



# 以風險管理及創新科技 提升職安健

房屋署助理署長(屋邨管理)(三)

康榮傑先生

31-07-2024



風險管理保平安，善用科技守職安  
Harnessing Risk Management and Technologies  
Safeguarding Occupational Safety and Health

0  
O  
incident  
零事故



## 公營房屋分佈

公共租住屋邨  
193

居者有其屋計劃屋苑  
168

綠表置居計劃屋苑  
5

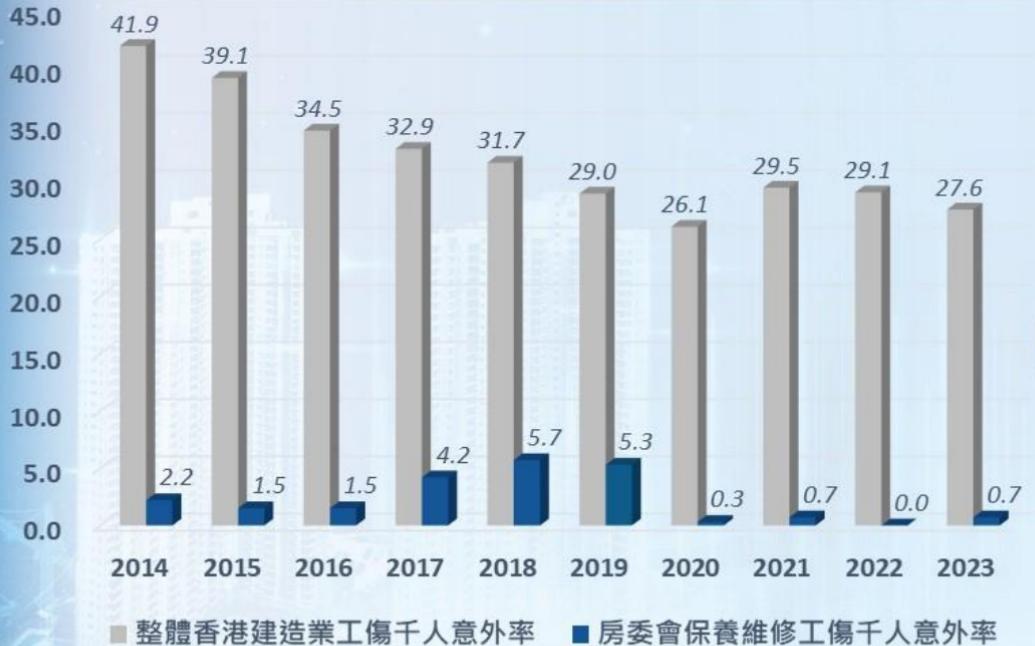
## 公共屋邨居住人口

>2,100,000



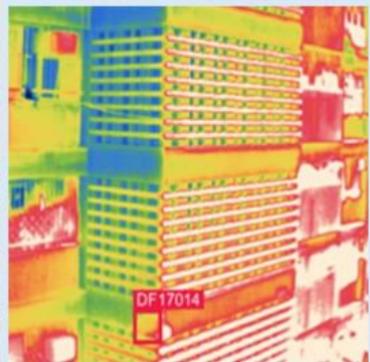
(截至2024年3月)





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O incident  
零事故

# 小型無人機

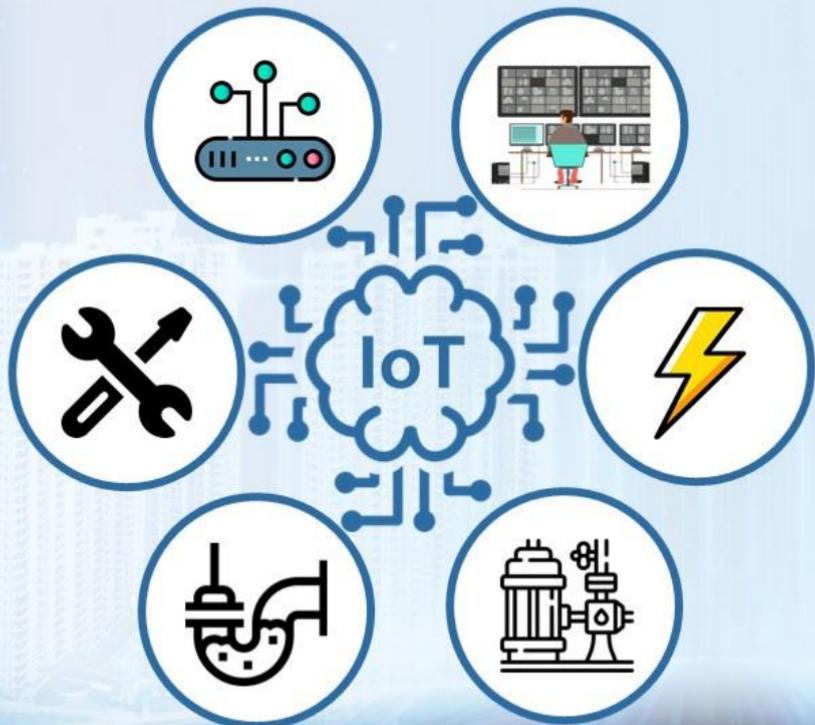


工程和物業管理  
安全研討會  
2024

Safety Forum for Works and Property Management Services

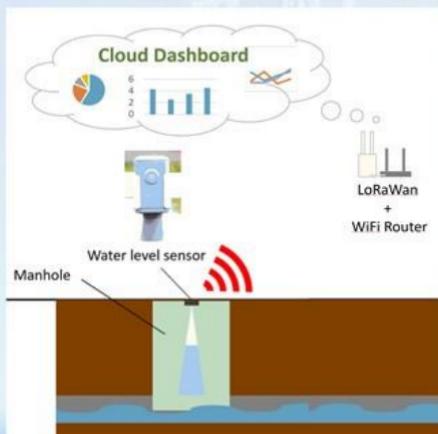


# 物聯網(IoT)



## 工程和物業管理 安全研討會 2024

Safety Forum for Works and Property Management Services

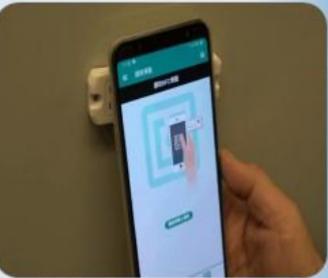




# 屋宇裝備維修保養

## 工程和物業管理 安全研討會 2024

Safety Forum for Works and Property Management Services



房屋局與香港應用科技研究院簽署合作備忘錄  
共同探討應用人工智能升降機預測性維護系統

0  
0 incident  
零事故

# 智能機械人應用

工程和物業管理  
安全研討會  
2024

Safety Forum for Works and Property Management Services



0  
O incident  
零事故

工程和物業管理  
安全研討會  
2024  
Safety Forum for Works and Property Management Services



以風險管理及創新科技  
提升職安健

This is a clip from the 31 July 2024 recording of the

Hong Kong Housing Authority

“Safety Forum 2024 for Works and Property Management Services”

The speaker on stage is Mr Michael Hong

Assistant Director of Housing (Estate Management) 3

He will give the welcome address

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(00:21)

Dr. David Mong, Chairman of the Occupational Safety and Health Council

Ir. Prof Thomas Ho, Chairman of the Construction Industry Council

Director, distinguished guests, industry partners

and colleagues, good afternoon

The Housing Authority currently provides public rental housing to over 2.1 million people

As the largest landlord in Hong Kong

we are dedicated to provide public rental housing residents

with a safe, clean, comfortable and livable environment

This has been made possible through our contractors

who deliver high-quality management services

In fact, public rental housing residents benefit from

a comfortable living environment everyday

All thanks to our dedicated team of over 20,000 maintenance workers

security personnel and cleansing workers

who work diligently for their well-being

And the support for ensuring a safe working environment for these workers comes from

the management and front-line safety supervisors here with us today

Your contribution and perseverance in safety certainly deserve great credit

Mr Daniel Leung has just shown this image

Over the past decade

the Housing Authority has maintained an extremely low  
accident rate per thousand workers in maintenance and repair works

In 2022, our industrial accident rate dropped to zero

In 2023, there was a slight setback

We recorded two minor accidents

I believe many of you have heard or said this before

Safety must be implemented top-down, with unity  
and continuous effort to be truly effective

To show our determination

over the past year

I believe many of you  
have suddenly seen me or other senior officers at various maintenance sites  
conducting surprise inspections in estates

What was the purpose

of these surprise inspections?

We hope through the surprise inspections

to convey the message

Safety is not just the responsibility of front-line workers

It is the responsibility for all employees of Housing Authority

From top down, we all actively participate in ensuring safety

If we rely solely on the front line

without providing proper tools by the employers

they simply cannot complete their tasks

In reality, every time I conduct an inspection

I see that the overall our maintenance of our housing estates  
is well-managed, but it is not perfect

That is why we often invite colleagues from the OSH Council  
to inspect sites with us  
and offer us professional advice

In future

you may again see me appear at maintenance sites in estates

We also hope other senior officers will regularly visit sites

As Mr Daniel Leung said earlier

we should chat with workers

to understand their challenges

and see how we can help

Most importantly, we must all contribute to workers' safety

In addition to leading by example

we can't ignore the role of technology

In fact, technology is truly helping us

Robots, artificial intelligence (AI) and Internet of Things (IoT), and more

These technologies not only improve our daily work

By harnessing these technologies

we can not only enhance our efficiency

but also reduce the operational risks for our workers

thus creating a safer environment for our staff

Let me give a few examples

It is very simple

The emergence of drones is something everyone sees daily

I believe many of you are familiar with drones

In the past

when an inspection on the external walls was required in housing estates

workers usually had to use scaffolds

or suspended working platform to carry out the inspection

These working at height tasks

are relatively dangerous to some extent

With drones now

we can conduct close-range inspections much more safely

In addition to the external walls

we also have many rooftops

confined spaces and slopes

that we can easily inspect using drones

Combining this with AI

we can quickly identify danger zones

and carry out timely repairs or maintenance works

IoT is another widely used technology in our maintenance works

We install sensors in key parts of an equipment

to monitor its operating status in real time

When a problem arises

we can promptly inspect or repair it

It is quite simple

In the past, to inspect a manhole

we had to lift the cover to look inside

Although manhole covers may seem light, they can actually be quite heavy

making accidents easy to occur

Because manhole covers are not light

they have a certain weight

Besides weight

if you have seen workers trying to lift manhole covers

Aside from the weight of the manhole cover

you might notice that sometimes they get stuck  
and are not easy to handle

If we have to handle it this way every time  
accidents can easily happen

By installing sensors under the manhole covers

Relatively speaking

we can easily monitor the water levels  
for any anomalies

If any issues arise

we can respond promptly

For example, in our power and water supply systems

We have also installed sensors

to monitor for any unusual problems in real-time

If workers address faults only during severe weather  
the risks are clearly higher

Conversely, if they plan repairs for clear weather  
relatively, their risks are considerably reduced

In our daily operations

we also use Near Field Communication (NFC) technology

These NFC technologies are truly convenient

We just need to scan

and we can easily check if the routine maintenance or inspections have been completed

If we conduct sufficient inspections  
then that object or equipment is relatively  
less likely to break down

and colleagues won't need to carry out emergency repairs

In addition to introducing technology ourselves

we also work with different organisations

As Mr Daniel Leung just mentioned

We have signed a memorandum of understanding with the Hong Kong Applied Science and Technology Research Institute

to explore an AI Predictive Maintenance System for lifts

With preventive maintenance

we can make advance arrangements

With advance arrangements

we avoid sudden incidents

And when there are no sudden incidents

safety improves significantly

Additionally, these are minor security issues

that we often observed

In housing estates, security guards

They have to interact with the public daily

and during their duties

They frequently encounter unpleasant incidents

Because they usually need to advise individuals

who have engaged in inappropriate behaviour

Therefore, by introducing these robots

we can not only replace human workforce

that is security guard, for regular patrols

but also minimise potential conflicts

These robots

are equipped with video cameras and AI recognition systems

enabling round-the-clock monitoring

When they detect an issue

they can notify the control centre

enabling prompt follow-up

Besides reducing the frequency of manual patrols

this also frees up personnel to handle tasks that only human can perform

because unexpected incidents occur daily in estates

We can retain security guards

for manage tasks that require human-touch

Of course, cleaning is another physically labour that

involves daily contact with cleansing chemicals

Our current cleaning robots

are equipped with autonomous navigation and sensing technology

allowing them to operate independently

However, they may not handle unexpected incidents

while not suited to handle unexpected incidents like security guards do

When we clean

we can still deploy some cleansing workers

but the robots can work 24 hours a day

This reduces the workload for our staff

and enhances cleaning efficiency

Finally, the theme of this year's forum is

"Enhancing Occupational Safety and Health by Risk Management, Innovation and Technology"

Looking ahead

as I mentioned earlier

effective safety management must be sustained

through top-down and collaborative efforts

We need to build a strong safety culture

and embrace new technologies

to support our work

Most importantly  
we hope to maintain zero incident

Thank you all

Thank you for watching  
(09:52)