Smart home of the future:

Emerging trends and opportunities
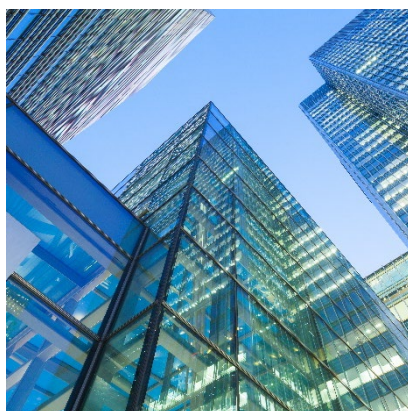
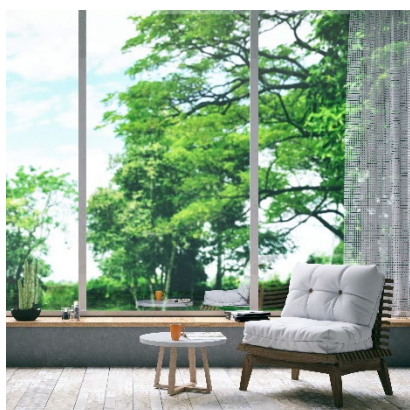# Contents

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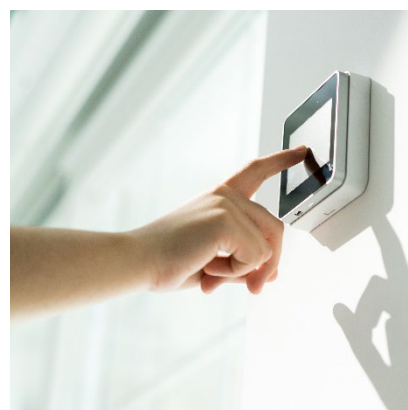
Foreword

Our living space is undergoing a major transformation empowered by smart technologies. Meeting rising consumer expectations in modern living has never been more important to industry players who now face unprecedented opportunities brought by the growth of smart home. Beyond residents' basic demand for functionality, the rapid advancement of technology ushers in a more efficient way of human-oriented interaction to better meet emotional demands of home occupants. As such, the definition of "living space" goes far beyond a combination of physical architecture and interior decorations. The capabilities of smart home systems to sense and respond to the needs of occupants have enabled them to break the limitation of physical space, explore more possibilities in alignment with their own preferences, needs and behaviour.

The pandemic has posed significant impacts on our lifestyle: we spend less time out and about, and more time at home due to lock-down or quarantine measures. Home-bound life has taken centre stage, along with increasing demand for remote working, which puts higher requirement on household functions. People's perceptions towards and requirements for living space have become more elements to value family and life experience, becoming increasingly complex and differentiated.

The real estate sector in China is saturated. The annualised growth rate of residential property sales measured by area dropped from 12% between 2014 and 2017 to 1% between 2017 and 2020, according to National Bureau of Statistics. The traditional supply-driven market will evolve to exhibit more demand-driven characteristics, urging real estate companies to compete on the basis of holistic "living" experience and quality.

To address the ever-increasing demands of smart home and the challenges of real estate industry slowdown, smart home, as an inevitable trend, is a key lever to meet people's personalised needs. The development of smart home is still at its infancy in China, but some of the leading real estate companies have already embarked on an explorative journey to turn concepts into reality - by experimenting with new ways to meet customer's demand with the next-generation smart home offerings.

1

Smart home development trends

1. Demand side:
Common asks of mankind

New applications of emerging technologies are rising against the backdrop of the technology development. As household needs continue to evolve, so will the possibilities of smart technologies to reshape the living space.

Home security and energy management systems are typical early applications of smart home that meet people's basic needs for safety, health and convenience. As people's living standards improve, their demands proliferate to include comfort, education and leisure. **Put another way, residents have climbed up the hierarchy of needs and demand for emotional satisfaction. Meanwhile, customer base and penetration of smart home applications are both increasing at a rapid pace.**

2. Industry side:
Integrated and interactive solution

At the industry level, smart home application suppliers have experienced three phases in responding to and meeting residents' evolving demands:

Smart Home 1.0: devices are designed as standalone units that are isolated in control and function from one another. Each type of product, such as smart speakers and robotic vacuum cleaners, aims to address specific needs.

Smart Home 2.0: various sophisticated smart products are included in an ecosystem, in which are well connected through a unified hub and controlled by terminal application. For example, using smart speakers to control connected smart products in a specific space.

Smart Home 3.0: in the future, **a comprehensive and customisable solution will allow for smart interaction and automated updating and iteration of connected smart products.**

The transformation from smart home applications to an integrated solution indicates that suppliers are progressively becoming market responsive:

- Application connectivity and precise interaction help reduce operational complexity and bring convenience;

- Smart home applications are adjusted based on the design of the space to better serve occupants;

- Smart home solutions understand and analyse the behaviour of occupants and the motivation behind those behaviour, while keeping self-adjustment in alignment with their needs;

- The solution updates itself automatically to evolve together with the needs of the space and the occupant across life stages.

3. Competition side:
A lever for transformation

Real estate developers are well-positioned to develop smart home offerings, which is a key lever for them to strengthen product capabilities and extend current portfolio.

In recent years, regulatory tightening has imposed further constraints on land supply in China. Real estate developers face slimmer margins on residential property development and sales as China aims to stabilise land and house prices, as well as market expectations. On the demand side, customer demands higher quality of properties, which brought to light the evolution from a supply-driven market to one focused on the demand side. Developers need to establish product competitiveness and expand supporting services to generate new drivers for growth.

By leveraging smart technologies, smart home applications, as one of the key drivers for real estate developers to build competitive products, are able to boost sales conversion by meeting residents' demand for high quality and personalised offerings. More importantly, for residential developers, smart home application is a key lever to integrate their property-related services with the actual living space by offering value-added services, thereby transforming their company operating model from one that emphasises on fast-turnaround of capital into one that is based on long-term management of assets.

Real estate developers have a clear advantage in coming up with integrated smart home solutions. First, their expertise in space planning has given them an innate advantage to develop the most convenient package to suit consumer needs. Secondly, understanding residents' behaviour and their underlying motives is a prerequisite for smart applications that can truly cater to the diverse and personalised needs of residents. Backed by extensive property management experience, real estate developers are uniquely positioned to identify and meet residents' differentiated needs.

2

Insights on the residential demand side

PwC and China Overseas Holdings Limited launched a joint survey to take a closer look at people's behaviour in the residential space and the underlying needs in various scenarios. Those needs can be summarised into six themes (see Exhibit 1):

Exhibit 1: Six themes of household needs

1 Well-defined Space Function

2 Life stage companion

3 Child-friendly

4 Innovative experience

5 Natural interaction

6 From product to service

1. Well-defined space functions

Even when faced with limited residential space, people are usually subscribed to the idea that living zones should be well-defined and dedicated to different scenarios, while maintaining space flexibility and interactivity. Such demands are not only determined by space footage and design, but also a reflection of their requirements on space for daily activities.

The differentiated function requirements by home occupants can be summarised into three types:

Immersive and dedicated to personal needs

Residents want to have a private, uninterrupted space at home for activities such as work, fitness and relaxation to create an immersive experience. For them, it is of great convenience to carry out external activities at home. However, the design of the existing home space often overlooks such needs, reducing the sense of value among residents.

Cohesive and exclusive for families

For families, home space is not only for rest and relaxation, but fosters bond among family members by creating a sanctuary for connection and communication. For instance, when designing the space, many parents hope to give their children a private space for growing up, whilst also having a shared space for everyone to spend time together.

A separate space for hosting guests

As a space for family living and relaxing, home is not designed for the purpose of hosting unfamiliar visitors, such as business guests. Therefore, a shared space for guest hosting in the community is highly expected and appreciated.
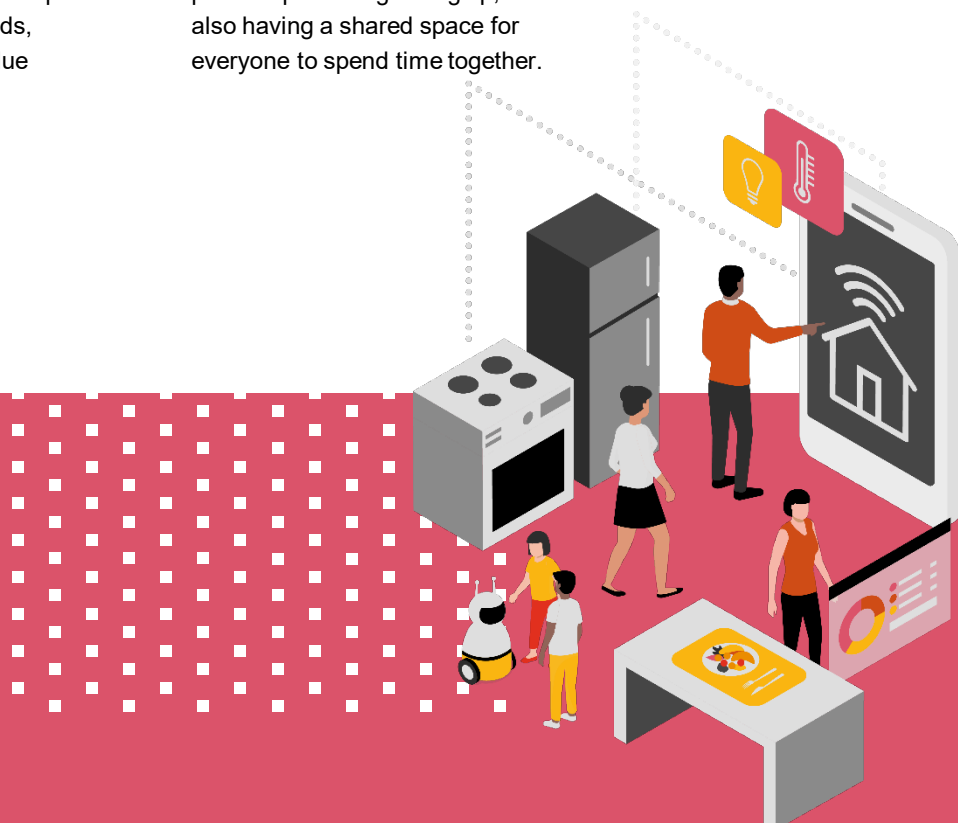
2. Life stage companion

As people move through different stages of life, their requirements for home space will also change. Buying a house is a milestone in life for most people. During the decision-making process, most people consider space flexibility as a main determinant, so that the living place can better adapt to the diversified demands in the future.

In generally, two major changes will prevail:

Life cycle progression

The emergence of new life stages such as marriage or parenthood often legitimise the desire for home ownership or replacement as the current living space no longer can address new needs. Particularly, parents are required to plan ahead for the birth of upbringing of their children, who exhibit different needs in different growth stages in life.
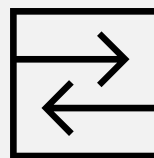
Work and lifestyle change

As people's work or lifestyle evolve over time, so will their needs for home functions. Especially, the Covid-19 pandemic has accelerated the changes of needs. As a result, a dedicated home office or workspace is needed to satisfy people's needs to work remotely. It is sometimes necessary to think ahead in cases where multiple family members find themselves working from home or home schooling to avoid competing for space.
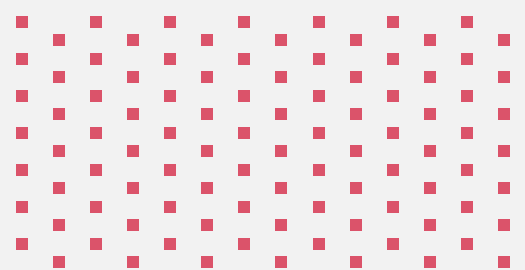
3. Child-friendly

In families with children, parents generally pay more attention to child-related needs. Nevertheless, while parents hope to accompany and care for their children as much as possible, they also hope to relieve parenting stress in the day-to-day life.

The main parent-child interactions include:

Tutoring

Parents typically hope to create an uninterrupted and comfortable learning environment for their children through direct supervision or with the help of smart applications, so as to cultivate children's academic learning. At the same time, they also encourage their children to read extracurricular books outside of class to strengthen their focus and concentration, and develop a passion for knowledge.

Well-being

Parents are concerned about the overall well-being of their children. In terms of physical health, parents pay close attention to all elements within the confines of their home that could affect children's health. For example, they seek to create a quiet and safe environment for their children to get enough quality sleep at night. In terms of mental health, they want to give their children the freedom to explore new things at their own pace to shape their understanding of the world, whilst having quality play time with peers to improve communication and establish connections.

Unwinding

Parents can get so caught up in taking care of their little ones. For most parents, helping children with their academic study consumes a large part of their time despite the availability of learning tools and equipment. Yet, parents hope to reduce the pressure and carve out some personal time for themselves free of parental obligations.

4. Innovative experience

Households attempt to enrich their family life by trying out new things, especially at the important moments in life. Keeping the living experience new and exciting is equally essential when home occupants are alone or when interacting with their families. Continuously enriching family life with joy-filled activities at home will improve households' perceived value of home space.

The need for innovative experience is evident in three scenarios:

Individual

Individuals hope to enjoy a moment of true relaxation and a proper peace of mind when they stay alone at home. Personalised and adaptive scenarios with audio and light will create a perfect combination of moods and settings.
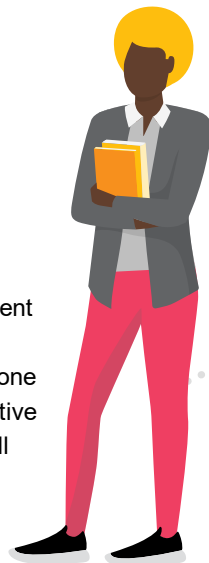
Children

When children stay home, households' need is slightly different. Parents tend to stimulate children's curiosity and creativity through activities such as graffiti painting; they are also in need of discovering fun ways to motivate young kids do chores and feel good about contributing to family life. In addition, parents hope to capture the memorable moments of their children's growth and change, for example, through photo albums for milestone development, measurements of height and weight, as memories provide warmth and a sense of belonging.

Couple

Residents believe that couples' daily lives are easily distracted by trivial matters and as result might become neglectful about maintaining their relationship. In response they hope to create new and innovative experiences with the help of smart applications, such as anniversary reminder, celebration ideas, mood creations, etc.
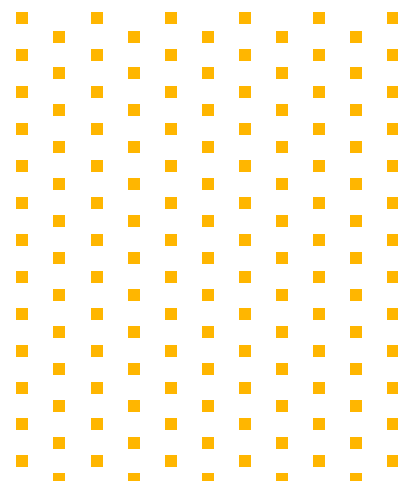
5. Natural Interaction

Whilst smart home products are increasingly adopted by consumers as a way to enhance living experience, the impact of new technologies on consumers' daily habits have also raised some concerns. They want the design to be human-centered in which the product supports natural and life-like interactions between people and the environment, and enables genuine human behaviour within the household.

Interaction with the environment

Just as households enjoy automating the home environment such as lighting and air quality through smart applications, they are equally worried about living in a smart home that is too artificial and inauthentic. This could alienate them from the environment outside their home space.
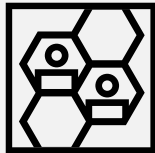
Interaction with people

Households believe that smart applications can transcend geographic boundaries, allowing them to connect with people outside their home space. However, some people think that physical elements of human interactions cannot be entirely replaced by smart technologies. For example, parents would like their children to take traditional offline classes, and avoid relying on smart devices for learning in fear of reduced physical engagement and social interactions.

Authentic human behaviour

Residents are keen for an immersive and pleasant experience when engaging in activities that are used to be performed outside of home such as keeping a workout routine and accommodating leisure needs whilst home officing.
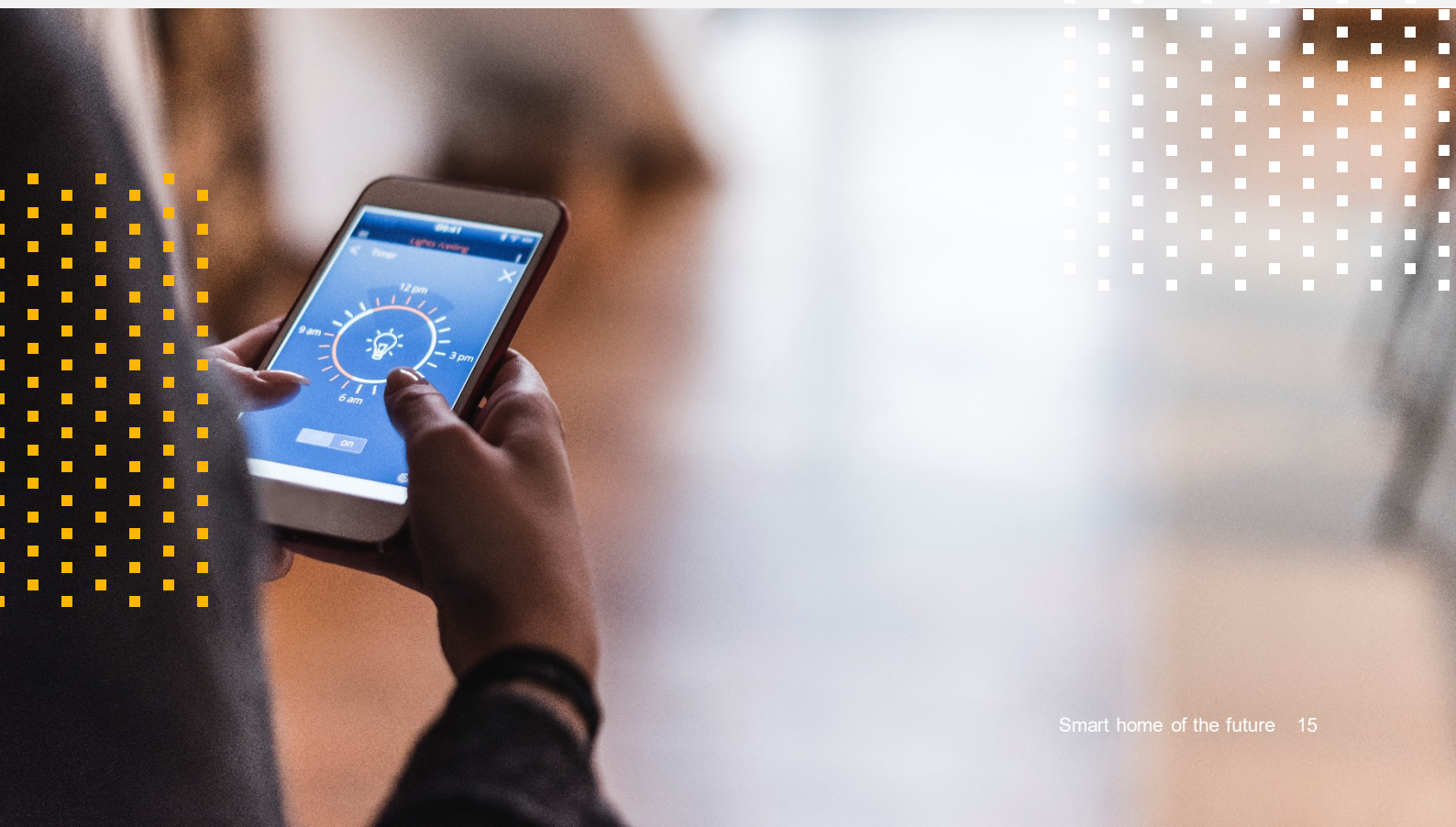
6. From product to service

Households are inevitably faced with many pain points throughout the lifecycle of their residential property and maintenance of smart home applications. This can prove to be time-consuming, costly, and that cannot be easily resolved by themselves. Instead they demand hassle-free, affordable and stable after-sales services provided by external service providers.

Pre-sales support

Households often run into problems with home space limitation and complexity of installation of certain smart applications, especially basic health and security systems. They expect to have pre-installation services that would take care of placements for individual components of a smart home equipment.

After-sales support

As more households venture into smart homes, they would one way or the other come across technical issues as users of smart devices, including failure of smart applications to identify the most suitable solution, operating complexity and high cost of maintenance, as well as the lack of automatic system updates. Households expect to have supporting services at their fingertips to assist them with the use of smart applications.

Residential property management services

Property management services are seen as a fundamental feature for high-quality residential properties. For instance, supporting offline services for online platforms of smart applications, guest-hosting and children's playground will greatly improve residents' overall living experience.

3

Principles for offering experiential design

As people's living standards gradually improve, they look beyond tangible home offerings and pursue emotional satisfaction. Residential space plays an important role in people's daily life, various activities in the residential space give rise to the diversified and in-depth emotional needs of residents.

Consumer behaviours within the confines of living space are highly complex, so are the underlying needs reflected by these behaviours. Depending on space, time and object of interaction, consumers' expectation for product experience need to balance between two opposing factors such as **"passive versus active"**, **"familiar versus unfamiliar"**, **"individual versus group"**, and **"digital interaction versus human touch"**. Providers of smart home offering must understand the needs of consumers in different scenarios and with different interaction objects, thereby striking a balance between aesthetic appeal and functional design.

Bearing the conflicts and the corresponding pain points in mind, the design of future living space should be based on **the five principles: user-driven, exclusive, trustworthy, novel and connected** (see Exhibit 2) to create a warm living place in consumers' life journey.

Exhibit 2: Five principles for future living space offering experiential design

Future living space: a warm place to call home

User-driven	Exclusive	Trustworthy	Novel	Connected
Convenient and automated control	Exclusive and private space	Secure and reliable data transmission	Adjustable and innovative layout	Positive and friendly interaction
Easy to use	Personalised	Indicative	Innovative	Care for kids
Integrated	Thinking ahead	Intuitive	Amusing	Care for family
Proactive caring	Undisturbed	Intelligent	Flexible	Care for community
Natural	Private yet open	Secure		

1."User-driven"

Future home offerings will not only focus on space and product design, but also the actual needs of end users. User needs should be factored into physical requirements that are embedded in the design of residential spaces and smart applications. Attentive property management services should also be provided to deliver a complete set of solutions that add convenience to residents' home living.

- **Easy-to-use:** At present, as no single major provider can offer a full suite of smart devices, users will invariably end up with devices from multiple brands, each with its own different apps and complicated operating procedures. In experiential design, smart home providers are encouraged to establish a centralised control system that allows users to control their entire smart home through a single portal.

- **Integrated:** The main obstacles keeping consumers away from smart home products include poor after-sales services, lack of automatic system updates, and high maintenance costs. Smart home providers need to offer a comprehensive set of usage and maintenance services with auto-updating functions to help users enjoy the full benefit of smart home applications.

- **Proactive caring:** Current smart home applications are unable to adjust automatically in keeping with individual needs of residents, which cannot improve the households' living experiences. Applying smart technologies such as artificial intelligence will enable self-learning of home devices to predict the state of home and self-adapt to the best living condition.

- **Natural:** Most smart applications are controlled by mobile devices such as smartphones, and there is still a gap in interaction with the natural behaviours and habits of home occupants. Smart home providers could develop contact-free and more intuitive capabilities to promote human interaction such as voice assistance and multi-screen connection for greater convenience.

2. "Exclusive"

Another factor of great significance in residential property design is the need for exclusivity, which also plays an important role in future home product design. In addition, the unique experience provided by the interactivity among different applications and their ability to create the right atmosphere and ambience to suit different scenarios is also the key to success for smart home providers.

- **Personalised:** With ever-changing lifestyle, consumers demonstrate increasing demand for a more versatile space serving multiple functions such as for work and fitness. However, not many smart home providers consider in their design the existing structure of the space and the decades-long life cycles that homeowners have already invested. Yet the most notable smart homes have been designed in a way that enhances the versatility of the living space with smart devices to alter the physical space and ambience as demanded by different situations and scenarios.

- **Thinking ahead:** Smart devices such as water softeners and air purifiers put high emphasis on compatibility of the original space design, making it difficult for users to install at a later stage due to time and cost. For smart home providers, deciding how smart devices will be integrated into the living space in the first place should be the first thing in mind when formulating a comprehensive plan for smart home design and transformation.

- **Undisturbed:** Activities such as hosting business visitors in the residential community can easily get in the way of residents' privacy. Residents hope to have a dedicated space in the community that integrates multiple functions including guest hosting with hospitality services, allowing them to rest easy knowing that a private place is available to meet with and entertain non-residential visitors.

- **Private yet open:** Incorporating privacy on an individual or a family scale is essential to keeping the home comfortable and functional. In experiential design, the key is to leverage smart applications to balance the desire for privacy against the desire to enjoy time together with families. One of such solutions is to activate the "Do Not Disturb" mode at home to keep out sources of interruptions.

3. "Trustworthy"

Consumer trust in future residential products is reflected in the perceived level of health and safety of smart home design and environment. Design of residential products should not stop at ensuring the safety of the home environment and health of home occupants, but also need to communicate reliable and trustworthy information and deliver values that are relevant to users.

■ **Real-time feedback:** Users might not be convinced with the performance of smart home applications due to the inability to get instant qualitative or quantitative feedback while in use, or home occupants are simply unaware of the change in status of their smart home applications and cannot get timely feedback. Smart home providers can consider incorporating qualitative or quantitative indicators into their products to alert users about important changes, allowing them to better evaluate the performance of smart home applications.

■ **Intuitive:** The measurement indicators of some smart applications are overly complicated and therefore discouraging users to understand and even trust in smart devices. Instead, precise and intuitive visualised indicators are great helps for flattening users' learning curve so they can better understand the various status of their smart home features. Moreover, rigorous analysis and computation need to accompany the visualisation of indicators so as to avoid misinterpretation of those indicators.

■ **Intelligent:** The excessive use of smart devices is likely to have an impact on the health of users, especially children (such as the impact of prolonged exposure to smart screens on children's eyes). In experiential design, smart home providers should remind residents, especially children, of the optimised frequency, duration, and ways of using smart applications, so as to ensure appropriate use of products.

■ **Secure:** Although smart home products promise convenience, they are also prone to security vulnerabilities such as data leakage and cyber risks. Smart home providers should seek to strengthen data security through measures such as local storage of data.
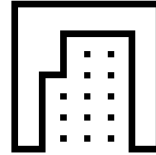
4. "Novel"

In the future, the design of residential products will change the characteristic of physical space of being invariable, reimaging to provide flexibility in different scenarios. Smart home applications are created to maximise functionality within the home's existing floorplan and to alter home ambience to suit different scenarios.

■ **Innovative/entertaining:** Some smart applications are unable to track and draw insights from user behaviour, so as to understand their needs and provide personalised services. From the experiential design's perspective, smart home providers can improve services in an incremental way by leveraging the self-learning capability of artificial intelligence or involving users to co-create and develop more engaging experiences.

■ **Flexible:** Some smart applications lack functionality and versatility, and the marginal benefits perceived by users diminish after repeated use. In order to convey a fresh and seamless experience, it is necessary that smart home providers deliver updates and enhancements directly to smart home applications in an automated and timely manners.

5. "Connected"

Residential product is more than just an enhancement to the physical living space, rather, it aims to create an open platform to facilitate emotional exchanges and social connections among families and neighbours. With the support of smart home applications, residential products in effect build social bridges, enabling households to enjoy the warm interactions among families and neighbours.

- **Care for children:** Children are an integral part of the family relations. Parents look for residences and communities that can provide adequate care for their children to grow up. In the future, smart home technologies should be viewed as intelligent social and moral beings and in some cases should become companions for children rather than mere technology gadgets.

- **Care for community:** Most smart applications focus on helping residents establish social connections from a functional rather than emotional perspective. In experiential design, smart home providers need to offer interesting and engaging content through smart applications as a way for users to deepen intra-family relations and foster meaningful conversation with others in the community.
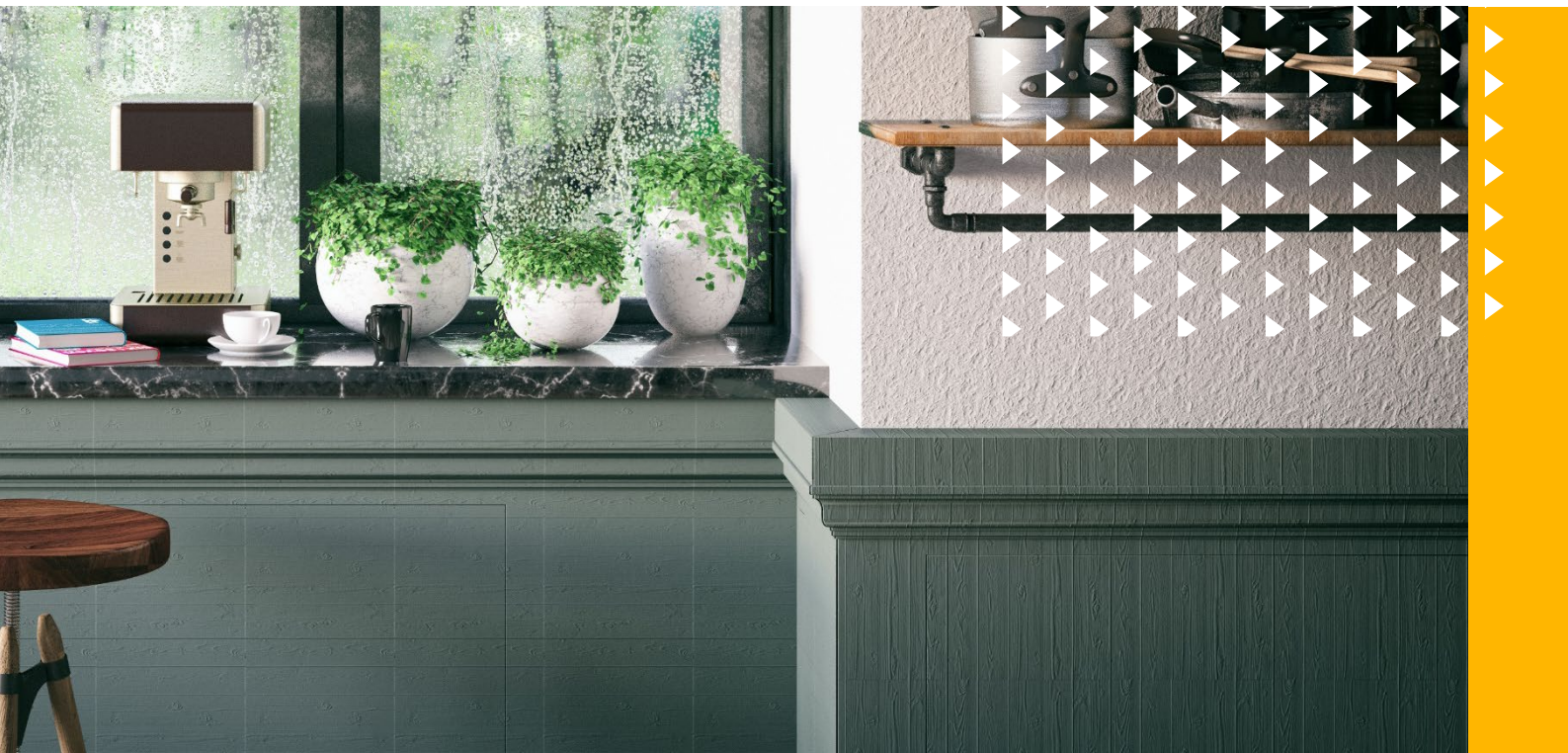
4

Smart home value propositions

1. Product value propositions

Although consumers demand for differentiated and personalised experience, their requirements for smart home products can generally be summarised into nine value propositions including safety, health, convenience, quality, comfort, sociability, care, sense of belonging, and novelty (See Exhibit 3). Smart home providers must determine what value propositions are most relevant to their target customers and take advantage of their capabilities to develop products and articulate those values, so as to strike a chord with customers.

Exhibit 3: Nine value propositions of smart home products

Safety	Quality	Sociability
• Property and personal safety • Privacy protection and cybersecurity	• Durability • Visual appeal	• Social connection with neighbours, family and friends

Health	Comfort	Care
• Healthy living environment (air, water, light, sound, smell, etc.) • Healthy growth environment for children	• Comfortable living environment (air, water, light, sound, etc.) • Familiar settings and ambience	• Care between family members

Convenience	Novelty	Sense of belonging
• Ease of use and free from hassles	• Fresh and explorative experience	• Sense of belonging at home and in the community

Safety：Safety is regarded as a basic requirement for residential products. Products must meet the minimum threshold for personal safety, property security and data privacy, or else they will not be accepted by consumers at all.

Health：Likewise, health is another fundamental area that residential products need to excel before they can be considered. Products must be able to satisfy households' demand of basic variables in the living space such as air, water, light and sound.

Convenience：Consumers hope that smart products and services are simple to use and allow them to enjoy greater convenience at home.

Quality：Consumers increasingly put stronger emphasis on the quality of residential products in the future, mainly reflected in the durability and visual attractiveness of the products.

Comfort：Whilst meeting the baseline requirement of health and safety, consumers also hope to enjoy peace of mind enabled by a cozy surrounding that promote comfort and wellness.

Novelty：Products should be able to dynamically change settings and atmosphere on demand in response to occupants' changing moods and needs to create a novel experience.

Sociability：Residential product design needs to take into account the social scenarios within and outside home, and promote social bonding between residents through space design or smart applications.

Care：Smart home products should be designed in a way to enhance communication and interaction between family members while promoting love, care and intimacy.

Sense of belonging：A sense of belonging and purpose created by a home-like environment is also highly valued by households.
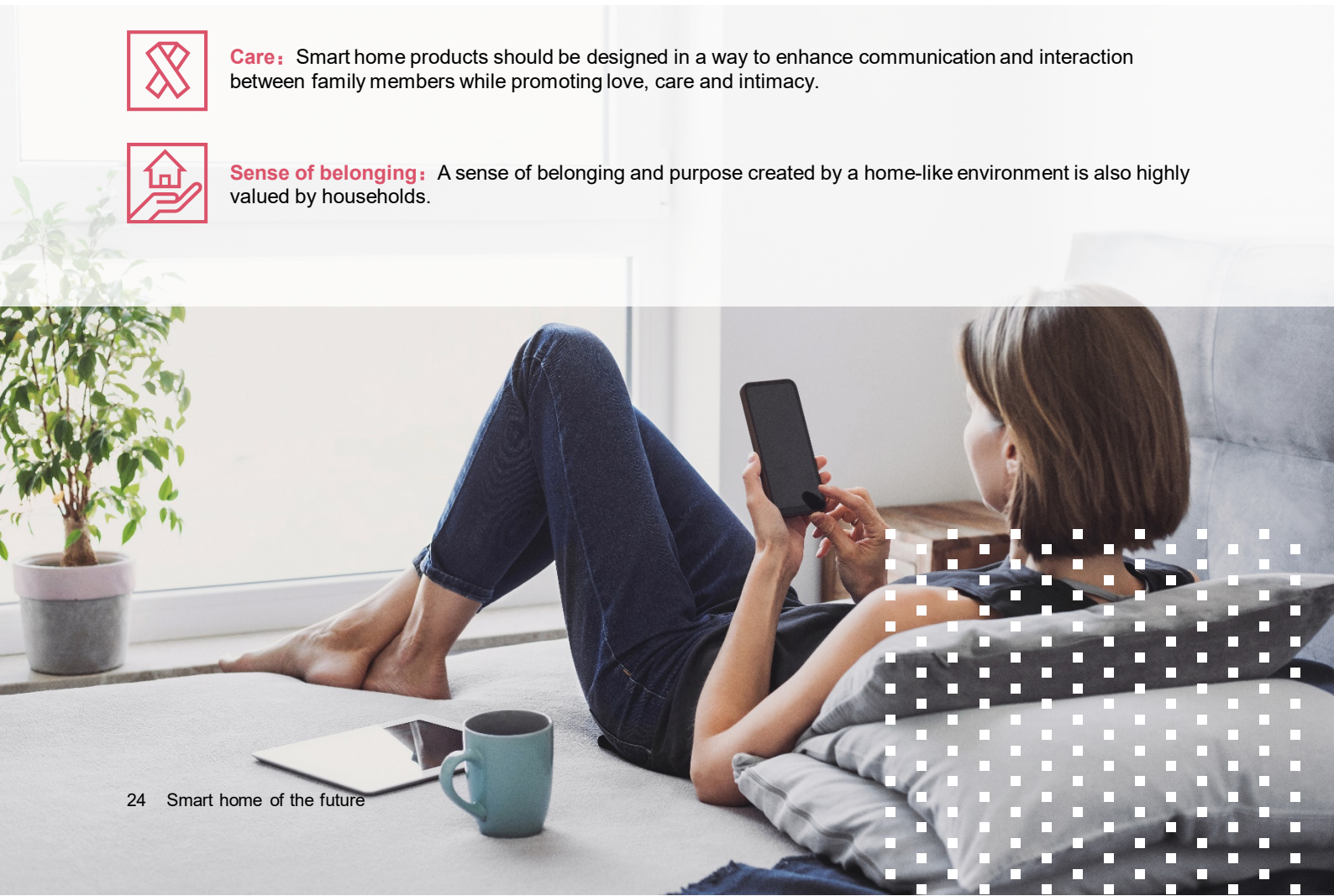
2. Addressing the hierarchy of resident needs

The nine value propositions are divided into three levels to address various consumer needs. Health and safety are the most fundamental factors to guarantee a basic living environment for residents. The next level up is the desire to improve the quality of life, where convenience, quality and comfort come into play. The third level of resident need involves interpersonal aspects including engagement, creativity, sociability, care and sense of belonging.

In the process of creating and delivering different levels of value propositions, it is necessary for smart home providers need to fully integrate the needs of residents in the living space, **visualise and translate gained insights into product features to address different levels of needs**, especially the ones that are at the top of the hierarchy.

- **Basic value propositions：** As health and safety form the base of the hierarchy, they should be the focus areas for smart home providers. In order to advance to higher-level needs, the basic needs must be met first to lay a solid foundation.

- **Intermediate value propositions：** **Convenience** is captured in product features that require minimal effort on the part of the consumers. Such products and services are forward-thinking as they incorporate potential household needs driven by life stage progression or work and lifestyle change. **Quality** is embodied in the durability and visual appearance of the product. Consumers not only expect the product to be compatible with the design of living space, but also expect it to last and function properly to provide a stable user experience. **Comfort** comes down to modifying and adapting the physical space to provide the most appropriate and comfortable experience for consumers, whether they are at home alone or interacting with others and the surroundings.

- **Advanced value propositions：** **Creativity** emphasises on bringing consistent new experiences to individuals, couples and children to improve their perception of values. **Sociability** is about strengthening social bonding by encouraging social interaction, which can be demonstrated by meeting the needs of private guest spaces and community management services. **Care** is reflected in scenarios involving communication and interaction between family members, including helping children with their homework, paying attention to children's wellbeing and lessening parenting pressure. Sense of **belonging** represents the social value and a sense of purpose of home, which is reflected in the behaviour and interaction of people in and with the living space to facilitate human-machine interaction.

3. Delivering values to consumers

When communicating value propositions to consumers, smart home providers have to speak the language of consumers for improved understanding and communication of experience and results based on in-depth understanding into households behavious. Specifically, they should follow the two principles of "reducing negative associations" and "bringing product values to life".

Reduce negative associations： A focus on positive values and avoidance of negative associations justify most marketing campaigns. Smart home providers should avoid associating their products with complicated configurations and procedures that require extra learning, but instead emphasise on the actual benefits of the product. For example, while illustrating the value propositions of health and convenience, instead of leaving consumers to ponder on the complex installation process of smart living systems, they should be educated about the self-learning and self-regulating capability of smart home systems without the need for human intervention.

Bring product values to life： Smart home providers should not tell the consumer what have developed on the product level, but instead the tangible benefits consumers will receive from the product. The language used in communication need to be concise and specific to the values being promised and delivered. To illustrate, for value propositions such as heath and convenience, smart home providers can point out that fitness at home could save commuting time to the gym, which can be used for an additional set of HITT exercises.
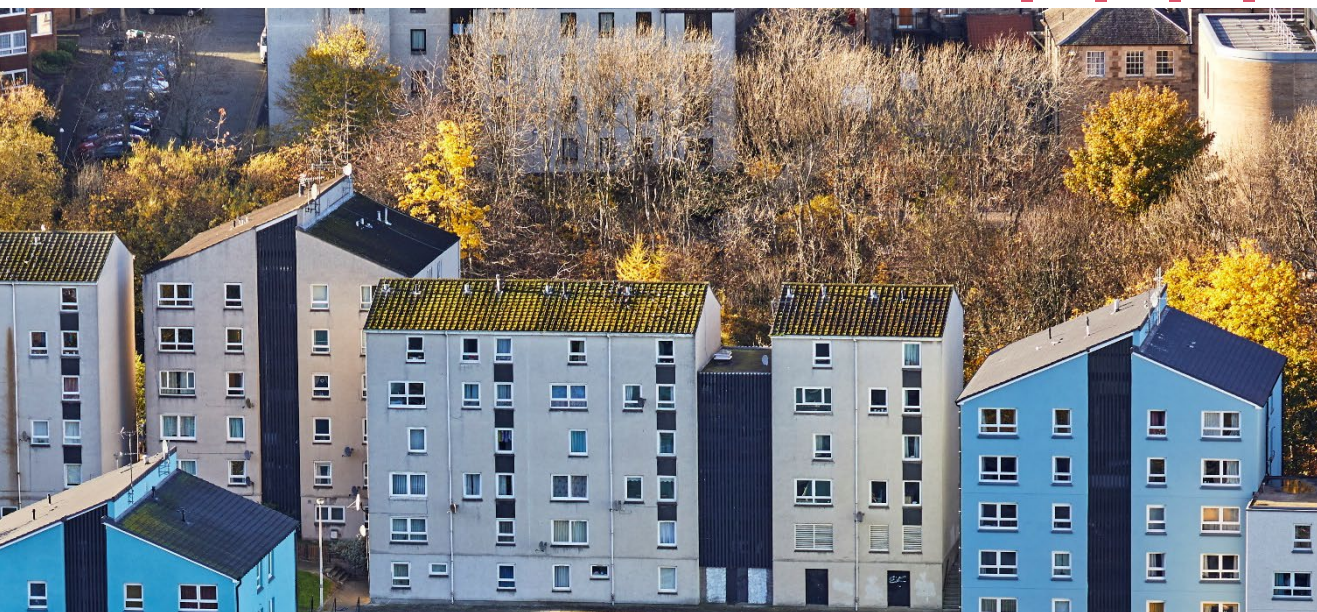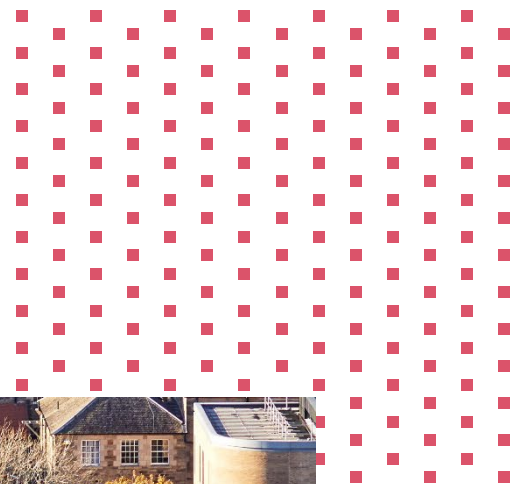
4. Value delivery channels

Different value delivery channels influence consumer perception differently. Identifying the target audience and making the underlying purpose and value communication comprehensible are keys to successful message delivery. When communicating through the following channels, smart home providers must keep in mind the target market and the precise message they are trying to convey:


Offline
Concept/ showcasing store：

For many consumers, nothing quite compares to the feeling of physically trying out a product. Experiential retail or physical showrooms provide a sensory and tactile experience for potential consumers to directly observe and feel the benefits of smart home solutions. The goal is to amplify the benefits and product functionalities through physical engagement.

Online
Own website and channel：

Brand website and self-operated channels are powerful platforms for smart home providers to get their message wide and across and show their commitment to deliver on their full promise of a smart home. This builds a strong positioning that differentiates the brand from the competitors in the mind of consumers.
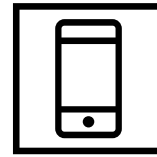
Online
Social media platform：

Social media networks are vehicles for smart home providers to demonstrate expertise in topics relevant to their target audience. They are able to deliver value propositions for a product or service among a specific consumer group by showing the differentiated features of smart home applications to solve individual needs.

5

Case study

Consumer demand for smart home is fast-changing, urging companies to develop new products to keep up with consumer preferences. Maison de Renaissance, a residential project in Hangzhou developed by China Overseas Holdings Limited, has provided households with an unprecedented living experience by integrating smart home use cases that satisfy consumer needs.

1.Security system:
Tech-enabled security to boost confidence

Security system of guaranteed standards is a top priority for homebuyers. In order to ensure the safety of residents, all houses are installed with smart door locks, with an option to set temporary password for visitor entry, and video doorbells, which allow home occupants to see and speak to visitors from anywhere.

All systems are connected to a central management platform, home occupants can turn off water and electricity and close doors and windows remotely at will via mobile apps. Better still, more advanced solutions include sensors to conveniently close windows in response to real-time changes in weather. Timely reporting of safety indicators and better experience generated by smart devices allow users to easily keep up with all the things going on around their house, creating a peace of mind and reassurance of safety.


2. Air and water system:
Personalised environment for optimised comfort

With the continuous improvement of the quality of life, the demand for healthy living is more common. Decent indoor air and water quality are fundamental household requirements for luxury residences. Taking into account the local weather, Maison de Renaissance provides the latest smart air conditioning system that maintains both temperature and humidity levels at a comfortable level at home. Moreover, the system dynamically caters to the ideal settings for individual rooms, for example, air conditioners in the kitchen use oil-proof materials and air movement can be restricted to avoid direct blow onto the gas stove; the ones in en suite bathrooms are equipped with special functions such as fast preheating before

bathing; closet-embedded air conditioners are set to dehumidification mode and will turn on automatically to keep the closet interior dry when the humidity level exceeds 75%.

In terms of water use, Maison de Renaissance adopts a four-stage water purification system, including pre-filtration, central water treatment, water softening and reverse osmosis to reduce harmful contaminants. The whole house is also equipped with a zero-cold water heater to maintain constant supply of hot water as long as the tap is turned on. In order to enhance the interactive experience between residents and the living space itself, households are offered with an air and water quality monitoring and control platform, which allows users to get updated on indoor humidity, temperature, air and water quality through the monitoring screen at home and remotely via mobile apps.
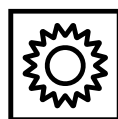
3. Lighting system:
Creating comfort and enhancing sense of novelty for residents

Maison de Renaissance makes clever use of lighting systems to bring changes to the living space. Smart lights will be triggered when motion sensor installed detects movement of objects. The unparalleled design not only makes the residence more energy efficient, but also grant users with a greater control and experience.

In the living room and dining room that families tend to spend the bulk of their at-home time together, light scenes are pre-set for movie-watching, dining and partying. Home occupants are also free to illuminate the room and set background music according to their own preference; the lighting requirements for bedroom, bathroom and closets are more task-oriented rather than mood-oriented due to the need for privacy. Therefore, lighting modes are predefined to ensure the balance between creativity and functionality, to suit different scenarios such as waking up at night, putting on makeup, bathing, fitting, etc.

The lighting system of Maison de Renaissance is also connected to its central management platform, further optimising households' residential experience and enabling households to turn on adaptive lighting through mobile apps, while the system automatically adjusts brightness and colour of light according to the time of the day to maximise lighting performance.

6 Conclusion

Smart home applications are growing popular in leading residential projects. They are not only an important vehicle for real estate companies to increase their product competitiveness, but also an effective way to integrate physical and virtual spaces in a hyper-connected world. Smart home has made it possible for people to tap into high-tech functionalities in the living space to make life more enjoyable than ever.

As more smart home solutions continue to emerge, consumer needs and solutions will be closely linked to each other, and the notion of "home" will be redefined. Leading real estate and technology companies need to identify new needs and evolve with the changing landscape, partnering up to develop integrated solutions to build core competitive advantages, and live up to the new expectations of consumers for an ever-improving living experience.

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