5 years after its establishment. With 24 subsidiaries, 125 agencies and partners, it now offers services to more than 100,000 clients, ranking No. 1 in China in client base and business presence.

Traditional alarm operation software is usually deployed locally and has limited capacity. Since expanding its business into provinces such as Hebei, Shanxi, Hunan, and Guangdong, the software system in the traditional security industry can no longer support the rapid expansion of its core business, nor satisfy its increasingly diversified new business demands.

With the capabilities of Tuya Smart's global IoT development platform, Golden Lock Safety has created a multi-dimensional system from website to app, which connects the front end with the back end creating a seamless user experience. In addition, based on Tuya's vast hardware ecosystem, it realizes the full connection of hardware in the security alarm industry, with products from different brands and categories being connected through a single platform.

Based on the abilities of the Tuya IoT platform, Golden Lock Safety has also conducted in-depth exploration of smart stores and smart retail, offering abundant new services targeted at physical stores. In addition, industrial scenarios such as smart campuses, smart factories, and smart medical care have also been included into its business scope as it develops new business ideas, bringing about leap-forward upgrading of its business model.

GenJoy

Shenzhen GenJoy Technology Co., Ltd. is a high-tech enterprise dedicated to providing all-scenario products, services, and solutions for smart urban areas, offering consulting, planning, construction, and operation services for smart urban areas and smart terminal products for governments and industries. As a pioneer the industry of smart urban areas in China, it will be committed to becoming a space operation service provider for the entire real estate lifecycle in the future.

Urban operations include residences, commercial spaces, offices, and other businesses requiring more operational management than single-business operations. With the demographic dividend gradually fading, the manpower costs in operations have been rising year after year, and the need to reduce costs and increase efficiency through technology is growing.

Amid the COVID-19 pandemic, the application of various contact-free technologies has been soaring, forcing operations departments to upgrade their technologies. In addition, both individuals and companies have higher demands for personalized and convenient service experiences than ever before. What's more, how to balance convenience and privacy in the collection of sensitive private data remains to be resolved.

In this context, GenJoy has teamed up with multiple partners including Tuya Smart, a global IoT development platform, to jointly create an urban operations platform for the giant urban renewal project – Baishizhou Project.

Integrating the new generation of information technologies such as IoT, AI, cloud computing, and mobile internet, GenJoy changes the traditional management and service modes and creates beautiful living spaces, serving as a successful example for the empowerment of the high tech real estate industry.

WOOK

WOOK, a leading cross-border e-commerce platform in Indonesia, provides high-quality products and services for users through its "B2B+B2C+ live streaming" business model.

The COVID-19 pandemic has brought tremendous changes to people's way of life as they spend more time at home. People have found new hobbies in making their homes smart, which has created tremendous market opportunities for IoT.

Founded in 2015, WOOK had a good grasp of trends in IoT by 2021. They needed a partner who had best-in-class technology and a robust ecosystem. Tuya Smart, a global IoT development platform, fit the bill and also brought their deep insight into overseas markets, especially the Southeast Asian market to the table. After reviewing a multitude of IoT platforms, WOOK chose Tuya Smart as its partner.

After the two parties began working together, Tuya assisted WOOK in accessing quality manufacturing resources in China. At the same time, the IoT PaaS and industrial SaaS provided by Tuya enabled WOOK to quickly solve software challenges and gain a foothold in the IoT arena.

Through the all-round cooperation with Tuya, WOOK has expanded its smart product line in just a few months and released more than ten new products to the Southeast Asian market under the ACOME brand, including Wi-Fi cameras, smart bulbs, smart power strips, and smart sockets. As soon as the products launched, they were extremely popular, accelerating the growth of ACOME and making IoT one of the company's fastest-growing business.

In the future, WOOK will continue to grow its IoT business, expanding into security, lighting, and electrical engineering applications while developing integrated solutions for smart small homes, smart hotels, and smart buildings.

WIBY

Since the onset of the pandemic, smart devices have taken off rapidly in Italy. With consumer services across society rapidly transitioning to Internet-based modes, markets including smart home, online retail, and smart travel are all seeing accelerated growth. New habits including remote work and online education are likely to remain long after the pandemic is over, so these technologies will continue to exert a far-reaching impact. Building an innovative operation model relying on artificial intelligence, cloud computing and other technologies to reduce cost, enhance efficiency and promote business growth has become a key consideration across a variety of industries.

At the outbreak of COVID-19, WIBY, a well-known European smart home brand, rapidly expanded its product matrix with a focus on IoT products. To accomplish this strategy WIBY entered a partnership with Tuya Smart.

The Tuya IoT development platform offered WIBY compatibility with the major cloud providers, protocols and voice assistants. Tuya's development platform is compatible with all three major public clouds (AWS, Azure and Tencent), supports multiple communication protocols like Wi-Fi, Bluetooth, Zigbee, and NB-IoT and integrates with various smart voice assistants such as Amazon Alexa and Google Assistant. As such, it can quickly empower the research and development, production and localization of smart devices for European brands and end users.

WIBY began talks with Tuya Smart in September 2020 and finalized cooperation by October. Since then, the two parties have jointly developed smart home products covering many categories such as lighting, electronics, home appliances, security, and health, available on 100 Chinese merchant channels in Italy.

Within two months of launch, WIBY had established relationships with merchants for smart products across Italy including Bari, Sardinia, Sicily, Lecce, Naples, and Milan and over 100 chain stores. By the end of 2021, WIBY expects to achieve coverage of the whole country.

Qvis Lighting & Security

Qvis Lighting & Security was founded in 2002 and is recognized globally as a leading provider of technology driven security and lighting solutions. Qvis branded products are supplied to over 50 countries around the world with over a million cameras installed. It is a brand that is synonymous with quality. Qvis is a pioneer and makes significant investments in R&D, which has seen many new, industry-leading solutions brought to market and become the industry standard.

2013 saw the opening and launch of Qvis' alarm receiving center (ARC), which provided its customers with monitoring services such as fire and intruder alarms and visual verification of events, all with emergency service responses. The ARC is recognized in the industry to be the most highly accredited in the UK.

In recent years, Qvis also initiated its Growth Current strategy, hoping to enter the smart home market by taking advantage of smart technology in the security industry. In the increasingly mature security industry, most companies are engaged in hardware R&D and production while only a few companies are specialized in software R&D. Qvis is no exception and it did not have much experience in software. Therefore, it aimed to find an IoT platform that allows consumers to control devices of various brands and categories with only one app.

What is offered by the Tuya Smart IoT Development Platform is exactly what Qvis needed. In cooperation with Tuya, it has made their products smart and created multiple smart home scenarios. Now, users can easily control security, lighting, and heating and many other devices through a single app. What's more, Qvis also connected the ARC into the Tuya ecosystem to provide smarter monitoring services and emergency responses for protecting consumers' safety and property.

Linio

As an e-commerce platform in Latin America, Linio operates in Chile, Peru, Colombia, and Mexico. In August 2018, it was acquired by Falabella. With over 8 million products in its current catalog, Linio hopes to provide consumers with a rich and diverse product portfolio. Attracting a large number of merchants of various sizes, the platform has established a win-win relationship with them.

Linio sees the pandemic more like a challenge than a difficulty. After the outbreak of COVID-19, digital transformation has become reality in all industries, especially the e-commerce industry. As consumers are more inclined to have all of their demands satisfied through online shopping, Linio offers them a contact-free shopping experience. In addition, offline businesses that want to step into e-commerce or boost their online channels find great advantages within the platform.

In this light, after the outbreak of the pandemic, Linio formulated a variety of preferential policies for merchants on the platform to help them achieve commercial success. In the first half of 2021, Linio achieved growth despite the pandemic. From January to March, it witnessed a 35% increase in sales in Chile, Mexico, Peru, and Colombia. Meanwhile, discovering that the pandemic has also affected people's consumption behavior, Linio has introduced smart home appliances such as smart air fryers and smart sweeping robots, which have gained unprecedented popularity.

Likewise, since it is a Marketplace, Crossboarder has a catalog of sellers from Asia, Europe and the United States, enhancing its IoT product offering.

In the future, Linio will make further improvements on its IoT offerings and will focus on introducing more IoT device brands.

Betterware

Originating from UK, Betterware de Mexico, S.A.B. de C.V., ("Betterware") is the leading Mexican social selling platform with a strong digital focus company providing customers with essential products such as daily necessities, personal care products and small home appliances. By utilizing its business intelligence and data analytics technology, Betterware has achieved consistently strong growth.

After the outbreak of COVID-19, Betterware witnessed another round of accelerated growth. As consumer awareness on cleaning and health continued to increase and consumers spent more time at home, Betterware noticed increasing spending on the home. At the same time, amid the pandemic, it became more important than ever to have contactless, wireless and energy-saving devices, making IoT devices more popular on e-commerce platforms. Betterware was strategically positioned to meet these market demands.

As such, Betterware decided to enter the smart home market. It acquired a 60% stake in GuruComm, an enterprise value of approximately USD 3.5 million. GuruComm will operate within Betterware, under the name "Betterware Connect" and launch IoT-based solutions through three different product segments.

The first offering is "MVNO," offering mobile phone and data, personal hotspot and wireless broadband. Secondly, in terms of smart home, Betterware Connect will provide a range of smart device solutions and software-based solutions. Finally, it will also develop a smart home ecosystem, connecting its devices with other brands and categories, thus building up competitive advantages across Mexico.

T3 Technology

Established in 2018, T3 Technology Co., Ltd. is headquartered in Thailand, with business covering many fields such as telecommunication system solutions, communication terminal products, cloud computing, and consumer electronics. T3 aspires to be a technology leader in the telecom B2B market, an innovator in the consumer B2C market, and a reliable partner for China's high-tech firms as they go global.

As a newcomer in the emerging industry, T3 is a dark horse in the B2B telecom market. In 2019, T3 ranked first in the B2B broadband access market, with its sales exceeding CNY 300 million. In 2020, T3 continued to take the lead in the broadband access market and cooperated with a number of well-known Chinese high-tech companies to access global 5G markets, with its sales revenue increasing over 50%. In 2021, T3 launched a consumer business and built the brand of T3 Smart, providing end consumers with cost-effective IoT services based on the concept of Tech · Care · Life. Its sales revenue keeps growing rapidly by over 50%.

In Thailand, despite impacts brought on various industries by the raging COVID-19 pandemic, the IoT industry has maintained a strong momentum. At present, there are many IoT brands in the Thai market, with no clear leader yet.

In 2020, T3 made its debut in the IoT market. In a relatively fragmented market that lacked dominant players, T3 seized the opportunity and rapidly opened up the market by relying on channel resources in the communications industry and combining online and offline channels. On the product side, T3 has developed more than 30 smart SKUs.

T3 has also joined hands with competitive partners. With its R&D and supply chain management teams in China, T3 helps partners customize products of their own brands, providing integrated solutions covering product selection, production, logistics, publicity, and after-sales service.

A-STAY

A-STAY is a contemporary Belgian hospitality brand. Its parent company, BESIX, a century-old construction group headquartered in Brussels, has a presence around the world in Europe, Oceania, Africa and Asia. Its signature projects include the Burj Khalifa Tower in Dubai, and the Grand Egyptian Museum at the Pyramids of Giza.

Most A-STAY hotels are located in cities with high-speed Internet connections. As an affordable luxury hospitality brand, it caters to younger travelers who seek refined travel and locally styled services, combining short hotel stays and longer co-living stays under one roof.

In November 2019, the first A-STAY hotel opened in Antwerp, Belgium. Soon afterwards, the onset of the COVID-19 pandemic drove hotels across the industry to adopt contactless check-in to ensure guest safety. With its technology-friendly approach to the hotel business, A-STAY hotel not only rolled out contactless check-in but also sought to find further smart device solutions to improve the guest experience.

A-STAY created contactless public spaces by installing biometric locks across its hotels. To date, the company has applied the biometric palm scanning solution for door locks on nearly 200 guest rooms to further expand contactless check-in and contactless room entry to elevate guest safety. The company is also piloting faster and more advanced biometric palm scanning technology in selected A-STAY guest rooms to continually experiment and improve the hotel guest experience.

A-STAY hotels utilize both smart hardware and software. Guests can make instant online orders and book public spaces such as meeting rooms, adjust room lighting, control the thermostat and operate window curtains through the TV screens in their rooms or using their personal mobile phones.

Marvel Distribution

Marvel Distribution, established in 1991 in St. Petersburg, is one of Russia's leading distributors of consumer electronics, mobile devices, smart home devices, and networking equipment. It is among the Forbes Russia Top 200 and RBC 500.

With business presence in Russia and Eastern Europe, Marvel Distribution has offices in Kazakhstan, Georgia, Kyrgyzstan, Turkmenistan, Azerbaijan, and Uzbekistan, as well as a dealer network covering 250 cities.

The smart transformation of businesses is being accelerated in the post-pandemic era both in corporate and consumer sectors. Practices of remote work, smart homes, and the triumph of voice assistants in the consumer market are key catalysts driving the skyrocketing demand for smart solutions. However, the difficulties that are encountered in the process include global chip shortages and the subsequent price increase in 2021, leaving many manufacturers at a loss as to what to do. Meanwhile, the smart home space remains fragmented, and it is difficult for different brands, platforms, and protocols to interoperate. If these problems are not solved, it will be impossible to build a future where there is a smart connection between all things.

Convinced that only through an open and inclusive IoT development platform can smart home and remote work solutions featuring smart connections in all scenarios be realized, with the assistance of Tuya IoT development platform, Marvel Distribution launched a variety of smart devices covering smart security, smart lighting, smart home appliances, and digital health, and all these devices can be controlled and connected by an app.

In the future, Marvel Distribution will continue promoting the concept of smart home in the market and provide partners and users with a seamless, connected smart device experience.

3. The smartest companies in business innovation

MyDreamPlus

Beijing MyDreamPlus Technology Co., Ltd., ("MyDreamPlus") established in May 2015, is a technology-driven office service brand offering comprehensive smart commercial office solutions to enterprises and office operators.

As a pioneer in the smart office transformation industry in China, MyDreamPlus offers unique digital services to upstream and downstream clients. With independently developed hardware and gateways, including smart access control, smart meeting reservation screens and products of other categories, it has provided smart customized office services to enterprises of different scales and categories such as COFCO, CR Land, Shimao, Sunac, SF Express, Longfor, Tencent Public Space and Eqxiu.

In an effort to continually improve service offerings, in 2020 MyDreamPlus connected its self-developed gateways to third-party lighting controls, air conditioning and other IoT scenarios. However, the COVID-19 pandemic caused large disruptions to the commercial office industry, making the development of traditional hardware in-house untenable for MyDreamPlus. To overcome the development cost challenge, MyDreamPlus began cooperating with Tuya Smart in 2021. Empowered by Tuya's global IoT development platform, the company has accelerated the launch of its smart scenario products including smart lighting control, air conditioning, air quality monitoring, and electricity in the field of commercial real estate.

MyDreamPlus's smart office space management solution allows commercial office clients to remotely manage and monitor lighting, air conditioning, air quality, and electricity, which all traditionally require staff on-site to control. This smart solution supports scheduled activations for office areas, user activations, meeting room reservation, and other smart or remote environmental controls. In the future, MyDreamPlus will continue to promote the integration of traditional office building operations with technologies such as IoT and AI. The company aims to to create an efficient office building operation model that allows a single person to manage a 10,000 square meter office space.

Snow Bear

Based in China for over 15 years, Snow Bear has 30 diversified product lines in five categories, including baby appliances, maternity products, feeding supplies, daily care products, and fast-moving personal care products, totaling over 400 SKUs.

Presently, Snow Bear products are in more than 70% of offline mother and baby stores, with a total of 30 million mother and baby appliances distributed through all channels, making it a popular brand favored by millions of mothers.

There is a huge market for mother and baby appliances, which continues to grow. The release of the three-child policy and the emergence of a large number of Generation Z moms have brought a bullish prospect to the mother and baby appliance industry. However, traditional small household appliances for mothers and babies have limited functions and cumbersome operating procedures, which makes it difficult for users to solve problems encountered in the process of raising children.

In order to meet the diverse needs of these consumers, Snow Bear has accelerated the smart upgrading of its products to create a complete set of scientific and systematic solutions for mother and baby scenarios. At present, Snow Bear covers five product categories, such as essential maternity products, baby appliances, complementary feeding, daily life care, and fast-moving personal care, with nearly 10 types of smart products, including milk modulators, breast pumps, babycook, and sterilizers.

For example, Weibei Elf Baby Food Maker, which integrates steaming, cooking, and stirring, can be controlled via voice or with an app. It also creatively offers a recipe sharing cloud platform, based on the management of baby nutrition and complementary food, smartly transmitting recipe instructions to the machine.

While accelerating the smartization of products, Snow Bear has also built a complete ecosystem of smart mother and baby appliances through connection with a massive number of smart devices, thus consolidating its position in the industry as a "professional smart maker of mother and baby appliances."

Yesoul

Founded in 2014, Fujian Yesoul Health Technology Co., Ltd. (Yesoul) is a leading brand of smart indoor cycling in China. Based on the physiological and sports performance data of indoor cyclists, it also provides them with online home fitness services including smart fitness hardware, online guidance of professional coaches, top fitness courses, and health management.

The COVID-19 pandemic has made it difficult for gyms and fitness studios. Online fitness centering on family workouts has become a new sphere for the development and expansion of the fitness industry, and the family fitness model of "hardware + content services" has become the dominant trend of the fitness industry. Hence, Yesoul has started the research and development of all-category smart fitness products and relevant content expansion activities.

But in the process of expansion, Yesoul discovered that the production of smart products requires the adoption of smarter and more efficient production methods relying on product characteristics. Based on its insights into the users, Yesoul divides the smart services of sports equipment into two types: refined and lightweight services, respectively providing users with in-depth online home fitness services and single-scene smart services.

Meanwhile, based on the Global IoT Development Platform of Tuya Smart, Yesoul quickly launched a variety of smart products such as smart rowing machines and smart fascia guns during the COVID-19 pandemic. These products are equipped with smart guidance modes and smart reverse control in an easy way. Taking the smart fascia gun as an example, users can tap the screen with their fingers to target different muscle

groups precisely matched with proper massage time and massage heads depending on their recovery needs.

Smartmi

Founded in 2014, Beijing Smartmi Technology Co., Ltd. (Smartmi) is an enterprise dedicated to the design and manufacturing of smart household appliances, offering an array of products such as air conditioners, DC electric fans, smart humidifiers, and smart electric heaters.

Smartmi has won four major international design awards: Good Design, IDEA, Red Dot, and iF. In 2017, its full-DC inverter air conditioner won the Good Design Gold Award, making it the first product from the Chinese mainland to win the gold award in this category since the Good Design was set up 60 years ago.

However, the COVID-19 pandemic has brought considerable challenges to Smartmi, such as delivery delays and difficulties in scheduling production, making it hard to meet much of the market demand. As users are not fully aware of antibacterial and anti-virus effects of air purification products, the potential in sales is yet to be fully unlocked. In addition, the explosive demand in overseas markets because of the COVID-19 pandemic is beyond the reach of Smartmi, which focuses on the Chinese market.

After experiencing the sudden market changes brought about by the COVID-19 pandemic, Smartmi started to seek changes. On the one hand, it continuously innovates in technology and user experience, focusing on the segmented needs for air purification products in different scenarios and improving its technical capabilities in anti-bacterial, anti-virus, and formaldehyde removal applications. On the other hand, it accelerates channel expansion and product deployment overseas.

Smartmi now cooperates with Tuya Smart to launch products overseas. Relying on Tuya's rich hardware SDKs, it enables the rapid adaptation and deployment of its own apps abroad, which substantially accelerates product launch in overseas markets. Compared with developing IoT modules by itself, Smartmi has shortened its IoT development cycle by 50% through the cooperation with Tuya Smart.

Segway-Ninebot

Segway-Ninebot, a global enterprise in the field of intelligent short-distance transportation and service robots, is also a leading supplier of electric scooters.

In 2019, Segway-Ninebot launched the smart shared scooter Segway T60, allowing users to monitor and control the scooter remotely. The product has been rolled out for commercial use in the United States. Also in 2019, Segway-Ninebot entered the two-wheeled electric vehicle market. To date, the company offers whole-vehicle smart solutions, transforming two-wheeled electric vehicles from functional tools to smart mobility vehicles.

Segway-Ninebot is developing AI and robot algorithms with multi-sensor inputs with an integrated terminal and cloud technology system. This system draws on platform technologies such as embedding, IoT, and cloud computing, to form Segway-Ninebot's five core technologies and three major robot navigation capabilities. These technologies have been applied to the Segway Delivery Robotic S2. Combining visual navigation with

LiDAR systems, S2 can accurately perceive its surrounding environment, build a map and plan its own path, and thus achie 360° omnidirectional obstacle avoidance to meet various delivery demands. Amid the pandemic, it also served as a disinfection tool, delivering goods during the day and performing disinfection tasks at night to help with pandemic prevention and control in commercial spaces.

In the post-pandemic era, users are faced challenges in travel and mobility more than ever. Segway-Ninebot will continue to innovative short-distance transportation and robotics, to ensure that its "smart mobility" technology will continue to make life more convenient and interesting by simplifying the movement of people and things.

PAKEWAY

Established in 2018, Jiangsu PAKEWAY Pet Products Technology Co., Ltd. is dedicated to the independent design and production of pet products, offering over eight million pet products annually, which are available in China, Europe, the United States, Australia, Japan, South Korea, and Thailand.

In the post-pandemic era, the market demand for smart pet supplies keeps growing. In this context, PAKEWAY, which originally focused on producing traditional pet products, has initiated the research and development of smart pet products and has successively launched smart pet products such as smart pet feeders and drinking fountains. However, in the process of producing and developing smart products, it has encountered many challenges such as how to quickly satisfy the demands for product smartization, how to ensure product stability, and how to create a global app.

After conducting a multi-dimensional evaluation and comparison of technical capabilities, solutions, scales, expertise development, and service efficiency, PAKEWAY chose to cooperate with Tuya Smart to accelerate its development and mass production of smart pet supplies.

A smart, ultraviolet sterilization drinking fountain is one of the benchmark products launched through the cooperation of the two sides. The UVC ultraviolet sterilization lamp equipped to the product solves the problems of traditional UVC ultraviolet sterilization. In addition, the sterilization lamp will be turned off automatically when a pet approaches to ensure its safety.

What's more, as PAKEWAY is engaged in a wide range of foreign trade operations, globalization is an important indicator for its business development. With the help of Tuya's OEM app services, it has established its global app presence. In the future, it will upgrade its production lines and factories to truly create value for China's smart manufacturing industry.

Sleemon

Founded in 1984, Sleemon is a world-renowned mattress company. Headquartered in China, it designs, manufactures and distributes mattresses to the world's most prominent hospitality and retail brands. On July 17, 2012, it became China's first and only publicly listed mattress company, having successfully listed on the Shanghai Stock Exchange.

Today, Sleemon has eight production bases across the world and over 4,000 offline stores. The company offers premium upholstered furniture and mattresses, focusing on product design, research and development, and production. Products include mattresses, beds, sofas, customized furniture and sleep accessory products, and are available in more than 70 countries and regions around the world. Sleemon has established partnerships with more than 500 prominent hospitality brands including Hilton, Marriott, Landison, and Sheraton. Domestically in China, Sleemon's furniture and products are also used in famous locations such as the Great Hall of the People, Diaoyutai State Guest House, the National Centre for the Performing Arts and other state-owned organizations.

In an effort to become a leader in the sleep science field, Sleemon has partnered with researchers at the Chinese Academy of Engineering to promote technology iterations in the mattress industry. The company hopes to advance the development and application of technologies on smart deep sleep, spinal health, the use of environment-friendly materials, formaldehyde removal, and other product developments and industrial upgrading. By the end of 2020, the company held over 700 patents across the world.

On September 6, 2020, Sleemon launched a new smart mattress named the "Smart 1" equipped with four core technologies: partitioned air springs, smart matching algorithms, sleeping position recognition and sleep sensing, and deep learning. On October 10 of the same year, it set up the first sleep research center in China in collaboration with China Sleep Research Center to provide solutions for smarter, technology-based systematic sleep.

BEIKE

As a leading new technology-driven housing transactions and service provider, KE Holdings Inc. ("Beike") is committed to the digital and smart transformation of the residential service industry. On August 13, 2020, it became China's first residential service provider to list on the New York Stock Exchange.

Today, China is in a new phase of urban renewal. Smart upgrading housing and residential areas is crucial for becoming a smart city and improve the quality of life of urban residents. With the support of infrastructure and smart city policies, an increasing number of smart applications are becoming available for housing and communities. These smart applications have great potential to enhance the value and quality of residential areas.

However, with the rise of smart living spaces, the housing service industry is confronted with new challenges including higher operating costs, smart scenario application issues, and consumer misinformation. Device monitoring and smart sensors enabled by AI and IoT provide a good solution to such problems. Unfortunately, the technological challenges and long development cycles needed for smart living spaces prevent many enterprises from embracing smart applications.

The IoT PaaS capabilities provided by IoT development platform Tuya Smart, offer a path forward and are helping Beike use smart living tools to improve the services and living quality for end residents and consumers.

With the ever-increasing pace of digitalization, the way residents interact with their lived environment and experience housing will soon be completely transformed. This cooperation with Tuya Smart helps Beike delivers on its mission of "admirable service, joyful living" by creating a more valuable residential service experience for consumers.

LEDVANCE

LEDVANCE is one of the world's top general lighting brands. As the former light source and general lighting division of OSRAM, it is headquartered in Munich, Germany, focusing on business expansion in healthy LED lighting systems and smart and general lighting products around the world.

With offices and sales networks in more than 50 countries and regions, LEDVANCE has business activities in more than 140 countries and regions. Holding the OSRAM light source brand, the LEDVANCE brand, and the SYLVANIA brand, which is targeted at the North American market, the group takes a 22% market share in the Europe and North America. LEDVANCE Lighting Technology (Shenzhen) Co., Ltd. (LEDVANCE China) is the business operation entity of LEDVANCE GmbH in China, responsible for the sales and marketing of OSRAM and LEDVANCE lighting products in the Chinese market.

In the post-pandemic era, more attention is being paid to smart health. Smart lighting, human centric lighting (HCL), and healthy lighting have become the trends of the industry. Relying on a century of healthy lighting expertise, LEDVANCE China cooperates with the global IoT development platform, Tuya Smart, in healthy home lighting, healthy office lighting, industrial lighting, and healthy educational and medical lighting to combine the strengths of the two sides. Good results have been achieved in software and hardware platform development and HCL lighting algorithm, which have been applied in projects.

Healthy lighting requires adjustments in scientific algorithms and parameter settings so as to better meet healthy lighting demands. In this regard, Mr. Zhang Peng, Global Vice President of LEDVANCE and CEO of LEDVANCE China, proposed the "smart + healthy" overall lighting solution. The smart control platform developed in collaboration with Tuya has functions such as feedback collection, project operation monitoring, and energy management. Through big data collection and analysis through the platform, a scientific data foundation for healthy lighting is offered so that a smart and healthy luminous environment can be provided for the public.

Linkbase

Linkbase is an innovative IoT company with applications of more than 100,000 smart products, including pet appliances, lighting devices, household appliances, security sensors, and personal care devices. Linkbase smart products are compatible with multiple wireless protocols like Zigbee, Wi-Fi, Bluetooth LE, NB-IoT, etc. In addition, it also provides enterprises with automation solutions based on cloud and edge computing. Linkbase empowers enterprises with new hardware and software technologies, promoting the smartization of all industries.

First of all, the hardware product development offerings of Linkbase help enterprises smart-enable their products at low costs and apply them in a wide range of fields. Secondly, Linkbase's IoT solutions for enterprises cover scenarios such as smart home, smart building, and smart city. In cooperation with Tuya Smart, Linkbase develops its own smart security SaaS solutions relying on Tuya's underlying PaaS capabilities.

Like Linkable said, "Essentially our vision is simple. We want to build the most innovative company that can make the lives of billions of people on the planet more comfortable and enjoyable. With the power of IoT, we can do that."

True Group

Founded in 1990, True Group is a telecom and digital services provider in Thailand offering mobile, broadband Internet, TV, content and digital platforms. True Group controls Thailand's largest cable TV provider True Visions, Thailand's largest internet service provider True Internet, and one of Thailand's largest mobile operators TrueMove H, serving 5,000 corporate clients.

Another subsidiary, True Digital Group, aims to become the digital transformation mobilizer for True Group and for other companies in Southeast Asia. It aims to place digital technology at the center of all industries, to improve business efficiency and create business opportunities.

With a growing number of applications, 5G technology is creating further potential for IoT. True Group was an early adopter of IoT services in telecom and digital services. As early as 2018, the group began testing its own IoT network solutions in convenience stores and agricultural applications, and launched IoT eSIM card packages. However, due to lack of smart product categories and solutions, IoT services have not yet taken off in Thailand.

By cooperating with Tuya Smart, True Group has overcome the challenges of rolling out IoT products and services. Tuya Smart provides True Group with smart solutions in a variety of verticals, including smart homes, hotels, lighting, security and more. These solutions are helping to provide services not only to True Group's consumer business, but also to its B2B business. A global IoT development platform, the SKUs empowered by Tuya reached 410,000 by the end of June 2021.

OhmConnect

Founded in 2014, OhmConnect is dedicated to managing energy consumption, with a vision of becoming the world's largest supplier of clean energy. In 2021, OhmConnect won Fast Company's World Changing Ideas Awards.

OhmConnect launched an innovative software platform that encourages users to save electricity during peak hours by rewarding them with cash and prizes. Now, it has established partnerships with California's largest utilities—Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric Company (SDGE).

OhmConnect's secret to attracting users to join the platform is to give them monetary rewards. As long as users reduce electricity consumption, they will receive rewards in cash. So far, it has paid nearly $15 million to users in California to encourage energy-efficient and emission-cutting behaviors.

The challenge has been getting the energy saving tools into the hands of consumers who may not have a spare $150 to purchase a smart thermostat or Wi-Fi enabled smart plugs. With this in mind, OhmConnect continually looks for opportunities to offer its smart devices at a discount or for free to new customers. For example, in the summer of 2021 alone, it gave away tensof thousands of smart thermostats to new users.

OhmConnect chooses to cooperate with Tuya Smart on equipment development, which considerably shortens the development cycle. At present, the smart plug, OhmPlug, jointly developed by the two parties, has been introduced to the market. Such plugs can monitor energy consumption on a real-time basis. Through the free service offered by OhmConnect, OhmPlug can control household appliances and automatically reduce energy consumption during peak hours.

Mighty Ape

Mighty Ape is an online retailer operating in New Zealand and Australia since 1999. Formerly known as Game Planet Store, it is one of New Zealand's longest running online retailers. After getting its start selling computer and video games online, its product range gradually expanded to include DVDs, PC hardware and music. In November 2008, Game Planet Store officially relaunched as Mighty Ape and began selling books and toys online. In 2020, the company started its foray in the smart home appliances and smart home products market.

Initially, Mighty Ape found it difficult to find smart home products suitable for the Australian and New Zealand markets. After significant research, it launched smart lighting, smart sockets, smart power blocks and other new product categories. Now, it has a dedicated smart home products zone featuring over 20 SKUs and is working to expand into smart beauty, smart home, smart security, and more.

While Mighty Ape can offer many products and brands, smart products often cannot interconnect or be controlled or synced in a unified system. Users often need separate Apps to control multiple home products. It can be cumbersome or impossible to connect products of different brands, resulting in device islands.

To overcome this problem, Mighty Ape has decided to join the Powered by Tuya (PBT) ecosystem. The products which Mighty Ape retails can now all be seamlessly connected with the over 410,000 other smart devices in the PBT ecosystem. This not only means that all smart products can be controlled on a single intuitive App, but also allows users to interconnect and schedule different smart home devices and scenes.

Erajaya

Established in 1996, PT Erajaya Swasembada Tbk. (Erajaya Group) has grown beyond an integrated mobile telecommunication device importer, distributor, and retailer. The company is also acknowledged as the largest and most trusted companies in its business in Indonesia. Erajaya Active Lifestyle (EAL) is a business vertical within Erajaya Group that focuses on Internet of Things (IoT) products and their ecosystem, as well as active lifestyle offerings.

EAL foresaw IoT and smart devices would be a mainstay with Indonesians in not-too-distant future. They have become increasingly popular in homes and offices in recent years. At the same time, supported by the massive distribution of 4G networks and the start of 5G technology in Indonesia, smart devices have become a rising trend.

However, the uptake of IoT in Indonesia has been somewhat hindered by the lack of a hardware equipment ecosystem and development challenges. It takes a long time and effort to build an IoT ecosystem, and this cannot be achieved by a single brand alone. Furthermore, there are many scenarios for IoT applications, and it would be impossible for a single company to cover all scenarios.

Aiming to become Indonesia's leading distributor and retailer of lifestyle products, Erajaya Active Lifestyle has entered into a strategic partnership to develop an ecosystem of smart home devices in 2021, officially entering the IoT market in Indonesia. In addition, EAL has chosen to cooperate with the global IoT development platform, Tuya Smart, to complement its offerings, enabling the devices to be integrated via a single application platform. The app, connected to the Powered by Tuya ecosystem, allows for an ecosystem of inter-connected products that can interoperate with different brands and categories as well.

AnyOnNet

AnyOnNet is one of South Korea's leading IoT companies specializing in smart home, smart office, and health care with an IT R&D team with more than 15 years' experience.

In recent years, the South Korean government has committed to providing smart elderly care services seniors and disadvantaged groups. In the government-led project of Dongguk University Ilsan Hospital, AnyOnNet is the supplier of elderly care devices and solutions.

For AnyOnNet, this was not an easy task. In South Korea, the penetration rate of IoT is far ahead of the rest of the world, but although major mobile operators and home appliance enterprises have provided various IoT platforms and services for years, IoT practitioners are still confronted with serious challenges. Leading enterprises dominate the IoT market, which prevents the diversified development of the local IoT market. The market price for IoT equipment is relatively high and remains burden for middle class consumers. In addition that, it is hard to connect products from different brands and categories. There are not many local manufacturers of IoT equipment in South Korea, so there are only a limited number of smart devices available in the country.

Based on the current state of the industry and requirements of the project, AnyOnNet has developed customized solutions with the help of Tuya Smart's global IoT development platform, realizing the rapid expansion of smart device categories.

Started from smart elderly care scenarios, AnyOnNet proceeded its own branded product line, and is proceeding various kinds of projects with major companies in Korea. Through Tuya's OEM App SDK, AnyOnNet avoided the high cost of development efforts yet it achieved interoperability with over 410,000 Powered by Tuya smart products with its own customized app. In this way, AnyOnNet not only delivered the governmental project successfully, but also established itself as a leader in the IoT based projects of Korea.

Goodyear

Goodyear is one of the world's largest tire companies. It employs about 63,000 people and manufactures its products in 46 facilities in 21 countries around the world. Its two Innovation Centers in Akron, Ohio and Colmar-Berg, Luxembourg, develop state-of-the-art products and services that set the technology and performance standard for the industry. For more than 100 years, Goodyear has been delivering quality products that get people where they need to go.

Goodyear has licensed Miralbueno Group that develops activities in the agricultural machinery sector, gardening, hardware, and industrial sector. The group has been in the market for more than 30 years and offers a complete and dynamic range of up to 10,000 products connecting manufacturers and customers in more than 50 countries, enabling people to enjoy working with great tools from a superior brand.

In 2020, Miralbueno Group started its cooperation with Tuya Smart to power its scooters, air purifiers, and air quality monitors under the Goodyear brand.

Tuya has quickly enabled Miralbueno Group to seize opportunities in the IoT market, and upgrade selected products to be connected within a very short time period. These products cover all aspects of life and are widely embraced by consumers. Currently, the Powered by Tuya products, jointly developed by Miralbueno and Tuya under brand Goodyear, have been sold into Europe and South America, and more products are under development.

AvantGuard Monitoring

AvantGuard Monitoring (AG) is a leading provider of wholesale alarm monitoring solutions throughout North America. The company name is derived from the word avant-garde, meaning, "leaders in new and revolutionary ideas."

With a history of more than 40 years, AvantGuard was originally established as a traditional security alarm company. In the 21st century, its business has evolved into a premier monitoring service, rapidly expanding across the United States and Canada, serving over 1,200 distributors and 1.2 million subscribers.

As the COVID-19 pandemic has brought panic and fear to people, contact-free social interaction has become a global trend. During the pandemic, the application of science and technology, including the smart security technology, is helping mankind win the war against the pandemic.

Around the early onset of the COVID-19 pandemic, AvantGuard began to explore how to insert AI into its wholesale alarm monitoring services. After analyzing thousands of incoming subscriber calls, AG developed an AI-powered solution that recognizes and gives priority to more urgent calls that require a live monitoring agent to dispatch emergency services. This new smart technology has substantially improved work efficiencies and subscriber outcomes.

At present, the AI solution created and utilized by AvantGuard has effectively handled over 500,000 alarm signals throughout North America, providing interconnected security operations for its clients and deploying solutions rapidly.

Good Earth Lighting

The journey of Good Earth Lighting began with a simple question: In 1992, the incandescent lights used in much of the world produced only 5% light and 95% heat. How could energy utilization be improved and lighting be made environment-friendly?

Working out of a garage, Marvin Feig (President of Good Earth Lighting) and Alex Kowalenko (Co-founder) designed the first energy-efficient light fixture, which was the first step taken by Good Earth Lighting.

With the mission "Environmental Lighting Made Easy," Good Earth Lighting is committed to designing, developing, and marketing a program of highly energy-efficient and eco-friendly lighting and products for residential and commercial markets, which are "easy to afford, easy to buy, easy to install and easy to look at, use, maintain, and dispose," as Marvin Feig said.

With the growing demand for affordable, energy-efficient, and customizable products in the new millennium, Good Earth Lighting further grows its product lines and expands its retail channels. In 2016, Good Earth Lighting launched long-lasting USB rechargeable and battery-operated solutions. Since then, it has made its mark in smart lighting.

Strong in hardware development, Good Earth Lighting believed that it needed a reliable partner to help it gain a foothold in the smart lighting market. Through partnering with Tuya, a global IoT development platform, the company has developed a range of products such as smart cabinet lights, light strips, security lights, and solar lights in a very short time frame. These products can be voice-controlled through Alexa and Google Assistant. In the future, Good Earth Lighting will continue to develop lighting products to promote circadian rhythm and apply them in horticulture applications to further explore business opportunities in agriculture and crop cultivation.

International Housewares Retail Company Limited (JHC)

Established in 1991, International Housewares Retail Company Limited ("JHC") is the largest home furnishing retail chain in Hong Kong, Singapore and Macau. The Group offers quality houseware and lifestyle products through an extensive retail network of 360 stores in Hong Kong, Singapore, Macau, Cambodia, Saudi Arabia and Australia under well-known brands including JHC, 123 by ELLA, City Life, Japan Home and JHC eshop.

By leveraging its vast sourcing channels and private brand products, JHC provides diversified products and services at competitive prices, to offer customers a one-stop shopping experience. JHC has been listed on the Hong Kong Stock Exchange since 2013.

COVID-19 has heightened consumer awareness of health and hygiene. With consumers spending more time at home, they are more willing to invest in smart devices to improve their household quality of life and enhance personal health. In June 2021, JHC decided to enter the IoT field, cooperating with the IoT development platform, Tuya Smart to rapidly roll-out product software and hardware development. JHC was able to quickly

build a portfolio of smart device products including smart bulbs, smart sockets, smart power strips and smart lamps. JHC plans to launch these products in Hong Kong, Macau and Singapore by October 2021.

As part of its commitment to building smart product sales channels and attractive smart brands for consumers in Hong Kong, Macau and Singapore, JHC will continue to explore the IoT field over the long term. In the next two years, it expects to launch a variety of new smart products to offer local users more options and make their lives more convenient and joyful.

Goqual

As a well-known provider of smart life solutions in South Korea, Goqual provides smart hardware and SaaS services for many real estate developers such as HausD and Dongseongro. As one of the best platforms of smart real estate in South Korea, Goqual has applied dozens of smart products in the country's real estate projects with the integration of various convenient smart life scenarios, launching thousands of smart products in online and offline channels in the smart home market of South Korea.

Despite the raging COVID-19 pandemic, Goqual still maintained a four-fold YoY growth. Such expansion is attributable to its smart product strategy.

Goqual launched Hej Home, a smart home brand, and cooperated with IoT development platforms to introduce sophisticated and efficient smart solutions, including app development, hardware access, and cloud services spanning the globe.

Goqual has developed smart cameras, bulbs, sockets, light strips, sensors, and other products, all of which can be connected automatically based on scenarios. They are also made accessible to local mainstream smart speakers such as KT Giga, Geini, Kakao, and Naver.

Software-wise, via stable and efficient cloud services and mobile apps, users can easily control all these smart products with one app anywhere they go.

In addition to online and offline channels and stores, Goqual will apply dozens of smart products in the real estate projects of South Korea, enabling more and more users to enjoy the IoT experience in various convenient smart life scenarios created by cost-effective smart products.

Source: Tuya

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