



**HOUSING &  
DEVELOPMENT  
BOARD**

# **TOWARDS A FUTURE-READY HDB**

Singapore Quality Award  
(Special Commendation)

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2018 Winner's Executive Summary



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# HDB Organisational Profile

## – Housing a Nation

Over the last 58 years, HDB has transformed Singapore's physical and social landscape from one of squalor to one in which quality homes meet the aspirations of an increasingly affluent society. Guided by our Vision of being an outstanding organisation with people committed to fulfilling aspirations for homes and communities all are proud of, the public housing programme has contributed significantly to the economic, social and political development of Singapore.

Today, more than 1 million flats have been completed in 23 towns and 3 estates across the island. HDB flats are home to over 80% of Singapore's resident population. More than 94% of HDB flats are home ownership flats.

We have a multi-faceted role to fulfil our commitment to the nation, to provide a **positive and wonderful living experience**.

### HDB as Developer and Master Planner

We impact and shape how towns are planned, and collaborate with partner agencies to build a liveable city.



### HDB as Builder of Homes and Communities

As a housing authority with a social focus, we meet our customers' lifecycle needs through providing quality and affordable homes, and building sustainable towns and active communities.



### HDB as Innovator and People Developer

We are constantly innovating to better serve both our residents and our industry. We are able to do so because we value our people, investing heavily in them to grow an engaged and high performing Team HDB.



Given our vast storehouse of experience and expertise, we actively create and leverage opportunities to cross-pollinate best and innovative practices from the local and international communities.

We play a vital role in fulfilling the national vision to build a distinctive global city and an endearing home for all Singaporeans.

## About HDB



### Organisational Environment

#### Vision, Mission and Shared Values

The commitment of 'Housing a Nation' is encapsulated in HDB's Vision and Mission.

To fulfil the goals set out in our Mission, HDB draws up 5-year medium-term plans, with the latest being the HDB 2020 Plan.

What we aspire to be

### VISION

An outstanding organisation with people committed to fulfilling aspirations for homes and communities all are proud of

What we do

### MISSION

- We **provide** affordable homes of quality and value
- We **create** vibrant and sustainable towns
- We **promote** the building of active and cohesive communities
- We **inspire** and **enable** each other to give of our best

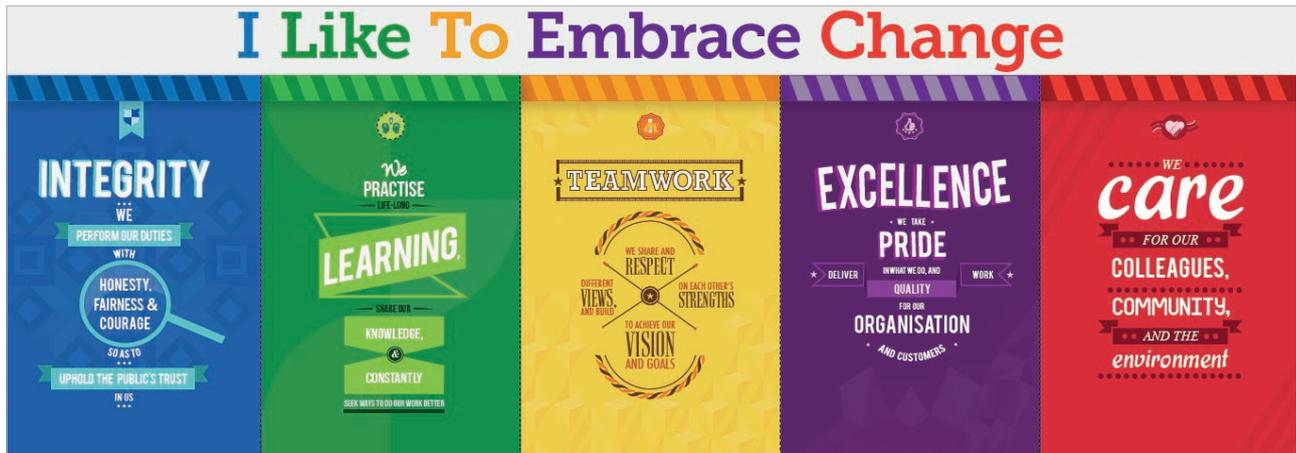


Figure B. HDB's Shared Values

As organisational culture forms the bedrock of our organisation, HDB leaders place great importance in aligning all staff to a common culture and to our Shared Values. Our Shared Values shape the way we work, interact with one another and drive organisational performance.

On the external front, we are guided by the HDB Brand Values to be 'professional, caring and trustworthy' – qualities that HDB stands for when we communicate with our customers and stakeholders.



Figure C. HDB's Brand Values

## Main Products and Services

As the nation's public housing authority, we not only provide homes but also design and develop a holistic quality living environment for our residents, through 3 main roles:

### HDB as Developer and Master Planner

HDB's work begins with **comprehensive town planning and urban design**. Guided by URA's Concept Plan at the national level, HDB safeguards and stages land for public housing development. Master plans for towns and estates

are formulated to optimise land use while ensuring that residents enjoy convenient access to a wide range of amenities and commercial services in well-connected, self-sufficient and vibrant towns.

Through our comprehensive planning of amenities, many government agencies are then able to deliver their services (e.g. childcare, social, healthcare, and educational) within HDB estates.

We not only build but also continuously redevelop/rejuvenate existing flats and towns, to maintain high quality living standards for residents across towns of different ages. The scale of HDB's **constant renewal and rejuvenation efforts** through upgrading programmes, the Selective En bloc Redevelopment Scheme (SERS) and the Remaking Our Heartland (ROH) Programme, is unique in the world.

As the largest housing developer in Singapore which has built more than 1 million flats, HDB plays a critical role in supporting many national goals, be it in sustainability development or improving productivity for the entire industry. For example, we play a key role in facilitating the achievement of the Sustainable Singapore Blueprint. With changing lifestyle needs, we are developing a new generation of public housing which continues to be highly liveable and pleasant. To this end, the Roadmap to Better Living in HDB Towns, launched in 2011, outlines HDB's key priorities for achieving well-designed, sustainable, and community-centric towns like Punggol.

To achieve the goals under the Roadmap, we developed a Sustainable Development Framework in 2011 to guide the development of HDB towns in a holistic manner, considering social, economic, and environmental aspects. As Singapore moves towards becoming a Smart Nation, we are spearheading the Smart Urban Habitat domain, partnering multiple agencies and industry partners to realise **Smart HDB Towns**.

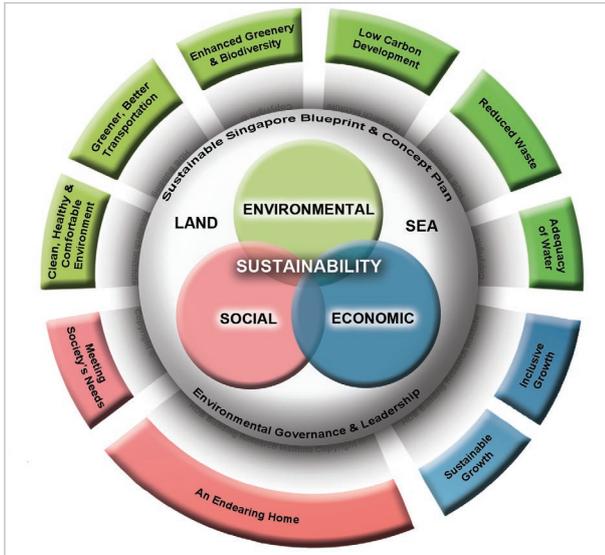


Figure D. HDB Sustainable Development Framework

### HDB as Builder of Homes and Communities

**Policy formulation and review** form a large part of HDB's work, with home ownership as the cornerstone of our policies. Processes and products are constantly reviewed to keep pace with the times. Ground sentiments and feedback gathered through future scanning, surveys and analytics serve as crucial inputs to a continual cycle of review and improvement, so as to cater for evolving needs.

Although demographics and preferences in living arrangements have changed over time, we continue to offer a range of products, policies and schemes. These are tailored to meet the housing needs of Singapore's diverse population, at key stages of their lives and income levels.

For example, responding to the needs of lower-income families, and elderly and single citizens, HDB introduced the 2-room Flexi scheme in August 2015, which offers the flexibility to accommodate different buyers and allows choice of lease and fittings. Our housing options are also supported by a combination of subsidies and housing loans for different income brackets, thus alleviating the financial burden of owning a home. For those who cannot afford to own homes, public rental housing is an option. In the longer term, we assist them towards home ownership through housing subsidies and schemes like the Fresh Start Housing Scheme.

HDB does not stop at building homes. Years after the owners have moved into their flats, HDB continues to provide services such as lease administration, housing maintenance and management of HDB car parks through our Branches.

Fulfilling a social mission, HDB plays a crucial role in the **building of active and cohesive**

**communities** in the heartlands. Each precinct is designed with facilities and spaces for residents to mingle and forge ties. Beyond just the physical aspect, we also cultivate the 'heartware' and community spirit among neighbours.

We have numerous outreach programmes to foster community bonding among residents and to encourage them to take greater ownership in caring for their environment. In recent years, we have been more open and consultative in engaging residents, thereby fostering a greater sense of ownership in them. As part of our place-making efforts, we designed and activated town plazas in places like Bedok and Punggol to promote community interaction, and co-created vibrant social spaces like the Tampines Linkway, with residents.

### HDB as Innovator and People Developer

We have a firm focus on innovating, experimenting, and learning. Learning is in fact one of HDB's Shared Values.

As a forward-looking organisation, HDB places great emphasis on Research & Development (R&D). Given HDB's role as a Developer and Master Planner, we are a key stakeholder agency in steering R&D directions for MND's Cities of Tomorrow (CoT) R&D Programme at the national level. The CoT R&D Programme integrates R&D in 4 key verticals, namely 'Advanced Construction', 'Resilient Infrastructure', 'New Spaces', and 'Greater Sustainability', which are supported by 2 enabling horizontals of 'Urban Environment Analytics' and 'Complexity Science for Urban Solutions'. HDB's own R&D framework is closely aligned with the CoT.

Within HDB, we have a dedicated Building & Research institute that spearheads R&D efforts to create and test new designs and digital and construction technologies that bring about higher levels of productivity, sustainability and liveability for a new generation of public housing.

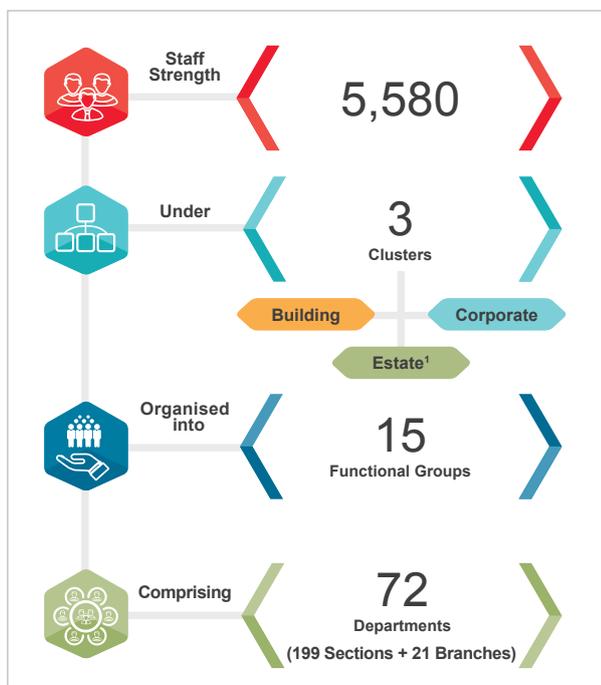
HDB also has so far patented 24 inventions which not only preserve our rights to use these for our projects but also to commercialise them to benefit the community. For example, the patents relating to skyrise greenery have been adopted in non-HDB projects and even overseas, to improve the thermal comfort and aesthetics of the environment.

These innovations have received both national and international recognition. For example, the first-of-its-kind floating wetlands system, and freshwater-tolerant mangroves in Punggol Waterway are 2 award-winning innovations of HDB that garnered the Institution of Engineers Singapore (IES) Prestigious Engineering Achievement Award and the ASEAN Outstanding Engineering Achievement Award in 2016.

Our achievements are due to our highly committed and resilient workforce. Our leaders and staff believe that 'policies and products are only as good as their delivery', and hence, we work to ensure strong delivery of outcomes. We also believe that quality relationships lead to quality results. We expend efforts to build a strong HDB culture, and foster an engaging and learning environment. Anchored on our Shared Values, our staff are also HDB Ambassadors, delivering positive and seamless experiences for customers and colleagues.

### Organisational Structure, Employee Profile

HDB's **staff strength of about 5,580** is organised into 15 functional groups, under 3 clusters – Building, Estate and Corporate (see HDB Organisational Chart on page xi).



Over the years, we have continuously reviewed our functions and processes to ensure that we are optimally structured and positioned to deliver our Vision and Mission and meet the challenges ahead. This takes into account factors like synergy in terms of resourcing, capabilities required, and the benefits to our customers. With our work growing both in complexity and volume, the portfolio of the Deputy CEO (Estate & Corporate) (DCEO(EC)) position was split into DCEO (Estate) and Assistant CEO (Corporate) (ACEO(C)) in 2017. Additionally, ACEO(C) will hold the concurrent appointment of Chief Data Officer and be responsible for spearheading our data consolidation efforts, coordinating the delivery of HDB's Digital Master Plan and bringing together the necessary IT and line stakeholders across HDB.

Our workforce, made up of professionals, managers and executives, is multi-generational and multidisciplinary, with experience in diverse fields of studies and practice. The range and richness of expertise and experience lend different perspectives that are valuable to the various work portfolios that HDB undertakes.

Our workforce profile is fast-changing, and we have conducted regular reviews of our Human Resource schemes and policies to ensure that they remain relevant. The schemes of service in HDB have been revised to place greater focus on recognising staff for their ability to take on a larger portfolio, rather than their paper qualifications. Additional promotional grades have also been introduced to enhance progression opportunities for our staff.

To ensure we have the right talent to deliver our long-term goals and transform HDB for future-readiness, we have embarked on Strategic Workforce Planning, with the current focus on Engineering and Information and Communications Technology (ICT). Management also places high priority on succession planning, to ensure a leadership pipeline of officers to enable us to build up a strong team which can fulfil our roles as a Developer, Master Planner, and Builder.

### Core Competencies, an Enabler for HDB

Through the strategic workforce planning process, we have identified in detail the technical capabilities and workforce capacity required to ensure that HDB is future-ready.

Working in partnership with the Public Service Division and external consultants, we have embarked on the development and implementation of several competency models for building and service professionals in HDB. These competency models will enable HDB to provide more structured career development for our staff, and more targeted training to build the required capabilities.

### Comprehensive Facilities and Cutting Edge Technologies

Our headquarters at HDB Hub is home to 70% of our staff. While upstream services for the sale and rental of HDB flats are carried out at HDB Hub, we have strategically located 21 branches and 3 service centres to provide post-allocation services for both sold and rental flats. This decentralised system ensures that residents' needs are met on the ground conveniently and quickly.

We have another important facility called the Centre of Building Research at Woodlands. It is HDB's master laboratory where our engineers study and test-bed new technologies and innovations in a controlled environment before piloting them

<sup>1</sup> Since 1 January 2018, HDB's Industrial Properties Group was transferred to JTC to facilitate industry transformation through better master planning and operational efficiency. This will bring greater convenience to industrial customers.

in HDB estates. We are also developing a Smart Hub, a central data depository for the collection and integration of multiple sources of data and information, which includes real-time data collected from sensors deployed in HDB towns. We are thus able to conduct Big Data analytics to help Town Councils (TCs) enhance estate maintenance and management, as well as optimise municipal services and its related costs. Useful insights can be derived to better support HDB's planning and design processes and to drive our sustainability and community development efforts.

In addition, we have drawn up an **R&D Roadmap** to guide our R&D directions and the development of technologies, such as the Complex System Modelling Tool and environmental analytics, to improve the liveability and sustainability of our estates.

From product to infrastructure and services, we want to provide convenient and seamless service to customers while optimising our resources. From the service delivery perspective, our strategy is '**Digital where Possible, Personal when Necessary**'. The goal is to migrate all high-volume and low-touch transactions to the digital platform where possible, to provide customers with a more convenient and hassle-free experience. About 12 million transactions are carried out yearly via the 220 e-services available on our HDB InfoWEB.

### Regulatory Environment

As a statutory board, HDB is subject to the regulations in the Government Instruction Manual (IM). HDB is also governed by relevant legislations such as the Housing & Development Act, and the provisions on protection of past reserves in the Constitution of the Republic of Singapore.

The public housing programme is funded by Government loans and grants. The loans enable HDB to implement financing schemes for buyers of HDB flats and for owners of upgraded flats, and to finance a portion of HDB's development programmes and operational requirements. Government grants cover HDB's annual deficit and safeguard the reserves of the past government.

Under HDB's S\$32 billion multi-currency Medium Term Note (MTN) Programme, we may, from time to time, issue bonds or notes to finance our development programmes and operational requirements, as well as to refinance our existing borrowings. This is subject to SGX-ST Listing Rules, the Securities and Futures Act and the Income Tax Act. Since 15 October 2015, Moody's Investors Service has assigned an Aaa issuer rating to HDB and a (P)Aaa rating to HDB's MTN

Programme. The Aaa rating is on par with the sovereign rating and reflects HDB's strong and close linkage with the Government.

In 2017, HDB was the largest statutory board issuer in Singapore, issuing S\$3.32 billion worth of bonds. This accounts for about 13% of the \$24.9 billion worth of Singapore Dollar (SGD) bonds issued in the Singapore bond market in 2017, and 21% of the \$15.5 billion worth of Singapore Government Securities issued by MAS in 2017.

We continue to exercise prudence in the use of our resources and finances, adhering to the IM guidelines which are based on the principles of transparency, open and fair competition and value for money (see Chapter 1.3a for the key features of corporate governance in HDB).

We balance financial prudence while ensuring quality in the delivery of our products and services. To this end, we are committed to complying with all applicable regulations and guidelines set by other agencies like BCA and NEA, on environmental management.

## Organisational Relationships

### A Positive Relationship with Ministry

HDB is the largest of 8 statutory boards under MND. In line with MND's Vision to create 'An Endearing Home, A Distinctive Global City', HDB works closely with MND on strategic issues that involve policy directions, planning norms, and the resolution of cross-agency issues. We also work with MND statutory boards, and related government agencies to plan towns, and develop innovative housing policies and programmes, to ensure that every home is a part of the city. Once the Concept Plan is approved by Minister (ND), and the go-ahead for the proposed opening of a new HDB town is given, HDB will lead in driving the planning process through the Building Plan.

We also support MND in the strategic planning and regulatory oversight of TCs' operations and policies to ensure better accountability and governance in the management and maintenance of HDB estates.

On the larger front, the outcomes from the collaboration with MND contribute to fulfilling MND's Vision which is to be achieved by developing world-class infrastructure, creating a vibrant and sustainable living environment, and building rooted and cohesive communities.

## Growing a Relationship with Customers

HDB houses more than 80% of the Singapore resident population. About 959,600 (94%) HDB flats are home ownership flats. For lower-income households, the Public Rental Scheme provides an alternative option. In designing our policies and programmes, we strive to be inclusive, while considering the needs of the majority and supporting national objectives like pro-family orientation, ageing-in-place, social integration, and retirement adequacy.

### Catering for Lifecycle Needs

As a builder of homes, we ensure that HDB flats are affordable, value for money, and within reach of the vast majority of citizens. In addition, recognising that our various customer segments have different lifestyle needs, we calibrate and constantly review our policies and schemes to provide an array of housing options for them.

Our housing policies cater for the majority of citizens. Beginning with first-timers/young families, we help them to buy their first home by providing a housing subsidy and concessionary housing loan, while setting aside a higher percentage of new flats for them. As these households evolve to become second-timers/families with children, they have the option to upgrade to a bigger flat if they are eligible and can afford to. As mutual care and support are important considerations for them, measures like the Married Child Priority Scheme (MCPS), Multi-Generation Priority Scheme (MGPS), Proximity Housing Grant (PHG), and 3Gen flats help them to live with or near their parents or married child.

As lifecycle needs change, most elderly residents prefer to continue living in the same flat. The elderly can enjoy the convenience of having a flat that is in move-in condition with elder-friendly features, when they buy a 2-room Flexi flat on short lease. We also provide monetisation options like the Lease Buyback Scheme and Silver Housing Bonus that allow them to use their HDB homes to provide financial stability in their retirement years.

### Meeting Lifestyle Aspirations of Citizens

Over the last 5 decades, we have expanded the housing options available to meet the higher aspirations of a new generation of home owners. Besides the basic fittings found in most new HDB flats, flat owners can opt for items such as sanitary fittings and floor finishes offered under the Optional Component Scheme. We have also applied new Universal Design (UD) features to enable the living environment to be user-friendly to all, both now and in the long term. Examples include low height windows to enhance views and natural light, and wheelchair-accessible common bathrooms. Over time, we have introduced new flat types, like the 2-room Flexi flats that allow for

choice of lease and fittings to cater for the needs of different customer groups.

We have also launched sustainable and iconic public housing projects such as SkyVille@Dawson that push architectural and technological boundaries to inject greater variety and vibrancy.

The HDB living experience today is enhanced by the range of amenities and facilities found in HDB estates like childcare centres and social service offices. We closely partner our shopkeepers to bring business vibrancy into our towns, and provide shopping convenience for our residents. Through programmes like the Revitalisation of Shops Scheme (ROS), we help to create and sustain a pro-business environment for the shopkeepers.

### Engaging Residents, Caring for Customers

Residents and stakeholders play a key role in keeping our heartland communities vibrant and sustainable. We aim to encourage even more ground-up initiatives. Where possible, we co-create with and engage them through programmes like the Cool Ideas for Better HDB Living Competition and our Community Participatory Projects.

Even as our policies are family-based, we recognise the needs of others such as singles and vulnerable groups who need assistance from the Government. There are housing options and grants that singles can now benefit from. To help second-timers with young children living in public rental housing to buy a new home, we launched the Fresh Start Housing Scheme in December 2016.

### Strong Collaboration with Stakeholders / Partners

When developing and implementing our programmes, we actively collaborate with many stakeholders (see Figure E).

During the planning and design of HDB towns, we work with government agencies such as URA, BCA, and LTA, as well as consultant architects and engineers.

To ensure the delivery of our building programme, our major partners include a multi-disciplinary team of architects, C&S and M&E Consultants and contractors, as well as material suppliers from the construction industry. HDB adopts the best practices and methods of procurement and evaluation of construction and consultancy tenders. At every stage of the process, we ensure that our service providers comply with the performance standards, from specifying requirements clearly in tender specifications and HDB's Materials List,

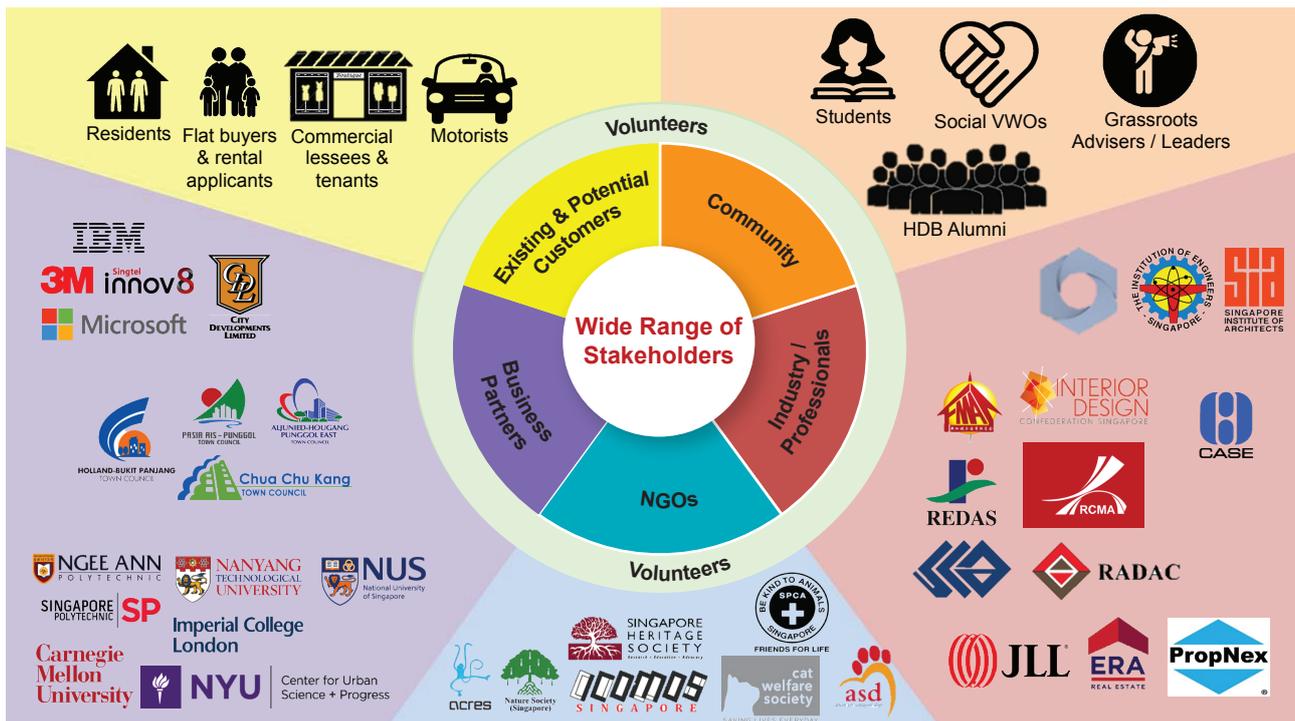


Figure E. Examples of the stakeholders that HDB engages

to regular checks on the works and engagement efforts with the partners.

Recognising the value that many industry partners can offer, we have been actively seeking collaborative opportunities to improve our products and services. Our partners include academics, advisory panels, industry and professional bodies, private firms like 3M and NCS consortium, and Institutes of Higher Learning, both local and overseas.

Other than partnerships, we also make use of engagement platforms like the HDB Professional Engagement and Knowledge Sharing (PEAK) Forum, where we share our experiences and keep industry partners abreast of HDB's latest directions so that they can contribute to the public housing ecosystem in a more fruitful manner.

In turn, good partnership is sustained and recognised through awards like the HDB Design and Building Awards given to our consultants and contractors.

Maintaining the high standards of a total quality living environment calls for continuous effort and improvement. HDB engages term contractors for flat maintenance works. We also work closely with the TCs which maintain and manage the common property of HDB estates. Through sharing of best practices in estate management/maintenance via quarterly dialogue sessions with TCs, we can build their capabilities in estate management.

We also work with Non-Governmental Organisations (NGOs), interest groups and voluntary welfare organisations to explore collaborative opportunities like volunteerism.

## Organisational Challenges

### 1. Competitive Environment

#### Competitive Position and Key Success Factors

While HDB, as Singapore's sole public housing authority, does not face direct competition, we benchmark ourselves against outstanding organisations locally and internationally, in the spirit of learning and excellence.

We pride ourselves on housing a nation, made possible by:

#### *Our Comprehensive and Holistic Policy and Programme Design*

Our planning and implementation process is thorough; from town planning and design, to management and rejuvenation of HDB towns and flats. This approach allows us to create a total living environment for residents, caring for them from 'cradle to grave'. HDB's home ownership programme is a key pillar in nation building. Through policies and programmes like the Ethnic Integration Policy, and community bonding efforts, we have contributed to social cohesion and

security. The success of our housing programme provides Singaporeans with a stake in the country, and promotes rootedness.

### *Our Integrated Large-Scale Developments*

As Singapore's public housing authority, we are able to roll out extensive large-scale developments, with economies of scale. This benefits a majority of the Singapore population. It also provides us with opportunities to integrate other organisations' services such as childcare centres and recreational facilities within our developments, to create a total living environment for our residents.

### *Strong Government Support and Financial Sustainability*

Strong Government support for the home ownership programme is seen in the allocation of 3.9% of the total Government FY 2016 budget to public housing. We are thus able to house over 80% of Singapore's resident population. This demonstrates HDB's ability to work with limited resources to achieve a high ownership rate of over 90%, a feat unrivalled in the world. We complement this with other innovative ways like tie-ups with the CPF scheme and prudent financing management. In contrast, grappling with a lack of funds for public housing is common in other countries.

As an organisation, we build resilience and take on a forward-looking perspective by continuously strengthening our capabilities and leveraging technology to improve our products and services.

## **2. Strategic Challenges**

2003 was a milestone year for HDB. We experienced major changes during the corporatisation process, with the formation of Surbana. A large part of HDB's building functions was hived off, leaving HDB with limited in-house professional experience for the last decade. At that time, the building programme was small due to weak market sentiment and low demand. HDB's focus then was on clearing the large number of unsold flats. When the economy picked up strongly in the second half of 2009, and housing demand grew, HDB had to respond quickly and decisively with a massive ramp-up of the Build-To-Order (BTO) supply. Despite limited resources, HDB successfully met the challenge of addressing the housing demand. It also gave HDB the opportunity to adopt new ideas for a new generation of housing and again build up our internal professional expertise again.

As the operating environment evolves, HDB continues to face challenges which we see as opportunities. At the national level, we are facing a fiscal and manpower crunch. We remain vulnerable to a highly volatile economic

environment, as well as social and demographic changes like our ageing population. At the organisational level, physical ageing of HDB towns estates, and land constraints pose challenges to our town planning processes and rejuvenation efforts. The evolving working environment also calls for greater integration and collaboration, and the need for us to be future-ready in all aspects, including capability-building and the use of advanced technology.

## **3. Organisational Directions**

To address the challenges faced, we have stayed focused on the following 3 organisational directions, aligned with HDB's Mission:

### **Providing Homes for Ownership**

Home ownership continues to be a key principle because it gives citizens a tangible asset in the country and enhances Singapore's overall economic, social, and political stability.

We purposefully designed a series of measures to benefit different targeted groups. For instance, the Special CPF Housing Grant (SHG) was introduced in 2011 to help low-income first-timer families. To cater for the needs of middle-income households, the SHG was extended to them by raising the income ceiling in 2013 and again in 2015. Targeted grants such as the PHG were introduced to cater for evolving lifecycle needs of Singaporeans. Income ceilings to qualify for HDB flats and HDB housing loans are also being reviewed periodically and adjusted to make public housing accessible to more Singaporeans.

### **Providing Homes to Meet Lifecycle Needs**

We ramped up the supply of BTO flats between 2011 and 2014 to meet housing demand especially from the first-timer group, and restore balance in the public housing market. Since 2015, the building programme has progressed at a more sustainable pace.

With stability restored, we continued to review our allocation policies to help more buyers, and enhance mutual care and support for extended families through MGPS, MCPS, PHG and the introduction of 3Gen flats for multi-generation families.

### **Providing a Total Living Environment**

A home is not just about the flat one lives in but also the overall living environment.

### *Rejuvenation and Upgrading*

As HDB towns age and demographic profiles of Singaporeans change, we view rejuvenation as critical to ensure long-term sustainability.

Therefore, existing estates are constantly rejuvenated to maintain their vibrancy and liveability. At the town level, the ROH programme is our signature initiative. 3 batches, benefitting 9 towns, have been launched so far, with the first in 2007. We have adopted a consultative approach, obtaining views from our residents and stakeholders in the development of the ROH plans.

At the neighbourhood level, the Neighbourhood Renewal Programme (NRP) continues to facilitate estate rejuvenation, focusing on precinct and block level improvements. Where feasible, HDB blocks or precincts are also identified for redevelopment through SERS. The residents in these blocks are given the opportunity to move to new flats with fresh 99-year leases at subsidised prices and a better living environment served by modern facilities. With the rehousing of residents en bloc, SERS enables residents to preserve the family and community ties built over the years. The injection of new developments helps to rejuvenate the old estates, as well as revitalises the demographic and economic profiles of the towns and estates, as younger residents move in.

We have also implemented upgrading initiatives like the ramp-up of the Lift Upgrading Programme (LUP), lift installation for HDB multi-storey car parks and the Lift Enhancement Programme (LEP) in partnership with TCs.

At the individual home level, we ramped up our Home Improvement Programme (HIP) in 2015 and 2016. In 2012, the Enhancement for Active Seniors (EASE) programme was introduced. We are also currently piloting Smart initiatives like the Smart Elderly Monitoring and Alert System in the homes of the elderly.

#### *Towards Better Design, Sustainability and Liveability*

New HDB developments continue to push the boundaries in terms of design, sustainability, and liveability. This is possible as we seek new partnerships and innovative ideas, as well as leverage technological advancements to keep HDB moving forward.

Taking a long-term and pragmatic approach towards achieving greater sustainability, the Sustainable Development Framework was first applied to guide the development of Punggol Eco-Town. Punggol, as a 'living laboratory', trailblazed several Smart and sustainable initiatives like the use of solar energy, rainwater harvesting, energy-efficient lighting, enhanced greenery and smart planning.

The framework is also a model that is scalable for all HDB towns. We are adopting it in the master planning and urban design of Bidadari and future new towns. New generation towns/districts like Punggol Northshore, Bidadari, and Tengah will have their own distinctive designs, abundant green spaces, and seamlessly connected cycling and pedestrian networks. Tengah will see several firsts in its development. It will be the first 'Forest Town' that is planned to be integrated with the area's surrounding greenery and biodiversity. For the first time, Singapore will also see a car-free town centre in an HDB town.

For existing estates, smart and sustainable initiatives are being test-bedded in Yuhua and Teck Ghee through the HDB Greenprint Programme.

Because of the scale of our work, we are able to extend our impact and influence locally and internationally. For instance, as the largest stakeholder in the installation of solar PV systems in Singapore, HDB plays a key role in the national plan to have solar power contribute 350 MWp to Singapore's energy system by 2020. HDB was the first government organisation to win the Singapore Energy Award<sup>2</sup> 2015 under the Organisation Category, and we were the Singapore national winner of the Energy Globe Award 2016.

We were honoured to be the **first organisation in the world to receive a Special Recognition Award** in November 2016, for the contributions in providing well-designed, good quality homes in highrise environments. This exclusive award, stemming from the prestigious **International Highrise Award**<sup>3</sup>, was conferred by an international panel of judges comprising industry experts in Frankfurt.

#### *New Focal Point for the Community, by the Community*

Providing a total living environment also means giving residents a complete live-work-play-learn environment, coupled with better connectivity and convenience to amenities. Over the past few years, HDB has taken the lead in place-making with integrated developments like Kampung Admiralty in Woodlands, and co-creating new generation neighbourhood centres and town plazas in Bedok and Punggol. These developments provide shared community spaces and convenient access to a wide array of commercial facilities and services.

<sup>2</sup> The Singapore Energy Award, organised by the Energy Market Authority, is a prestigious, biennial award that recognises organisations and individuals that have made outstanding contributions to Singapore's energy sector and society.

<sup>3</sup> International Highrise Award is conferred by the City of Frankfurt, the Deutsches Architekturmuseum (German Architecture Museum), and the DekaBank.

# The Journey Ahead

Our comprehensive approach in building towns and not just homes, brings about a positive and wonderful living experience for generations of residents. We pride ourselves as an outstanding organisation, encouraged by the numerous national and global awards that we have received.

Dynamic changes in the operating environment will surely pose new challenges for HDB.

Nevertheless, we see these as opportunities to further develop and experiment with innovative plans and design ideas, building on more than 50 years of public housing experience and having the commitment and resilience to stay true to our Mission. Together with our customers and stakeholders, we can open up new frontiers in the public housing landscape in the years ahead.

## HDB Organisation Chart



# Group Director (Internal Audit) reports directly to the Audit Committee and administratively to Assistant Chief Executive Officer (Corporate). Information is accurate as at 1 January 2018.

# 1 Leadership

## 1.1 Senior Leadership

### Our Senior Management (SM) and Leadership Philosophy

HDB's Senior Management (SM) is a 19-member team, comprising CEO, Deputy CEO (Building) (DCEO(B)), Deputy CEO (Estate) (DCEO(E)), Assistant CEO (Corporate) (ACEO(C)) and 15 Group Directors (GDs).

SM espouses the following 3 philosophies which are encapsulated in HDB's Leadership Framework (see Figure 1.0):

#### Being Forward-Looking

Our SM's long-term vision spurs it to constantly challenge itself to be ahead of the curve as a developer and builder of more than a million homes. SM strives to keep abreast of not only current but future needs of the population, pushing boundaries and spurring innovation so that HDB can be future-ready. To strengthen organisational capabilities in anticipating future issues, SM set up a Strategic Futures Office in 2011.

Under SM's leadership, the Roadmap to Better Living in HDB Towns was drawn up in 2011 to guide the formulation of master plans for new towns (see Chapter 1.1c). Guided by this roadmap, new-generation public housing projects in places like Punggol have progressively transformed our townscape through new design ideas, sustainability initiatives and state-of-the-art technology. HDB also embarked on a journey in 2014 to create Smart and sustainable towns under the Smart HDB Town Framework, and has test-bedded our Smart Urban solutions in living laboratories like Yuhua and Punggol.

To make the framework more comprehensive, we worked with Smart City consultants to develop a Smart Urban Habitat Master Plan. This maps out a strategic approach for the deployment of new Smart initiatives in HDB towns.

#### Establishing Quality Relationships

As a people developer, SM believes that quality relationships bring about quality results and greater trust. Therefore, they invest time and resources to engage staff and external stakeholders. As HDB is a large organisation of about 5,580 staff, our SM actively engages staff to bring everyone onboard HDB's Mission (see Chapter 1.1a). At the same time, SM places high priority on engaging external stakeholders to achieve greater alignment in the things that we do. SM is able to impact and influence decisions as they helm a variety of

committees like inter-agency committees for master plans, design and Research & Development (R&D) forums with design consultants, forums with contractors and opinion leaders in the industry.

#### Being Collaborative

Our SM sees collaboration as key to HDB's success. Our work and processes are interdependent, within HDB and with external stakeholders in the public housing ecosystem. The spirit of collaboration is reinforced in our processes and initiatives, as we actively seek collaborative opportunities through alliances and cross-functional projects (see Chapter 1.1b and 1.1c).

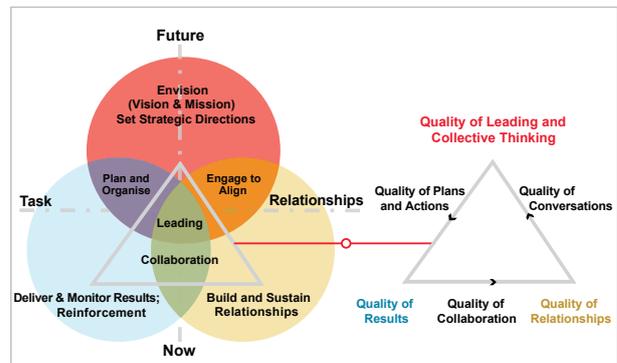


Figure 1.0. HDB's Leadership Framework

### 1.1a How Senior Management develops the organisation's Mission, Vision and values, and communicates them to key stakeholders

#### Steering the Review as part of a Holistic Corporate Planning Process

Our SM develops the Vision, Mission and Shared Values, considering the challenges, as well as current and future needs.

SM, particularly CEO, is involved in many inter-ministry/agency committees and discussions, and is therefore apprised of the Government's strategic directions for Singapore. Making Learning an organisational imperative, our SM keeps abreast of global and regional developments through courses and conferences, and of best practices of other cities through study visits.

SM steers our annual corporate planning process, formulates HDB's 5-year medium-term plan and guides HDB in refining and pursuing our Mission and aspirations. In doing so, SM takes into account national directions, risks, threats and opportunities identified through regular environmental scanning and monitoring of our enterprise risks.

The review of HDB's Vision, Mission and Shared Values is conducted regularly as part of our corporate planning process. In the last review conducted in 2013, HDB's existing Vision and Mission were ascertained to remain relevant, while the Shared Values were refined to help build a stronger culture that embraces change and agility.

### Actively Engaging Staff in the Review Process

As SM firmly believes in building a shared narrative with staff, they engaged staff from the start of the review process. A Cultural Values Assessment was launched in 2013 by CEO, through a personalised message to all HDB staff, inviting them to share their personal values and views on the current and desired organisational culture.

SM engaged middle managers through a series of 'Unpack & Repack' workshops to discuss the Shared Values and behaviours that would support the achievement of HDB's goals. At the Senior Management Retreat (SMR) 2013, the Shared Values of Integrity, Learning, Teamwork, Excellence and Care were endorsed (the former Shared Values were Care, Learning, Innovation, Quality, Teamwork). Integrity was incorporated to align with the Public Service's values and to emphasise the importance of staff performing duties with honesty, fairness and courage to uphold the public's trust. Learning incorporated the element of Innovation, as it leads to continuous improvement. Excellence replaced Quality as it is more encompassing of the passion and aspirations that HDB sets itself to achieve.

Guided by HDB's Vision, Mission and revised Shared Values, a new 5-year medium-term plan (HDB 2020 Plan) was drawn up in 2014 outlining the goals to be achieved by 2020, and the broad strategies to do so.

### Communicating HDB's Vision, Mission and Shared Values

#### *Reaching Out to All Staff*

SM leverages various channels to ensure that key corporate messages reach all of the 5,580 staff in HDB.

SM launched the revised Shared Values and the HDB 2020 Plan at the HDB Annual Conference in 2014 and 2015 respectively. With a catchy slogan (**I Like To Embrace Change**) where the first letter of each word represents each Shared Value, staff are better able to remember the Shared Values. CEO, through her regular 'From CEO's Desk' messages, also shares her thoughts and the latest happenings in HDB including the revised Shared Values.

HDB's Vision, Mission and revised Shared Values are then translated into individual Groups' context. GDs would speak at Group conferences and pen messages to their staff. These messages serve

to motivate staff, give meaning to their work and inspire them to continue to work together to achieve the goals.

SM sees middle managers as critical change agents in HDB's transformation journey. Hence, all middle managers participated in a 2-day Values-Driven Change Management Programme (2016-2017) to enable them to recognise and take ownership of their roles in driving change. It gave them an opportunity to reflect and discuss how the Shared Values could be better exemplified in the workplace and how middle managers could be role models. A highlight of this programme was the fireside chat with a member of the SM who shared his/her personal experiences in engaging staff and building a culture anchored on the Shared Values.

#### *Sharing with External Stakeholders*

Besides aligning all staff to a common Vision and our Shared Values, SM views it equally important to share the HDB story with external parties. This not only builds up the HDB Brand but also helps stakeholders appreciate the intention behind HDB's work and our staff's contribution to nation-building.

Leading by example, SM personally communicates HDB's Vision, Mission and Shared Values to external stakeholders at dialogues with contractors/consultants, during visits by foreign delegates, and through their speeches at conferences like the World Cities Summit.

### **1.1b How Senior Management engages key stakeholders to drive the organisation's performance**

SM engages both internal and external stakeholders to seek greater alignment and obtain support for HDB's programmes and initiatives. This is done through the following key ways:

#### **Sharing and Discussing HDB's Plans**

##### *MND, Our Parent Ministry*

MND, being our parent Ministry, is often one of the first stakeholders we engage. We take guidance from Minister(ND) and MND as well as discuss strategic matters like policy formulation and implementation. We share our yearly corporate plan with MND, during which there is cross-pollination of ideas and views which are taken into account when we further refine our plans. Budget and expenditure for important projects and programmes are also deliberated on at the strategic level.

##### *HDB Board*

The Board has oversight of HDB's operations and ensures good governance practices (see Chapter 1.3a). Strategic focus areas like the HDB Digital Master Plan and Enterprise Risk Management (ERM) updates are shared

with the Board. Their views are gathered and considered in the follow-up plans. For example, our Board Members gave value-added perspectives in the framing of the digital transformation narrative to help staff appreciate how the digital initiatives are manageable and would benefit them in their work.

### **Staff Union**

We also bring our Staff Union on board as almost 65% of our staff are Union members. SM enjoys very good labour-management relations with the Union due to collaborative engagement efforts over the years. The relationship is further strengthened through the yearly Management Union Workshop, where the Union is engaged on strategic issues that impact HDB like the HDB 2020 Plan, Service Master Plan, and plans to build a future-ready HDB. As a result, the Union has been highly supportive in encouraging their members to upskill, and contribute positively.

### **Staff**

Strategic issues and directions are deliberated on during management meetings and SMRs. The plans are shared and discussed at various corporate and Group-level platforms. For example, CEO personally shares the strategic directions and plans for HDB at every Annual Conference which is also broadcast via webcast for wider reach. DCEOs/ACEO(C) and GDs disseminate the information to their Groups at platforms like the Work Plans Exposition, Group Planning Exercise and staff huddles. Innovative methods such as TedxTalks and skits, are used to better deliver the messages to help staff link their work to larger organisational goals and derive greater meaning from it.

### **External Stakeholders**

HDB's role as a developer and builder of homes requires us to work very closely with many external stakeholders like our business and industry partners including the building consultants and contractors.

Besides the regular project meetings and dialogues, SM shares our workplans and directions with stakeholders at 2 major platforms each year. First is the HDB Community Week which is held in the middle of the year. SM will launch or share our latest efforts to create community-centric towns and encourage residents to go beyond being a friendly neighbour to taking ownership of their community. Second is the HDB Professional Week organised in the later half of the year. This event recognises the good work of our consultants and contractors through the HDB Awards, and is followed by the HDB Professional Engagement and Knowledge Sharing (PEAK) Forum which encourages mutual exchange on planning, design and technology. We also collaborate with many partners like Imperial College London, and Institutes of Higher Learning (IHLs) by signing Memorandums of Understanding and research collaboration agreements with them.

Other engagements include visits to work sites by DCEO(B) and GDs of the Building Groups to understand ground issues like construction progress and safety. Similarly, DCEO(E) and GDs of the Estate Groups chair regular dialogues with stakeholders like leaders of Grassroots Organisations and industry associations to share HDB's plans and policies and solicit feedback.

### **Actively Leading and Spearheading Projects**

Our CEO chairs various inter-agency steering committees to oversee the implementation of the new master plans in Punggol, Bidadari, Tampines North and Tengah; Remaking Our Heartland efforts in 9 towns, and the Smart Urban Habitat domain to drive innovation and implementation of sustainable and smart initiatives.

CEO, DCEO(B) and GDs of the Building Groups also lead various review forums like HDB's monthly Design Forum, and R&D reviews with internal and external partners, as leveraging the collective wisdom of multiple parties involved in the design process yields better results.

#### **1.1c How Senior Management acts as role models and grooms future leaders**

Through their people-centric and future-oriented leadership, SM creates the conditions for the organisation to succeed in its roles as People Developer and Innovator.

#### **Senior Management being People-Centric**

SM exemplifies quality relationships and collaboration by keeping in touch with their colleagues and the ground, as well as leading groups of people to work towards common goals.

#### **Showing Care and Appreciation to Staff**

SM's visits to the various Branches and Departments and conversations with staff during dedicated chat sessions or appreciation events, illustrate their desire to understand staff and care for their well-being.

During periods of tremendous change and heavy workload, SM shows their care in innovative ways. For instance, during the period of the ramp-up of the building programme, staff were surprised with a 'Keep Cool' ice-cream treat in 2011. It was a gesture of encouragement from SM, and reassured staff that SM was fully aware of and would support them in managing the increasing workload. Small wins were celebrated with appreciation meals, and HDB's win of the Work-Life Excellence Award 2012 and Singapore HEALTH Award 2017 were creatively announced to staff with the distribution of Yakult drinks to everyone.

GDs and Directors also showed care, where they volunteered to serve snacks/drinks to staff during their Group events.

SM believes in building strong bonds within itself. SM initiated 'Happy Meal' in 2016 where they get together regularly to catch up with one another over lunch.

Care and appreciation extend to others who work hard to keep the organisation running smoothly in other ways. This includes the cleaners working in HDB, who on Cleaners' Day, were treated to a buffet lunch, hosted by then DCEO (Estate & Corporate) (DCEO(EC)) and GD (Corporate Development).

#### *Inspiring Future Leaders as Mentors and Coaches*

SM are role models for our future HDB leaders. They are mentors to newly-appointed Directors and Deputy Directors. These new appointment holders go through a week-long HDB Milestone Programme 'HDB Growing Inspiring and Future Thinking Leaders (G.I.F.TS)' to increase their knowledge of HDB's functions and policies, and be equipped with skills to be people developers. In this programme, SM serves as resource persons, sharing knowledge and providing guidance.

SM also regularly spends time with middle managers and young officers with potential in more intimate settings like small-group tea sessions, hearing directly from them and exchanging views.

During the regular Group management meetings, GDs also make it a point to share good supervisory and leadership practices with their middle managers, e.g. how they could help their staff embrace change.

#### *Leading by Example*

SM leads various parties in HDB's value chain to work towards common goals. An example is the development of the HDB Digital Master Plan spearheaded by CEO at the Steering Committee level and helmed by DCEOs and ACEO(C) at the Working Committee level. Whilst IT systems development used to be taken up by individual Groups to serve their key business needs, SM now oversees the whole digital roadmap that straddles our entire business process value chain. Multi-disciplinary teams with members from all Groups are brought together in an integrated network for better synergy of business operations.

#### **Senior Management being Future-Oriented**

Amid constant change in the environment, our SM leads HDB to be forward-thinking.

#### *Continuous Learning*

SM continues to build a collaborative and learning culture through Management Learning Circles in addition to the regular discussions during management meetings and the courses/conferences/study visits that they attend.

For example, realising the increasing importance of data analytics, SM went back to the classroom together to learn the concepts, trends and applications of Business Analytics which are pivotal to Singapore's Smart Nation initiatives and HDB's digital transformation journey. They then charted the directions and guide HDB towards more proactive planning and decision-making.

#### *Pushing Boundaries and Driving Innovation*

CEO's visionary leadership continues to focus on ensuring the achievement of larger, national goals of urban planning and development. She is a strong influencer and driving force in transforming Singapore into one of the most liveable and beautiful cities in Asia.

In line with this vision, SM leads HDB to adopt many new approaches in different spheres of our work like planning and design as well as the social aspect. Technologies are also planned ahead to support the fruition of these plans, supported by a strong R&D arm that SM has built over the years.

**Planning and Design** – A key example was the launch of the Roadmap to Better Living in HDB Towns. As a keen driver of sustainability initiatives, CEO is instrumental in enhancing the living environment, and her hands-on approach in the formulation of master plans for new towns ensures that innovative ideas and solutions are integrated in a town's development right from the start.

As Singapore moves towards becoming a Smart Nation, SM spearheads the development of Smart HDB towns, guided by the belief that the use of new technologies can create a more sustainable and liveable environment. CEO chairs the inter agency Smart Urban Habitat Steering Committee involving 18 agencies like LTA, GovTech and SPRING to drive the digital master plan for Punggol and Tengah. Smart solutions have been piloted in existing and upcoming housing estates like Yuhua and Punggol Northshore.

**Social** – Recognising the community elements in urbanised settings, we formulated the HDB 2015 and 2020 Plan with emphasis on place-making and integrated developments.

For the integrated development Kampung Admiralty, our then DCEO(EC) led the inter-agency project team in developing the project Vision. This project is the first-of-its-kind in Singapore, marking an exciting start to realising a one-stop hub that encourages social interaction and active living through a host of features and facilities under one roof. During the planning stage, then DCEO(EC) constantly challenged the team to try new ideas and push boundaries. This led to several new and user-centric features that we see in the development today. For example, Singapore's first underground bicycle parking

system was the result of HDB's work with LTA on Kampung Admiralty.

### Senior Management's Inspiring Achievements (Evaluation of Leadership Effectiveness)

As illustrated in Figure 1.1.1, the evaluation of leadership effectiveness is guided by HDB's leadership philosophy. The achievement of organisational outcomes, external as well as internal feedback and validation, are testament to HDB SM's leadership effectiveness. Equally important is SM's self-reflection after each appraisal and 360-degree feedback cycle, so that they walk the talk in embracing the spirit of continuous learning and self-improvement.

Our Strategic KPIs and the many accolades that HDB has garnered show that HDB is achieving the desired outcomes and is well-regarded in the national and international arena. Our staff have affirmed our SM's leadership as seen in the increase in the Employee Engagement Survey scores. The 360-degree feedback results also reflected staff's confidence in our leaders to drive organisational performance.

At the individual level, SM continues to exert their sphere of influence. For her extraordinary contributions in transforming Singapore and its public housing landscape, CEO was conferred the prestigious Lynn S. Beedle Lifetime Achievement Award<sup>4</sup> in 2016 and the Urban Land Institute J.C. Nichols Prize for Visionaries in Urban Development. She was the first government official to have received these 2 awards. Our SM is also recognised as leaders in the industry. For example, our Senior Advisor is an expert member in the Tianjin Eco city development. Several of our SM members are sought-after speakers at renowned platforms like the World Cities Summit, and local media platforms like Channel NewsAsia, to share their experiences in urban planning, sustainable development, R&D and policy formulation.

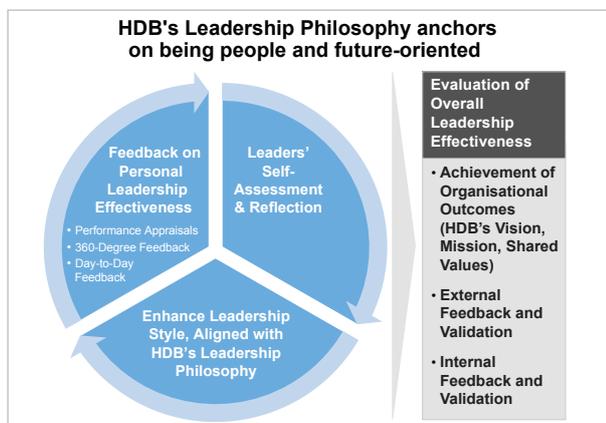


Figure 1.1.1. Evaluation of Leadership Effectiveness

## 1.2 Organisational Culture

### 1.2a How the organisation develops a culture that supports the organisation's Mission, Vision and values to drive growth

SM believes in developing a strong organisational culture in HDB - a culture that embraces change and agility which in turn allows the organisation to adapt well to evolving circumstances. Anchored on our Shared Values, our staff are well-positioned to deliver responsive and integrated services to the community. Combined with our passion, innovation and courage, we create a trusted and caring HDB Brand together.

We have taken a 2-pronged approach in developing our desired culture.

#### Creating Awareness of the Desired Culture

We communicate the desired culture throughout the work lifecycle of our staff, and emphasise the roles that they play. From the time they join HDB, the new recruits are inducted into our core business and Shared Values during our Orientation Programme. We convey the intended messaging to existing staff via several boardwide and Group-level engagement platforms.

One example of an engagement initiative targeted at middle managers was the Culture & Change Forum in February 2016 where CEO shared her stories and encouraged middle managers to be the drivers of change. CEO of Singtel was invited as a speaker to further drive home the message that change was necessary in order to remain relevant.

#### Learning by Doing and Experiencing

Besides the day-to-day work and interactions, we reinforce the culture and Shared Values by curating our programmes to focus more on experiential learning. This is to deepen understanding of the desired culture and one another's perspectives.

For example, we designed the programme for Phase 2 of our HDB Ambassador Workshops in 2015 to help all staff internalise the revised Shared Values. Activities like role-play, and understanding our colleagues' language of appreciation helped us see how the Shared Values could be demonstrated in the workplace. The programme was first piloted at the Management Learning Circle for alignment at the SM level, before its actual roll-out to other staff.

The Values-Driven Change Management Programme allows for more in-depth discussions of the Shared Values among the middle managers, which also enabled them to grow together as a community, striving to be better leaders. They in turn are role models and mentors to staff, for instance by initiating team huddles

<sup>4</sup> Conferred by the Council on Tall Buildings and Urban Habitat.

for bonding and sharing of experiences/issues and sponsoring projects on analytics. All these are further reinforced in other Group/Department-level initiatives.

Our 3-year HDB Experience Programme, which commenced in November 2017, aims to apply the Shared Values in the service delivery context and align all staff with HDB's service ethos. Through this, staff will know how to deliver the desired service experience in a collaborative manner to both external and internal customers (i.e. colleagues).

### **1.2b How the organisation translates values into desired employee behaviours to enable innovation, learning and achieve organisation's goals**

We believe it is fundamental to align all staff through a common language. Knowing that there could be varying interpretations of the Shared Values, we have aligned staff to a common set of behavioural descriptors for each Shared Value.

In the annual appraisal, staff are appraised on how well they have displayed each Shared Value for developmental purposes.

#### **Enabling Learning**

In HDB, Learning is about practising life-long learning, sharing knowledge, and always seeking ways to do our work better.

To be a forward-looking and learning organisation, technology and capability building are key enablers. More emphasis is placed on team-based learning.

**Capability Building** - HDB has taken a long-term approach to identify the capabilities that we need to be future-ready, as seen in our Capability Building Roadmap developed in 2015. One of the focus areas is rebuilding technical capabilities, specifically the Infrastructure & Environment (I & E) and Information and Communications Technology & Smart Systems (ICT & SS) engineering capabilities. This supports HDB's roles as a developer and builder of Smart homes, towns and communities. It also guides us in scoping our R&D projects and collaboration opportunities. Besides formulating a technical capability roadmap, we actively learn from best practices through study visits and conferences.

**Team-Based Learning** - We offer a suite of training programmes, and leverage different networks and team-based learning methods to encourage staff to learn and share. Cross-group sharing and Communities of Practice have become the new normal. For example, our staff seminars are popular with those keen to find out more about other Groups' work. As business and data analytics become increasingly valuable in decision-making, HDB has held annual Business

Analytics (BA) seminars since 2015 to update staff on the latest trends, developments and applications.

#### **Enabling Innovation**

Learning leads to innovation. We enable innovation through a holistic approach as summarised in **HDB's Innovation Excellence Framework, anchored on 3 pillars** (see Chapter 5.1a).

**People** - A community of activists, comprising SM, middle managers, and Innovation Champions, to drive and inspire collaboration and innovation in HDB.

**Programmes** - Diverse programmes to motivate, enable and sustain innovation, like our seed funding programme, i1:2i (I Want To Innovate), that encourages ground-level experimentation.

**Process** - We institutionalise regular process reviews, transformation projects, master plans and roadmaps on areas such as digitalisation, Smart efforts, and R&D to drive innovation and productivity. We also partner external stakeholders in some of these reviews.

At the team level, we have taken a bold step towards a less prescriptive approach for innovation and collaboration. We broadened the teaming concept beyond Innovation and Quality Circles/Work Improvement Teams (IQCs/WITS) to Organisational Excellence (OE) teams. This gives staff greater flexibility to form meaningful teams to work on ideas and projects.

### **1.2c How the organisation embraces organisational change for sustainability**

For sustainability, we strive to remain relevant and forward-looking in our planning and execution. This is achieved by:

#### **Executing a Robust Corporate Plan**

With a systematic and structured planning process, we ensure that HDB's strategic plans are developed in concert with national and organisational directions, insights from internal progress stocktakes, environmental scans, and risk management outcomes (see Chapter 3.1).

#### **Putting in Place Supporting Processes and Robust Organisational Structure to Support Change**

Our Vision and Mission guide the development of 5-year medium-term plans (the latest being HDB 2020 Plan), which comprise several master plans roadmaps and initiatives, each covering specific focus areas. There are 4 working committees, chaired by GDs, to ensure that the initiatives are implemented, and key performance/outcome indicators are met.

For example, the Sustainable Development Framework (see Figure D in Organisational Profile) is one of the initiatives that contributes to HDB's Mission of developing sustainable and liveable towns which will also support the goals set out in the Sustainable Singapore Blueprint. In this framework, 10 key desired sustainability outcomes and their strategies have been clearly set out.

Reviews of our organisation structure are carried out. For example, the Building & Research Institute (BRI) was set up in 2009 to spearhead R&D efforts as R&D was seen as a key pillar to build a forward-looking HDB. To drive greater excellence and synergy in research efforts and design work, BRI optimised its structure in 2016 and it included the setting up of specialised Centres of Excellence, each focusing on different areas like urban design and environmental sustainability.

Other specialised functions set up in HDB in the last few years include the Community Relations Group (2009) to spearhead and centrally coordinate HDB's community relations programmes.

### Getting the People Ready for Change

**Staff** - We continue to build staff's capabilities so that they are able to handle the work of the future. In particular, public and stakeholder engagement being a key element in most HDB projects, is one of the organisational capabilities to develop. For example, as part of our efforts to build sustainable towns, we have engaged many stakeholders ranging from agencies like NParks and URA, to industry partners including IHLs like NUS on research studies to co-develop solutions. In the process, our staff have gained much professional and technical exposure during the exchanges with the stakeholders. At the same time, their skills in engaging and sharing HDB's work with stakeholders are honed.

Such public engagement skills are equally useful when staff engage members of the public in programmes like Remaking Our Heartland.

We also continue to support staff in their work by ensuring that resources are deployed optimally via Strategic Workforce Planning.

**Customers** - We ensure that our customers are ready for change, especially in managing new technologies. For example, when we piloted the HDB Greenprint Programme in Yuhua (Jurong East), we consulted the residents on the locations of the Dual Bicycle racks. We also educated them on the use of features like the Pneumatic Waste Conveyance System (PWCS). Following the pilot, we are extending the programme to Teck Ghee (Ang Mo Kio) so that more residents can benefit from the initiatives.

As we move towards adopting more technology, we see the need to help customers who are not as

IT-savvy. Thus, we train our staff and deploy them to be Service Ambassadors to help these customers navigate and use the digital channels when transacting with us.

## 1.3 Corporate governance and social responsibility

### 1.3a How the organisation establishes a corporate governance system to ensure accountability and transparency

Good corporate governance ensures that HDB is able to deliver the promises of its Vision and Mission with proper accountability to the Government and the public. As one of the goals in the cross-cutting thrust of Organisation in the HDB 2020 Plan, having good corporate governance is central to HDB's success. Figure 1.3.1 shows the key features of corporate governance in HDB.



Figure 1.3.1. Key features of Corporate Governance in HDB

### The Role of the HDB Board

The HDB Board with its depth and breadth of expertise, guides HDB towards achieving its Mission. Besides having oversight of HDB's strategic plans, the HDB Board taps on the expertise of various Board Committees to provide advice on key aspects of HDB's operations. While the proceedings related to the HDB Board are governed by the Housing and Development Act, **HDB was the first among the MND Statutory Boards to take the additional step of adopting a Code of Conduct for the HDB Board** in 2013. This mirrors the HDB Code of Conduct for staff, and sends a clear signal on the importance of proper governance.

### Control Environment

Our internal control system ensures that assets are safeguarded; proper and reliable accounting records are maintained; financial resources are allocated in a disciplined manner; and statutory/regulatory requirements are complied

with. The control framework includes clearly-defined authority, delegation limits, terms of reference for management of core policy areas, comprehensive policies/procedures relating to operations and financial controls, as well as an annual budgeting and monthly financial reporting structure. Regular reviews are conducted and tabled at platforms like management and financial management meetings.

Audit findings by external auditors and Auditor-General's Office, if any, are reported to the Audit & Risk Committee, the Board, and MND. Learning points from the audit are shared regularly at the HDB Management Meeting chaired by CEO. Findings are also percolated to all HDB Groups to reinforce the importance of internal controls. In addition, HDB's Fraud & Wrongful Practices Reporting Channel undergirds our commitment to a culture of integrity and transparency within the organisation.

### **Enterprise Risk Management (ERM)**

To ensure that HDB is well-positioned to face the challenges ahead, our ERM Framework (see Chapter 3.1a, 3.2b) implemented in 2009 monitors the strategic risks that would impact HDB's Mission. These risks and mitigating measures are monitored via the ERM Dashboard, reviewed at the bi-annual ERM Steering Committee Meeting, and as part of HDB's corporate planning cycle.

#### ***1.3b How the organisation implements policies and involves stakeholders to contribute to the community and the environment***

At the Corporate level, our Corporate Social Responsibility (CSR) & Work-life Committee coordinates and synergises different CSR and work-life initiatives (see Chapter 4.3b). The HDB SHARE Committee has been promoting awareness of the SHARE Programme, and organising fundraising activities. In recognition of our unwavering support to Community Chest, HDB was presented with the SHARE Pinnacle in Award 2010, the highest honour conferred by

Community Chest. We have also been receiving the SHARE Platinum Award for over 20 years, for having a staff participation rate of more than 70% in the SHARE Programme.

At the Community level, we have active outreach programmes like the Good Neighbours Project Award. We have stepped up efforts to widen our influence and tap on more social networks. Schools, volunteers, the elderly, agencies like the Pioneer Generation Office and Social Services Office, are some of the groups that we have engaged in recent years. To date, as part of our 'Friends of Our Heartlands' network, we have over 131,000 volunteers who participate in various HDB programmes like the Heartland Ambassador Programme and Project SPHERE.

### **Contribution to the Environment**

An aspect of the HDB Sustainable Development Framework focuses on environmentally sustainable living. We work with our business partners and IHLs to conduct research and development. The SolarNova Programme and implementation of district-level PWCS in new towns and estates are examples of results of these efforts. We have also implemented eco-initiatives and eco-features for all new public housing developments launched from 2014. To drive messages on sustainability in the community, we leverage programmes like the Heartland Ambassador Programme and events like the Annual HDB Community Week.

As an organisation, we take part in environmental initiatives driven by Club HDB and the HDB Eco-Office Committee. Where there are opportunities, we synergise some of the activities so that the cause is more meaningful and outreach is extended. For example, the HDB Litter Picking activity in 2014 was held in conjunction with HDB Active Day. Recycling drives, like the Chinese New Year red packets recycling exercise in 2015, are also organised periodically. Increasingly, we have reduced the need for hardcopy materials. For example, flat applicants can now view the details of their transactions via MyHDBPage.

## 2 Customers

HDB provides **affordable and quality** public housing to more than 80% of Singapore's resident population. With the Home Ownership for the People Scheme introduced in 1964, Singapore citizens are given a tangible asset and a stake in the country. About 959,600<sup>5</sup> (94%) HDB flats are home ownership flats. For lower-income households, the Public Rental Scheme provides an alternative housing option.

### 2.1 Customer Requirements

#### 2.1a Describe how the organisation segments markets and customers and understands their current and future requirements

The public housing market provides flat buyers with a choice to buy flats directly from HDB or from the resale market. HDB builds new flats and sells these flats to first-timer families/singles and second-timer families on fresh 99-year leases at subsidised prices. HDB also offers 2-room Flexi flats on short leases to the elderly. The resale market, on the other hand, caters for more diverse buyers, including those who are not eligible for new flats. It offers flats with a variety of locations and types which are ready for occupation. We manage housing demand and calibrate supply to ensure a stable and sustainable public housing market. People who are not ready or not eligible to buy a new or resale flat may rent a flat from HDB (applicable to low-income households) or from the open market.

Recognising that households at different stages of their lifecycle have different requirements and aspirations (as shown in Table 2.1.1), we have targeted policies and programmes to meet the needs of our various customer segments.

We accord priority to first-timer families who have more urgent housing needs. We have schemes to enhance their chances of getting a new flat, and various housing grants to help them better afford a new or resale flat. While awaiting the completion of new flats, they can apply for rental flats at affordable rates under the Parenthood Provisional Housing Scheme. To facilitate mutual care and support, we have schemes and the Proximity Housing Grant to help children and parents live together or near each other. While promoting home ownership, we advocate financial prudence among buyers to avoid overstretching themselves. First-time buyers of new flats in non-mature estates typically use less than 25% of their household income to service their housing loan. This is below the 30% to 35% international benchmark for affordable housing.

	Segments	Key Requirements
By Status	 <b>HDB Flat Buyers</b>	A quality flat for every budget and need
	 <b>HDB Residents (Flat Owners/Tenants)</b>	Total living environment Liveability Engaged community
By Lifecycle Needs	 <b>First-Timer Families<sup>6</sup></b>	Affordable and quality first home
	 <b>Second-Timers<sup>7</sup>/ Families with Children</b>	Mutual care and support Meet changing family circumstances
	 <b>The Elderly</b>	Ageing-in-place Mutual care and support Unlocking home equity (when needed)
	 <b>Singles</b>	Personal space/ Independent living
	 <b>Vulnerable Groups<sup>8</sup></b>	Stable homes Assistance to service housing loan/rental payment

Table 2.1.1. Residential Customer Segments

Nevertheless, circumstances may change over time. Life events like changes in marital status, death of a breadwinner or loss of employment may affect a buyer's housing requirements or the family's ability to service their housing loan. For home owners who fall into financial difficulties, trained Housing Counsellors in our Branches provide financial counselling and help to work out sustainable solutions to resolve their arrears. Other vulnerable groups like low-income households or elderly with no family support who cannot afford home ownership flats have access to subsidised rental flats while we work with agencies like Social Services Office and Family Service Centres to assist them holistically.

We also adopt a customer-centric approach when we design policies, products and programmes. Recognising that our customers' requirements evolve over time, we gather insights to anticipate future needs, conduct reviews and expand the housing options and typologies to better meet our customers' lifecycle needs and housing aspirations (see Table 2.1.2).

Beyond meeting housing needs, commercial services and other facilities and amenities

<sup>5</sup> Figures obtained from HDB Annual Report FY 2016.

<sup>6</sup> Families who have not received any housing subsidy from HDB.

<sup>7</sup> Families who have previously received 1 housing subsidy from HDB.

<sup>8</sup> Includes lower-income families, divorcees with child(ren), flat owners in housing loan arrears and rental tenants. Where possible, assistance is offered to customers to tide through difficult events such as unemployment, divorce and death.

such as transport nodes in HDB towns are planned comprehensively from the outset, so that residents can find what they need within the town. Shopkeepers are our key partners in bringing business vibrancy and convenience to our residents (see Chapter 5.3b). To build active and cohesive communities, we provide common facilities like parks, 3-generation fitness and play facilities and community plazas for residents to mingle and bond. Across generations, a highly liveable environment will continue to drive customer satisfaction. The Remaking Our Heartland (ROH) programme, implemented since 2007, addresses the changing needs of the community in mature, middle-aged and young towns/estates. To rejuvenate older estates, there are also estate renewal strategies, such as LUP, HIP, NRP and SERS<sup>9</sup>, ensuring liveability and vibrancy within these towns.

To bring this to a higher level, HDB is committed to further develop Smart and sustainable public housing estates. In existing towns, the HDB Greenprint was completed in Yuhua in late 2015 and is progressing well in Teck Ghee. Singapore's first eco-town, Punggol, has an award-winning waterway that has brought about a new and unique housing experience of green living by the

waters in the heartlands. The latest town, Tengah, is envisioned to be a forest town, fully integrated with the surrounding ecosystems and exemplifying the future ways of HDB living.

We use **multiple strategies to gather and understand current and future customer requirements** at both macro and micro levels, as shown in Table 2.1.2.

At the **macro level**, insights gathered via research and surveys on the socio-economic profiles of our residents help us to anticipate and identify their changing lifestyle needs. We also hold public exhibitions on ROH plans and new development areas like Bidadari and Tengah to engage current and future residents and obtain feedback/suggestions.

At the **micro level**, findings from surveys and feedback channels enable us to better understand our residents' concerns pertaining to their flats and living environment, thus allowing us to make continual improvements for them, and for our future developments. In addition, the use of Design Thinking (DT) and focus group discussions allow us to interact with our customers directly and understand their needs and experiences.

	Desired Outcomes	Approach
Macro Level	<ul style="list-style-type: none"> <li>Identify current trends and behaviors to determine customers' requirements at the national and town/estate levels</li> <li>Understand customers' perception/ satisfaction to improve communication and services</li> <li>Predict future customers' requirements taking into account public feedback and socio-economic trends</li> </ul>	Scenario Planning
		Environment Scan & Social Media Analysis
		Surveys
		Research Studies & Data Analytics
		Focus Group Discussions (FGDs)
		Public Exhibitions (with feedback gathering)
Micro Level	<ul style="list-style-type: none"> <li>Determine customers' satisfaction at the individual/ household level</li> <li>Gather views, feedback and ideas while immersing customers in the process</li> </ul>	Surveys
		Ground Sensing
		FGDs

Table 2.1.2. Multiple strategies adopted to gather and understand current and future customer requirements

<sup>9</sup> Refer to Abbreviations.

Citizens are thus engaged and involved in the solutioning process to address their concerns.

**2.1b Describe how the organisation incorporates market and customer requirements into the strategic plans**

Insights into customers’ current and future requirements are incorporated into our plans at the strategic and tactical levels (see Figure 2.1.1).

Public housing policies are designed to meet both our customer requirements and our national objectives, such as family formation, financial prudence, social mobility and social integration. When we formulate or review public housing policies, we constantly seek to balance our customer requirements with the policies at the Whole-of-Government (WOG) level.

Recurring themes or significant trends are flagged out to Senior Management (SM) at various management forums for deliberation and planning. As customers’ needs and expectations are constantly evolving, we adopt an iterative approach in formulating strategic plans and policies. For example, feedback gathered from various channels is used to further refine our

plans and designs to better address the changing needs of our customers (see Chapter 2.3a and 2.3c).

**2.2 Customer Experience**

**2.2a Describe how the organisation incorporates customer expectations in designing touchpoints, products, processes and services**

Policies and products are only as good as their delivery. We moved from a transaction and operations-centric approach to a **customer-centric one**, focused on delivering a positive and seamless customer experience.

Having actively sought customer feedback, we define the desired HDB customer experience to be one that is:

- easy, hassle-free and intuitive, especially for routine transactions
- consistent across all touchpoints
- where customers feel understood and assured.

Adopting a value-chain approach, we map out the key touchpoints we have with our customers

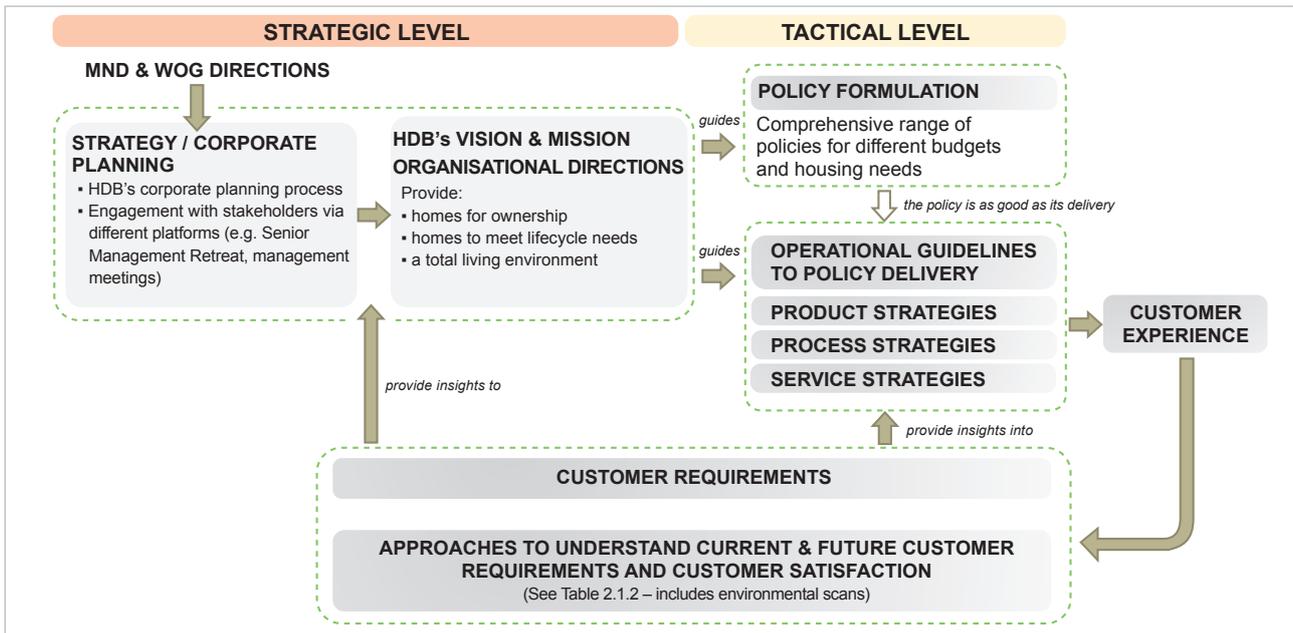


Figure 2.1.1. How customer requirements are incorporated into strategic plans

(see Figure 2.2.1). This gives us insights into the interdependencies between upstream and downstream internal processes and their impact on the customer experience. We are then able to devise targeted intervention measures, where needed. We were one of the early adopters of this value-chain approach which is more encompassing, as the focus goes beyond just meeting service standards and building service capabilities.

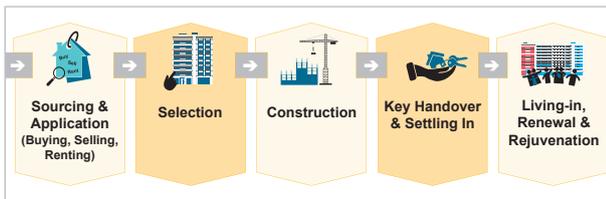


Figure 2.2.1. HDB's residential customer journey

To further our transformation efforts, we have 3 strategies under the HDB Service Master Plan (see Figure 2.2.2) and adopt tools like DT and Behavioural Insights. The transformation is seen in the redesign of the physical environment, communications and internal processes for Sales, Resale, SERS and Branch Operations to improve our customer experience at various touchpoints.



Figure 2.2.2. Three strategies to transform customer experience

### Digital Where Possible, Personal When Necessary

From the start of the home-buying journey, customers can access the HDB InfoWEB and Mobile@HDB (see Chapter 2.2c) to obtain information and transact using our suite of e-Services, ranging from flat application to grant and loan application. After applying for a flat, every customer can check the application status and construction progress of their new flat securely using their personalised account, MyHDBPage, as well as make e-appointments for key transactions. After collecting keys and settling into their homes, flat owners continue to enjoy e-services relating to lease administration and HDB car parks. These digital platforms provide our customers with convenient 24/7 services.

While we digitalise our services, it is important that we provide relational and personalised services at HDB Hub and our 21 Branches for high-touch interactions like financial counselling

and 'moments of life' events like collecting keys to a new flat. We equip our staff with the right skill sets to make the emotional connection with our customers. For example, we have trained dedicated Journey Managers to handhold each SERS household from the start of the SERS journey, till they move into their new homes. As a large proportion of SERS customers are the elderly, this engagement is key in providing residents with assurance, and it helps to allay their anxiety.

### Creating Value for Staff and Organisation

To provide support to our frontline staff, the Customer Management Portal, implemented in 2012, provides staff with an overview of each customer by consolidating each customers' essential data and their interaction history with HDB across various touchpoints.

Leveraging data analytics, we are able to create value by providing more robust analysis to support decision-making, thereby benefiting both staff and customers (see Chapter 2.2b).

### Collaborative Delivery

Our service vision is also achieved through partnership and engagement with internal and external stakeholders. Understanding that safety and comfort at home is paramount to the elderly, we collaborated with MOH, BCA and occupational therapists from Khoo Teck Puat Hospital to implement Enhancement for Active Seniors (EASE). Improvement items like grab bars and ramps were installed, and slip-resistant treatment was applied to the bathroom floor for 2 pilot towns (Bukit Merah and Kallang/Whampoa) in July 2012. EASE was rolled out islandwide on 15 March 2013.

Kampung Admiralty is another example of the collective effort by HDB, and 6 other government agencies, to create an integrated development with HDB flats supported by a range of facilities such as those for eldercare and childcare, a medical centre, and a hawker centre. This creates opportunities for the young and old to interact and bond. HDB has set a workable precedent for such integrated developments to be replicated for future co-location projects. For this, we received the Best Practice Award (Inter-Agency Collaboration category) at the 2017 Public Service Awards.

### 2.2b Describe how the organisation ensures customer feedback is addressed and analysed

HDB welcomes feedback from our customers so that we can continue to improve and serve them better. Feedback includes the sharing of their experience with HDB, a suggestion for service/product improvement or an appeal arising from individual circumstances. Depending on its nature, feedback is analysed at 2 levels:

## Case Management Level

Verbal and written feedback go through a robust process which allows us to resolve the issues and perform service recovery where necessary. HDB handles about 600,000 correspondences per year. To ensure that feedback is promptly addressed, all cases are tracked in our systems, and we have an escalation mechanism to alert SM on challenging cases, or those pending resolution to ensure they are addressed expeditiously.

## Issues Level

While we are guided by the Government's and HDB's strategic objectives, customer feedback has provided us with opportunities to further improve our products, policies and services. Significant trends and issues are discussed at various organisational levels and channelled to the relevant Groups, Departments or Sections for review and follow-up.

## Leveraging Business Analytics to Derive Greater Insights into Customer Feedback

We proactively use new tools such as data, text and video analytics to derive insights that help to improve our products and services. For example, we collaborated with GovTech to perform text-analytics on the correspondences with new flat buyers and established a correlation between flat buyers' age and their eagerness to collect keys to their new flats.

With the insights gleaned from this study, we tweaked our key collection process from pre specified appointment to one that allows customers to choose their key collection date through an e-service. This added flexibility brings about convenience and better service experience to the customers and at the same time, reduces the need for them to change their appointments after they have been scheduled. Since the e-Service was implemented in January 2017, 7,513 flat buyers have booked their own appointments for key collection.

### **2.2c Describe how the organisation provides ease of access for customers to seek assistance and information to enhance the customer experience**

We have a comprehensive suite of channels for customers to seek assistance and information - from telephone lines and service counters to online channels. We have also stepped up efforts in recent years to digitalise our services so that customers can make enquiries and transact with us anytime and anywhere. About 12 million transactions are

carried out yearly via the 220 e-services available in our HDB InfoWEB.

The HDB InfoWEB (also accessible via Mobile@HDB) is often the first touchpoint that customers go to for information and transactions. We redesigned the HDB InfoWEB in 2015, where feedback from the public was incorporated to make it easy for customers to navigate, find information and carry out e-transactions. Our customers can also use facilities such as MyDoc@HDB<sup>10</sup> to submit documents, and MyHDBPage that contains personalised information and interactions with HDB. The Mobile Concierge service allows customers to track sales and resale appointments with HDB. Customers can also use their mobile phones to check resale flat prices or find nearby car parks using Augmented Reality technology.

HDB uses artificial intelligence in our own Virtual Assistant – Ask Judy. With positive response, we expanded her scope in October 2017, from responding to customer enquiries relating to buying new flats and season parking to include enquiries on buying/selling resale flats, HDB housing loans and upgrading costs. Successful channel migration for parking matters has also provided greater convenience to our customers and helped us optimise manpower allocation. With the full suite of electronic car park services, motorists no longer need to visit HDB Branches to buy their season parking.

### **2.2d Describe how the organisation sets performance standards at customer touch points to ensure consistent service delivery**

HDB sets service standards for telephone, counters and written communication points, which are in line with PSD standards where applicable. The actual service levels achieved are measured against these standards and tracked monthly at the Group level, as well as at management meetings, thus ensuring consistent service delivery.

Beyond **service efficiency** measured by these standards, we also pay attention to achieving **service effectiveness**. These are measured through various surveys.

## 2.3 Customer Satisfaction

### **2.3a Describe how the organisation determines and improves customer satisfaction for various customer segments**

We use multiple sources of information and feedback channels to assess customer satisfaction (see Table 2.1.2).

<sup>10</sup> With this one-stop portal, customers submit only one copy of the required document online for the various types of applications relating to HDB flats. The streamlined process enables customers to know the outcome of their applications faster.

## Satisfaction in Policy and Product Experience

The Sample Household Survey (SHS<sup>11</sup>) and post-occupancy surveys are 2 key regular surveys that we conduct to gather residents' feedback. SHS tracks changes in lifestyle patterns and satisfaction levels with HDB living. Post-occupancy surveys are done after the completion of every HDB project so that feedback on the design of flats and precincts, provisions of fittings and finishes, and facilities and amenities can be gathered to improve present and future projects in a continuous learning cycle.

There are also findings from surveys carried out on targeted customer groups, such as the elderly and SERS residents.

By monitoring key operating indicators, we are able to adjust our plans and programmes accordingly.

## Satisfaction in Service Experience

We use several service measurement tools to help us gauge customer satisfaction.

Internally, we have the biennial HDB Customer Experience Survey (CES) and regular internal service audits. Revamped in 2014, CES measures the entire customer experience from service delivery, to processes and policy communication with HDB. It also provides granular data to analyse satisfaction by routine and non-routine transactions that the survey respondents had.

This is complemented by audits carried out by external agencies such as CSC, the Minimum Service Standards Audit by PSD, and customer satisfaction surveys led by PSD like the Customer Satisfaction Index of Singapore (CSISG).

### ***2.3b Describe how the organisation determines current and future drivers of customer satisfaction***

A range of approaches are used to determine current and future drivers of customer satisfaction (see Table 2.1.2). To plan for the future, environmental scans and trend analyses are used to identify emerging strategic issues. Our Strategic Futures Office (SFO) scans international and local trends. These scans keep HDB updated on trends affecting Singapore's public housing, spanning short to long-term issues. The Research Master Plan was developed in 2016 to identify and prioritise emerging strategic issues which are impactful to HDB. It details the key projects straddling policy and programing functions of HDB.

We also carry out targeted ground sensing and research to deep-dive into issues to understand current and future drivers of customer satisfaction. We keep a keen eye on the resale market. We also use macro indicators like population and demographic trends to help us in forward planning.

### ***2.3c Describe how the organisation incorporates customer insights and feedback into the strategic improvement plans***

Using the framework mapped out in Figure 2.1.1, customer insights and feedback obtained are incorporated into HDB's strategic plans. Two key practices are presented below:

#### **Post-Implementation Review (PIR)**

We conduct PIR especially for new and enhanced policies and products that we roll out to ensure that the intended outcomes are met, customer needs are addressed and gaps are promptly addressed.

For example, the 2-room Flexi Scheme, introduced in August 2015, is an adaptation of earlier schemes, which merged and replaced the previous 2-room flat scheme and Studio Apartment (SA) scheme. Under the 2-room Flexi scheme, elderly Singapore citizens aged 55 years and above can buy a 2-room Flexi flat on short lease, ranging from 15 to 45 years, in 5-year increments, provided the chosen lease allows them to live in the flat till age 95 or above. This is also regardless of whether they have enjoyed housing subsidies previously. The design of the new scheme took into consideration feedback on the earlier schemes and suggestions received from extensive public consultation held over several months before its announcement. Following its implementation, media coverage was positive, with interviewed property analysts lauding the scheme for its flexibility and inclusivity.

#### **Use of Customer Insights and Feedback to Predict Future Needs**

From feedback gathered and the insights derived, we are able to predict and address the future needs of our customers. For example, insights gathered from public rental tenants have led to a holistic review of housing assistance for this customer segment, leading to longer-term and more sustainable measures. Through public consultations, we have a better understanding of the challenges that public rental tenants face in owning a home again. This paved the way for the implementation of the Fresh Start Housing Scheme in December 2016. The scheme aims to help second-timer families with young children living in public rental flats to own a flat.

<sup>11</sup> The SHS monitors residents' level of satisfaction with various aspects of public housing and identifies areas where efforts can be made to further improve the physical and social environment in HDB towns. The regularity of the SHS facilitates trend analysis on key statistics that are important to HDB.

# 3 Strategy

## 3.1 Strategy Development

### Overall Strategy Development

HDB adopts a structured Strategy Development Process. Our corporate directions are determined by the major challenges, emerging opportunities, and key risks faced by HDB. Aligned with HDB's Vision and Mission, we develop long to short-term plans in close partnership with our various stakeholders.

HDB sets out the goals and strategies for the 4 thrusts of our Mission in our 5-yearly medium-term plan. The plan is reviewed regularly through our annual Corporate Planning (CP) process, which begins with the Senior Management Retreat (SMR) involving various categories of staff at the various SMR sessions. SMR outcomes are cascaded to cross-Group Working Committees (WCs) that drive and implement the goals and strategies under HDB's medium-term plan. HDB officers are then engaged at various levels to draw up detailed Group Work Plans which, when endorsed by Senior Management (SM), collectively form the annual HDB Corporate Plan.

#### **3.1a Describe how the organisation determines organisational challenges and anticipates external changes and risks**

We determine organisational challenges and anticipate external changes and risks through Enterprise Risk Management (ERM), ground sensing efforts, and taking stock of emerging trends and issues affecting HDB.

#### **Anticipating Risks**

ERM has helped HDB to manage the risks brought about by a fast-changing external environment. Our formalised ERM Governance Structure comprises the ERM Steering Committee and the ERM Secretariat, which monitor HDB's risks, as well as the HDB Board and the Audit & Risk Committee (ARC), which provide oversight of risk management in HDB. Risk statements are reviewed in tandem with HDB's Corporate Plan and the Strategic Risks of HDB's parent Ministry, MND. To strengthen risk awareness and monitoring, we conducted Risk Awareness Seminars and rolled out an ERM e-learning course for all HDB staff, and developed an ERM Dashboard for SM's tracking of risks.

#### **Determining Challenges and Changes**

To identify its challenges and opportunities, HDB takes into account the emerging trends,

driving forces and strategic issues that impact its operations in the long, medium and short-term.

Acknowledging an ever-changing Volatile, Uncertain, Complex and Ambiguous (VUCA) landscape, we set up the Strategic Futures Office (SFO) in 2011 to build up our medium-to-long term foresight capabilities and strengthen HDB's formulation of forward-looking strategies and policy responses, including the identification and study of Emerging Strategic Issues.

For example, HDB has used scenario planning to draw up scenarios based on different possible trajectories of driving forces. These were subsequently used to identify challenges for the future that HDB would need to address.

To sensitise staff to wider challenges, HDB invites external speakers to share the latest trends at various corporate forums.

#### **3.1b Describe how the organisation develops long and short-term strategies to achieve organisational goals**

HDB's Vision is to build homes, towns and communities all are proud of. The 4 thrusts of our Mission are to provide affordable homes of quality and value, create vibrant and sustainable towns, promote the building of active and cohesive communities, and to inspire and enable staff to give of their best.

#### **Long-Term Strategies**

In 2015, HDB formulated a set of aspirations for the next 10 to 15 years based on findings from a series of Visioning Workshops conducted for all levels of staff. These formed an important reference point for SMR. For example, taking into account the desired future of a more tech-savvy workforce equipped to handle digital advancements and disruptions, we devised a set of Information and Communications Technology (ICT) thrusts at SMR 2016 based on the desired outcomes for our Digital Transformation journey.

Another key long-term strategy is our Roadmap to Better Living in HDB Towns which guides us in developing well-designed, community-centric, sustainable and Smart towns. Recognising that HDB would need to strengthen its professional capabilities in order to meet future housing aspirations, we launched the Roadmap in 2011 to set out the key priorities for HDB's professional focus over the next 5 to 10 years.

As a builder of homes, towns and communities, HDB works very closely with other Government agencies (e.g. LTA, URA, MOE) on the overall town planning process. For example, we work with URA under the Concept Plan to safeguard sufficient land for public housing development. We also review the number of public housing flats to be built annually and share this with other relevant government agencies, to guide forward planning in the timely provision of the necessary services and facilities.

To anticipate problems, map out long-term policies and strategic development plans and surface issues and concerns, HDB proactively studies long-term strategic issues such as diminishing leases and sustainability of ageing infrastructure. HDB also considers how Singapore's changing demographics and the increasingly varied lifestyle needs of residents impact the long-term planning of HDB's flat design and delivery of customer-centric policies (see Chapter 2.1 a).

### Medium and Short-Term Strategies

Every 5 years, a new medium-term plan is formulated at SMR, where the goals and strategies for the 4 thrusts of our Mission are drawn up. The initiatives supporting them are refined annually at SMR with input from HDB's Strategic Foresight Process, ERM Framework, customer and business needs, as well as strategic directions from the Whole-of-Government (WOG) and MND. HDB remains closely aligned with these strategic directions (e.g. Smart Nation), through platforms such as meetings with Minister.

A review of each medium-term plan is carried out at the halfway mark to account for short-term changes in our operating environment.

#### **3.1c Describe how the organisation engages key stakeholders in the strategy development process**

Internal and external stakeholders are involved in different stages of HDB's Corporate Planning process to harvest a wide spectrum of ideas for an inclusive planning process.

### Internal Stakeholders

#### *Staff*

At the start of each planning cycle, we examine staff feedback and interview our key stakeholders for perspectives on key issues and to identify organisational issues that need to be addressed.

To encourage a diversity of ideas and fresh insights, staff across Groups participate at our SMRs.

After SMR, we actively engage our middle managers and relevant officers across HDB through dialogues and briefing sessions. This ensures Groups' alignment with overall organisational objectives when preparing their respective work plans, sensitises them to key trends and risks in our operating landscape, and allows Groups to surface potential manpower or organisational issues encountered when executing plans. We also seek feedback from staff for improving future planning cycles.

#### *The HDB Board*

Before the medium-term plans and annual Corporate Plans are finalised, the Board is consulted for their inputs on HDB's goals, strategies and initiatives. Chairman and Board Members are also invited to contribute their experience at SMRs.

#### *MND*

HDB also works closely with MND on strategy formulation.

### External Stakeholders

Due to the diversity and scale of HDB's business, we engage with many external stakeholders in our strategy development process.

At the WOG planning level, HDB makes significant contributions to a number of inter-agency committees, which discuss topics such as long-term trends that impact various aspects of Singapore's economy, demographics and workforce.

Land use and infrastructure planning form a key facet of HDB's strategic planning. Through Concept Plan Reviews with various planning agencies, HDB is actively involved in the safeguarding of land to support the national development of Singapore in the longer term. We also work with relevant agencies (URA, LTA, NEA, SLA and PUB) to draw up our building plans to guide developments. Regular meetings with these stakeholder agencies help resolve critical issues and ensure the timely launch of sites to meet the housing demand.

HDB harnesses external, private sector perspectives from advisory panels, such as the Architectural Design Panel (ADP), Research Advisory Panel (RAP), Civil and Structural Engineering Advisory Panel, and Lift Advisory Panel. The ADP members, for example, review the design of selected projects with fresh perspectives and ideas, and help to select winners for our annual HDB Awards.

Recognising that customers provide important inputs into our planning process, HDB gathers

feedback from various channels to determine customers' current and future requirements, which we incorporate into our plans at the strategic and tactical levels.

## 3.2 Strategy Implementation

### 3.2a Describe how the organisation develops and implements long and short-term action plans

With clear sight of our Vision and Mission as well as the possible challenges and risks to achieving them, HDB formulates long-term plans to ensure that our organisation remains ready for the future.

#### Develop and Implement Long-term Plans

To operationalise the strategic building plans to guide development in the near to medium-term, HDB determines the number of flats to be built across Singapore each year, taking into account various factors. Guided by the Roadmap to Better Living in HDB Towns, we formulate a master plan for each new housing area/town (e.g. Tengah, Punggol, Bidadari, Tampines North), which is translated into an implementation plan to be incorporated into the building plans, for which planning approvals are then secured and urban design studies conducted.

Developing staff capabilities is another long-term consideration. Following the identification of key capabilities at SMR 2015, each Group drew up its own roadmap to build its necessary competencies. These requirements have been factored into HDB's staff development programmes and the slate of courses offered.

At SMR 2016, HDB formulated the DMP to drive our ICT focus and developments. Following the SMR, HDB set up a DMP Steering Committee chaired by CEO, as well as several cross-functional DMP Work Groups to implement the DMP strategies.

#### Develop and Implement Medium and Short-term Plans

HDB's medium and short-term plans are formulated using a top-down and bottom-up approach.

HDB's WCs were formed to guide Groups in drawing up their work plans according to the 4 thrusts of HDB's Mission. These annual work plans collectively form the annual HDB Corporate Plan, which is subsequently endorsed by SM and presented to MND and the HDB Board before implementation.

### From Plan to Action

Responding swiftly to new Government directions and focus areas, we revise our plans to address changing needs. For example, at SMR 2013, we recognised that a key opportunity for transformational change was to leverage technology to enhance the way HDB plans, builds and manages its towns.

HDB adopted the Smart City concept for implementation in HDB towns, incorporating it into HDB's Corporate Plan FY2014. This led to the formulation of a Smart HDB Town Framework.

The strategic significance of this change saw this focus on Smart technologies mapped into the HDB 2020 Plan at SMR 2014. HDB went on to develop a Smart Hub and Data Analytics Centre to monitor and manage Smart services in Yuhua, allowing data analysis to generate greater insights into the planning and management of HDB towns. These efforts contribute to building liveable, efficient, sustainable and safe towns, aligning with the goals of a future-ready HDB in support of Singapore's drive towards a Smart Nation.

### 3.2b Describe how the organisation manages organisational risks associated with plans

We manage our key organisational risks through Risk Indicators and Treatment Plans set out in a comprehensive ERM Framework. Business Continuity Plans (BCP) provide contingencies for potential disruptions to HDB's operations (see Chapter 5.2c). HDB also seeks to imbue staff with the right core values and attitude towards good governance.

#### Tier 1 Risks

ERM Tier 1 risks, which are organisational-level risks that can prevent HDB from achieving its mission, are monitored regularly through KRIs using a traffic light system for early intervention. A KRI in the green zone indicates that mitigating measures are working, amber indicates the need to step up on mitigating measures, and red indicates that HDB faces a need to review and step up the mitigating measures.

The Tier 1 risks are reviewed annually in tandem with HDB's Corporate Plan.

## Tier 2 Risks

ERM Tier 2 risks, which are more operational in nature, are monitored and managed at the Group level. Our Groups review and periodically update the list of such risks. Arising from a recent review of HDB's ERM Framework, a reporting and escalation structure for Tier 2 risks was established, to standardise the monitoring of these risks across the Groups.

## Core Values and Attitudes

We also ensure staff are anchored with the right core values (e.g. Integrity, Excellence) and attitude to good governance through a suite of learning programmes.

### **3.2c Describe how the organisation allocates resources in a timely manner to achieve strategic goals**

#### Financial Resources

HDB's budget requirements for our key programmes in the next FY, including the Home Ownership Programme, upgrading and redevelopment of older estates, and the provision of mortgage loans to eligible purchasers of flats under the public housing schemes, are detailed in the Annual Budget Proposal submitted to the President's Office. HDB's development programmes and operational requirements are financed by loans from the Government, bonds issued under HDB's Medium-Term Note Programme, and bank loans (see Chapter 7.2a).

#### Manpower Resources

HDB has also embarked on Strategic Workforce Planning to build ICT capabilities in support of Singapore's drive towards being a Smart Nation (see Chapter 4.1a).

#### Overcoming Manpower Constraints

As HDB handles millions of transactions a year, we reduce our reliance on manpower through digitalisation of services and nudging our customers to online solutions where possible. We have migrated more than 200 services to online and mobile channels such as the HDB InfoWEB and Mobile@HDB. Notably, the set-up of e-services for season car parking transactions has reduced counter transactions volume by 90.6% (from 2011 to 2017). HDB also introduced 'Ask Judy' in 2016, a virtual assistant chatbot to handle enquiries on buying and selling of flat, HDB housing loan and upgrading costs and season parking.

### **3.2d Describe how the organisation engages key stakeholders in the strategy implementation process**

#### Internal Stakeholders

HDB disseminates our corporate directions at the Corporate and Group level. Our extensive engagement efforts are reflected in the high Employee Engagement Survey (EES) 2016 scores which showed that more than 9 in 10 staff understand how their work contributes to HDB's Vision and Mission.

##### *Engagement at Corporate Level*

We disseminate corporate plans through platforms such as the HDB Annual Conference (AC) and Work Plans Exposition (WPX). The AC takes place at the start of each FY and serves as a platform for our Chairman and CEO to share strategic directions arising from the SMR. Following each AC, our Deputy CEOs/Assistant CEO (Corporate) will engage staff on work plans for the year at the WPX. Here, each WC will elaborate on the work plans corresponding to the 4 thrusts of HDB's Mission. To expand the reach of our engagement efforts, HDB leverages technology to broadcast the forum proceedings to all staff across HDB.

During these events, SM engages staff through live polls and dialogues, while providing the opportunity for staff to give their views and feedback on HDB's plans. Since 2016, HDB has been using various interactive mobile applications to facilitate more effective 2-way engagement.

A variety of multimedia publicity materials such as HDB videos, microsites, newsletters and collaterals extend the outreach of the AC and WPX to all levels of staff in the organisation.

Apart from the dissemination of corporate plans, various platforms and work groups have been set up to engage staff on specific strategic domains.

##### *Engagement at Group Level*

To ensure that all staff are aware of key corporate directions, annual planning exercises and staff conferences are organised at the Group level to allow Group Directors to share corporate directions, and corresponding Group-level strategies and plans to be implemented.

#### External Stakeholders

##### *Ministries and Agencies*

Our building programmes are implemented in consultation with MND. Proposals for major

programmes such as the opening of new housing areas in Punggol, Bidadari, Tampines North and Tengah, are also crafted in consultation with MND before implementation.

The varied nature of our business also means that HDB collaborates with many external stakeholders. For example, HDB engages multiple agencies to share our medium to long-term building plans at the various Coordination Meetings. This facilitates the formulation and implementation of their respective plans in tandem with HDB's developments. We also actively engage with other government agencies to secure the necessary planning and building approvals for specific public housing contracts staged in these plans.

#### *Industry and Academia*

To ensure that the industry has the capacity to support HDB's plans, we engage with key stakeholders regularly through dialogues and sharing sessions. Regular dialogues are held with the top management of consultants and contractors to gather industry feedback on ground issues and constraints during construction. We liaise closely with the service providers to communicate clear targets in advance for their planning.

#### *Residents, Customers, Interest Groups and Town Councils*

HDB engages with the public and interest groups when preparing planning proposals for key development areas, such as during the Master Plan exhibitions for Tengah and Bidadari. Additionally, Focus Group Discussions (FGDs) and surveys provide valuable inputs on plans for the towns under the Remaking Our Heartland (ROH) Programme.

We acknowledge the importance of engaging new residents early in their home ownership journey. MyNiceHome roadshows are organised to engage new residents 3 to 6 months before key collection for them to get to know their neighbours early, meet their Adviser and grassroots leaders and familiarise themselves with their new living environment.

We recognise that customer feedback is crucial for guiding HDB's policy, product and service delivery strategies towards greater customer-centricity (see Chapter 2.3a).

To remain sensitive to public sentiments, we closely monitor public perception through media sentiment analysis and periodic surveys. We also have regular dialogues with the Town Councils, who are the managing agents for common properties of HDB.

#### **3.2e Describe how the organisation measures performance against plans and targets**

HDB Groups, WCs and relevant work groups review the key performance of various initiatives against set targets at various corporate platforms.

HDB also updates MND on its key programmes at forums involving MND SM and CEOs. At these forums, SM analyse feedback and review HDB's products and services to ensure their continued relevance.

#### *Tracking of Indicators*

HDB tracks indicators at the following levels:

- WOG level
- Organisational level
- Functional/operational level.

These indicators are tracked in various dashboards/reports for regular monitoring and review by SM.

#### **Taking Stock of Performance**

We take stock of our performance for each FY through the annual Review of HDB's Activities report, where key business results such as public housing development and estate renewal, are appraised and measured against set goals. HDB's review also takes stock of the improvements made in relation to product quality and service excellence, and evaluates the public's response towards new policies, schemes and programmes. These results are presented to the HDB Board and shared with MND thereafter.

# 4 People

## 4.1 Human Resource Planning

**4.1a Describe how the organisation anticipates HR needs and develops HR plans and policies which are aligned to strategic goals and organisational values**

### The HR Planning Process

HDB is forward-looking in HR Planning by anticipating emerging issues on the horizon and introducing initiatives to navigate an increasingly challenging landscape. Externally, we face challenges posed by a fast-changing business environment, global competition for talent, tight manpower resources and an increasingly well-educated workforce. Internally, a changing staff profile, increased public expectations and the growing need for new capabilities are issues that impact our HR needs.

We are committed to rising above these challenges. Our HR Planning process (see Figure 4.1.1) is aligned with HDB's strategic goals, with Top Management<sup>12</sup> providing directions and guidance through the Corporate Planning process. Director (Human Resource) and key HR managers take part in the process by attending the annual Senior Management Retreat (SMR), and sharing insights into HR issues and challenges that impact HDB's future. The outcomes of the SMR are deliberated on and developed into HR plans and initiatives at 2 dedicated annual HR planning platforms (see Figure 4.1.2), namely the HR Planning Workshop attended by all HR leaders and middle managers, and the Management Union Workshop

(MUW) attended by all HR leaders and senior HDB Staff Union (HDBSU) leaders.

The personal involvement of Top Management in HR Planning goes beyond the Corporate Planning process. CEO chairs an Establishment Committee (EC) with Deputy CEOs and Assistant CEO (Corporate) as members. The EC meets regularly throughout the year to review strategic HR plans and issues in areas like organisation development, talent development, succession planning and manpower planning. The roles of the EC are vital for HR plans to continually stay relevant to HDB's current and future needs. The robustness of HR Planning was further strengthened through the formation of the Senior Staff Committee (SSC) in 2006. The SSC, chaired by HDB Chairman, comprising members of the HDB Board who are experienced corporate leaders from both the private and public sectors provide valuable perspectives and critique of our HR plans.

Besides tabling HR plans for review and endorsement at the EC, HR plans are also deliberated on and reviewed at forums attended by the Group Directors (GDs) like the HDB Management Meeting. With the endorsement and support by Senior Management (SM), the HR plans are implemented, involving middle managers and individual staff. Depending on the nature and extensiveness of the HR plans and initiatives, implementation of the plans may involve townhall sessions with all HDB staff, design and introduction of new learning programmes, issuing of circulars

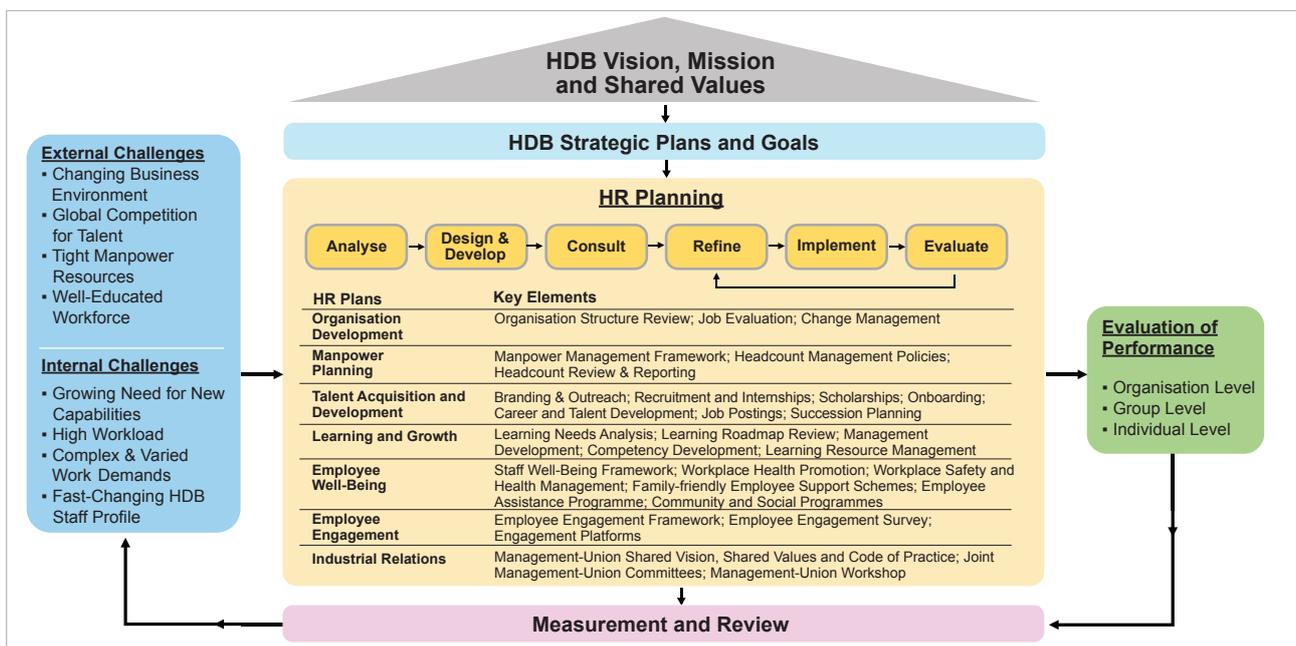


Figure 4.1.1. The HR Planning Process

<sup>12</sup> Top Management refers to CEO, Deputy CEOs and AssistantCEO (Corporate).

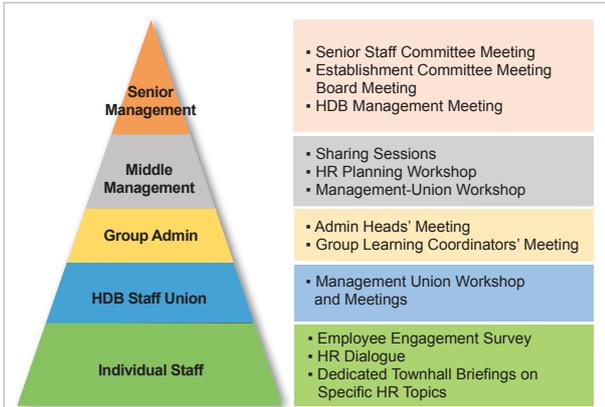


Figure 4.1.2 Evaluation Platforms

and FAQs, and the setting up of microsites and dedicated HR enquiry phone services.

Our HR Planning process enables us to identify HR needs early, and in response, develop and introduce timely HR initiatives ahead of the Civil Service or legislation.

**Our Brothers, Our Sisters, Our Strategic Partner**

HDB Management shares a close and much valued partnership with HDBSU, going beyond the traditional labour-management focuses of grievance resolution and negotiations on employment terms. This unique partnership allows HR to work closely with HDBSU, which is actively involved in various aspects of HR Planning. Strategic HR directions and issues are discussed with union leaders at the MUW, an annual HR Planning forum. With almost 65% of our staff unionised, HDBSU provides deep insights into and reliable assessments of its members' needs, which are invaluable in the development of HR plans and initiatives. Outcomes from the MUW are further deliberated at collaboration platforms such as small group confidential meetings between HR and union leaders, and HDB Industrial Relations Committee meetings, to develop HR plans and initiatives which benefit both the organisation and our staff. A recent major outcome of our joint planning with HDBSU was the successful implementation of the Extended Management Executive Scheme in 2016, which provides a single career pathway for HDB staff, regardless of qualifications.

**A Workforce Ready to Lead HDB into the Future**

HDB will only be able to continue with its remarkable journey of delivering world class public housing to Singaporeans if the skill sets and capabilities of our 5,580-strong workforce remain relevant. To this end, HDB identified the critical importance of long-term Strategic Workforce Planning (SWP) and has embarked on SWP for the key areas of engineering and Information and Communications Technology (ICT). HDB's capabilities in these areas

are vital as HDB supports Singapore's drive to become a Smart Nation, through the development of Smart HDB towns to improve the living environment and experience of HDB residents. The SWP process includes the development of competency frameworks, defining the knowledge, skills and attributes needed at various job levels to guide capability development through recruitment, staff development and deployment. For a start, new training courses will be identified to build competencies in these key areas.

**4.1b Describe how the organisation establishes a recruitment and selection process to meet organisational needs**

**Meeting HDB's Talent Needs**

We recognise all staff as talent. Our 4-pronged Talent Management Framework (see Figure 4.1.3) ensures we have people with the right capabilities and values to achieve our long-term goals and sustainability. With a goal to be an Employer of Choice, HDB participates proactively in career and scholarship events to attract professionals and students to make a career with us. We also host engineering-focused site visits for tertiary students to showcase HDB's engineering capabilities. Our branding of HDB's Building professions has also been stepped up to strengthen our engineering and ICT capabilities.

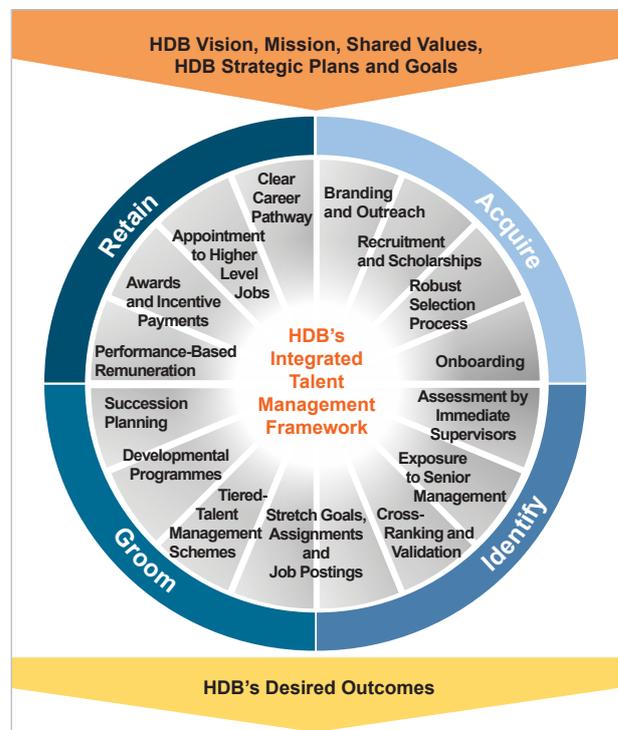


Figure 4.1.3. HDB's Integrated Talent Management Framework

HDB's talent needs are met through recruitment and scholarship awards. We strongly believe in an inclusive and merit-based approach in recruitment. HDB welcomes around 300 new

hires a year with diverse profiles, including mid-career professionals for specialist appointment positions, fresh graduates from Institutes of Higher Learning (IHLs), women returning to the workforce, people from more senior age groups and persons with disabilities. SM and experienced line managers lead panels of interviewers to assess candidates through face-to-face interviews, supported by tools like scenario-based written assessments and aptitude tests. HDB is among the pioneer pledgers of the Fair Employment Practices under the Tripartite Alliance for Fair & Progressive Employment Practices.

HDB's scholarship awards, comprising the HDB Undergraduate Scholarship (overseas and local), HDB Specialist Scholarship and HDB Mid-Term Scholarship, serve to ensure the right talent for our leadership succession pipeline. Applicants are put through a rigorous selection process that includes psychometric tests, activity-based assessments, and interviews with HR and SM. Those offered scholarships are invited on site visits to our iconic developments and research facilities, and have the opportunity to interact with experienced HDB staff to gain a deeper appreciation of our work and culture. Besides attending an induction programme, scholarship recipients and their parents are invited to a networking session hosted by CEO to engage them at a more personal level. At the session, they are also introduced to their mentors, who are identified to guide our young talents in their studies and career.

The talent acquisition efforts are also guided by the Talent Flow-Through Model which helps ensure a sustainable leadership pipeline and provides Top Management with an overview of the growth of the talent pool in HDB. The model forecasts required talent inflows for the leadership echelon, taking into account the current talent pool, committed inflows and projected outflows of talent.

### First Year in HDB

Our selection and assessment process for new hires continue into their first year in HDB. All new hires are offered a 1-year contract to provide them with sufficient time to demonstrate their abilities, and for supervisors to assess their suitability for confirmation of service. Our onboarding programme acquaints new hires with HDB's Vision, Mission, and Shared Values (SVs) (see Chapter 4.4b) and helps them fit into HDB and their jobs. New hires attend a 6-day orientation programme, including a dialogue session with Top Management. To give them a headstart in their career in HDB, all new hires are assigned mentors and buddies, and provided with on-the-job guidance by their immediate supervisors and experienced peers. They are also guided by their supervisors in identifying and developing job specific and portable skill sets.

### 4.1c Describe how the organisation identifies and grooms employees for high performance

#### Multiple Levels of Talent Identification

HDB has a structured talent identification process involving all levels of HDB management. Within Groups, middle managers play an integral role in assessing and identifying talent among their charges. They assess staff's performance and potential annually, with input from staff's immediate supervisors. Through these, promising young officers are identified and tasked to take on stretch assignments to test and validate their potential for inclusion in HDB's talent pool. These include opportunities for exposure to SM through presentations on critical issues, and research and preparation of materials for papers and speeches, among others. SM also personally reviews the performance and potential of staff at the cross-Group ranking sessions chaired by the respective DCEOs/ACEO(C), and at the boardwide ranking session chaired by CEO. SM is also extensively engaged in succession planning to identify talent early so that they can be groomed for leadership appointments.

#### Grooming Staff for High Performance

HDB's tiered talent management scheme differentiates staff based on performance and potential for targeted talent development. We inform staff that they have been selected for talent management programmes and explain the purpose of the incentives that they qualify for, to further motivate them to perform to their fullest potential, and as a strategy for retention.

In addition, we proactively empower every HDB staff for high performance, and adopt different strategies (see Table 4.1.1) to develop the capacities of high-performing staff.

Strategy	Details
<b>Open Appraisal System</b>	A formal channel for two-way communication between supervisors and staff on staff's performance and areas for improvement (see Chapter 4.4a)
<b>Coaching/ Mentoring</b>	<ul style="list-style-type: none"> <li>Supervisors coach staff for high performance on a day-to-day basis</li> <li>Experienced senior appointment holders are assigned as mentors to newly appointed appointment holders to provide them with professional guidance and advice, and help build up their confidence</li> </ul>
<b>Courses</b>	Wide array of courses in general, technical and professional development for staff to do better in their jobs (see Chapter 4.2)
<b>Job Posting</b>	An avenue for staff to increase their skills and knowledge, deepen their expertise, and broaden their perspectives.
<b>Projects and Stretch Assignments</b>	Inter-Group and inter-ministry project teams and committees to build up competencies; and test and validate the potential of promising staff
<b>Review of Leadership Positions</b>	<ul style="list-style-type: none"> <li>Appointments are on 3-year terms to facilitate the renewal and cross-functional rotation of leaders for development and exposure</li> <li>Provide opportunities for younger talent identified through regular succession planning reviews, to take on leadership appointments</li> </ul>

Table 4.1.1. Strategies to Groom Staff for High Performance

## 4.2 Employee Learning and Development

**4.2a Describe how the organisation engages employees to identify current and new competencies required to achieve organisational goals**

### Enabling our Staff for the Present and Future

We engage staff at all levels to identify learning needs through the HDB Learning Process (see Figure 4.2.1). Corporate HR partners Groups in the annual Learning Needs Analysis (LNA) exercise, which is aligned with corporate planning, to support the achievement of HDB’s Vision, Mission and goals. Outcomes from SMR form the key input into the review of learning needs for the annual exercise. Corporate HR engages Groups in training matters via the quarterly Group Learning Coordinators’ (GLC) meeting. At the Group level, GLCs engage with appointment holders<sup>13</sup> to review learning needs and technical courses, drawing input from SMR and Group Planning sessions. During the LNA exercise, supervisors and staff will jointly identify courses from the learning roadmap, considering new work areas and performance gaps.

The identification of learning needs continues beyond the annual LNA exercise. Corporate HR and GLCs are attuned to changing organisational and operational needs through input drawn from meetings involving appointment holders, enabling us to anticipate and meet new learning needs responsively.

We review our programmes and processes at strategic, tactical and operational levels and adopt a 4-level Kirkpatrick’s model to evaluate the effectiveness of our courses.

**4.2b Describe how the organisation provides learning and development opportunities to employees to achieve organisational and personal growth**

### Ensuring Learning and Growth

Our priority has been and always will be in investing in our staff and developing their capabilities. HDB’s Learning and Development Ecosystem (see Figure 4.2.2) provides staff with a wide range of General Development courses for developing core competencies to drive personal growth, and technical courses for building functional competencies to achieve organisational growth. We also offer programmes leading to formal certification, and various training awards to develop staff professionally and help them re-skill to remain employable. We also partner in-house and external trainers to design courses and leverage a myriad of platforms to ensure effective training delivery and to enhance the learning experience for staff. For example, HDB’s many collaborations with renowned IHLs, leading research institutes and government agencies in research studies have provided staff with opportunities to learn from experts. HDB also dedicates resources for facilities such as a fully-equipped Learning Centre to support effective learning. We are also able to train all staff within a short time frame with customised e-learning programmes hosted on our e-learning system.

### Building Up In-house Engineering Capabilities

With a greater focus on developing the engineering capabilities of our staff, HDB established the Centre of Design Excellence (CoDE). This is HDB’s in-house consultancy arm, providing an avenue for staff to undergo on-the-job



Figure 4.2.1. HDB Learning Process

<sup>13</sup> Appointment holders refer to Group Directors and middle managers.

training and develop cross-cutting competencies in design, management and delivery of our building projects. Staff are purposefully attached to CoDE to gain experience in HDB's building projects from planning and design, to completion. We also attach engineers to organisations locally and overseas and provide specialised training with experts in niche areas.



Figure 4.2.2. HDB Learning and Development Ecosystem

### Training for Policy Changes

As our housing policies are sensitive and policy changes and launches are often embargoed until the day of announcement, we have established a structured approach to implement training expeditiously for frontline staff. This is done through team-based briefings, supplemented with factsheets and FAQs. The briefings take place the evening before a policy announcement to ensure staff are well-equipped to manage public enquiries.

### Training Industry and Foreign Counterparts

As the leader in the housing and construction industry, HDB hosts numerous training programmes and learning visits for local and foreign delegates. To support this, HDB invested in the Centre for Building Research where we train external parties. HDB also receives many invitations to speak at various platforms, both local and international (see Chapter 6.2b). The sharing of best practices helps build capabilities in the industry, enhances bilateral relations with other countries, and provides our officers with knowledge-sharing opportunities with local and overseas officials.

## 4.3 Employee Engagement and Well-Being

### 4.3a Describe how the organisation supports individual and team participation to achieve organisational goals

#### A Holistic Approach to Employee Engagement

Staff engagement in HDB begins at the team level where staff are best able to see how their everyday work contributes to HDB's goals. At our frontline offices, for example, motivating staff through the sharing of cases is a daily affair for team leaders.

As middle managers play a critical role in aligning staff with HDB's goals, we developed the HDB Employee Engagement Framework (see Figure 4.3.1) to support them in their engagement efforts. The Framework depicts HDB's holistic approach to staff engagement. The Employee Engagement Map outlines HDB's employee engagement goals against the employee lifecycle and appropriate engagement platforms. This gives middle managers a clearer idea of how they can engage their staff at different stages of their career. The map also specifies the roles of supervisors and Corporate HR in staff engagement. The Engagement Toolkit supports supervisors in their individual staff engagement efforts. Engagement Measurements include surveys like the Employee Engagement Survey (EES) that all staff are invited to take part in. Such channels allow HDB to get staff feedback and develop Improvement Measures to address engagement gaps. We also engage staff and grow their networks through the various team set-ups, such as the cross-functional HDB 2020 Plan Working Committees (see Chapter 3.2a) and OE Teams (see Chapter 1.2b).

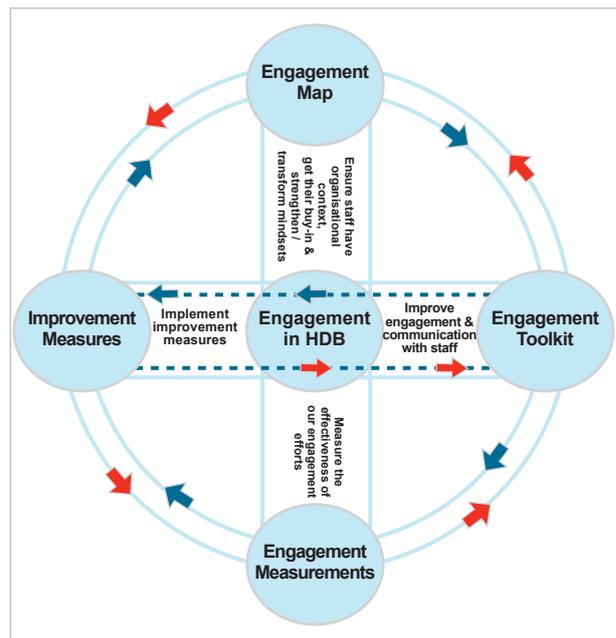


Figure 4.3.1. HDB Employee Engagement Framework

## Partners in Engagement

Corporate HR partners all Groups to promote teamwork and instil pride in staff. One example is the HDB Ambassador Workshop. Phase 1 was rolled out in 2011 to align all 5,580 staff with HDB's stand on hot-button issues, and to enhance their ability to speak well of HDB. Phase 2 was implemented in 2015 to cascade the revised SVs to staff, and help them internalise and embody the values. The Ambassador Workshops reached every HDB staff. We adopted a unique 'train-the-trainer' approach in a conscious effort to improve the quality of engagement and promote team participation. Group representatives were trained by Corporate HR to carry out facilitated workshops with their own colleagues. Another example of the collaboration between HR and Groups is the Staff Seminars aimed at increasing staff's organisational knowledge by acquainting them with HDB's achievements and the different aspects of our work, fostering pride in them.

### 4.3b Describe how the organisation develops a work environment that enhances employee health and well-being

#### A Comprehensive Staff Well-Being Framework

One of our top priorities is the health and well-being of every staff. We create a safe and supportive work environment that promotes and enhances staff well-being so that our staff have a greater sense of personal fulfilment in the areas of self, family and community. Anchored on our SV of Care, we achieve this through planning and implementing initiatives in 4 areas - Workplace Health, Work-Life Integration, Community Involvement, and Emotional Resilience (see Figure 4.3.2).

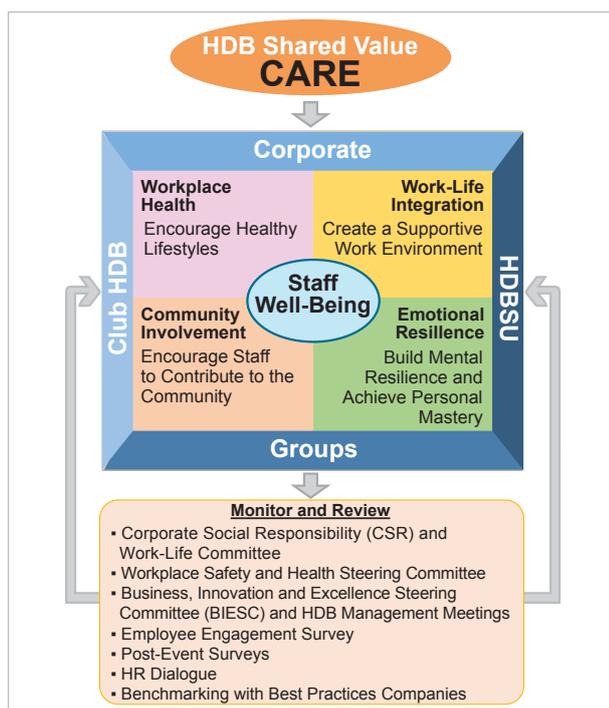


Figure 4.3.2. Staff Well-Being Framework

## Working in Synergy

Our commitment to creating a safe and supportive work environment permeates throughout HDB. Working in close partnership with HDBSU, Club HDB and Group representatives, the Workplace Safety & Health (WSH) Steering Committee and the CSR & Work-Life Committee chaired by Group Director (Corporate Development) spearhead, connect and coordinate the various WSH, CSR and work-life initiatives for better synergy. Through such collaboration, a wide range of initiatives are rolled out to meet the diverse needs of our staff. In addition, annual risk assessment audits, a WSH e-learning module, an in-house video and mobile application on safe work procedures promote good WSH practices and ensure a hazard-free workplace, enabling HDB to achieve our bizSAFE partner status. More significantly, HDB was a trailblazer in implementing initiatives like the Employee Assistance Programme (EAP), Family Care Time-off, and Time-off for Community Involvement, ahead of the Civil Service.

### 4.3c Describe how the organisation measures employee satisfaction, engagement and well-being

#### Reviewing Staff Feedback and Participation

HDB uses various tools to gain insights into and monitor trends on staff engagement and well-being, and to conduct reviews for improvements.

##### Surveys

The EES which is conducted every 2 years, has a consistently high staff participation rate of over 80%. It is the primary tool used to evaluate our engagement efforts.

##### Indicators

Key indicators like Outpatient Sick Leave (OSL) days, participation in major well-being activities, utilisation of family-friendly employee support schemes, and the utilisation rate of EAP, provide valuable insights for us to review our initiatives.

##### Staff Feedback

In addition, targeted conversations with staff complement our efforts to gain direct feedback from them.

## 4.4 Employee Performance and Recognition

### 4.4a Describe how the organisation supports high performance, productive and innovative behaviours to achieve organisational goals

#### Enabling Each Staff to Give of Their Best

Our Performance Management System comprises an open performance appraisal and potential appraisal, to drive a high-performing workforce.

The systems and programmes under the Innovation Excellence Framework (see Chapter 5.1a) have also allowed HDB to promote and sustain innovation.

Our annual open performance appraisal exercise is a 2-way communication process between supervisors and their staff. It is a formal channel for supervisors to highlight strengths, areas for improvement and learning needs, and jointly set work targets with their staff for the year ahead. The well-established system is one that all staff readily participate in, and enables HDB to recognise staff's contributions effectively. The performance appraisal system is also deliberate in ensuring that staff are mindful of the link between their work targets and HDB's goals, their contributions to organisational excellence, and how they demonstrate HDB's SVs.

Our potential appraisal system guides staff development and progression, and enables us to identify staff for higher-level jobs and leadership positions.

### Review for Enhanced Progression Opportunities

Our HR policies and programmes are regularly reviewed to develop staff to their best potential and encourage high performance. To enable career progression for our staff based on their ability rather than paper qualifications, HDB reviewed the schemes of service over the years, and implemented the Extended Management Executive Scheme in 2016. We also introduced new promotional grades in 2010 and 2011 to enhance progression opportunities.

#### 4.4b Describe how the organisation reinforces desired behaviours and organisational values

### Reinforcing our Shared Values

The HDB SVs influence how work is carried out in HDB. Staff are assessed annually on how well they demonstrate the SVs and desired behaviours described for each SV in the appraisal form. Recognising that supervisors are role models for their staff in the demonstration of the SVs, we deepen their appreciation of the SVs and enable them to better engage their staff on the desired behaviours through programmes such as the Values Driven Change Management Programme for our middle managers.

SVs are reinforced throughout staff's career. From the beginning of their careers in HDB, new hires attend a 6-day orientation programme,

which includes a 2-day residential experiential workshop with customised activities centred on learning and living out our SVs. We regularly communicate key messages on our SVs to all staff at boardwide events such as the HDB Annual Conference, and at Group Conferences and appreciation sessions hosted by GDs. The SVs are also imbued in all staff via role play and group reflections at the HDB Ambassador Workshops.

#### 4.4c Describe how the organisation rewards and recognises employees to achieve organisational goals

### Comprehensive Total Reward System

We reward and recognise our staff through a comprehensive total reward system (see Figure 4.4.1) that comprises a competitive remuneration package to attract, motivate and retain good staff. There is also a wide array of awards and initiatives to motivate staff to achieve our goals.

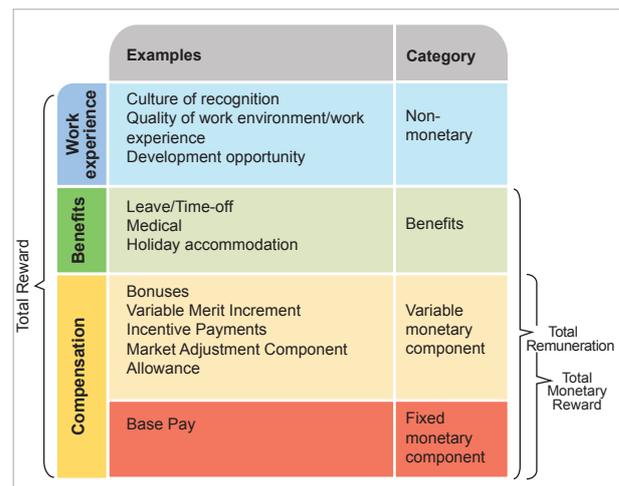


Figure 4.4.1. Total Reward System

### Review for Competitive Rewards

We review the effectiveness of our rewards and recognition system as part of the HR Planning processes (see Figure 4.1.1). Among the HR practitioners, we share and obtain input on HR practices from other organisations and take part in major surveys (e.g. PSD's HR Pulse Survey, Korn Ferry's and Mercer's Compensation Surveys) to assess our competitiveness. Recognising the need to build engineering capabilities, we enhanced the remuneration package for talent in Engineering and ICT in 2016 to better attract these professionals to HDB.

# 5 Processes

## 5.1 Innovation Capabilities

### 5.1a Describe how the organisation develops and implements innovative ideas to create value

Having an innovation-driven mindset is critical for HDB to be able to respond to the multi-faceted challenges in a volatile environment, compounded by budget and manpower constraints. Guided by an organisational innovation process, we nurture all levels of staff to be a thinking workforce, by challenging the status quo and actively innovating at work.

The culture of innovation is further strengthened through a collaborative approach, where we co-create ideas with our customers and stakeholders (Industry, Institutes of Higher Learning (IHLs), Community) and create value along the key processes.

#### The HDB Innovation Excellence Framework

Underpinned by the Shared Value of 'Learning', HDB enables innovation through the HDB's Innovation Excellence Framework (Figure 5.1.1) which comprises:

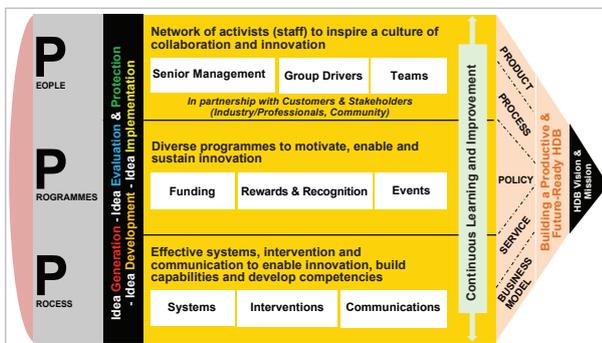


Figure 5.1.1. The HDB Innovation Excellence Framework

- **People:** A community of activists [comprising Senior Management (SM), Innovation Panel, middle managers, Innovation and Productivity Champions] to inspire and drive collaboration and innovation in HDB.

They encourage staff to embrace an open mindset to contribute and try out new ideas. We also value partnerships with stakeholders along the Innovation value chain including IHLs, consultants and contractors to realise our research innovations.

- **Programmes:** Diverse programmes to motivate, enable and sustain innovation.

Other than avenues for staff to create and work on ideas, we have structured frameworks such as the HDB Research & Development Roadmap, Smart Urban Habitat Master Plan, Smart HDB Town and specialised set-ups with specific focus (e.g. Centre of Design Excellence on design innovation).

- **Process:** Effective systems, intervention and communication to enable innovation, build capabilities and develop competencies.

The innovation lifecycle for Idea Generation, Idea Evaluation and Protection, Idea Development and Idea Implementation is iterative to turn good ideas into practical application.

#### Idea Generation

##### Staff

Every staff is empowered to contribute ideas. For example, they can:

- Submit suggestions through the Staff Suggestion Scheme; or
- Form Organisational Excellence teams to work on challenge statements, arising from customer feedback and past projects reviews, to improve HDB's service delivery and operations.

To facilitate ground-level experimentation, the 'I want to Innovate!' (i1:2i) seed funding programme allows staff to pitch ideas directly to the Innovation Panel. Supported ideas will receive funding for prototyping after endorsement by SM.

SM personally guides and directs focus areas at management review platforms. Middle managers sponsor cross-functional projects to encourage bold and innovative ideas. On a daily basis, ideas are also gathered through generative conversations during team huddles. A successful staff idea was the inclusion of an instruction page in the HDB Loan Eligibility (HLE) invitation letter to guide applicants on the overall process. This helped to reduce customer anxiety and enquiries about the HLE process.

#### Customers and Stakeholders

We crowd-source ideas and proposals from customers and stakeholders via these platforms:

- Cool Ideas for Better HDB Living
- Hackathons
- First Mover and Pro-Enterprise Initiatives
- Research grant calls (e.g. Land & Liveability)
- National Innovation Challenge

### *Idea Evaluation and Protection*

SM and middle managers evaluate ideas carefully for feasibility, cost-effectiveness and patentability at dedicated platforms (e.g. Design Reviews). For inter-agency projects, we will also evaluate the ideas together with Ministries and agencies. The HDB Intellectual Property Framework enables us to identify potential inventions and ensure that original ideas and creations are protected. Contributors of outstanding staff suggestions and innovative projects are recognised via the HDB Bright Ideas Award and HDB Innovation Award.

### *Idea Development*

We have several avenues to facilitate the test-bedding of ideas through prototyping to gather feedback from staff and customers on service and process designs. For example, Smart and Green initiatives are piloted at living laboratories in existing and new HDB Towns (Yuhua and Punggol) to solicit feedback from residents. Staff also participated in designing the frontline service experience (see Chapter 2.2a on Design Thinking).

### *Idea Implementation*

Successful collaboration with stakeholders stand testament to the careful planning, review and staging of the implementation process. For example, in our Ezi-Form: Formwork Extension Solution for Precast Production, an extendable mould which addresses shortfalls in standard precast production, was prototyped as part of the i1:2i programme. We conducted trials at the Automated Production Plant in the Centre for Building Research (CBR) before piloting it successfully at 4 building projects. The solution has transformed the precast production into a sustainable process and raised the construction productivity of our contractors.

For our projects, we conduct post-implementation studies with our stakeholders to glean learning points and assess if the intended benefits are met. These findings are also shared with our SM.

### **5.1b Describe how the organisation involves key stakeholders in generating and implementing innovative ideas and solutions**

We make concerted efforts to involve stakeholders, to understand their needs and tap on their expertise and resources. Our Innovation Excellence Journey has brought about inventive solutions jointly put together with our stakeholders through industry collaboration, research and co-creation.

#### **Business Partners and Government Agencies**

##### *Industry Collaboration*

HDB initiated testbeds of solar photovoltaic (PV) technologies in 2009 to develop technical competencies and standards for the Singapore industry. Over time, we developed a Solar

Leasing model for vendors to design, build, finance, operate and maintain the systems. This spurred large-scale implementation on HDB rooftops and the success spawned the 350 MWp Whole-of-Government SolarNova Programme. With this, HDB helped other agencies to procure solar PV for installation at their buildings at lower prices through economies of scale from HDB's tenders. The use of renewable energy generated from the Solar PV has made HDB towns more sustainable.

##### *Joint-Research with IHLs*

Guided by our R&D framework, we embarked on many joint research projects to develop deep technical capabilities. Our partnership with Imperial College London and A\*STAR in June 2017 to study how sensors and sensor networks can be creatively used for more efficient data collection in monitoring and analysis of estate-level services such as lifts, water pumps, and lighting. This collaboration, as part of HDB's Smart HDB Town Framework, shows how we leverage smart technologies in developing liveable and sustainable homes of the future.

#### **Residents and Town Councils (TCs)**

##### *Co-Creation on Sustainable Living*

We developed the HDB Greenprint in 2012, as part of our 'Roadmap to Better Living in HDB Towns' to bring sustainable living into existing HDB estates. For the pilot at Yuhua, we worked with residents and the TC through a 3-pronged approach to engage the community, raise awareness of the green features (e.g. learning journeys) and give more autonomy to residents in managing a cleaner, greener and better living environment. Using the Greenprint Fund, residents co-created with us Green Solutions such as Ducted System LED Light and Community Farming. We also partnered the TC and consulted the Adviser, People's Association and Grassroots leaders to implement Green Solutions such as automating refuse collection with the Pneumatic Waste Conveyance System and tapping on the rainwater harvesting system to clean HDB blocks.

This resulted in huge manpower and cost savings for both the residents and TCs. With the successful completion of the pilot project at Yuhua, the HDB Greenprint has been extended to Teck Ghee (Ang Mo Kio) and targeted to complete in 2021.

## **5.2 Process Management**

### **5.2a Describe how the organisation manages key and support processes to meet customer and operational requirements**

All HDB Groups are involved in phases of the key processes (Figure 5.2.1) forming the

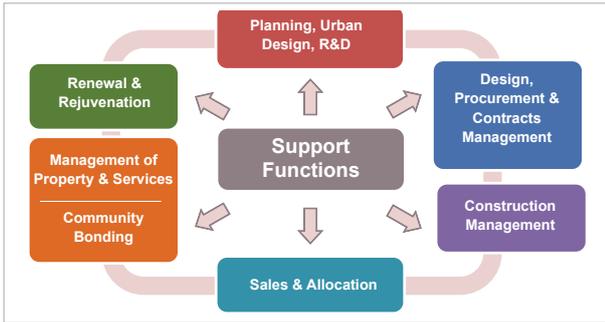


Figure 5.2.1. HDB Key Processes

value chain to achieve outcomes aligned with our Vision and Mission.

Using the process matrix (see Figure 5.2.2), we define process requirement and the respective process indicators to ensure that our key and support processes remain robust in meeting the organisational goals. Review platforms chaired by SM keep track of the progress of the initiatives and provide guidance in striving for continuous improvement.

	Key Review Platforms	Initiatives/Frameworks	Examples of In-Process Indicators
<b>1. Planning, Urban Design, R&amp;D</b> Optimise land planning, space creation and infrastructure, strengthen HDB's housing policies and programmes, develop sustainable towns	1. <ul style="list-style-type: none"> <li>• Concept Plan Review, Facilities and Services Co-ordination Meetings with reference to Building Plan</li> <li>• Smart Urban Habitat Steering Committee</li> <li>• Management meetings</li> <li>• CEO's R&amp;D Forum</li> </ul>	1. <ul style="list-style-type: none"> <li>• HDB Town Planning</li> <li>• Smart Urban Habitat Master Plan</li> <li>• R&amp;D Framework</li> <li>• Roadmap to Better Living in HDB Towns</li> <li>• Sustainable Development Framework</li> </ul>	1. <ul style="list-style-type: none"> <li>• Number of dwelling units (DUs) targeted as stipulated under Building Plan and actual awarded for tender</li> <li>• Number of R&amp;D projects</li> <li>• SolarNova Programme (Solar Capacity Generated)</li> </ul>
<b>2. Design, Procurement, Contracts Management</b> Design to meet evolving needs, instil vigilance over procurement practices	2. <ul style="list-style-type: none"> <li>• Management meetings</li> <li>• PEAK Forum</li> <li>• CEO's Design Forum</li> <li>• Engagement with Architectural design panel, Design for Safety</li> </ul>	2. <ul style="list-style-type: none"> <li>• Early Contractor Involvement in Design</li> <li>• Intellectual Property Framework</li> <li>• Contractors' Performance Assessment</li> </ul>	2. <ul style="list-style-type: none"> <li>• Number of patents registered</li> <li>• Residents' Satisfaction on Design Layout</li> <li>• Number of awards won for Design and Construction</li> </ul>
<b>3. Construction Management</b> Enhance the productivity, quality and safety of our construction activities	3. <ul style="list-style-type: none"> <li>• Technical Management Committee Meetings</li> <li>• Regular Building Coordination Meetings (BCM) to monitor projects in delay and have appropriate measures to bring on track</li> <li>• Progress updates and review of the HDB BIM Framework</li> <li>• Post Construction Review</li> </ul>	3. <ul style="list-style-type: none"> <li>• Construction Productivity Framework</li> <li>• Ground sensing and engagement with building contractors to detect ailing symptoms of contractors and activate contingency plans</li> </ul>	3. <ul style="list-style-type: none"> <li>• Construction Productivity Index</li> <li>• Timely delivery: Proportion of projects meeting Estimated Delivery Possession Date (DPD)</li> <li>• Accident Frequency Rate</li> <li>• CONQUAS Score</li> </ul>
<b>4. Sales &amp; Allocation</b> Administer transactions and allocation of flats, create a seamless and positive home purchasing experience	4. <ul style="list-style-type: none"> <li>• Management meetings</li> <li>• Policy and rules reviews</li> <li>• Dialogue with S'pore Institute of Surveyors &amp; Valuers</li> </ul>	4. <ul style="list-style-type: none"> <li>• Service Master Plan</li> <li>• 3E (Enhancing Engagement Efforts) Project (Multi HDB Groups, Advisers, PA)</li> </ul>	4. <ul style="list-style-type: none"> <li>• Rental Housing Applicants on Waiting List and Waiting Time for Flat Allocation</li> <li>• Occupancy rate of HDB Commercial Properties</li> </ul>
<b>5. Management of Properties &amp; Services, Community Bonding</b> Streamline operations and maintenance, build active and cohesive communities	5. <ul style="list-style-type: none"> <li>• Management meetings</li> <li>• Engagement/Training for TCs on estate maintenance methods</li> <li>• Placemaking engagements to inject more 'heartware' into the design of public spaces</li> <li>• Organisational Process Reviews such as Design Thinking, Behavioural Insights</li> </ul>	5. <ul style="list-style-type: none"> <li>• Community Outreach and Bonding initiatives such as BOND!, Hello Neighbour!, Build-a-thon Projects, Heartland Ambassador Programmes</li> <li>• Revamp of frontline offices</li> <li>• Branch Re-organisation</li> </ul>	5. <ul style="list-style-type: none"> <li>• % of participants who feel that they are able to influence their neighbourhood's design plans</li> <li>• Community participation over past 12 months by year</li> <li>• Sense of community score by year</li> <li>• Number of major maintenance requests</li> </ul>
<b>6. Renewal &amp; Rejuvenation</b> Ensure that our residents continue to enjoy high living standards in older towns and estates	6. <ul style="list-style-type: none"> <li>• Management meetings</li> <li>• ROH consultations with residents to refine plans</li> <li>• Activation Team (AT) for new generation Town Plazas</li> <li>• Annual Dialogue Session with Federation of Merchants' Associations, Singapore (FMAS) and Non-FMAS and Merchant Associations</li> </ul>	6. <ul style="list-style-type: none"> <li>• Estate Renewal Strategies</li> <li>• SERS Planning</li> <li>• Revitalising of heartland shops</li> </ul>	6. <ul style="list-style-type: none"> <li>• Number of DUs completed under HIP</li> <li>• Cumulative number of SERS sites announced</li> <li>• Satisfaction level on (i) commercial business vibrancy for shopkeepers, (ii) promotional events for shoppers</li> </ul>
<b>7. Corporate and Support Functions</b> Provide support to key processes in achieving better process performance	7. <ul style="list-style-type: none"> <li>• Management meetings</li> <li>• Business &amp; Innovation Excellence Steering Committee (BIESC) Meetings, ERM, ICTSC, DMSC, BCP Steering Committee</li> <li>• HR Dialogues, HDB Financial Management Committee</li> <li>• Corporate Social Responsibility/Work-Life Committee</li> <li>• Quality Service Forums, i1.2i, Staff Suggestion Scheme</li> <li>• ISO (9001, 22301, 14001) Certifications</li> </ul>	7. <ul style="list-style-type: none"> <li>• Digital Master Plan</li> <li>• Internal Audit</li> <li>• Staff Well-Being Framework</li> <li>• Strategic Workforce Planning</li> <li>• BCP</li> <li>• Enterprise Risk, Corporate Governance</li> <li>• Innovation Excellence</li> </ul>	7. <ul style="list-style-type: none"> <li>• Digital adoption rate for transactions and services</li> <li>• Availability of Critical IT Resources</li> <li>• Number of actual fraud cases</li> <li>• Number of key audit observations from Auditor-General's Office report</li> </ul>

Figure 5.2.2. Process Matrix

**5.2b Describe how the organisation drives process improvement to enhance productivity and achieve higher organisational performance**

The process improvement workflow (Figure 5.2.3) shows the continuous improvement loop for each key and support process to ensure the delivery of the desired outcomes. The following illustrations highlight how the improvement mechanism has helped to bring about better organisational outcomes.

**HDB Construction Productivity Framework**

Guided by the Construction Productivity Framework that steers our efforts towards a more holistic approach for the Construction Management key process from pre-construction through to the post-construction stage, we optimise current processes and systems while concurrently looking for new breakthroughs and productivity gains.

The performance indicators allow us to track the productivity improvements resulting from each initiative implemented. They are tracked against the yearly internal targets, which are aligned with the organisational productivity target of 25% improvement by 2020. Some initiatives of innovative construction are:

<b>Prefabricated Prefinished Volumetric Construction (PPVC) and Prefabricated Bathroom Units (PBU)</b>	<p>Incorporate new ideas and technologies in manufacturing and assembling free-standing volumetric modules, complete with finishes for walls, floors and ceilings off-site.</p> <p>Review the technical specifications and performance requirements jointly with Consultants, Contractors and BCA.</p> <p>HDB projects have consistently achieved better construction productivity, averaging 0.462m<sup>2</sup>/man-day as compared to 0.332 for private projects.</p>
<b>Virtual Design and Construction (VDC) with Building Information Modelling (BIM)</b>	<p>An advanced 3D modelling technology, BIM enables professionals of various disciplines to explore the building project digitally, before it is built.</p> <p>In VDC, planners, surveyors, designers, and builders look at the same 3D model to (i) flag out and resolve potential design and construction issues before the actual construction on site; (ii) plan the construction activities holistically in a virtual environment.</p> <p>As an early adopter of BIM since 2009, about 130 HDB projects have been designed using this advanced technology. HDB has also published a BIM Guide to share best practices with the industry. All HDB projects will be required to adopt VDC for both design and construction phases by 2021.</p>

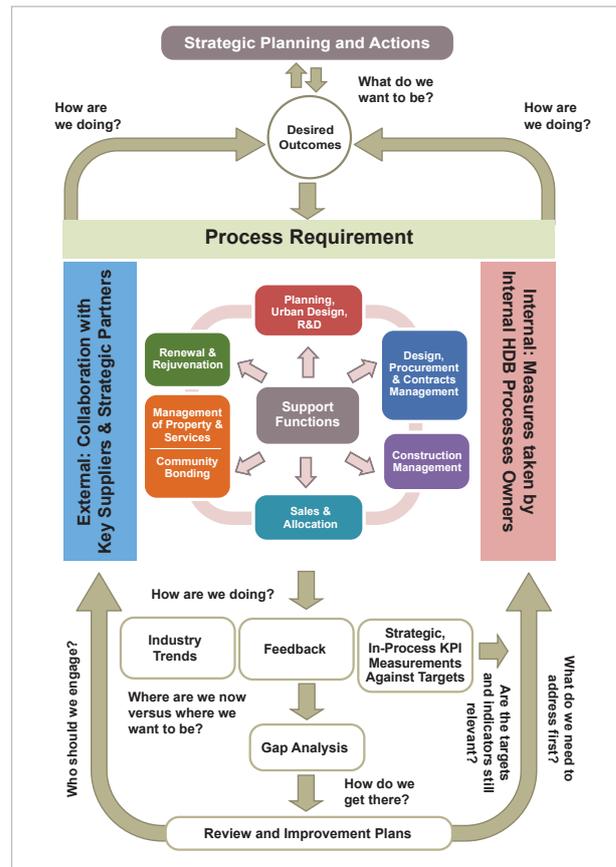


Figure 5.2.3. Process Improvement Workflow

**Enhancing Engagement Efforts (‘3E’) Project**

We embarked on the 3E journey in 2016 where we reviewed our engagement strategies with our residents and stakeholders (e.g. Advisers) to create a positive and seamless experience for our residents throughout their HDB journey and improve the effectiveness of our engagement efforts. The cross-Group taskforce looked into the entire process comprehensively from residents’ sourcing for a flat till the time they move into their home. The objectives were to:

- Strengthen internal processes across Groups;
- Leverage IT systems and put in place an integrated system with dashboards for tracking and reporting;
- Improve engagement initiatives with multiple external parties (e.g. Advisers, government agencies, residents); and
- Build relationship with Grassroots Leaders

Through the review, we implemented various initiatives in 2017. Our internal processes were enhanced to improve responsiveness in handling feedback from residents and Advisers. One such initiative was to ensure that all new residents had their feedback addressed by the contractor within a year after key

collection. In place of the physical Building Service Centre (BSC), residents can submit their feedback online for prompt follow-up by the Customer Relations Officer (CRO) from the contractor. It is a service improvement, as the residents will be dealing with the same BSC staff who would be familiar with their previous feedback.

### 5.2c Describe how the organisation sustains key processes in times of emergencies to ensure business continuity

Given the disruptive nature of global threats on the operating environment, mitigating measures need to be in place to hedge the key processes against major risk events (e.g. fire, haze, community disease outbreaks, cyber-attacks and the physical denial of HDB Hub being the most severe).

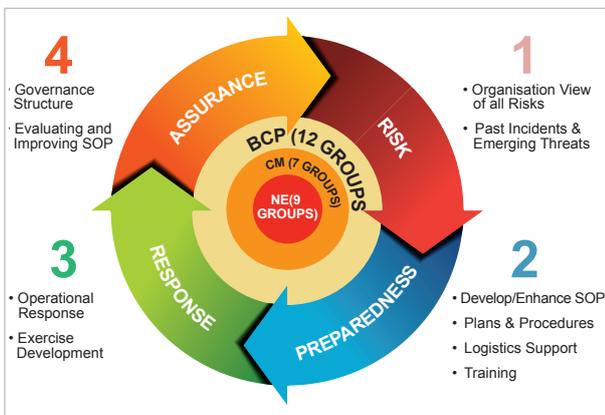


Figure 5.2.4. Whole-of-HDB Organisational Resilience

As one of the few non-uniformed government agencies with a joint-response structure managing Business Continuity Planning (BCP), Crisis Management (CM) and Emergency Preparedness (EP), we integrate holistic Business Continuity Management (BCM) (see Figure 5.2.4) into our corporate Enterprise Risk Management (ERM) framework (see Chapter 3.1a) to identify current and emerging operational risks and deploy mitigating measures.

#### BCP

We develop robust BC strategies to maintain a high level of continuity readiness at the organisational level in terms of staff, response plans, infrastructural support and logistics. The SM Steering Committee, led by CEO comprising key operational and supporting groups, provides both strategic and tactical oversight on resources and responses, subject to the identified disruption nature.

#### CM

SM endorsed the 7-step CM cycle which harmonises workstreams across groups and ensures that incidents needing SM's attention

are promptly escalated for decision-making. Incident reporting KPIs, with standardised severity classifications and performance targets, are monitored closely for resolution.

#### EP

We embrace an ecosystem approach by integrating workflows in our Command, Control and Communications (C3) system to perform our emergency roles and responses efficiently during a national emergency (NE). The integrated system has a map module and dashboards to facilitate information management and operational coordination. SM and commanders are updated on the situation using the system.

#### Ensuring Readiness

Through regular exercises (annual table top and real-time exercises on site), staff performing critical functions are well trained in the activation protocols, understand the operational dependencies and can respond within a short period of time based on the stipulated Return Time Objectives. Post-exercise reviews are endorsed by SM before institutionalising into SOPs. In 2015, HDB was the only MND agency accorded with Band 1 (highest state of readiness out of 3 levels) for our operational readiness in a national-level EP validation exercise facilitated by MHA. As at October 2017, HDB was also the first and only Singapore government agency to be awarded the BCM ISO22301 Certification.

#### Supporting Infrastructure and Technology

We deploy IT to equip our first responders with the essential tools to do their emergency work. For example, an in-house CM app is used for timely incident notification and reporting. We continuously enhance the app to deliver user-centric features to meet the operational requirements, including modules for incident escalation to MND.

## 5.3 Supplier and Partner Management

### 5.3a Describe how the organisation identifies and manages key suppliers and partners to achieve organisation goals

The building of HDB flats has always been a core business function of HDB. To ensure quality in construction management and timely delivery of our flats, we engage and work closely with our key suppliers (i.e. contractors, consultants) in our processes. As our business model evolves from being construction-centric to one that provides a total living environment, we also place emphasis on engaging partners through strategic collaborations to meet our organisational goals.

## Identifying and Managing Suppliers

The process to identify key suppliers is critical in the delivery of HDB's building programme and quality homes to our customers. The procurement of suppliers is based on the principles of Open & Fair Competition, Transparency and Value for Money.

In procuring design and building services, other than the use of the Quality Fee and Price-Quality methods, we also incorporate assessment criteria so that the key principles are met.

## Rewarding Good Performance

The Tender Opportunities System is a performance-based system to manage the allocation of tender opportunities. Reviewed every 6 months, the contractors are graded based on the average performance scores of their current and past projects. Contractors with better performance are allowed to secure more projects. Those with less satisfactory performance are given a smaller quota so that they can concentrate on current projects. The annual HDB Design and Construction Excellence Awards recognise industry partners for their contribution in partnering HDB to develop well-designed and quality homes for Singaporeans.

## Ensuring Quality Standards

To ensure a consistent supply of quality building materials for all HDB's construction projects, we maintain the HDB's Materials List (ML) with products that have shown track records of good quality, for suppliers to comply with performance standards set forth for all HDB's construction projects. This list is updated regularly based on supplier's performance, trends and new technology in the construction industry.

## Communicating Requirements

Design guides such as the Public Housing Design Guide and the Landscape Guide provide a comprehensive list of guidelines and checklists for HDB public housing developments. These areas include precinct, block and flat type, car park, landscape and would help the consultants understand HDB's requirements and specifications for quality housing development. Seminars, Forums and Sharing Sessions organised by HDB provide opportunities for suppliers to share constructive suggestions which are subsequently implemented. Examples of seminars organised by us are the HDB Construction Quality Seminar and PEAK Forum.

## Identifying and Managing Strategic Partners

We have identified three focus areas where we leverage our collaboration with strategic

partners to realise the outcomes of our Mission and Vision.

### Focus Areas of Collaboration with Partners Aligned to HDB's Mission

Housing Affordability	Development & Rejuvenation of Towns	Quality and Maintenance
<ul style="list-style-type: none"> <li>• Potential Flat Buyers</li> <li>• General Public</li> <li>• Industry Experts</li> </ul>	<ul style="list-style-type: none"> <li>• General Public</li> <li>• Residents</li> <li>• Advisers</li> <li>• Nature &amp; Heritage NGOs</li> <li>• Town Councils</li> </ul>	<ul style="list-style-type: none"> <li>• Residents</li> <li>• Town Councils</li> <li>• Industry Experts</li> </ul>

With the HDB Stakeholder Engagement framework, we stocktake HDB's existing stakeholder universe, current engagement efforts and identify priority areas for engagement. The objective in such engagements goes beyond reaching out to them as our audience. It is to garner support and widen partnership with them so that they become our advocates, our volunteers, where they are inspired and can inspire and mobilise others to deliver on our Mission.

### 5.3b Describe how the organisation engages key suppliers and partners to co-create products and services

We collaborate with key suppliers and partners to co-create products and services.

## Engaging Suppliers

### Co-Creation Using R&D and Technology

Prior to introducing new building designs and materials, we collaborate with practitioners and suppliers in R&D activities. Through these collaborations, examples of productivity improvements in construction include PPVC and improved finishes such as uPVC Skirting.

### Improving Capabilities of Suppliers

We have worked with professional training institutes such as WSG & Employment and Employability Institute (E2i) on customised certified courses to level up the competency of our suppliers including the CROs employed by the contractor for the operations of the BSC to be more customer-centric and improve the consistency of service delivery.

### Reviewing Specifications

The Specifications Review Committee (SRC) comprises members from different HDB Groups who meet regularly to evaluate working methods and designs for HDB flats. They would also deliberate on time, cost and quality aspects of the proposed items before implementing the requirements through tender specifications.

## Engaging Strategic Partners

### *Working Towards a Smart Built Environment*

We teamed up with the NCS consortium (comprising AECOM, Arup and Samsung Asia Pacific) to develop a new Smart Urban Habitat Master Plan (SUHMP), which maps out a strategic approach towards the deployment of smart technologies in the planning and design of HDB towns. The SUHMP is a first-of-its-kind, developed for Punggol Town, where a Smart Hub platform will integrate multiple sources of information such as real-time data from sensors around HDB estates, into a central repository where insights can be generated for HDB. The data can be used to identify patterns, predict potential maintenance issues and allow for proactive upgrading and replacement of systems.

### *Co-Creating Spaces within HDB Towns*

The Remaking Our Heartland (ROH) programme is HDB's initiative to partner the community to rejuvenate our heartlands. HDB had actively engaged residents and stakeholders early to seek their views on the plans via focus group discussions. Input from the participants were factored in when developing the ROH plans. Into

its third series, Toa Payoh, Woodlands and Pasir Ris are the latest towns included in this programme, where each town's identity is strengthened with the residents' inputs.

### *Teaming up with our Shopkeepers*

Our shopkeepers (tenants and owners of HDB commercial properties) are key to bringing business vibrancy and shopping convenience to our residents. The enhanced Revitalisation of Shops (ROS) Scheme announced in May 2016 arose from a review by the Revitalise Heartland Shops Committee in consultation with retailers, Grassroots, Merchants' Associations (MAs) and the Federation of Merchants' Association (FMAS). The measures range from (i) adjustment of co-funding ratio between the Government, TC and shopkeepers, (ii) start-up fund of \$10,000 to encourage HDB shops without an MA to form one as they are key in rejuvenating heartland shops, (iii) advance notice on tenancy renewal to facilitate better planning and (iv) changes in shop trades to meet residents' changing needs. Besides supporting the FMAS in key events like the Singapore Heartland Enterprise Seminar, HDB also works closely with FMAS/MAS to foster good relationships amongst the retailers via dialogues and informal huddles.

# 6 Knowledge

## 6.1 Knowledge Management

### 6.1a How the organisation collects and manages information for strategy development, decision-making and organisational learning

HDB's Information Management Framework documents how we identify, collect, manage and share information for our organisational needs, while ensuring robust governance and IT security. From these rich sources of information, we are able to draw insights for analysis, learning and decision-making.

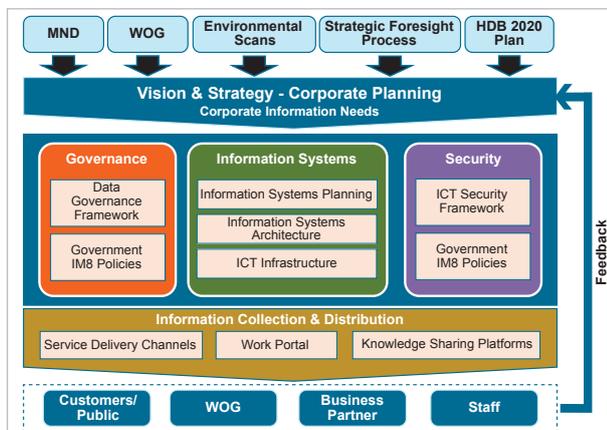


Figure 6.1.1. Information Management Framework

### Identifying Information Needs

Each year, after identifying the requirements to support HDB's strategies and initiatives that dovetail with the Corporate Planning Process (see Chapter 3.1b), we kick-start the Information Systems Planning Process. All Groups would work with the Information Services Group (ISG) to build on or enhance the relevant information and systems to support internal and external stakeholders via various channels.

Senior Management (SM) drives the review to focus on technology to transform HDB in the digital age. In 2016, we formulated the **HDB Digital Master Plan** and one key deliverable was to strengthen our end-to-end digital ecosystem to facilitate greater data-sharing across HDB's key business domains and beyond HDB.

### Collecting and Managing Information

The Information Systems Architecture (see Figure 6.1.2) encapsulates the way we collect, manage and apply information for customer-centric service delivery, organisational efficiency and better stakeholder collaboration. We collect information from customers, government agencies,

suppliers and partners through e-services, correspondences, counter transactions, research, surveys, and government data-sharing platforms.

We also tap on new channels such as social media and sensors to augment information from traditional sources.

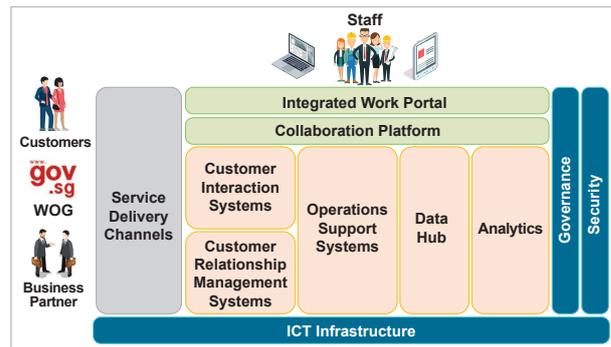


Figure 6.1.2. Information Systems Architecture

The Information Systems Architecture is supported by a robust Information and Communications Technology (ICT) infrastructure that integrates the service delivery channels and the corporate information systems to collect, manage and store information in a centralised data hub. Our corporate information systems are certified under ISO 9001 and rated at Capability Maturity Model Integration (CMMI) Maturity Level 3, thus ensuring reliability, consistency and continuous improvement to service delivery. HDB is the only government agency to be appraised at CMMI Maturity Level 3 to date.

HDB leverages the centralised data hub as a single source of truth to serve our diverse operations and users. An example is HDB's Smart Hub which taps on both sensor data and operational data to detect issues on lifts, energy usage and structural safety of buildings in real-time in HDB estates. This enables us to attend to concerns proactively and promptly. The technology is also able to recommend predictive maintenance and improvement measures to prevent possible failures. Information is also shared with the Town Councils to facilitate the maintenance of HDB estates.

### Sharing of Information within HDB and Beyond

Our staff are provided with a work portal that serves as a one-stop access point to information, systems, dashboards and tools to support our day-to-day operations and information analysis. The in-tray feature helps to track outstanding work

tasks while its customer-centric service feature equips relevant staff with a 360-degree view of customers for better customer service delivery. Our field staff are able to access the work portal on-the-go via mobile devices for field work involving taking photos of defects, issuance of works orders and payment to contractors.

There are collaborative platforms such as team sites, instant messaging, Workplace by Facebook and knowledge repositories that enable staff to access information, communicate and share knowledge within HDB.

In 2012, we embarked on an extensive knowledge management project by capturing and documenting comprehensively the institutional knowledge of HDB's expertise in public housing. This project aims to create awareness and understanding amongst HDB staff of behind-the-scenes considerations in key policies and programmes formulation, implementation challenges and lessons learnt, as well as impart HDB's expertise and experience to younger HDB officers.

Beyond HDB, we have created ecosystems to share information with more than 40 government agencies and stakeholders such as Town Councils, suppliers and partners for collaboration and to co-create seamless customer services. One example is the Resale Flats ecosystem which involves information exchange with property valuers, banks and government agencies to support the entire resale transaction through the HDB InfoWEB.

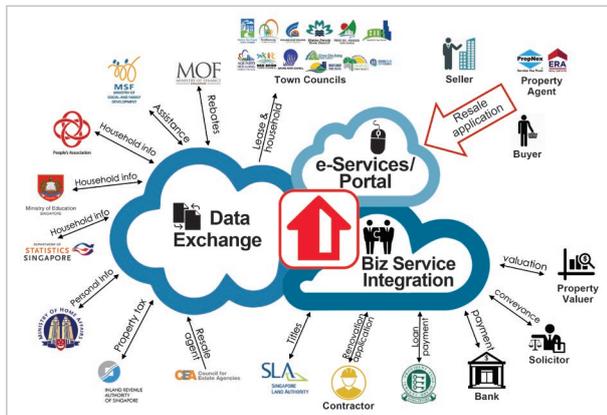


Figure 6.1.3. HDB Resale Flats Ecosystem

HDB shares more than 45 datasets with the public at the Government open data portal (Data.gov.sg). One of the datasets is HDB's car park information, which application developers could use to provide a suite of value-added services to the public. HDB also partnered URA and GovTech to develop a mobile parking application that allows motorists to pay parking charges using mobile phones, hence doing away with the use of parking coupons. As at 1 December 2017, more than 300,000 motorists have downloaded the parking application.

HDB is proactive in harnessing the use of new technologies to support our work, as evident in the application of augmented reality and virtual chatbots to share information with customers in a more intuitive and interactive way.

### 6.1b Describe how the organisation ensures the accuracy, accessibility and security of information

#### Governing Information as a Strategic Asset

HDB employs a Data Governance Framework to ensure the management of data throughout its entire lifecycle from planning till archival/disposal.

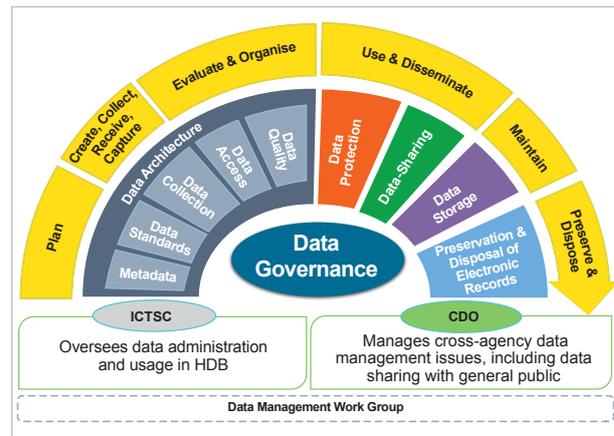


Figure 6.1.4. Data Governance Framework

Our Assistant CEO (Corporate), who is also the Chief Data Officer (CDO), helms the ICT Steering Committee (ICTSC) together with the Deputy CEOs and oversees the data governance in HDB. The Data Management Work Group, comprising representatives from the various Groups, supports the ICTSC. The Work Group establishes, reviews and implements data management policies in HDB.

#### Ensuring Data Quality and Accessibility

HDB's prescribed data architecture ensures that the data collected through the corporate systems is consistent, up-to-date and secure. For instance, our information systems verify and validate information collected to ensure data integrity. The information is stored securely in a centralised data hub which is only accessible by authorised staff and stakeholders on a needs basis.

Data is replicated real-time to an off-site Disaster Recovery Centre to ensure business continuity. In the event of a disaster, data and critical services are recovered within 4 hours. We involve all stakeholders in the annual Business Resumption Plan exercises to build robustness in HDB's business continuity operations during an emergency.

We also ensure that data with national significance but which is no longer required for operations, is preserved or disposed of according to the guidelines of the National Archives of Singapore.

### Protecting Data against Threats

HDB has a robust ICT Security Framework that is supported by 3 elements – people, technology and security policy.

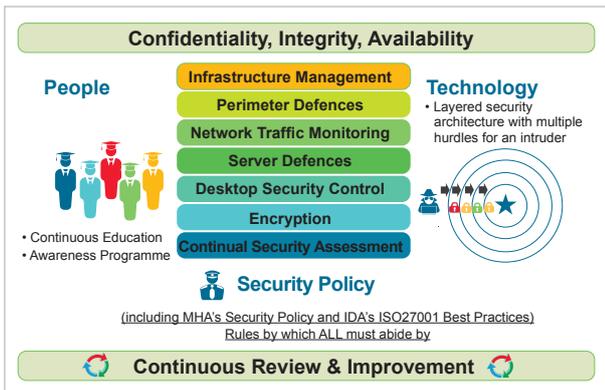


Figure 6.1.5. HDB ICT Security Framework

We constantly review our security landscape and report to the ICTSC. Penetration tests are carried out to identify and prevent vulnerabilities in our systems. GovTech carries out the regular Cybersecurity Assessment of Government Environment (CAGE) scan audits, reviews and assessments to ensure agencies' compliance with the Government's Instruction Manual (IM8). Based on the latest audits in 2010 and 2013, HDB is amongst the top agencies in the Whole-of-Government (WOG) that consistently achieves a high level of compliance. Staff are also constantly reminded to observe good cybersecurity hygiene.

## 6.2 Analytics for Performance Management

### 6.2a Describe how the organisation leverages on knowledge and information to create new value

#### Being a Data-driven Organisation that Value Adds

HDB started focusing on Business Analytics (BA) in 1995 by setting up a data warehouse to enable users to perform data query and reporting. BA is one of the key focus areas in the HDB Digital Master Plan as we continue to build our internal expertise and use it to gain greater insights for policy and decision-making.

We established the Data Analytics Framework as a structured approach to data analytics.

This Framework sets out the principles for the application of analytics to align with HDB's business objectives. Supporting this Framework is

the BA Work Group which identifies and monitors analytics projects that add value to our business. SM provides guidance on the analytics initiatives through the Digital Master Plan Steering Committee that the BA Work Group reports to.

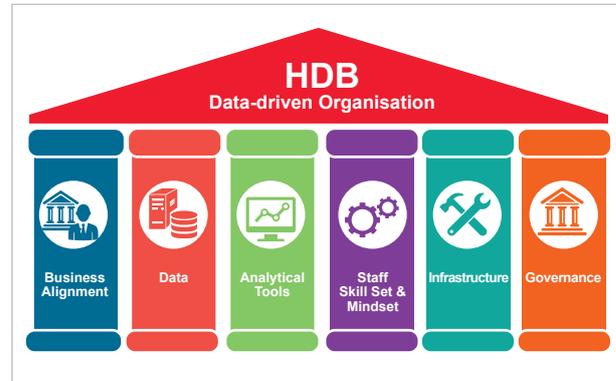


Figure 6.2.1. Data Analytics Framework

### Gaining Maturity in Data Analytics

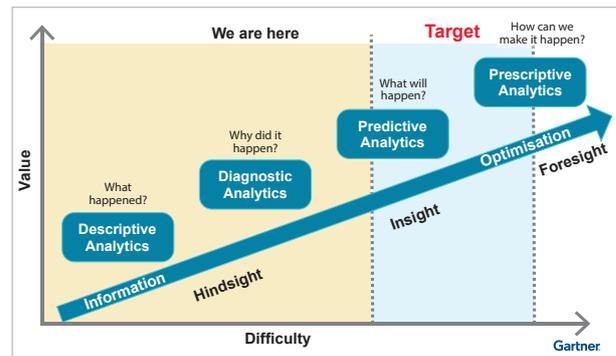


Figure 6.2.2. Analytics Maturity Model

In our journey towards becoming a data-driven organisation, HDB's analytics maturity has progressed from descriptive to predictive analytics, with more than 500 users throughout the organisation using data analytics for strategic and operations planning.

HDB dedicates resources to ensure that the supporting IT infrastructure, data required, training roadmaps and relevant analytical tools are available to optimise the application of analytics within HDB.

Staff across business domains are empowered and equipped to perform analytics. This pervasive approach is effective as the domain experts possess the essential domain knowledge needed to derive more targeted business insights. This model is unique to HDB, as many other organisations tend to rely on a central analytics team.

We developed a BA Training Framework as part of our ongoing efforts to build up the BA capabilities of HDB staff. It comprises a comprehensive suite of training programmes to equip staff with the necessary analytics skill sets.

## Sparking New Value Creation

HDB has evolved from using static reports to accessing real-time and interactive dashboards to monitor key business operations. For example, the Smarter Parking (SPARK) interactive dashboard taps on data from the centralised data hub and provides real-time monitoring of car park utilisation and analysis of season parking take-up rates to enable prompt responses to customer needs.

Another example is the use of predictive models to profile residents who are likely to default on their loans so that we can deploy target approaches to assist them and reduce the occurrence of mortgage loan arrears.

We also use time-series modelling tools to simulate the macro-economy and its interactions with potential parameters affecting private residential properties and HDB resale flat markets. This forward-looking approach enables policy-makers in HDB and MND to better calibrate flat supply, and manage manpower and budget requirements in support of the public housing developments.

In addition, analyses are performed on flat application data, amongst other data points such as prevailing market conditions, population growth and changing demographics, to help us plan the flat supply and allocation policy.

HDB stood out from among 100,000 organisations when our geospatial information system PLANet clinched the prestigious ESRI Special Achievement in GIS award<sup>14</sup> in 2016. PLANet provides interactive and intuitive map query and visualisation for town planning and analysis. For example, it enables HDB planners to perform distance analysis to compare the demographic of shoppers between the existing and proposed commercial facilities. This facilitates our planning of the types of shop trades that would better serve the residents.

### **6.2b Describe how the organisation uses comparative and benchmarking knowledge to improve performance**

HDB is deliberate in identifying comparative and benchmarking information and benchmarking partners based on (i) relevance to HDB's strategic thrusts and KPIs, (ii) best-in-class and best practices in their respective niche areas and (iii) potential for value creation. This ensures HDB stays relevant and is at the forefront of innovation.

We use 4 main platforms to glean comparative and benchmarking information for performance improvement. SM discusses ways to apply the learning internally and track the findings reported through various management forums.

## Improving Performance through Use of Indices, Standards and Surveys

We use industry-known standards as main benchmarking references to measure performance and initiate surveys to gather feedback from stakeholders. We set goals and strategies to constantly improve our construction productivity (see Chapter 5.2b).

Survey results are analysed by projects so that we can make continual improvements to the quality of our flats and customer service delivery. Feedback is gathered from new home owners on their level of satisfaction in areas such as HDB's service, workmanship and flat design layout. Insights gathered help us address the common issues raised by residents. For example, new flats will be provided with uPVC toilet doors instead of timber ones for improved durability.

Through the New Urban Kampung research project between HDB and Singapore University of Technology and Design (SUTD), sensor data coupled with data analytics and behavioural studies will be used to predict how demographics in HDB towns are likely to evolve, and forecast residents' responses to initiatives in their living environment.

HDB is a pioneer in prefabrication technology. Today, over 60% of our building components are pre-fabricated, as compared to 25%-30% in the private sector. As a result of standardising our flat designs, we are able to optimise the prefabrication process and achieve higher construction productivity. We use the Construction Quality Assessment System (CONQUAS), a national yardstick to measure the overall quality of a building's workmanship at various stages of construction, as a benchmark for our flat quality.

We developed a holistic and comprehensive Sustainable Development (SD) Framework (see Figure D, Organisational Profile) to guide in the development of HDB Eco-Towns. We mapped our broad strategies and initiatives to achieve the 10 key desired outcomes in environmental, economic and social sustainability. The strategies and initiatives are aligned with the national KPIs.

## Improving Performance through Research Collaborations

We studied foreign housing agencies and partnered leading research institutes, industry leading companies, renowned Institutes of Higher Learning (IHLs) and government agencies through research collaborations. These collaborations enable HDB to leverage the findings from the extensive basic and applied research to acquire

<sup>14</sup> The GIS award by ESRI is presented to organisations for their innovative use of Geographic Information System (GIS) technology.

new innovations and technologies to bridge performance gaps, overcome challenges and improve service delivery. Some examples are:

Research Focus	Examples
Advanced Construction	<b>3D Printing</b> - HDB partners Robin Village Development Pte Ltd, Witteveen+Bos South-East Asia Pte Ltd and Nanyang Technological University on the development of life-size 3D Concrete Printing technology. This would be a state-of-the-art technology that helps us to exploit advancements in both digital and robotic technology for the production of precast components. A '3D Concrete Printer' will be developed and set up at HDB Centre of Building Research (CBR) to study the potential of producing life-size precast components using such robotic printers. This project aims to improve overall construction productivity with a high level of automation, at the same time enable greater design freedom and adoption of architectural elements with varied forms and features.
New Spaces	<b>Land Reclamation</b> - HDB works with experts from the Netherlands to develop a cost-effective, safe and environmentally-sensitive design for Polder development in Singapore. HDB is the first to lead the industry in adopting Polder as a new land reclamation method in Singapore. This would substantially reduce construction costs and the amount of sand needed for land reclamation.

As indicated in Chapter 2.2b, HDB collaborated with GovTech in 2016 to leverage text analytics on customer correspondences. The outcome of the analysis shed light on the correlation between customer demographics and key collection preferences. We tweaked our key collection process from pre-specified appointment to one that allows customers to choose their key collection date through an e-service.

## Improving Performance through Study Trips

We organise regular study trips to both foreign and local organisations. For instance, in the development of the Smart Hub, we visited Europe and the United States to learn how cities leverage and reap the benefits of smart technologies. Gleaning from the sharing, HDB developed a Smart Hub to monitor the performance of key assets such as lifts, lighting and utilities via a single dashboard and to alert stakeholders on potential fault issues for timely preventive and remedial actions. With the eventual interfacing of the Command, Control and Communications (C3) system (see Chapter 5.2c) within the Smart Hub environment, we can leverage essential data to perform our crisis management roles and provide responses efficiently.

Locally, we have visited organisations such as Singapore Prison Service, Khoo Teck Puat Hospital and NorthLight School to learn about areas ranging from organisation excellence and leadership to using design thinking and behavioural sciences to improve service delivery.

## Sharing of Best Practices for Improvement

As the leader in the housing and construction industry, we are always open to sharing our experience with local and overseas organisations across various fields in housing policies, building technology and sustainability to level up the industry capability. For example, we carried out technical workshops to share R&D outcomes with universities, research institutes and industries. We organised events such as the PEAK Forum and International Housing Forum to promote the exchange of ideas and insights among renowned experts in the various fields.

CEO has been invited to share at local and international platforms such as the Green Cities Conference and Smart City Expo World Congress. We have also been hosting distinguished local and foreign visitors such as heads of state, cabinet ministers, foreign delegates of housing authorities and IHLs for knowledge exchange.

# 7 Results

## 7.1 Customer Results

A key tenet of the success of HDB's Home Ownership Programme is policy innovation. Singaporeans who qualify for an HDB flat can find a housing flat type or scheme to fit their different needs and budgets.

### 7.1a Customer Satisfaction and Experience

To assess and measure a customer's satisfaction with our policy and product, we use various measurement approaches like monitoring key indicators and carrying out surveys and studies.

Key indicators such as the application rate<sup>15</sup> for Build-To-Order (BTO) flats and the Debt Servicing Ratio (DSR)<sup>16</sup> help us monitor if the flat supply is able to meet housing demand at a sustainable level and if our flats are affordable. We also monitor the waiting time for the allocation of rental flats to customers who are not yet ready to own a flat, to ensure that their housing needs are met.

To be attuned to our flat buyers' and residents' satisfaction level, we conduct 2 key regular surveys. The Sample Household Survey (SHS)<sup>17</sup> is conducted once every 5 years to capture residents' satisfaction with housing, while the post-occupancy survey is conducted about a year after a project is completed, allowing us to obtain more immediate feedback to make continuous improvements. Other measurement tools and surveys are also used to understand customer satisfaction with targeted schemes and programmes (e.g. upgrading programmes).

We continually review and fine-tune our policies and programmes to better meet the changing requirements of flat buyers.

### HDB Flat Buyers

To meet housing demand, HDB increased the BTO flat supply from about 9,000 units in 2009 to 16,000 units in 2010. It was further increased to an average of about 25,000 from 2011 to 2014. As the supply and demand for public housing returned to a balance, HDB tapered off the BTO supply in 2015 and transited to a more sustainable building programme in 2016 and 2017, with the offer of more than 17,000 BTO flats per year to meet the needs of our flat buyers.

As the housing needs of the various customer segments differ, we offer a comprehensive range of flat types. For example, 2-room Flexi flats are offered to meet the needs of families, the elderly and singles.

With the increase in flat supply, the chance of home buyers being able to select a flat has greatly improved.

### Policy Experience

Our policies and schemes are specifically fine-tuned to meet the needs of our various customer segments.

**First-Timer Families** - Recognising first-timers' urgent need for housing, other than ramping up the building programme, HDB has also set aside a higher proportion of flats, and accorded more ballot chances to this group of flat buyers<sup>18</sup>.

Responding to higher incomes and to allow more citizens to own an HDB flat and enjoy housing subsidies from the Government, the income ceiling for citizen households to buy new flats from HDB or HDB resale flats with the CPF Housing Grant was raised from \$8,000 to \$10,000 in August 2011, and further raised to \$12,000 in August 2015.

HDB flats have remained affordable, with the suite of housing grants availed to various customer segments. To further help lower-income and middle-income families afford their first home, enhancements were also made to the Special CPF Housing Grant (SHG) in 2015. First-timer low and middle-income households can now enjoy up to \$80,000 in grants, on top of the subsidised new flat prices.

In 2017, first-timer families who bought 4-room flats, which formed the bulk of the new flat supply, had DSRs well below the 30% - 35% international guideline for affordable housing.

For first-timer families buying a resale flat in the open market, the CPF Housing Grant was enhanced on 20 February 2017 to help young couples buy a resale flat, with more grants given to those buying 4-room and smaller flats to encourage prudent housing choices. The enhanced grant will provide first-time home buyers with more affordable housing options, as they can choose from a wide range of resale flats in the open market besides buying BTO flats from HDB. It complements our other efforts to help young families get their first home sooner.

**Second-Timer Families** - As we began clearing the first-timer backlog in 2011, we started to help more second-timer families by according a higher quota to them in 2012, and subsequently in 2013. The second-timer application rates for families has since improved.

<sup>15</sup> Application rate = Number of applications / respective flat supply.

<sup>16</sup> The new flat Debt Servicing Ratio (DSR) measures the proportion of the monthly household income new flat buyers use for housing instalments.

<sup>17</sup> The next survey will be in 2018.

<sup>18</sup> In our BTO/SBF sales exercise, up to 85%/95% of the flat supply in non-mature estates is set aside for non-elderly first-timer families. First-timers will get 2 chances as compared to second-timer applicants, who get one ballot chance. First-timer families who are unsuccessful for 2 or more applications for BTO sales launches in non-mature estates will get an additional chance per subsequent application.

To give Singaporeans more options to buy a resale flat to live with or near their parents or child for mutual care and support, the Proximity Housing Grant (PHG) was introduced in August 2015 and enhanced in 2018, and is extended to families and singles.

**The Elderly<sup>19</sup>** - Currently, about 37% of HDB's home ownership flats are owned by the elderly. The elderly owners can enhance their retirement funds through various monetisation options<sup>20</sup> (see Figure 7.1.1).

Age-In-Place		Right-sizing
<b>Lease Buyback Scheme</b> sells the tail-end lease of their 4-room or smaller flat to HDB and retains a lease ranging from 15 to 35 years	<b>Rent Out</b> whole flat or spare bedroom for rental income	<b>Silver Housing Bonus</b> provides up to \$20,000 in cash for elderly who right-size to a 3-room or smaller flat

Figure 7.1.1. Facilitating the monetisation of housing assets

Our elderly residents indicated in SHS 2013 that they preferred to continue living in the same flat. Noting their preferences, we have schemes to help these residents to age in place. For example, our Lease Buyback Scheme (LBS) allows the elderly residents to unlock part of their housing equity while they continue living in their homes. As at 31 December 2017, 2,532 households have taken up the LBS. Another option is that they can rent out their flat or spare bedrooms for rental income to support their living expenses. As at 31 December 2017, 23,617 elderly households were renting out their flat while 25,939 elderly households were renting out their bedroom(s).

In addition, we also have estate renewal programmes such as the LUP, HIP and EASE<sup>21</sup> which will make the living environment and the flats more elder-friendly and improve mobility and comfort for the elderly residents.

**Singles** - To provide a more affordable housing option for singles, in July 2013 HDB allowed first-timer single citizens aged 35 and above to buy 2-room flats in non-mature estates.

Similarly, first-timer singles also benefit from the CPF Housing Grants when they purchase a new or resale flat.

**Vulnerable Families** - Public rental flats are made available to low-income families who are not financially ready to buy a flat. Between 2012 and 2017, HDB built more than 11,000 new rental flats to meet the needs of low-income families (see Figure 7.1.2). The waiting time for flat allocation has also been reduced from 7 months in 2012 to 3 months in 2017.

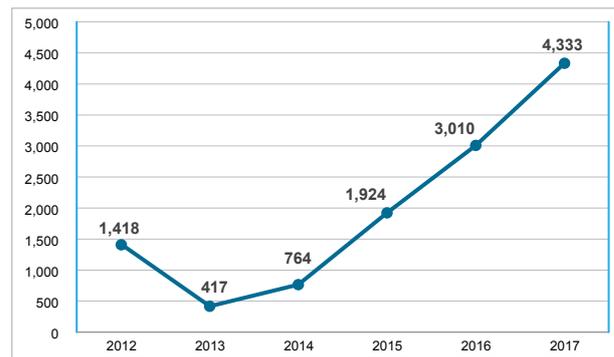


Figure 7.1.2. No. of rental flats built from 2012 to 2017

To help these families move towards home ownership, our branches will conduct counselling during tenancy renewal to explain the CPF Housing Grants and HDB housing loans that are available to help them buy their flats. Between 2012 and 2017, more than 4,000 families moved to home ownership flats (see Figure 7.1.3).

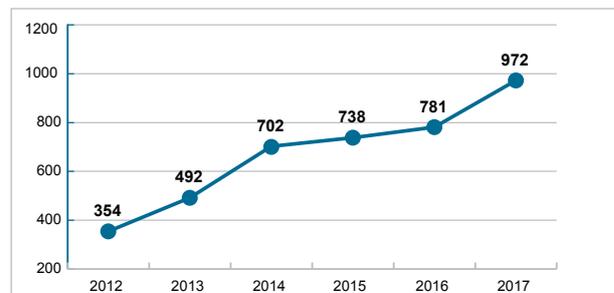


Figure 7.1.3. No. of rental households that have successfully moved to home ownership flats

To help second-timer families with young children living in public rental housing to own a home again, HDB introduced the Fresh Start Housing Scheme in December 2016.

As the scheme is targeted at these families, MND and HDB have taken a direct approach to its outreach. HDB has sent pamphlets and visited families in rental flats who are identified as potentially eligible. HDB has visited about 400 families as part of our outreach efforts. As at 31 December 2017, 60 families have taken up the scheme. The Fresh Start Grant would be disbursed just before key collection, and the first family to benefit from this Grant would be collecting their keys in 2018.

### Product Experience

Even as we ramped up our building programme against the backdrop of a manpower crunch, HDB continued to improve its delivery of quality flats to our residents in a timely manner.

From the SHS findings, residents' perception that their flat is **value for money**, is on an upward trend, from 85.7% in 2008 to 90.4% in 2013 (see Figure 7.1.4).

<sup>19</sup> Aged 55 and above.

<sup>20</sup> The Silver Housing Bonus is administered by CPFIB.

<sup>21</sup> Refer to Abbreviations.

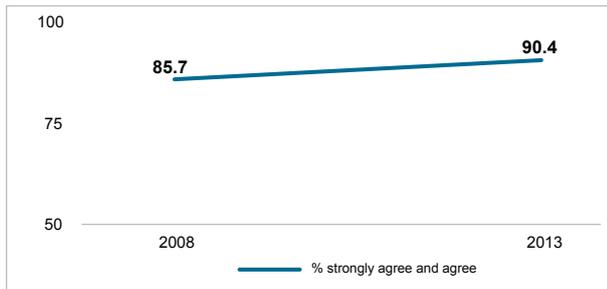


Figure 7.1.4. SHS - Residents' perception of their flat as value for money

Post-occupancy surveys on new BTO/SERS developments showed that residents' satisfaction with their **living environment and the quality** of their new flats has improved over the years. We have also achieved a consistently high CONQUAS score over the past few years (see Chapter 7.1b).

## HDB Residents

### Total Living Environment

HDB towns are planned and developed as a total living environment, with a comprehensive range of facilities and amenities to meet residents' day-to-day needs. The SHS results reflected an upward trend in residents' satisfaction with estate facilities<sup>22</sup> (see Figure 7.1.5).

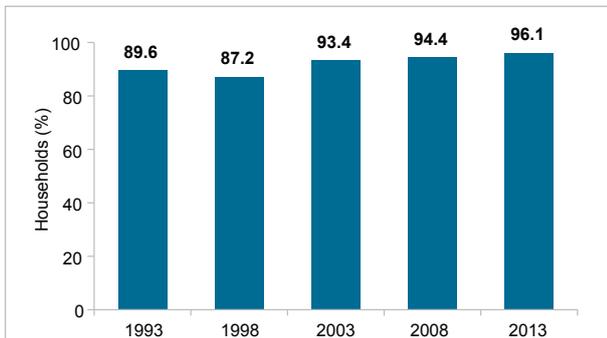


Figure 7.1.5. SHS - residents' overall satisfaction with estate facilities

### Engaged Community

The proportion of residents who felt a sense of belonging (familiarity with the people, and their town/estate) continued to rise, reaching a new high of 98.8% in SHS 2013.

9 out of 10 residents felt proud to be part of their community and this proportion has risen over the past 5 years from 89.9% in 2008 to 93.4% in 2013.

### Liveability

A highly liveable environment continues to be a key driver of customer satisfaction. Dedicated surveys have shown that residents endorse our estate renewal programmes, such as the LUP, HIP, EASE and SERS.

The LUP that started in 2001, enables residents to enjoy the convenience of direct lift access.

The programme has benefitted over 500,000 households in more than 5,000 blocks.

HDB implemented the HIP in July 2008 to help home owners deal with common maintenance matters in ageing flats in a systematic and comprehensive manner. As at 31 December 2017, 116 precincts have completed the HIP, benefitting about 103,300 households. Aside from the HIP which focuses on improvements within the flat, residents also benefit from the NRP, which focuses on precinct and block-level improvements.

Under EASE, which has been offered since July 2012, improvements such as installation of grab bars and ramps, make the flat more elder-friendly, and improve mobility and comfort for the elderly residents. In SHS 2013, it was observed that elderly residents intended to age in the same community, as only 4.2% intended to move out in the next 5 years and about 8 in 10 intended to continue living in their existing flat. The high customer satisfaction scores achieved for our upgrading programmes show that our elderly residents appreciate our programmes to help them age in place.

To rejuvenate older towns, SERS was introduced in 1995 as part of the Government's Estate Renewal Strategy. Under SERS, residents have the opportunity to move to a new replacement flat, while remaining close to their neighbours.

## 7.1b Product and Service Performance

### Results on Product Performance

#### Quality Public Housing

Besides measuring customer satisfaction of our products (see Chapter 7.1a), we also evaluate our product performance by monitoring the timeliness of our new flats delivery (see Chapter 7.4b), and the CONQUAS score which is the national yardstick developed by BCA to assess the overall quality of a building's workmanship.

We have achieved consistently high CONQUAS scores, with an increasing trend over the past few years. This affirms the good quality and workmanship standards of our BTO flats, which have not been compromised despite the ramp-up of our building programme between 2011 and 2014.

### Results on Service Performance

We use several measurement tools to help us gauge our service performance levels and customer satisfaction with our service (see Chapter 2.3a).

One of the essential tools is our internal biennial Customer Experience Survey (CES) which allows us to obtain customers' feedback on their experiences with HDB. In CES 2014, we obtained

<sup>22</sup>Includes commercial facilities, transportation facilities, sports facilities, recreational and leisure facilities, precinct facilities, community facilities, education facilities, health/medical facilities and financial facilities.

an overall mean satisfaction score of 4.62 out of 6. Our customers rated us 4.70 out of 6 for the service experience that they received. The subsequent survey cycle was in 2017.

Customer service remains an area that HDB will focus on, as our customers have a strong preference for face-to-face interactions, especially when the transaction has a greater impact on the person's lifecycle, like key collection and financial counselling. We continue to provide relational and personalised services for such high-touch transactions, even as we digitalise our simpler, routine services (see Chapter 2.2).

### Service Performance at Key Touchpoints

**Online Platforms/Website** - About 12 million transactions are carried out yearly via the 220 e-services available on our HDB InfoWEB. Our CES 2014 findings showed that among the channels of interactions surveyed, the online platforms/website achieved top scores (4.90 out of 6 for online platforms and 4.81 out of 6 for our website).

**Counter Transactions** - A key indicator monitored by HDB is the waiting time for counter transactions. We have consistently exceeded the service standards. To better serve our customers, HDB is increasingly moving towards scheduled appointments. For example, our customers can book their preferred time slot for the collection of keys through our online appointment booking system.

**Enquiry Lines** - HDB monitors two indicators. The first is the percentage of calls that are attended to within service level. The second is the percentage of first-call resolution. All our enquiry lines have consistently performed above our target.

**Written Correspondences** - About 80% of the 330,000 non-appeal written correspondences we receive yearly are case-specific. The percentage of these correspondences that have meet the stipulated reply time frame has exceeded the service standards.

## Recognition and Awards

**Recognition and Awards for our Products** - HDB has received many awards that affirm the excellent standards achieved in the quality, design and innovativeness of our products such as Skyville@Dawson, and My Waterway@Punggol.

**Service Awards for the Organisation** - HDB has won several awards at the international and national levels for our innovative and effective practices.

Two of our contact centres, the Branch Service Line and the Sales/Resale Customer Service

Line, have respectively clinched the International Contact Centre Awards - a Silver award in 2012 under the Best Mid-Sized In-House Contact Centre category (organised by the Contact Centre World), and a Silver award in 2017 under Best In-House Contact Centre (organised by the Contact Centre Association of Singapore).

At the national level, HDB won a Bronze award at the Singapore Infocomm Technology (SITF) Awards 2017 for our project, 'Transformation of the Resale Journey'. This project leverages technology and digital services like Augmented Reality to enhance customer experience. The SITF award is for government agencies which have effectively harnessed ICT, and have reaped significant benefits for customers and/or the agencies.

For our innovative public engagement efforts<sup>23</sup> to improve residents' overall SERS experience, the Tanglin Halt SERS project clinched the Minister's Team Award 2015 and the PS21 Excel Most Innovative Project/Policy (Silver) Award in 2015.

Some of the other awards we received at the national level include:

- PS21 Best Practice Awards 2014 ('Regulation' category) - Housing policies to meet the diverse needs of citizens
- PS21 Best Practice Awards 2016 ('Service Delivery' category) - Customer-Centric HDB Loan Eligibility Application
- Minister's (Team) Award 2016 - Affordable Homes, Closer Families, Stronger Ties

**Service Awards for Individual Staff** - Our staff's outstanding service is constantly being recognised at the national level. Our HDB nominees have clinched the PS21 Star Service Award every year. HDB teams and managers have also won the PS21 Star Team and Star Manager Awards, introduced in 2015 and 2017 respectively. These reflect the quality of our staff in delivering outstanding service to both external and internal customers.

The number of Excellent Service Award (EXSA)<sup>24</sup> Gold Awards won by HDB has increased over the years, with a significant jump in 2016 (see Figure 7.1.6).

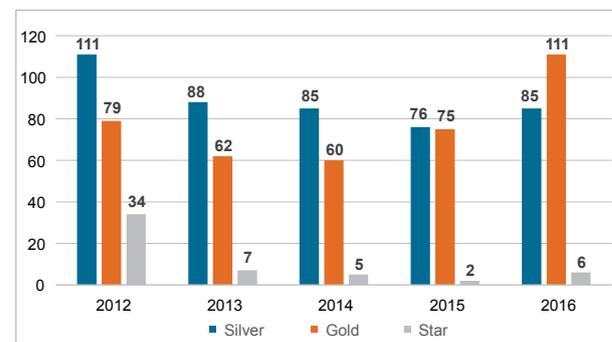


Figure 7.1.6. No. of EXSA Winners

<sup>23</sup> New initiatives include guided tours during SERS exhibitions, dedicated Journey Managers to handhold each SERS household, and a more reader-friendly SERS information package. These initiatives were implemented for the SERS announcement at Tanglin Halt estate in 2014, and received good feedback from the SERS residents.

<sup>24</sup> EXSA was discontinued in 2017 by the organiser, the Civil Service College.

HDB's reward scheme, M.A.G.I.C. Cha Cha, continues to motivate staff to serve internal and external customers well and leave a great impression on them. For every valid compliment received, staff will be rewarded with the M.A.G.I.C. Achiever Award. The year-on-year increase in the number of this award being given to staff (Figure 7.1.7) signifies that our customers appreciate our services. We have also achieved a consistent number of between 2 to 4 M.A.G.I.C. Champion<sup>25</sup> awards each year, the highest tier in our reward scheme.

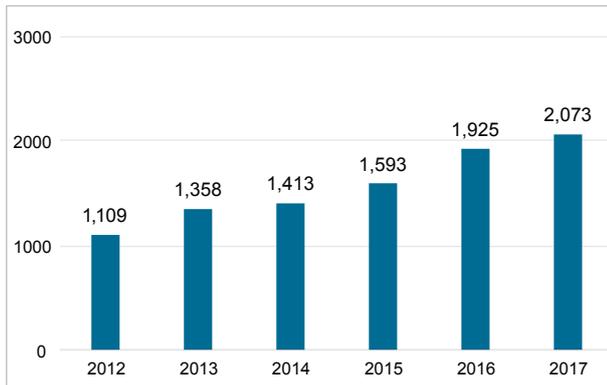


Figure 7.1.7. No. of M.A.G.I.C. Achiever Awards

Partnership and engagement with staff, customers as well as our stakeholders continues to be a key success factor in creating products and services that are of value to our customers and in achieving our service vision.

## 7.2 Financial and Market Results

### 7.2a Financial performance, including financial results and economic value

#### Budget

HDB prepares the budget 12 months ahead of the Financial Year (FY) to synchronise with the Government's budget cycle and to ensure that there are sufficient funds for our planned operations. Once the budget is approved by the President of Singapore, HDB gazettes the operating and capital budgets. A revised budget is prepared after the start of each FY. HDB closely monitors our actual expenditure against the budget to track financial performance as well as to facilitate funds management.

HDB's monthly Financial Report tracks the key drivers and actual expenditures against the planned progress of the projects and the corresponding budgeted expenditures. The monthly Financial Report is tabled at monthly management meetings where corrective actions to minimise deviations are reported.

## Financial Results

We play a social role to provide affordable public housing for Singaporeans and to rejuvenate old flats and estates. To help Singaporeans become home owners, the Government subsidises the price of HDB flats with discounts for new flats and offers a variety of housing grants. HDB also offers housing loans at concessionary interest rates to help eligible Singaporeans own homes. For needy Singaporeans, HDB provides heavily subsidised rental flats.

To ensure that HDB towns continue to be renewed and cater for the changing needs of residents, HDB rejuvenates its towns and flats through the Remaking Our Heartland (ROH) Programme and other upgrading programmes.

In FY 2016, HDB carried out its social roles through different business segments and incurred a net deficit of \$1,189 million (see Figure 7.2.1). The net deficit comprised the deficit from the Housing Activities of \$1,867 million, offset by the surplus from the Other Activities of \$678 million in FY 16/17, and is fully covered by Government grant.

Given that HDB's primary mission is to promote the Government's social objectives, HDB views the deficit as the outcome of the Government's policy on the various public housing programmes, including subsidies such as housing grants, as well as the volume of upgrading programmes.

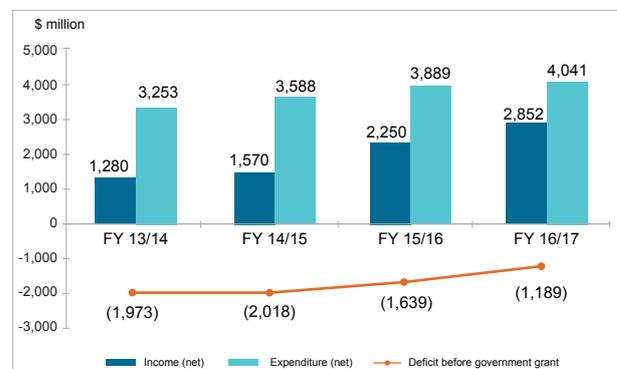


Figure 7.2.1. Financial Results

## Housing Results

The Housing Results is a consolidation of the results of housing programmes implemented. It comprises the home ownership, upgrading, rental housing, residential ancillary functions, and mortgage financing segments. These housing activities incurred significant deficits as a result of HDB's primary mission to promote the Government's social objectives through the various public housing and upgrading programmes (see Figure 7.2.2).

<sup>25</sup> From the pool of Achievers, we select the exceptional service staff who were accorded the 2<sup>nd</sup> tier M.A.G.I.C. Hero Award. The highest tier, the M.A.G.I.C. Champion Award, is conferred on staff who have delivered exceptional service and are role models for other colleagues. They are chosen from the pool of M.A.G.I.C. Heroes.

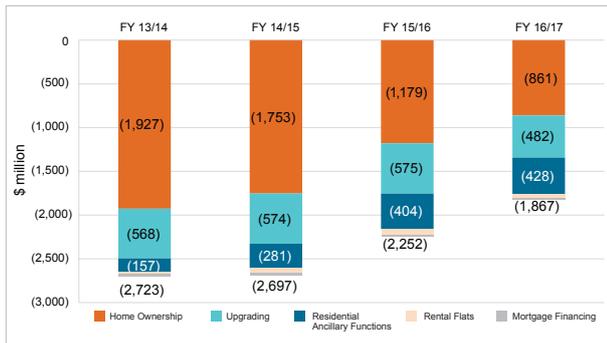


Figure 7.2.2. Net Deficit for Housing Activities

## Other Activities Results

The Other Activities Results comprises other rental and related businesses, agency and other segments which are commercial in nature (see Figure 7.2.3).

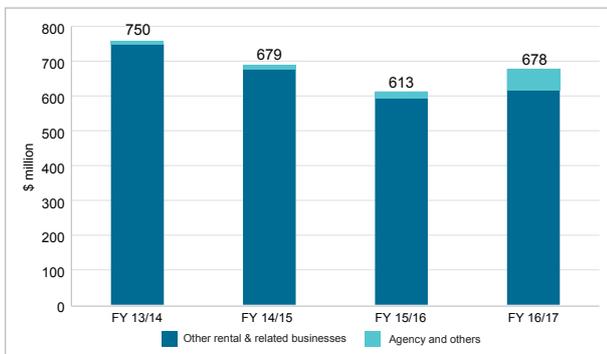


Figure 7.2.3. Net Surplus for Other Activities

## Cost of Capital Framework

A cost of capital framework has been put in place to account for the opportunity cost, which reflects alternative uses of monies placed with the agencies, to inculcate discipline in the use of limited financial resources.

## Medium-Term Note Programme

HDB accesses the capital market via its S\$32 billion multi-currency Medium-Term Note Programme to fund its development programmes and operational requirements.

Since 15 October 2015, Moody's Investors Service has assigned an Aaa issuer rating to HDB. The Aaa rating is on par with the sovereign rating and reflects HDB's strong and close linkage with the Government.

In 2017, HDB was the largest statutory board issuer in Singapore, issuing S\$3.32 billion worth of bonds. This accounts for about 13% of the \$24.9 billion Singapore Dollar (SGD) bonds issued in the Singapore bond market in 2017, and 21% of

the \$15.5 billion worth of Singapore Government Securities issued by MAS in 2017.

## 7.2b Marketplace performance, including growth and market share, position and acceptance

### Residential Flats

#### Singapore's Home Ownership Rate

	Home Ownership Rates (%)	
	2008	Year as shown below
Singapore <sup>1</sup>	90.1	90.7 (2017)
Hong Kong	53.3 <sup>2</sup>	50.4 <sup>2</sup> (2015)
South Korea	56.4 <sup>2</sup>	53.6 <sup>2</sup> (2014)
Japan	61.1 <sup>2</sup>	61.9 <sup>2</sup> (2013)
USA <sup>2</sup>	67.8	63.7 (2016)
United Kingdom	72.9 <sup>2</sup>	63.5 <sup>2</sup> (2015)
Australia	-	67.0 <sup>2</sup> (2011)

Source:

<sup>1</sup> Department of Statistics, Singapore

<sup>2</sup> Trading Economics – Home Ownership Rates by Country and Year

Table 7.2.1. International Comparison of Home Ownership Rates

HDB's successful public housing programme has contributed greatly to Singapore's high home ownership rate (for public and private housing overall), which increased rapidly from 29% in 1970 to 91% in 2017, surpassing that of several developed nations (see Table 7.2.1).

#### Percentage Living in HDB Flats

As at 31 March 2017, the percentage of the resident population living in HDB flats was 82%. This proportion has increased from 9.07% in 1960. The estimated resident population living in HDB flats is 3.25 million. 94.3% of HDB flats are home ownership flats while the remaining 5.7% are rental flats (see Figure 7.2.4).

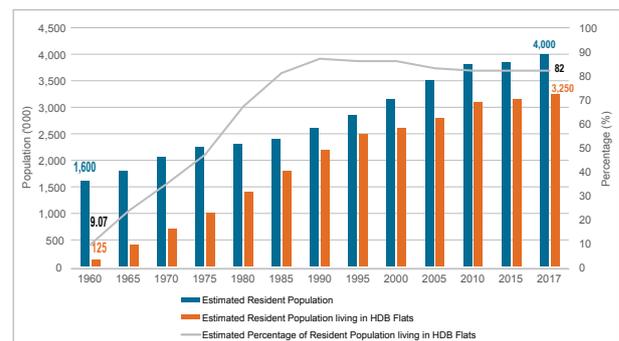


Figure 7.2.4. Population and Percentage Living in HDB Flats

#### Sense of Pride towards HDB Flats (Sold Flats)

Sense of pride refers to one's sense of belonging or ownership towards one's flat. A high proportion of households living in sold flats had a positive/

neutral sentiment about living in HDB flats, registering 96.2% in 2013 (see Figure 7.2.5). The main reasons cited for the positive sentiments included the ability to own their flats, living in a good location that had convenient access to amenities and transportation as well as spacious living areas. Households taking a neutral stance generally felt that housing was a necessity.

The small proportion of households that was not proud had remained the same, at about 4%.

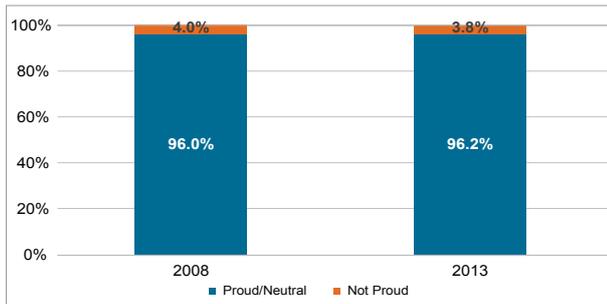


Figure 7.2.5. Sense of Pride towards Owning an HDB Flat by Year  
Source: HDB Sample Household Survey

### Units under Management

The number of flats under HDB's management reached 1,017,335 units as at 31 March 2017 (see Figure 7.2.6).

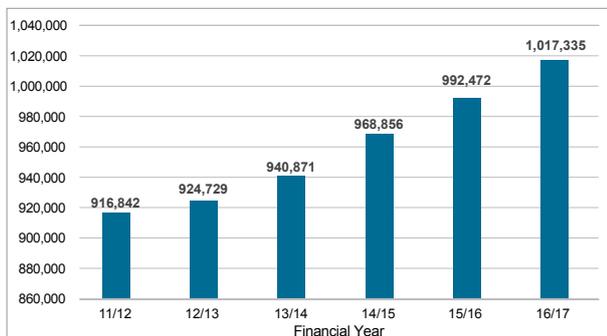


Figure 7.2.6. Number of Flats under HDB's Management

### Number of New Flats<sup>26</sup> Launched

HDB's sustained ramp-up of the BTO flat supply since 2011 has substantially cleared the backlog of young families wanting to buy their first flat, and has brought down the application rate for first-timer applicants. With the overall public housing market having shown continued signs of stabilising, HDB tapered off the supply of new flats in 2015 and transitioned to a more sustainable building programme in 2016 and 2017.

### Housing Affordability

**Stabilisation of New Flat Prices** - HDB has stabilised new flat prices since 2011. The new flats are

subsidised so that they are priced considerably lower than comparable resale flats. The stabilised new flat prices coupled with enhanced housing grants and higher incomes mean that the new flats have become more affordable.

**Debt Servicing Ratio (DSR)** - In 2017, first-timer families who bought 4-room flats, which formed the bulk of the new flat supply, had DSRs well below the 30%-35% international guideline for affordable housing (see Figure 7.1.4).

**Market Acceptance of HDB Flats** - HDB's flats are widely accepted by the market, with more than 23,000 new flats booked in FY 16/17 under the various allocation exercises (see Figure 7.2.7).

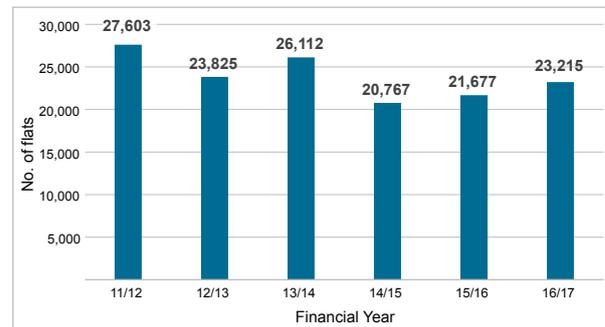


Figure 7.2.7. Bookings for new BTO flats

### Resale Flats

The HDB resale volume has seen a reduction in the past few years since 2012 (see Figure 7.2.8). The low resale volume was mainly due to:

- a large supply of new flats which diverted a significant number of first-timers away from the resale market;
- implementation of the policy on tighter Mortgage Servicing Ratio and reduced maximum loan tenure in 2013; and
- implementation of the policy on revised Additional Buyer's Stamp Duty in 2013 imposed on SPRs purchasing their first flat and the 3-year mandatory wait upon obtaining SPR status.

However, the number of resale transactions has been increasing gradually since 2015 due to:

- softening/stabilising of resale prices which could have prompted buyers waiting at the side-lines to enter the market;
- tapering of new flat supply following the clearance of the demand backlog from first-timers which could have contributed to the increase in resale volume; and
- introduction of the PHG in August 2015 which might have contributed slightly to the increase in resale volume in FY 15/16.

<sup>26</sup> New flats refer to BTO flats

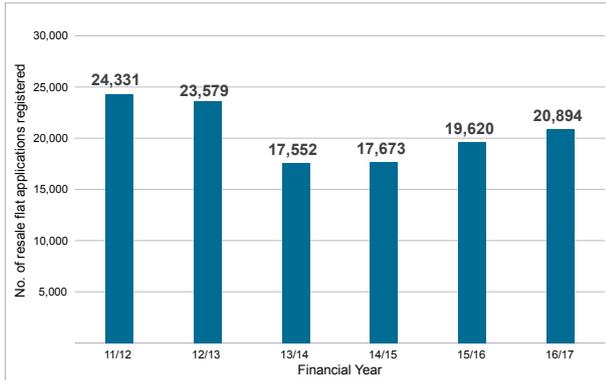


Figure 7.2.8. Number of resale flat applications registered

### HDB Resale Price Index

Resale flat prices have stabilised since 2Q2015, as seen from the marginal quarterly decreases in the RPI (see Figure 7.2.9).

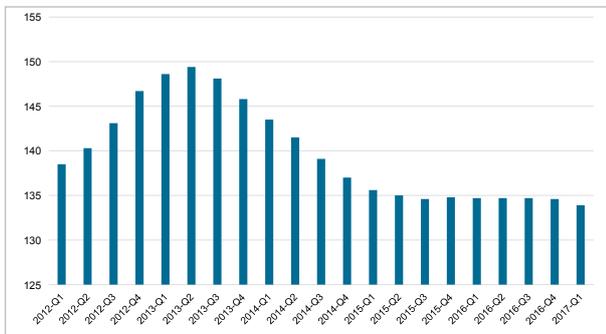


Figure 7.2.9. Resale Price Index

### Recognition for Singapore's Public Housing Programme

In FY 16/17, HDB received several local and international awards, which affirmed our commitment to achieving excellence and a recognition of staff's efforts. Some of the key achievements included:

- HDB's project 'A Biophillic My Waterway@Punggol - Floating Wetlands and Freshwater-Tolerant Mangroves' won multiple accolades, including the IES Prestigious Engineering Achievement Awards 2016, Institution of Structural Engineers Awards 2016, as well as Singapore Concrete Institute Excellence Awards 2016 (Innovators Category);
- My Waterway@Punggol, The Pinnacle@Duxton and Lift Upgrading Programme, were awarded the prestigious Top 50 Engineering Feats @ IES-SG50 Award for significant contributions towards the progress of Singapore;
- A multi-agency project, Kampung Admiralty won the Commercial Mixed-Use Future Project Award at the World Architecture Festival 2016, held in Berlin, Germany. Kampung

Admiralty also clinched the Best Practice Award (Inter-Agency Collaboration) during the Excellence in Public Service Awards ceremony 2017;

- For our unique role in housing a nation and improving the quality of life through innovative architecture and design to achieve highly liveable, sustainable and comfortable homes for Singapore's resident population, HDB was conferred the International Highrise Award — Special Recognition Award by an international panel of judges in Frankfurt, Germany on 2 November 2016. Singapore was also ranked the most sustainable city in Asia, and second in the world, according to the Sustainable Cities Index 2016 from Global Design and Consulting firm, Arcadis. A key component examined by Arcadis was how housing contributed to the quality of life and in turn the sustainability of the city.
- HDB was conferred the President's Design Award for 2 projects, namely SkyTerrace@ Dawson and SkyVille@Dawson, for the use of innovative design that encourages families to live in close proximity with their elderly parents, thus building and reinforcing the notion of community.

In addition, HDB has played host to many local and foreign visitors, ranging from Heads of State to students who were keen to learn about Singapore's public housing programme. HDB has also shared its experience through networking sessions, training programmes and conferences.

### Commercial Properties

HDB manages commercial properties to inject business vibrancy and create shopping convenience in the heartlands. We ensure a good mix of trades in the neighbourhoods to meet the needs of our residents.

Based on the SHS 2013 findings, 89.9% of residents were satisfied with the HDB shops neighbourhood centres within their estate. In general, commercial facilities were found to be well utilised (e.g. 80% of the residents patronised the supermarket in their estate at least once a week).

In addition, the Business Expectations Survey (BES) of HDB Shopkeepers is an annual survey for MND and HDB to track the business sentiments of HDB shopkeepers. In the BES 16/17 findings, about 7 in 10 shopkeepers (70.9%) knew more than half of their customers and the majority have observed some social interactions among customers in their shop. Besides providing goods and services, HDB shopkeepers have also contributed to the community such as through befriending the residents by providing a listening

ear, giving advice or chatting with them (8.7%), providing useful information to passers-by (4.2%) and doing volunteer work (3.9%) such as providing sponsorships for community events or paying for the purchases of needy/elderly customers.

### Units under Management

As at 31 March 2017, HDB managed 17,494 commercial properties (see Figure 7.2.10).

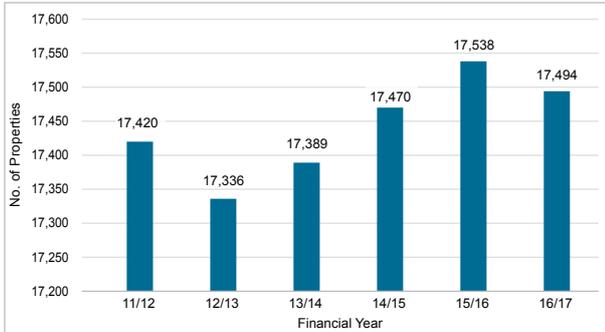


Figure 7.2.10. Commercial Properties under Management

### Vacancy Rate

HDB's vacancy rate of retail space was 1.6% in 2017 which is healthy in the retail industry.

### Car Parks

Car parks are ancillary facilities to support our developments, and HDB provides car parks primarily to serve the parking needs of residents.

### Units under Management

As at 31 March 2017, HDB managed 640,188 car park lots, 169,829 motorcycle parking lots and 7,182 lorry parking lots (see Figure 7.2.11).

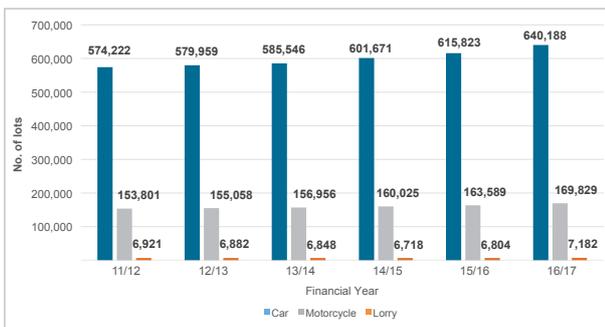


Figure 7.2.11. Parking Lots Under Management

The provision of car parks is generally sufficient on an islandwide basis, as we are able to cater for both season parking and short-term demand. As at March 2017, season parking sales for our lots was 68%.

Taking into consideration our residents' changing needs, HDB has made various improvements to our car parks, e.g. installation of lifts and provision of roof shelters at multi-storey car parks, digitisation of season parking services, and introduction of parking.sg mobile app.

As part of the national effort to promote car sharing as an alternative to private car ownership, HDB allows car-sharing companies to park their vehicles in HDB car parks, so that their customers can easily access the vehicles. The car-sharing companies are allowed to pay for and reserve demarcated car-sharing lots for their vehicles. As at December 2016, we have supported and allowed car-sharing in 185 HDB car parks, with about 530 parking lots islandwide.

On 30 June 2016, LTA and EDB appointed BlueSG to implement and operate a nation-wide electric vehicle (EV) car-sharing programme. In December 2017, BlueSG officially launched the EV car-sharing programme with 32 charging stations. Of these, 26 are located in HDB car parks while the others are located in URA and JTC car parks. With the progressive installation of the charging points, BlueSG hopes to offer EV car-sharing at around 400 HDB car parks. HDB and other public agencies will continue to work with LTA to offer EV car-sharing in more public car parks.

## 7.3 People Results

### 7.3a Human Resource Planning

#### Outcomes of HR Planning

The HR Planning process (see Figure 4.1.1) has been able to anticipate HR needs to support the wide range of business needs of the organisation. This in turn enables our operational groups to successfully deliver the public housing programmes and initiatives committed by the Government. The outcomes of HR Planning are primarily the many new HR programmes and initiatives introduced in HDB. Some of these key programmes were implemented ahead of the introduction of such initiatives by the Civil Service or legislation, reflecting the forward-looking HR Planning process in place within HDB.

Among the most notable outcomes is our review and enhancements of schemes of service. The merger of Corporate Support Scheme and Parking Scheme with Management Support Scheme in 2007 and the introduction of the Extended Management Executive Scheme in 2016 created abundant new career growth opportunities for HDB staff, based on performance and abilities instead of solely on academic qualifications. The new schemes of service encourage staff to upgrade themselves and to contribute more to the organisation.

#### A Responsive Recruitment Process

The move towards sustainable and Smart towns, and the Government's push to rebuild engineering capabilities in the Public Service have also been key drivers in the recruitment process in the past few years.

The recruitment process responded swiftly to the manpower needs of our operational groups but we were mindful it should be at a pace which takes into consideration the need to improve productivity and processes to keep hiring at a sustainable level. The recruitment rate generally exceeded the attrition rate throughout the same period (Figure 7.3.1). The gradual reduction in recruitment rates and number of new hires further demonstrate the responsiveness of the recruitment process. These efforts also resulted in a low vacancy rate of not more than 6% from 2012 to 2014. The vacancy rate was reduced further to not more than 3% from 2015 to 2017.

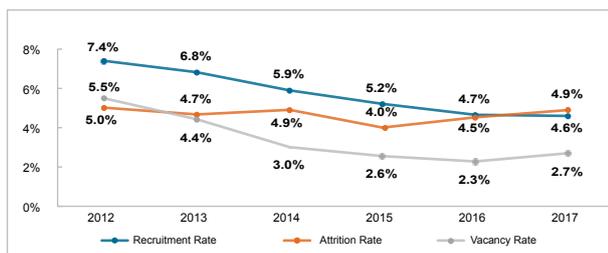


Figure 7.3.1. Recruitment and Attrition Rates

HDB's selection process has not only brought in the number of new hires required. The fresh recruits have also proven to be effective in contributing to the business goals of HDB and the Groups that they were deployed to.

### Different Abilities, Equal Opportunities

Recognising that everyone has different and unique abilities, HDB is an advocate for inclusive hiring practices, providing equal opportunities for job seekers from diverse backgrounds and profiles. Together, they bring in different skill sets and knowledge which enable HDB to have a truly dynamic, multi-disciplinary and cohesive multi-generational workforce.

### Effective HR Programmes and Initiatives

The wide range of HR programmes and initiatives introduced over the years have enabled HDB to build and sustain a resilient workforce. The extent of commitment of our workforce is evident from the results of the EES 2016 where our staff's motivation levels were high (see Table 7.3.1).

EES Question	2016		
	HDB	PS Norm	PSHE Norm
HDB energises me to go the extra mile	75%	68%	74%

Table 7.3.1. Percentage of respondents who answered 'Yes' to the question 'HDB energises me to go the extra mile'

### A Sustainable Leadership Pipeline

With HDB's structured succession planning process and regular review of appointment

positions, we have been successful in preparing our talent to take on leadership appointments.

Guided by the Talent Flow-through Model, we have also grown our pool of younger talent.

Despite the greater number and diversity of scholarships available, including bond free scholarships offered by universities, HDB's scholarships have also remained attractive, with an increase in scholarship applications in recent years.

### A Leader in Industrial Relations Practices

The strong and strategic partnership between HDB and the HDB Staff Union (HDBSU) has resulted in the successful development and smooth implementation of many HR initiatives over the years, most notably the merger of Corporate Support, Parking and Management Support Schemes in 2007, introduction of re-employment to age 65 in 2008 and subsequent extension to age 67 in 2014, and implementation of the Extended Management Executive Scheme in 2016.

Our excellent labour-management relations (LMR) is recognised at the national level by the National Trades Union Congress (NTUC). HDB was conferred the prestigious NTUC May Day Plaque of Commendation (Star) Award in 2012, the highest May Day award for an organisation. In addition, 9 HDB and HDBSU leaders were conferred NTUC May Day Awards over the last 5 years for their individual contributions to LMR.

HDB's leading HR and industrial relations (IR) practices have been shared with the larger HR and IR communities through the NTUC 'This Week' newsletters on 21 occasions since 2012. Another example of HDB's leading IR practices is HDB's sponsorship of 19 HDBSU leaders for the Advanced Certificate in Industrial Relations Programme in 2013, the largest number of graduates from a single union. The effort was featured in Lianhe Zaobao in November 2013.

We believe that middle managers play a crucial role in promoting harmonious LMR through their daily interaction with staff under their supervision. To equip middle managers for this role, 71% of them have completed the IR course or workshops.

### 7.3b Employee Learning and Development

A key aspect of the HDB Learning Process (see Figure 4.2.1) is the learning roadmap, a learning directory that every member of the 5,580-strong HDB workforce refers to in selecting courses that meet their needs.

### Keeping the HDB Learning Roadmap Relevant

Corporate HR and Groups jointly review the courses in the learning roadmap every year to

ensure that courses offered are relevant and meet HDB's needs. In the last 5 FYs, an average of about 160 new courses were introduced in the roadmap each year for staff selection. At the same time, courses that are no longer relevant or needed, or can be replaced by a better programme are removed from the roadmap. The extent to which the roadmap is refreshed each year reflects the responsiveness of our Learning Process to the constant need to acquire new competencies.

### Training for Individual Staff

The level of training that each staff received exceeded the target over the last 5 years (Figure 7.3.2). For FY16/17, an average of 6.1 training days per staff was provided, about 25% higher than the national average of 4.9 days per employed adult in 2016 (Adult Training Survey, MOM).

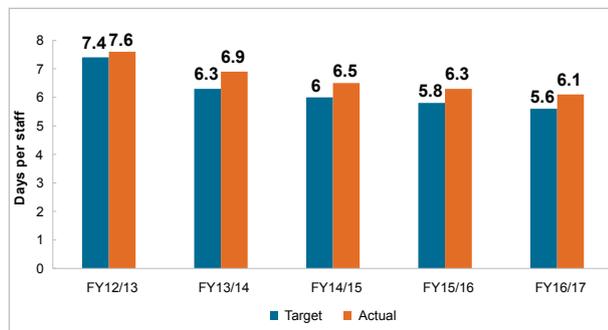


Figure 7.3.2. Average training days per staff

The strong learning culture in HDB is by no means confined to courses and classrooms. Staff also learn from on-the-job experiences and other informal channels such as huddles, peer-coaching, and sharing of experiences across teams.

### Adherence to Individual Learning Plan

The level of adherence to the Individual Learning Plan is consistently high. More than 90% of staff attended more or the same number of courses per year from FY 2012 to FY 2016 than in their learning plan (see Table 7.3.2).

FY12/13	FY13/14	FY14/15	FY15/16	FY16/17
93%	92%	94%	97%	94%

Table 7.3.2. Percentage of staff who had attended more or the same number of courses than in their individual learning plan

### Level of Training Maps to Level of Experience

Our emphasis on each staff to have their own annual individual learning needs discussion with immediate supervisors and individual learning plan enables the level of training to be closely tailored to the level of experience of each staff. Staff with up to 14 years of service (40% of our workforce) received a higher level of training than the HDB average in FY 2015 and FY 2016 (see Figure 7.3.3).

With the hiring of close to 2,000 new staff from 2012 to 2017, HDB invested substantially in

their training in their first 2 years of service, demonstrating HDB's commitment to help them gain a head start in their career. While the very experienced group, i.e. staff with more than 14 years of service which makes up 60% of our workforce, received a relatively lower level of training, the courses provided to them continue to equip them with the skill sets which help them stay relevant to the organisation.

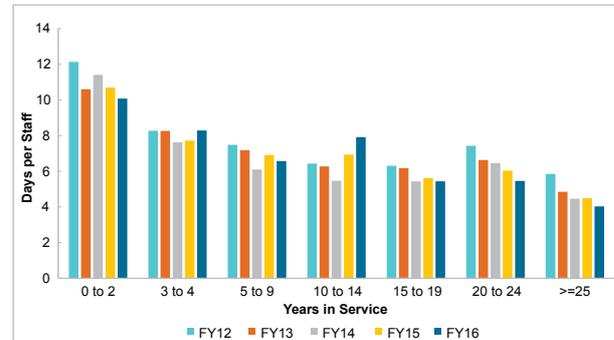


Figure 7.3.3. Average training days per staff by Years in Service

### Learning from the Best

HDB is constantly on the lookout for opportunities outside of Singapore to learn best practices. Staff are provided with ample opportunities to participate in overseas study trips and conferences to learn from experts and leading organisations.

### Enabling HDB to Deliver Business Results

Apart from training programmes and overseas study trips, we provide opportunities for collaboration with renowned Institutes of Higher Learning, leading research institutes and government agencies in diverse areas. This enables HDB to continually grow our internal expertise, develop new capabilities and achieve business results on many fronts.

### Shaping Singapore's Public Housing Landscape

HDB plans new towns such as Bidadari and Tengah using new and innovative concepts, and harnesses digital technology to introduce more innovative designs. Through the provision of specialised training programmes for building professionals, and the establishment of the Centre of Design Excellence (CoDE) (see Chapter 4.2b), we have designed and delivered more than 10 building projects, including award-winning housing projects such as Woodleigh Glen.

### Creating Sustainable and Smart HDB Towns

Knowledge gained from study trips to cities in Europe, USA and Korea has contributed to HDB's ability to further develop sustainable and Smart towns. Ideas gained from the trips were applied to the development of Smart Hub (see Chapter 6.2b); and the Pneumatic Waste Conveyance Systems, which was implemented in Yuhua in 2015, and which will be implemented in new towns like Punggol Northshore, Bidadari and Tampines North.

### *Providing Innovative Housing Options for the Elderly*

HDB anticipated the learning needs for the provision of public housing options for the elderly. In response, learning visits involving Management and staff to leading cities in the provision of housing for the elderly were organised. The knowledge gained enabled the introduction of housing innovations and universal design initiatives, to meet the needs of our fast ageing population.

### *Building Capability in Polder Development*

Given the challenges posed to Singapore by rising sea levels due to climate change, HDB foresaw the need to build up our capability in land reclamation through study trips, attachments and postgraduate programmes (see Chapter 4.2b). HDB, jointly with other agencies, has since implemented the first polder project at Pulau Tekong, which will reduce sand utilisation by more than 50%, and reduce reliance on sand from other countries for Singapore's long-term development.

## **Engendering Organisational Excellence**

Our learning and development efforts have also helped HDB to achieve organisational excellence.

### *Enhancing Service Delivery*

HDB provides a wide range of customer services, and it is vital for us to build service delivery capabilities in our frontline staff. A customer service training framework was introduced in 2006 to guide the review and introduction of training to equip frontline staff with the competence to deliver quality service. The suite of service training has enabled our staff to provide positive customer experiences; and has contributed to the positive results of various service measurement tools, and the many awards received for our innovative and effective service delivery practices (see Chapter 7.1b).

### *Growing Facilitation Capability for Engagement*

Since embarking on the journey to being a learning organisation in 1999, HDB has been growing a pool of internal facilitators skilled in facilitating focus group conversations, discussions for learning, planning, and for staff and public engagement sessions. Our efforts in building facilitation capability early, has enabled us to effectively design and deliver public consultations for various programmes like the national SG Future conversations in 2016 and the Remaking Our Heartland (ROH) programme focus group discussions in 2015. We have also engaged the community in various community building projects, such as Building Our Neighbourhood's Dreams (BOND!), Hello Neighbour, and Build-A Playground (BAP).

### *Inspiring HDB Ambassadorship Among Staff*

The improved score for Engagement in the Employee Engagement Survey (EES) 2016 (see Figure 7.3.4) is due in no small part to the HDB Ambassador Workshops, and Staff Seminars (see Chapter 4.3a). Our staff have also provided

feedback on an increase in organisational knowledge and pride.

### *Leveraging Business Analytics and Behavioural Insights*

We recognise that Business Analytics (BA) and Behavioural Insights (BI) are capabilities which can be applied to many business areas to drive excellence. We have invested time and resources in building BA and BI capabilities in more than 2,500 staff, which have translated to the actual implementation of several projects. For example, video analytics technology was used at the HDB Hub to provide real-time alerts and detection for better allocation of manpower to manage crowds. Through collaboration with external consultants, we also reviewed the format of payment requests for upgrading projects, which has led to an increase in the number of people making payments electronically.

## **Staff Development through Participation in Projects and Committees**

Other than training programmes, HDB also develops staff through participation in project and committees, and exposes them to different work areas and enables them to work with leaders other than their own supervisors.

## **7.3c Employee Engagement and Well-Being**

### **HDB Employee Engagement Survey (EES)**

HDB has been on an ongoing journey to engage our staff and enhance their well-being. The Employee Engagement Survey (EES) results affirm the success of our efforts. The HDB overall scores in EES 2016 are the highest among the past three EES, with the scores showing an improvement in all categories from 2014 to 2016.

### *Engagement*

Compared to the EES 2014 and EES 2012 results, the engagement score of 86% in the EES 2016 (Figure 7.3.4) shows that more staff in HDB felt engaged in 2016 as compared to 2014 and 2012. The engagement score is also comparable to PSHE Norm and higher than PS Norm, showing that the engagement level in HDB is favourable compared to other public sector agencies in Singapore.

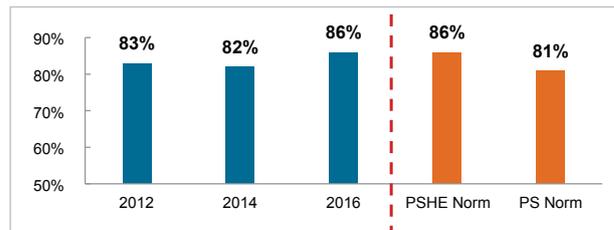
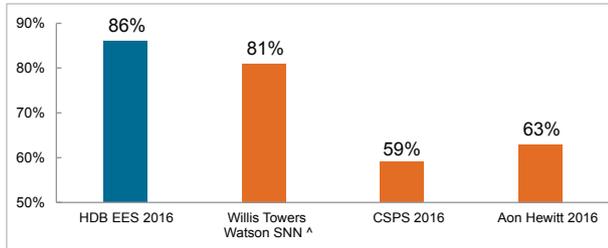


Figure 7.3.4. EES - Scores for Engagement

HDB's EES 2016 engagement score also stands out in comparison with local and international benchmarks (Figure 7.3.5). HDB's score of 86%

is higher than the Willis Towers Watson Singapore National Norm (SNN) of 81%. The SNN represents companies in the private and public sectors in Singapore. Our score is significantly higher than the UK 2016 CSPS' Employee Engagement Index of 59%, and higher than Aon Hewitt's 2016 Global Employee Engagement score of 63%.



^ Willis Towers Watson was engaged by Civil Service College to conduct the EES 2016 for HDB

Figure 7.3.5. HDB EES 2016 score for Engagement in comparison with local and international benchmarks

## Employee Wellness

Our EES score in the Employee Wellness category has improved through the years. This indicates that increasingly, staff are able to manage their work and personal commitments. The score compares favourably against international benchmarks (see Figure 7.3.6).

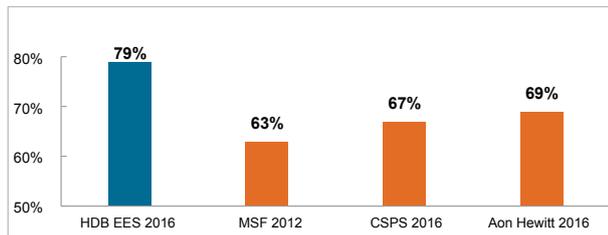


Figure 7.3.6. EES 2016 score for work-life balance in comparison with local and international benchmarks

HDB's score of 79% is higher than Singapore's work-life harmony score of 63% based on a study conducted by MSF in 2012<sup>27</sup>. This score is also higher than UK's 2016 CSPS benchmark score of 67% and the work-life index of 69% in Aon Hewitt's 2016 Global Employee Engagement Study.

### 7.3d Employee Performance and Recognition

#### Performance Management

HDB staff have a good understanding of how their performance on the job is evaluated, as indicated by our consistently high EES score for Performance Management (80% to 83%). The EES 2016 score of 83% is also above the PSHE Norm (see Figure 7.3.7).

This correlates with our high appraisal completion rate of 99% for the 2016 appraisal exercise, with 99% of staff indicating that they had a

feedback session with their supervisors. These results reflect a mature and open system where staff and supervisors are well-informed of the appraisal process and readily participate in the annual appraisal exercise, enabling HR to use the assessment to reward staff in a timely manner to achieve business objectives.

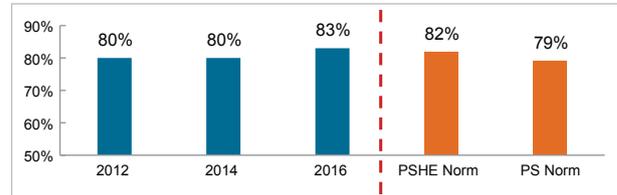


Figure 7.3.7. EES 2016 score for Performance Management in comparison with norms for Performance Management

#### Career Development

HDB achieved high EES scores (76% to 77%) for the Career Development category, which measures staff perception of long-term career and promotion opportunities, and awareness of the possible career paths in HDB. The EES 2016 score is also above the PSHE Norm (see Figure 7.3.8).

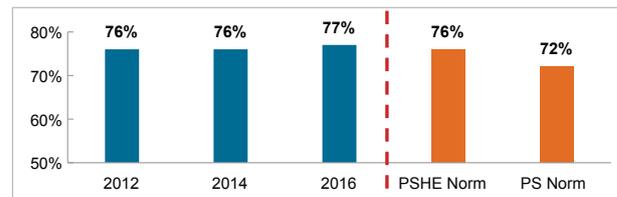


Figure 7.3.8. EES 2016 score for Career Development in comparison with norms for Career Development

#### Reinforcing HDB's Shared Values

HDB achieved high EES scores for questions in the HDB Shared Values category (see Table 7.3.3), an indication of the effectiveness of our programmes in reinforcing the HDB Shared Values in staff.

EES Question	2012	2014	2016	
	HDB	HDB	HDB	PS Norm
I understand how my work contributes to the vision and mission of HDB	91%	89%	91%	90%
I can identify with the values	-	86%	89%	-
The values guide me in my work on a day-to-day basis	80%	81%	85%	80%

Table 7.3.3. EES scores for questions in the HDB Shared Values category

One such programme is the Ambassador Workshop, for which over 90% of staff who

<sup>27</sup> MSF conducted the study in 2006 and 2012.

attended acknowledged an increase in their understanding of the HDB Shared Values.

### Rewards & Recognition

HDB's EES 2016 score for the Rewards & Recognition category is 7% higher than the PSHE Norm (see Figure 7.3.9), despite sharing similar salary structures and benefits as the Civil Service. With regular engagement and timely communication of our rewards and recognition, staff have a good understanding of how their contributions are recognised, and better appreciate the rewards they receive.

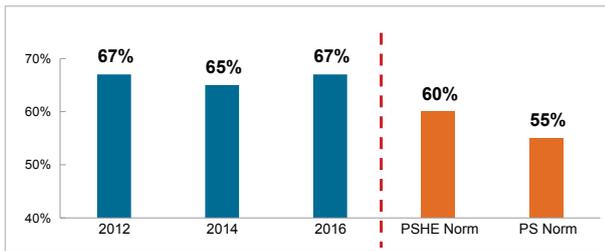


Figure 7.3.9. EES 2016 score for Rewards & Recognition in comparison with norms for Rewards & Recognition

HDB's score for the question on adequate use of recognition and rewards to encourage good performance is also higher than the PSHE Norm (see Table 7.3.4), an indication of staff satisfaction with the array of benefits, awards and development opportunities we have in place for our staff.

EES Question	2016		
	HDB	PS Norm	PSHE Norm
HDB makes adequate use of recognition and rewards other than money to encourage good performance	72%	64%	66%

Table 7.3.4. EES score – Staff satisfaction with other forms of rewards & recognition

Besides compensation and monetary rewards, we have a range of awards to recognise individual and team contributions to HDB and the Public Service, and affirm their efforts to excel in service and innovation.

## 7.4 Operational Results

We recognise that a robust set of processes and standards is fundamental in ensuring successful achievement of key organisational performance outcomes. Indicators stemming from key and support processes (see Figure 7.4.1) are identified and closely monitored to validate the effectiveness of the initiatives in meeting organisational goals.

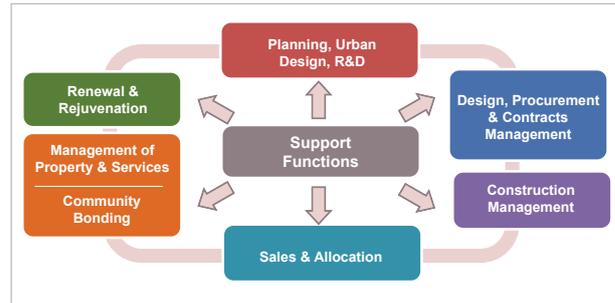


Figure 7.4.1. HDB Key and Support Processes

### 7.4a Process Performance

#### Upstream Developmental Processes

- Planning, Urban Design, Research & Development (R&D)
- Design, Procurement & Contracts Management
- Construction Management

#### Efficient and Comprehensive Planning

HDB towns are planned comprehensively, covering various aspects of residential homes, facilities and amenities and developed progressively as towns grow. From the master plans developed, we formulate the Building Plan (BP) according to the projected public housing demand. The Award Programme for the dwelling units is then derived from the BP to ensure that projects are awarded and the subsequent construction processes are well-managed and on schedule to deliver the flats in a timely manner to our customers (see Figure 7.4.2).

Financial Year (FY)	Target	Actual	Deviation
2012/2013	23,837	22,359	-6.2%
2013/2014	24,340	23,052	-5.3%
2014/2015	26,978	26,911	-0.2%
2015/2016	14,626	14,648	0.2%
2016/2017	13,702	13,702	0%

Figure 7.4.2. No. of Dwelling Units Awarded

#### Building R&D Capabilities

We endeavour to align our R&D efforts with our commitment to create sustainable, well-designed and community-centric towns and support research directions and interests at the national level (e.g. Cities of Tomorrow R&D Programme) through 6 focus areas which underpin the urban development process. Each of these areas has a clearly defined intended outcome which guides the identification of urban solutions and technologies that HDB can adopt to best achieve the deliverables. Information and Communications Technology (ICT) and Smart applications are extensively applied as enablers to reinforce the technical capabilities.

Focus Areas	Objectives
<b>Planning</b>	Optimise limited land supply while maintaining a sustainable and liveable environment
<b>Space Creation and Infrastructure</b>	Overcome Singapore's land constraints to support continued population and economic growth
<b>Design</b>	Provide a high quality living environment that is inclusive and efficient
<b>Construction</b>	Enhance the productivity, quality and safety of our construction activities
<b>Operations and Maintenance</b>	Improve the resilience and reduce the environmental impact of our buildings and estates
<b>Community</b>	Understand the social and behavioural patterns of our residents to better meet their needs

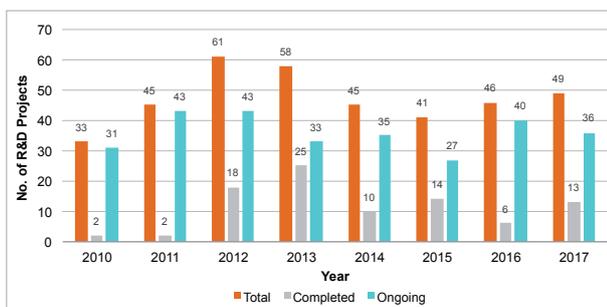


Figure 7.4.3. Number of R&D projects

Figure 7.4.3 shows the number of R&D projects being developed and completed to meet the requirements. The number and duration of the projects vary year to year according to the priority areas set for the year. Impactful projects include:

#### Urban Environmental Modelling (UEM):

An innovative platform to integrate planning, and urban design with the various environmental layers (e.g. wind flow simulation and solar irradiance mapping) to give a holistic overview of their interdependencies and identify gaps and different trade-offs involved in the master planning and urban design process.

#### Floating Wetland Systems and Freshwater-Tolerant Mangroves:

The cultivation of freshwater-tolerant mangroves and the design of a scalable modular platform for the floating wetlands at My Waterway@Punggol have enhanced the water quality, biodiversity and recreational value.

#### Encouraging Innovation in Technological Development and Deployment

HDB has **24 registered patents** for our inventions, which is significantly higher when compared with past SQA (SC) and SQA winners such as SCDF (2), SPF (0) and IRAS (0). We have been applying the patented inventions for our projects and other developments in ways that can benefit the community. For example, the patents relating to skyrise greenery systems have been adopted in private developments and schools to improve thermal comfort as well as provide an aesthetically pleasing environment. We have also obtained patent registration or are seeking registration for some of these patents to be applied in other countries such as China, Hong Kong and Korea.

#### Ensuring Quality in Building Materials

In achieving quality HDB projects, we pay detailed attention to ensure that the critical building components used meet the required standards. Cement, granite aggregate and sand are 3 basic constituents of concrete and these materials must satisfy our stringent requirements to ensure the quality and safety of our flats. Therefore, we conduct regular batch tests on the supply of these materials. Since 2007, we have been achieving 100% compliance with relevant standards like the Singapore and British Eurocodes<sup>28</sup> Standards.

#### Sales and Allocation

##### Supporting Home Ownership Programmes

The ramp-up of the BTO supply has cleared the first-timers' demand backlog and restored the supply-demand balance.

Leveraging the robust and data-driven approach for decision-making, rigorous qualification criteria and arrears profiling were used to identify creditworthy applicants. The automation of credit assessment for these applicants was done through system interfaces, thus eliminating the need for hardcopy documents. This has greatly improved our customers' experience in applying for an HDB housing loan and achieved time savings of 13 minutes per loan application for creditworthy cases.

##### Meeting Demand for Rental Flats

Similarly, since HDB resumed the building of public rental flats in 2007, reviewed the assessment of rental applications and enhanced the measures for HDB home ownership, the number of applicants on the waiting list under the Public Rental Scheme has reduced substantially with a shorter flat allocation waiting time of 3 months in 2017 as compared to 7 months in 2012.

<sup>28</sup> The Eurocodes are the 10 European standards that provide:

- A means to prove compliance with the requirements for mechanical strength and stability and safety in case of fire
- A basis for construction and engineering contract specifications
- A framework for creating harmonised technical specifications for building products (CE mark)

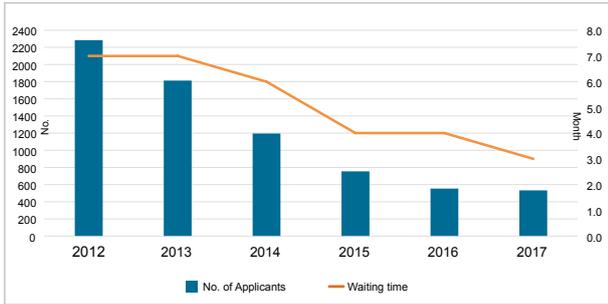


Figure 7.4.4. Rental Housing Applicants on Waiting List and Waiting Time for Flat Allocation

### Allocation of Commercial Properties

We ensure that residents enjoy access to a wide range of amenities and commercial services in self-sufficient towns through increased connectivity. With reference to Chapter 7.2b, HDB’s retail space vacancy rate is lower than that of private operators. HDB’s commercial properties have been registering a high occupancy rate of **at least 98%** since 2012.

- Downstream Post-Allocation Processes –**
- Community Bonding
  - Management of Properties and Services
  - Renewal and Rejuvenation

In addition to building homes, HDB shoulders a heavier responsibility of building up the community spirit. Our community bonding efforts start early in the customer journey, even before flat owners move into their new homes. Prior to the completion of a new precinct, HDB organises the MyNiceHome roadshows, not just to bring renovation tips to would-be home owners, but to bring would-be neighbours together. Continuing from that, after the precinct is completed, HDB organises neighbourhood programmes as platforms for new flat owners to mingle as neighbours and be aware of the roles of various government agencies/Town Councils (TCs) in serving their needs.

### Engaging Residents Actively in Community Events

HDB, as well as other government agencies and local Residents’ Committees (RCs) organise neighbourhood programmes that are meant to cultivate a strong sense of pride and identity amongst our residents and generate heartwarming memories and emotional attachment to HDB neighbourhoods. The percentage of HDB households participating in these programmes has increased over the years.

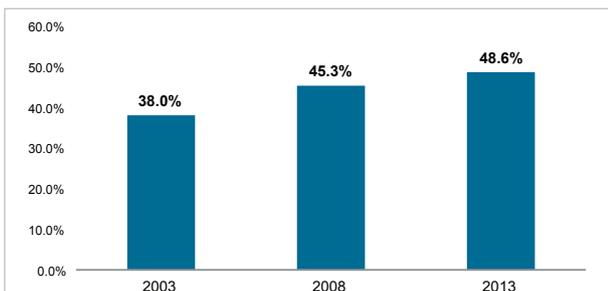


Figure 7.4.5. Household participation in community activities  
Source: HDB Sample Household Survey 2013

We offer opportunities through initiatives such as Build Our Neighbourhood Dreams (BOND!), Hello Neighbour! and Build-A-Playground (BAP) to involve the residents in co-creating communal spaces that are meaningful to them, thereby strengthening community bonding and sense of community ownership. For example, the BOND! Programme engaged households in Tampines undergoing NRP in the planning and design of their preferred improvement works and provision of facilities. The successful pilot of the Adventure Playground@ Canberra under the BAP set a positive footing and the programme is being extended to 4 other HDB towns — Toa Payoh, Pasir Ris, Woodlands and Choa Chu Kang under the estate renewal plans such as NRP or ROH.

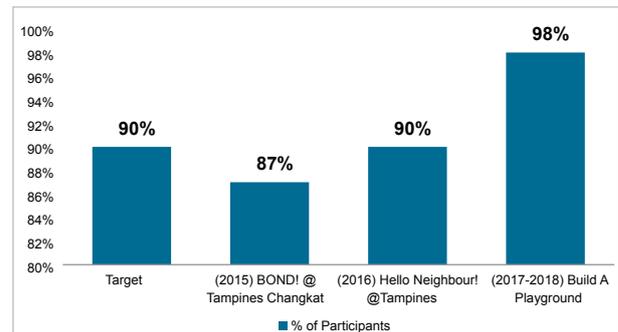


Figure 7.4.6. Percentage of Participants who feel that they are able to influence their Neighbourhood's Design Plans

As seen in Figure 7.4.6, the responses from the participants have been encouraging, with many of them appreciating the greater involvement and having a say in the neighbourhood’s design plans.

### Engendering a Sense of Community (SOC)

Our community bonding efforts have reaped benefits in actively engaging residents and promoting active and cohesive communities. Sense of Community (SOC) indicators (see Figure 7.4.7) refer to shared sentiments that enable residents to feel that they are living among people who are friendly, helpful and tolerant. Based on the 6 indicators, we found that residents had developed a stronger sense of identity towards their neighbourhoods and communities.

SOC Indicators	2003	2008	2013
a. "It is very easy to talk to people living in my HDB estate"	75.0	75.0	75.0
b. "Noise from my neighbours is not annoying"	67.5	65.0	66.0
c. "I can always get help from my neighbours when in need"	70.0	72.5	74.3
d. "Residents in this block can recognise one another easily"	72.5	72.5	74.3
e. "Residents here care about the maintenance of their block"	67.5	70.0	71.8
f. "I feel a sense of belonging to this housing estate/town"	67.5	72.5	77.5
<b>Overall Score (Over maximum of 100)</b>	<b>70.0</b>	<b>71.3</b>	<b>73.2</b>

Figure 7.4.7. Sense of Community score  
Source: HDB Sample Household Survey 2013

### Assisting Residents with Maintenance Requests

HDB provides assistance to owners who need advice on various maintenance issues in their flat. We assist flat owners to resolve maintenance issues (e.g. ceiling leaks, spalling concrete and dislodged tiles) 1 year after they have collected the keys to their flat. The number of major maintenance requests has fallen over the years, indicating that the building materials used in new flats are more long-lasting and maintenance issues in older flats were effectively resolved during HDB's renewal and rejuvenation efforts.

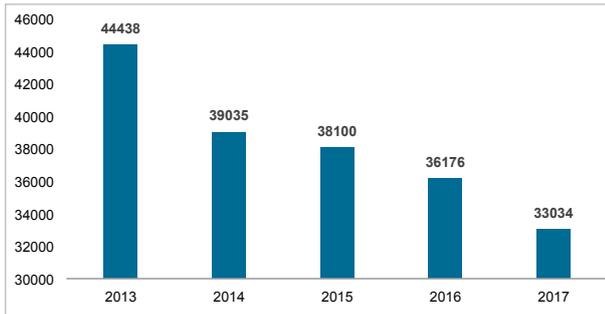


Figure 7.4.8. Number of major maintenance requests

### Tending to Needs of Elderly Residents

With an ageing population, we also provide assistance to improve the comfort and mobility of elderly residents living in HDB homes during their silver years. The Enhancement for Active Seniors programme or EASE was introduced in July 2012 to allow home owners to fit their flats with elderly-friendly features such as non-slip bathroom flooring, grab bars and ramps. This is a heavily subsidised programme by the Government where the home owners pay only a small part of the cost. Since July 2012, HDB has received an overwhelming 53,000 EASE applications.

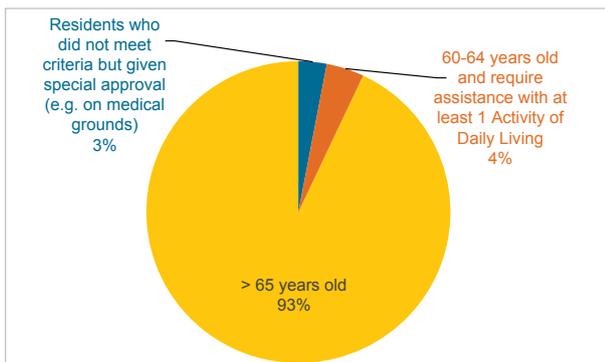


Figure 7.4.9. Profile of our EASE Beneficiaries

HDB has been partnering various agencies like hospitals and voluntary welfare organisations to accept EASE referrals so as to extend our outreach. The number of partner agencies has been increasing over the years (see Figure 7.4.10). We continue to enhance the overall living environment for our residents, with improvements in living space and services in the estate, block and flat delivered through various upgrading and rejuvenation programmes.

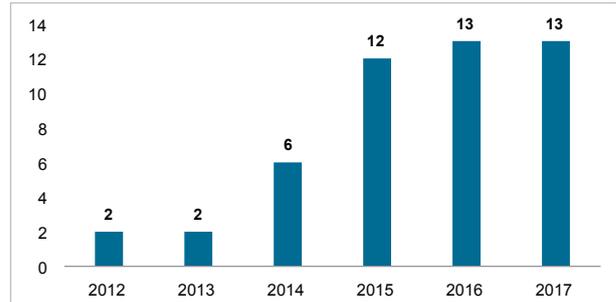


Figure 7.4.10. Number of EASE referral agencies

### Improving Maintenance of Ageing Infrastructure

Even as we provide various commercial, recreational and social amenities in our towns for residents' convenience, one of our key priorities is ensuring that they meet changing needs and circumstances. Through renewal and upgrading, HDB is one of the few public housing authorities in the world that continues to bring new features and improvements to older flats, towns and estates to ensure their vibrancy and continued relevance.

The Home Improvement Programme (HIP), meant for HDB flats built up to 1986 that have not undergone the Main Upgrading Programme (MUP), aims to address common maintenance problems in ageing flats, such as spalling concrete and ceiling leaks through essential improvement components, and provide optional improvement components such as toilet upgrading and replacement of the entrance door. Of the flats that were eligible for HIP since its inception in 2007, a total of about 101,000 flats have gone through the upgrading works as at November 2017, with an increasing number of units completed each year (see Figure 7.4.11).

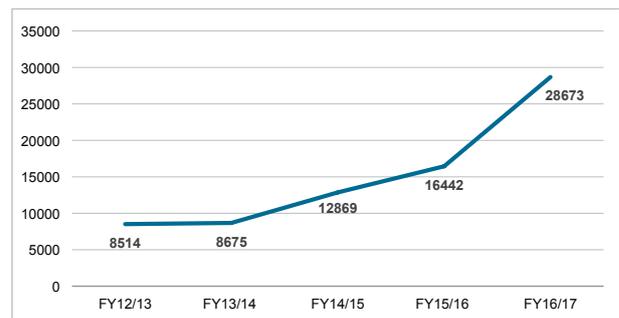


Figure 7.4.11. Number of dwelling units completed under HIP each year

The Neighbourhood Renewal Programme (NRP), introduced by HDB in 2007, focuses on precinct and block level improvement. The NRP age criterion was extended in September 2014, enabling more than 289,000 flats built in or before 1995 that had not undergone MUP, the Interim Upgrading Programme (IUP) or IUP Plus to be eligible. As of March 2017, a total of 127 NRP projects was announced since the introduction of NRP. Of these 127 NRP projects, public consultation exercises were conducted for 110, before the

consensus gathering ensued. Thus far, NRP has received strong support from the residents, **with an average support level of 85%**.

**Giving a New Lease of Life to Older Estates**

The Selective En bloc Redevelopment Scheme (SERS) enables HDB to acquire older flats for redevelopment. The residents affected are offered new replacement flats nearby so that they can enjoy modern amenities and a home with a fresh lease of 99 years, while retaining communal ties in a familiar neighbourhood. To date, 80 sites have been announced for SERS.

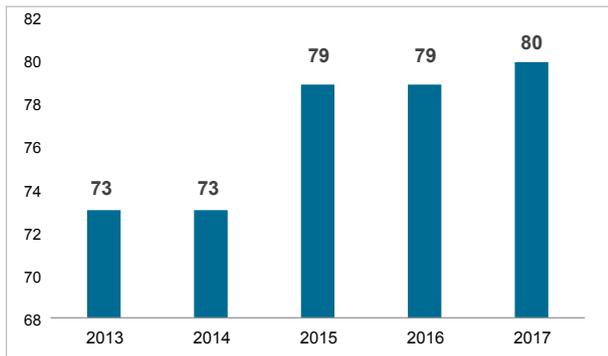


Figure 7.4.12. Cumulative number of SERS sites announced

**Remaking Our Heartland (ROH)**

ROH is a comprehensive blueprint that was unveiled in August 2007 to renew and further develop HDB towns and estates. While the ROH programme aims at transforming HDB towns and estates in a grand vision, it works together with HDB’s ongoing upgrading programmes to maintain the value and attractiveness of HDB towns. Three ROH batches covering 9 towns have been launched.

**Enhancing Vibrancy and Competitiveness of Shops**

The Revitalisation of Shops (ROS) scheme was introduced in November 2007 to help HDB retailers upgrade the shopping environment and carry out promotions. As highlighted in Chapter 5.3c, the scheme was enhanced in 2016 to facilitate more co-funding opportunities for promotional activities and upgrading purposes. Shop tenants also get to enjoy a rent-free period of up to 1 month as renovations are carried out in conjunction with the upgrading and promotional efforts.

4,684 shops at 54 sites

- >50% of HDB Town and neighbourhood centres
- >80% improvement in shopping environment and vibrancy
- >50% improvement to businesses

\* From post-ROS surveys for sites at Simei and Tampines

Since 2007, more than 4,600 shops in over half the number of HDB towns and neighbourhood centres have benefitted from the scheme. From post-ROS upgrading surveys (\*recently completed sites at Simei and Tampines), the respondents (tenants and owners of HDB commercial properties) expressed positively that the efforts have improved business vibrancy.

**Enhancing the Experience for Shoppers and Tenants**

To attract shoppers, we hold promotional events during major festive periods of the year at HDB shopping complexes. Our survey findings showed that both shoppers’ and tenants’ satisfaction levels have exceeded our target satisfaction rates, reflecting the success of our promotional events.

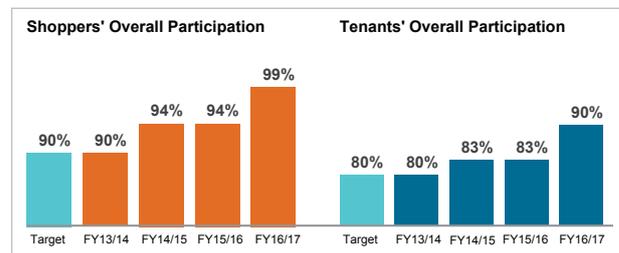


Figure 7.4.13. Shoppers’ and tenants’ overall satisfaction level vs target

**Support Functions**

**Leveraging Digitalisation as the Key Organisation Transformation Enabler**

Given the myriad of businesses that HDB manages, we recognise the need for business resilience to sustain the expectations of high quality in the products and services that we deliver.

As mentioned in Chapter 1.1c, the Digital Master Plan provides the transformational roadmap that guides in the streamlining of our processes, optimisation of cross-cutting workflows and delivering integrated digital ecosystems.

Our channel migration efforts, in line with the approach of ‘Digital where Possible, Personal when Necessary’, have paid off as **the digital channel share of our transactions registered 95.4% in 2017**. This allows dedicated resources to assist customers in the high-touch transactions.

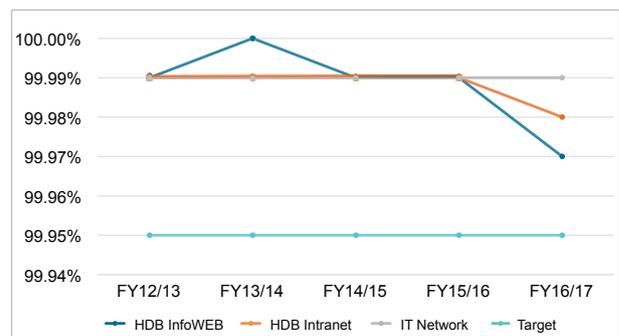


Figure 7.4.14. Availability of Critical IT Resources  
The target of 99.95% was benchmarked against the highest availability standard provided by the Government’s common infrastructure hosting platform.

### High Availability of Critical IT Resources

Every month, there are more than 2.3 million visits to the HDB InfoWEB to acquire information or transact with us. As the HDB intranet and network connectivity support the operations of the HDB InfoWEB, they are critical in ensuring smooth day-to-day operations. We have been able to achieve the targets set for the past 5 FYs and meet the demands in supporting its operations and services. This places trust and confidence in the reliability of our ICT resources.

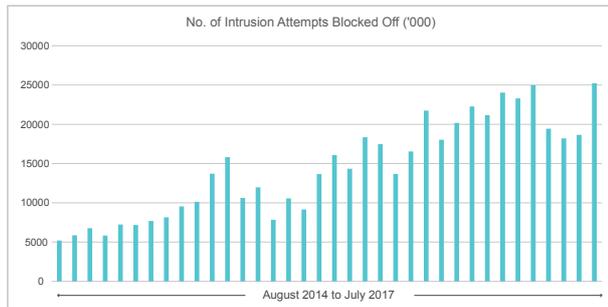


Figure 7.4.15. No. of Intrusion Attempts Blocked Off

### Resilient IT Security

ICT security is very crucial to our business operations. Over the past years, we detected a 4-fold increase in the number of suspicious probes, intrusions, and application attempts, which we successfully blocked off.

With a multi-layered defence mechanism, we developed a robust ICT infrastructure and security architecture that were designed and built on the 'No single point of failure principle'. Based on the Whole-of-Government (WOG) assessment of the agencies' IM compliance and security reviews, **HDB achieved 100% compliance in the recent FY 2017 IM8 Process Audit** (amongst 31 agencies being audited). The IM8 audit, administered by GovTech, provides insights into the health of ICT governance for selected government agencies.

### A Ready Business Continuity Management (BCM) System

Business Continuity Plan (BCP) exercises (e.g. call tree and Virtual Private Network (VPN) exercises) are conducted annually to ensure that all BCP groups in HDB maintain a high level of emergency preparedness and operational readiness for continuity of HDB's core business operations during major disruption/emergency (see Figure 7.4.16). With reference to Chapter 5.2c, **HDB is the first and only government agency** to achieve the ISO22301:2012 certification as at October 2017. This shows the robustness of the organisation's BCM system and processes to respond swiftly and effectively against threats and disruptions to the organisation.

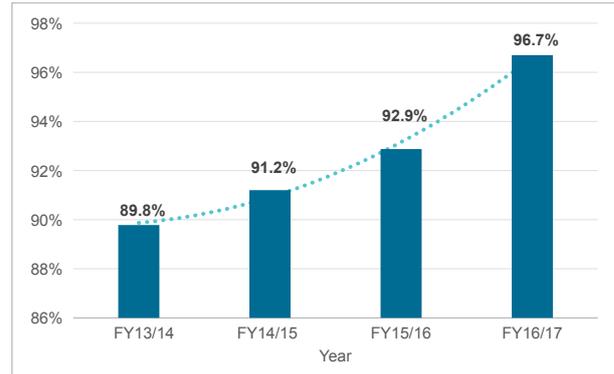


Figure 7.4.16. VPN Exercise Successful Response Rate  
Note: For call tree exercises, we have consistently achieved over 99% successful response rate.

### 7.4b Suppliers and Partners Performance

HDB recognises the criticality in achieving successful strategic collaborations with our suppliers and business partners so as to meet our organisational goals. For example, we organise HDB Construction Quality Seminars and HDB Safety Seminars to engage stakeholders as we promote the building of quality flats and good safety practices at HDB construction sites. We conduct half-yearly performance assessments on projects to ensure that our contractors are able to meet a high level of performance standards.

A recent measure is the enhanced lift procurement framework to emphasise better lift lifecycle performance. One key change is to assign a higher weightage for Quality under the Price-Quality Method (PQM) of tender evaluation, which now includes assessment of the competency of key personnel and the quality assurance measures. In addition, tenderers are to bid based on a bundled price of supply and installation of new lifts that include 15 years of replacement and maintenance of critical parts. This would incentivise lift companies to supply quality lifts upfront as they would have to commit to 15 years of lift maintenance for the TCs at a reasonable cost.

### Driving Productivity in Construction

As the public housing authority and largest housing developer in Singapore, HDB works closely with our contractors to raise construction productivity as we deliver quality homes for Singaporeans. Over the years, through the adoption of many initiatives, HDB projects have consistently maintained higher productivity rates compared to the private sector, despite the increasing sophistication of our project designs. For instance, 0.493 m<sup>2</sup> of floor area in an HDB project can now be constructed within 1 manday (8 hours per worker). This is a 40% increase in productivity over private projects, a testament to HDB's buildable designs.

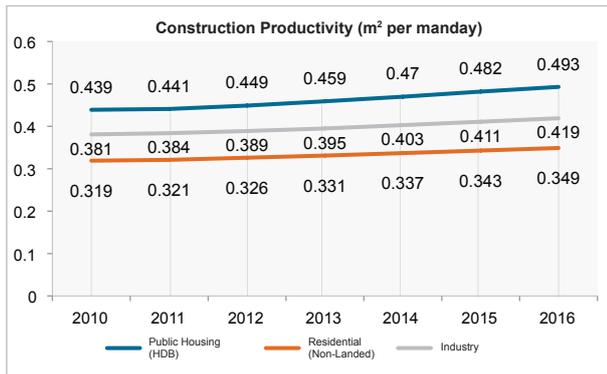


Figure 7.4.17. Construction Productivity Index

We look at alternative construction methods to reduce the manpower on site while enhancing the built quality. As mentioned in Chapter 6.2, we replace floor tiles with Vinyl Strip Flooring in the bedrooms. Not only does this achieve a high customer satisfaction level, it also results in labour savings of about 50% for our contractors.

We also help the contractors to move away from labour-intensive construction by specifying the use of 7 machineries at the construction site. This has brought about increased site productivity of 20%. We measure the productivity of these contractors and factor it into our tender assessment, in order to ensure a quality outcome from the contractors.

#### On Time, On Target

Despite the ramp-up of our building programme, we continue to deliver quality flats to our customers on time as a result of improvements in our construction productivity and related initiatives. We have set the target to deliver **all** Build-to-Order flats to our customers before the Delivery Possession Date (DPD). Since FY 2008/09, **100%**<sup>29</sup> of our BTO flat owners are able to collect the keys to their home before the DPD.

#### A Safety-First Working Environment

Through efficient management of construction contractors under our robust Safety Management System, our Accident Frequency Rate (see Figure 7.4.18) at construction worksites is much lower than the national standard. In line with MOM's legislations, HDB introduced a stringent Risk Management System at construction worksites. We have implemented many safety initiatives and programmes over the years, including on-site safety audit inspections, incentive and demerit points system, safety seminars and workshops, safety promotion campaigns, safety newsletters and Design for Safety. These measures have enabled HDB to maintain good construction safety records throughout the years, achieving **zero fatality** in all its construction worksites in 2017 (see Figure 7.4.19).

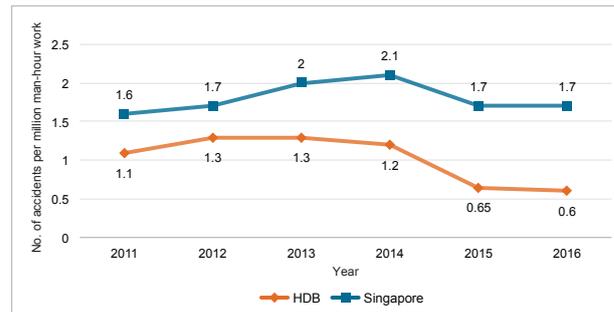


Figure 7.4.18. Accident Frequency Rate = (number of workplace accidents reported / number of man-hours worked) \* 1000000

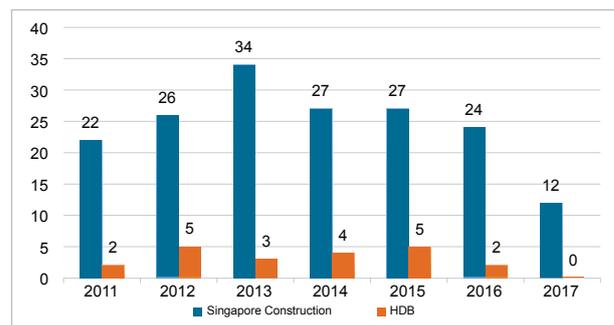


Figure 7.4.19. Number of fatal incidents for HDB and the Singapore Construction Industry

#### Giving Recognition

HDB gives out awards such as the HDB Design & Construction Award and HDB Construction Safety Award to recognise the outstanding quality performance of our contractors, suppliers and business partners. As a result of HDB's positive contractor-management practices and close collaboration with our suppliers, many of HDB's projects also received awards locally and internationally, such as the International Federation of Landscape Architects (IFLA) Award, Asia Pacific Landscape Architecture Awards 2017 and Singapore Prestigious Engineering Achievement Award.

#### 7.4c Governance system and contribution to the community, society and the environment

##### Governance

As with any government agency in Singapore, HDB is also obliged to comply with practices that reflect the highest standards of professionalism and ethical behaviour. Staff can report suspected fraudulent incidents and wrongful practices directly to the Chairman of the Audit & Risk Committee through the confidential Fraud and Wrongful Practices Reporting Channel. Figure 7.4.20 shows that there has been a low number of validated fraud cases over the last few years.

<sup>29</sup> The statistic does not include cases where applicants request to defer their key collection.

FY	2012	2013	2014	2015	2016	2017
<b>Target</b>	No Tolerance					
<b>No. of Fraud Cases</b>	0	1	1	0	0	0

Figure 7.4.20. Number of Actual Fraud Cases

Although this translates to a negligible ratio when compared to the total staff strength, we maintain a zero tolerance target and ensure there are measures in place for staff to understand the rules (e.g. Corporate Governance Directory implemented in November 2015) and their own responsibility.

FY	2012	2013	2014	2015	2016	2017
<b>Target</b>	No Tolerance					
<b>Number of AGO Audit Observations</b>	2	0	0	2	0	0

Figure 7.4.21. Number of Key AGO Audit Observations

Figure 7.4.21 shows HDB's audit results for the last 5 years with a low number of major audit non-conformances in the area of transparency or public accountability in decision-making. The audit findings suggest good controls and highly regulated operations.

## Community and Society

### Friends of Our Heartlands (FOH) Network

The FOH Network was launched by Minister (ND) in May 2017, consolidating all the existing HDB volunteer networks/programmes that allow volunteers the flexibility to contribute to the community through 3 tracks - cultivate better HDB living, activate HDB spaces or facilitate community conversations and help their communities build consensus on estate matters.

Tracks	Broad Roles	Volunteering Activities
<b>Cultivate</b>	Spread neighbourly behaviour and eco-living tips, cultivating positive behaviours for better HDB living	<ul style="list-style-type: none"> <li>Conduct outreach events to share tips on neighbourly behaviour and eco-living</li> <li>Guide eco-themed tours</li> </ul>
<b>Activate</b>	Organise community bonding or place activation projects at HDB spaces for fellow HDB dwellers	<ul style="list-style-type: none"> <li>Organise activities that enliven HDB spaces</li> <li>Organise activities for elderly</li> </ul>
<b>Facilitate</b>	Facilitate conversations, build consensus on local rejuvenation/development plans	<ul style="list-style-type: none"> <li>Facilitate engagement sessions relating to local rejuvenation/development plans</li> </ul>

Currently, we have a network of over 131,000 volunteers. To attract and sustain the interest and involvement of these volunteers, we provide training, organise networking sessions and apply a recognition/award system for our volunteers. Various platforms such as our town squares and community events are also made available for the volunteers to carry out their activities. This will help create a stronger branding for our town plazas and also avail more volunteering opportunities for our FOH volunteers.

### Ground-up Community Initiatives

HDB encourages residents to initiate their desired community-driven projects to activate HDB spaces with funding support from the Government through the Good Neighbours Project (GNP) before 2017 and thereafter the HDB Friendly Faces, Lively Places Fund (FFLP) (see Figure 7.4.22). Not only do such projects enliven HDB spaces, but also develop stronger place identity in the neighbourhoods.

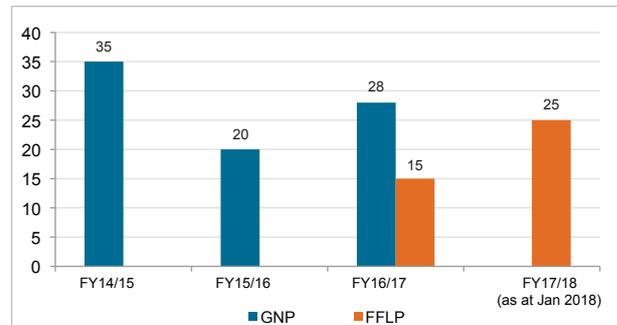


Figure 7.4.22. Number of Ground-up Projects from Good Neighbours Project and Friendly Faces, Lively Places Fund to Activate Spaces

### Contributions to Charity

As indicated in Chapter 1.3b, HDB remains committed to helping the community. Since 2012, more than \$520,000 has been contributed by HDB yearly to support various charity organisations like the Kidney Dialysis Foundation. The Club HDB Care and Fund Teams have also organised activities to raise funds for our charity outreach programmes, which include the GRAINS project to purchase groceries and necessities for needy families and the elderly.

In alignment with PSD's introduction of the 1-day volunteer leave, the HDB Time-off for Community Involvement Scheme was enhanced to allow 1-day time-off for staff to participate in corporate-led Corporate Social Responsibility (CSR) activities events or volunteer in their personal capacity during office hours. One such event was the joint-CSR project with the HDB Staff Union (HDBSU), 'Bringing Cheer to Marsiling 2017'. HDB staff volunteers helped with spring cleaning and fund-raising to purchase and distribute groceries to needy families on the Public Assistance Scheme living in rental blocks in Marsiling.

## Environment

Guided by a holistic and comprehensive Sustainable Development Framework (see Figure D in Organisational Profile) that covers social, economic and environmental considerations, HDB espouses the value of developing urban solutions to achieve a high level of sustainability in our products so that we can meet the needs of our residents while reducing the impact on the environment.

We have implemented eco-initiatives and eco features for all new public housing developments that were launched from 2014. To ensure that our new public housing developments are eco-friendly and sustainable, developments in Punggol, Bidadari, Tampines North and Tengah are to obtain the Green Mark (GM) Gold Plus, and developments in other towns are to obtain at least a GM Gold (see Figure 7.4.23).

We also try to ensure that our commercial properties are green and environmentally-friendly. This resulted in our commercial properties being recognised with the Green Mark Award, Water Efficient Award and Happy Toilet Award.

### SolarNova Programme

We have shown our commitment towards achieving environmental sustainability and energy security with the SolarNova programme (see Chapter 5.1b). With the national target to have solar power contribute 350 MWp to Singapore's energy system by 2020, HDB plays an important role in harnessing solar power from the solar panels installed at HDB blocks under the first SolarNova tender. We also help other agencies to procure solar PV for their buildings. As at January 2018, we have achieved a solar capacity of **190 MWp** for panels installed at HDB blocks.

### Car-Lite Movement

HDB supports the Car-Lite movement by planning and designing our towns to support alternative transport. The upcoming Tengah Town is the flagship exemplar of HDB's vision for a Car Lite town. It will be the first HDB town to have a car-free town centre, with vehicle traffic running underground. The accessibility of facilities, linkways and paths is carefully planned to reduce the need for vehicular transport within the town. Dedicated footpaths and cycling networks run in parallel, ensuring that residents have various options for safe and convenient Car-Lite commuting — public/shared transport, cycling or on foot.

Launch (Year)	New Public Housing Developments in Punggol, Bidadari, Tampines North and Tengah			New Public Housing Developments in Other Towns					
	Total Projects	GM GoldPlus		Total Projects	GM GoldPlus		GM Gold		GM Certified
		O	IP		O	IP	O	IP	
2014	5	5	0	26	3	2	4	15	2
2015	8	0	8	12	0	0	5	7	0
2016	8	0	8	15	0	0	0	15	0
2017	5	0	5	15	0	0	0	15	0
<b>Total</b>	<b>26</b>	<b>5</b>	<b>21</b>	<b>68</b>	<b>3</b>	<b>2</b>	<b>9</b>	<b>52</b>	<b>2</b>

Figure 7.4.23. Green Mark Awards for all New Public Housing Developments [O: Obtained, IP: In-Progress]