Here is the footage of
"Site Safety Forum for Works Contracts and Property Services Contracts 2017" which was held on 6 July 2017.
The speaker is
the (temporary gondolas) technical team member of
Hong Kong Professional Gondola Association Ltd.
Mr. Chan Hoi-yuen
His presentation topic is
overload and the tilting warning system of the temporary gondolas

I am the technical team member of
the Hong Kong Professional Gondola Association Ltd.
I would like to talk about the safety of the gondola today.
There were a lot of accidents concerning the tilting of the gondolas in Hong Kong.
The industrial stakeholders are kept on improving the technology of the equipment in response to these situations.
In the past, the maximum loading capacity for the climbing machine was limited to 500kg
and the loading capacity has been increased to 630kg nowadays,
or even up to 800 kg.
In the past, the cooling system of the climbing machine did not function effectively.
It might overheat when it worked in the high-rise buildings.
Some workers would cool it down with a wet towel.
After improvement, the heat sink and cooling fan have been improved to address the said problem.
In the past, the transmission gear wore down
and it led to accidents of the gondolas.
After improvement, by using another driving system,
via worm drive and worm gear, it reduced the level of abrasion and
increased the power of gear transmission.
Thus this minimised the occurrence of accident related to wearing of gear.
The safety locks are similar to the seat belts in the vehicle.
When you pull the seat belt generally, it will be pulled out completely.
This however failed to prevent the inclination caused by
the mal-function of gearbox or control system.
After improvement, it becomes a dual protection safety lock.
It prevents two kinds of inclination problems and acts as a protection measure.
In the past, monocular ring anchors were used to be broken easily.
By using a highly reliable anchoring eyelet, the safety level has been increased.
In the past, by using 6 strands of steel cables,
it tended to loose and stuck.
After improvement, by using four strands of low torque steel cables,
the situation has improved and the performance is better than the past.
The U-clamps easily contributed to the damage of cables in the past.
Right now, by using the seven-character clamp, it reduces the damages to the cable.
Hand-tools were used in the past and right now, we use electrical tools.
There are two merits for using electrical tools. Firstly, it has increased efficiency of the work.
Secondly, it has guaranteed the sufficiency of tightening torque.
This reduces the undesirable situation of insufficient torque by manual work or over tightening torque which caused the breakdown of the screw.
In the past, waterproofing performance of the plug was poor.
However the waterproofing rating has now been raised up to IP67 from IP44
and the waterproofing performance of IP67 has improved a lot.
Recently we undertook some projects
in relation to the overloading issue of the gondola.
Overloading on the construction site is a serious problem.
Apart from the inspection by contractors,
for example, we can check the maximum loading capacity of the gondola.
Also, we can provide an electronic weighing machine on the gondola,
so that workers can know the overload situation and
the device works as a reminder of overloading warning to the workers.
On top of alerting the workers, the indicator lights are installed on the gondola.

It will facilitate the monitoring of the supervisors for the overloading issue
or is it close to the limit of overloading.
Another item is about the prevention of inclination.
The mechanical system only prevents the gondola from falling.
If one side of the gondola is raised up by the control system,
the mechanical device will not lock the gondola.
One side of the gondola will go upward continuously
until it becomes vertical.
After improvement, electronic method is used to operate which
cannot be achieved by means of mechanical devices.
By installation of electronic sensing device and providing anti-slanting function,
it can prevent the malfunctioning of the gondola due to fault of the control system
which would lead to rising of one side of the gondola and one side slanting.
We can watch a short video now.

The screen viewer plays the video, the following is the content of the video.
(The movie has subtitles)

The following part is the questioning time from guest to audience.
Mr. Chan will question our audience right now.
How many warning lights are there in total
for an overloading device in a gondola?
A friend raised up his hand, please pass the microphone.
Audience is answering the question
Three, green, yellow, red,
right?
Guest response
Yes, very good, congratulations!
Thank you Mr. Chan.