



Lift No's	Pass / Load	Speed	Rise
1 & 11	21-1600kg	1.0m/s	10m
2 - 5	20-1350kg	5.0m/s	113m
6 - 8	20-1350kg	8.0m/s	208m
9 & 10	26-2000kg	9.0m/s	236m



**Surfers  
Paradise**



**C**rossing the Tasman; that's the 2-1/2 hr stretch of water by an Airbus A320 that separates Australia from New Zealand, but of course if you are wishing to go from southern Christchurch NZ to the southern end of Queensland, namely Brisbane, its more like 4 hrs.

At 3:30am I shook off the shackles of a beautiful dream to throw a few clothes in a flight bag and head off into that serene time of the very early morning when all lights are green and only the keen night-clubber and shift worker negotiate silent roads.

My strategy to miss the early check in works well by being an hour late, with only a couple in the queue, and so another adventure begins. Lyall Senior from Lift Solutions Ltd, the only other lift consultant based in the South Island, is to travel with me as part of the 55 or so independent industry experts from around Australia and New Zealand attending this, the :-



## **KONE 2006**

### *Customer Focus Product Development and Technical Seminar:*

The sun struggled to rise behind us as we sped toward Brisbane at around 900 kph and at 30,000ft, but eventually it caught us as the 'no bones'; but thankfully heat, 150 passenger A320 Qantas discount airline Jetstar lined up on finals, to touch down around 7:20am in Brisbane.

The 9 person Kiwi contingent including Jon Williams – Beca Carter who had arrived earlier from Malaysia, Keith Johnstone – Stephenson & Turner and Roger Tringham - NDY, were to wander in from Wellington, and over the next hour from Auckland we were enthusiastically met to be led by KONE NZ General Manager Ron Perez, and unflappable Sales Business Manager Greg Brown.



**L to R BACK:** (HIDDEN Lyall Senior – Russell Appleton)  
Greg Brown - Keith Johnstone - Murray Barr – Roger Tringham.  
**FRONT:** Ron Perez – Jon Williams.

Russell Appleton – Wellington Area Manager,  
Murray Barr – Vertrans Associates (NZ) Ltd,  
Auckland, and the mysterious companion promised  
to intrigue the entire Kiwi contingent, “Shirley”,  
arrived earlier to catch up in Surfers.

Ron Perez, unwittingly as driver of the Hertz rental  
van had only one request; ‘Just tell me when to turn off’,  
whereas 2IC Greg Brown who took on the unenviable task of  
determining ‘when turning off was to take place’, and so  
fielded a barrage of one liners as we; lets say, ‘explored a  
considerable amount of Eastern Brisbane’.

KONE Elevators Pty Ltd’s Southern  
Region Managing Director Peter O’Conner,  
along with local Queensland Area Manager  
and Director Ron Watson and his  
enthusiastic team, had been given the  
challenge to assemble some 55 Australasian  
Engineering and Lift Consultants to present  
the KONE vision through their Product  
Development and Technical Seminar,  
***‘Looking toward the future’***.



Greg Brown

Lyall Senior

Russell Appleton



Ron Watson



Peter O'Conner

Ron Perez

The venue was to be the recently completed and technically excellent **Q1** building on  
the Gold Coast of Australia in Surfers Paradise, which is presently the tallest  
apartment block in the world at 323 meters from beach to the tip of the lightening  
arrestor.



Words like *inspirational*, *breathtaking* and  
*stunning* do grasp the magnificence of this  
building offering 80 levels containing 526  
apartments made up of one, two and three  
bedroom accommodation, multiple  
conference facilities that convert into a  
ballroom, two lagoon pools, an indoor lap  
pool, spa, sauna, fitness and games rooms.  
But the real stunner is the publicly  
accessible 77th and 78th level observation  
deck, with a 550 guest capacity that  
provides the world’s most stunning 360°  
beachside views.

All this is seemingly instantly accessible  
thanks to two KONE 9m/sec MX100’s  
using the largest Variable Frequency  
Permanent Magnet motor, and the fastest  
lifts in Australasia to get you smoothly  
bottom to top in just under 43 seconds.

But that was still to come, we had just found the Brisbane Head office for KONE, still an hour or so North of our destination Surfers Paradise, and we still had half a day to fill in before cocktails and canapés on the 78<sup>th</sup> level in the Q1 Starlight Room, where everyone was to come together for welcomes at 6:30pm.

The character of an industry is its people, and for me this trip was also a chance to reminisce, an opportunity to catch up with associates I had grown up with in the Melbourne Branch of EPL/Lend Lease, (KONE's predecessor through takeover in the late 80's). And who was there to welcome us representing the Queensland branch, but KONE Director Ron Watson who I had first met as a young tall, skinny and ambitious salesman for A.P Morlings in Melbourne those many years previous. Immediately following was MC for the seminar, Roger Haig, KONE National Sales and Marketing Manager who I remember starting green back in the late 70's with EPL to learn the ropes in lift sales under George Akester (Guardian Elevator Services) and Bryan Fulcher (International Lift Consultants). And just look what they did with him!



Roger Haig

Sadly George Akester has past along a few years back, but another Melbourne friend John Lockwood has taken over the mantle and I was pleased to catch up with both John and Brian at the seminar.



Murray Barr

Kitted out with safety helmets and boots we were off to see a cross

section of KONE's present work in progress starting with a visit to 307 Queen Street Brisbane, which featured a modernization employing their Resolve 100 solution.

In this instance it was updating the old

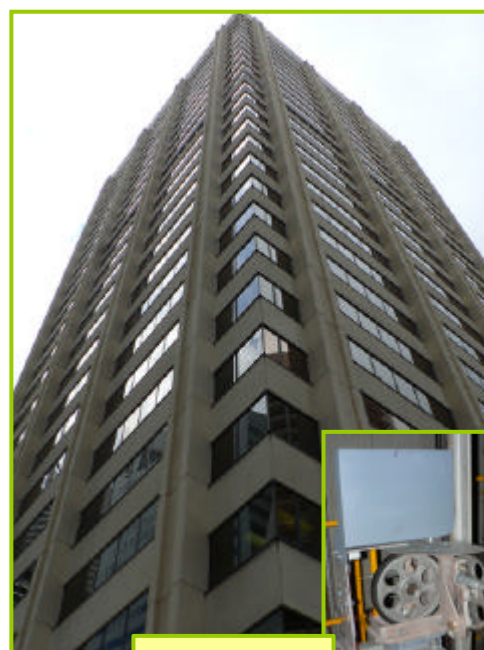
Thyrolglide III DC drive retaining the existing Bull gearless machines, but replacing all motor and system controls and incandescent fixtures. With motor control easy to upgrade on these quick response machines, the focus was on drive, ride and door improvement.

307 Queen Street Brisbane			
Lift No's	Pass / Load	Speed	Rise
1-4	17-1136kg	2.5m/s	Low
5-8	17-1136kg	5.0m/s	High



Wally Lobegeler Explains Resolve 100

Notably Kone are fitting a much larger diameter guide roller assembly not much dissimilar to the Taipei 101 Building roller.



KONE Roller Guide

Next site within walking distance was Brisbane's new AURORA building, soon to be tallest in Brisbane with 198m of lift travel and still under construction.

### Aurora Center

Lift No's	Pass / Load	Speed	Rise
1-5	20-1360kg	5.0m/s	198m



New MX 32 Machine



Jump Lift MX18 Machine



Jad Vinko Demonstrates False Car

Of interest to see was the jump lift technique employed by KONE using the EcoDisc MX18 machine.

Jump lifts enable men and materials to travel at high speed to the upper building levels, and are designed to fit inside the shaft footprint and as such are tight, but the compact machine design of the MX18 gives a little more room to that I'd experienced before.

The Jump lifts can:-

1. enable shaft work to start before the full shaft is complete.
2. allow the jump lift to be raised up the shaft by a crane to the next stage of completed decks upon completion of the first stage and each subsequent stage.
3. allow use of the jump lift for access to the finished upper levels while the next stage of construction work continues above.

In this instance the advantage was in the minimal delay to the project and advanced access to the building. EPL had first used this

technique if I remember correctly back in my days on installation in the late sixties on the Melbourne BHP project, and funnily enough but who should I find heading the team on site but a now more mature (and sedate) Jad Vinko. (*Rocky to those who worked with him in Melbourne*).



Keith Johnstone



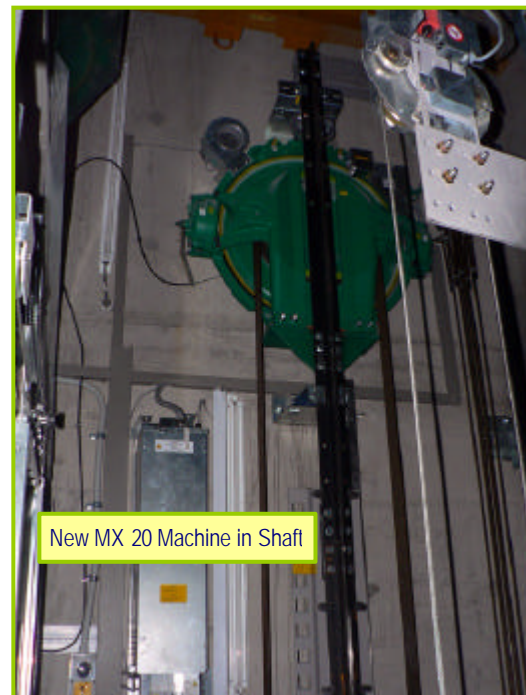
Saville Suites			
Lift No's	Pass / Load	Speed	Rise
1,2	21-1600kg	2.5m/s	48m
3,4	21-1600	2.5m/s	48m

**S**aville Suites was the last site visit before heading south to Surfers and was the ideal building to compliment the glimpse of KONE in Brisbane. This site produced the first 2.5m/sec Monospace® + PLUS providing the first high capacity motor-roomless lift able to access up to 24 floors. For the Architect, the advantage of no motor-room and up to a 4 car group provided a more cost effective and flexible solution for this mid-range building height. For the builder, a much simpler installation

process with a faster installation time, and for the end user the clean car finishes and controls familiar to Monospace® were still available, only as quiet and smooth but faster.



By mid-afternoon we were on the freeway heading south but still the banter continued with Ron behind the wheel and Greg with map in hand to ensure we didn't hit NSW. But there was no need for worry because the sign post was a 323m monolith and we had 5 keen spotters in the back. All was well it was



where it should be on our left front, but then left side. Soon it was right side rear and the volume of banter rose until at last left front again and finally up the back alley and under the impressive glazed portico and secure lobby. We had arrived to be accommodated at the tallest apartment block in the world, only opened in the later part of 2005.

## Registration:

Registration was akin to the academy awards with a KONE survival kit of goodies to free us from the heartache of a room bar tab that can compete with an airfare these days. Suite 1308, but no Shirley as noted on my accommodation booking, but access to the Q1 website at [www.q1.com.au](http://www.q1.com.au) to ensure I experience all, and what luxury for a poor lift consultant not unknown to stay in the occasional caravan park for accommodation.

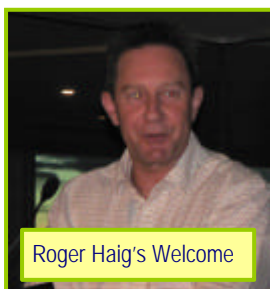


## Cocktails:

6:30pm and as promised our first ride in the KONE 9.0m/sec Observation lift whisks us to the 78<sup>th</sup> level with only a slight lateral oscillation in the car to smoothly arrive at the Skylight Room lobby in just under 43 seconds.

*(Meeting with the techs the next day I find out that with the usual rush to open and faultless operation, the ecstatic building management prefers to hold off this perceived minute aberration until first service much to the site boys chagrin).*

With cocktails and canapés and 55 well experienced lift industry consultants and engineers from around Australasia in one room, who had probably only just experienced their first 9.0m/sec ride, and glimpsed the late afternoon view from the 78<sup>th</sup> level of Q1, I think it fair to say the din of conversation and catching up with old buddies was deafening. So much so that even Roger Haig's and Ron Watsons opening address and introduction of Mr Perry Just, the Development Manager for the very successful Sunland Group who brought the concept of this magnificent Q1 building to Surfers Paradise, was lost a bit in the ambiance of the moment.



Roger Haig's Welcome

The Sunland group I understand has played a significant role on the Queensland South Coast and is presently involved with the 220m twin tower Circle on Cavill presently under construction less than a kilometer away, and ready to make it's own mark on Surfers



Karl Barker

Greg Brown

Ken Germaine

Paradise's skyline. Also to come is the 240m Soul Tower.  
Stay with us because we are going to have a look see at the Circle on Cavill site the day after tomorrow's presentation.

It's now around midnight, around 23hrs since rising this morning and with a few glasses of water to ensure a clear head for our 8:30am start, I dim the lights next to my Queen sized bed, and drift off to the lights of surfers spread out to the hills to the south below me.

### The Seminar:

Employed with KONE now for 27 years, **Johannes de Jong** has the exciting position as **Director, Products and Technology, Major Projects**. Johannes informed us he started life in the Caribbean, completing his formal education with a Masters Degree in Engineering from the University of Delft in the Netherlands in 1977, and from the friendly enthusiasm he espoused from talking with him earlier, he had many years



of experienced industry consultants all awaiting presentation, and were not let down.

Key Speaker : Johannes de Jong

his

The days presentations included:-



- ? **The Kone Story.**
- ? **Major KONE projects.**
- ? **The KONE Destination Control System**
- ? **Double Decker lifts and Destimnation Control.**
- ? **A traffic study look at Broadgate tower.**

#### **LUNCH**

- ? **A Special Tour of the Q1 Lifts and rooftop:**
- ? **Relax for a drink and to take in the sights at the 77<sup>th</sup> floor Observation Deck.**

It is not often you go to a seminar than not before long attention drops off, the mind begins to wander, but not this time, you could drop a pin . .

There was a great mix of the Australasian lift industry consultants present, including some very familiar with the history of KONE.



A New Consultant - Roger Tringham NZ  
Some Ex KONE Consultants - Brian Fulcher QLD

Some Past Very Experienced Ex KONE Consultants.

Far Left: Karl Barker.  
Adjacent: Jim Cambell.

**Johannes story** on KONE in Australasia began in 1986 with a 10% holding of Elevators Pty Ltd, increased in 1988 to 30% and finally by 1989 to full ownership. EPL had begun in Sydney as the Sydney & Suburban Hydraulic Power Company in 1889, taking on the UK Express Lifts agency in 1932, and registering the name EPL in 1955. A bid by Lend Lease Corporation was successful in 1960 and by the time KONE took over the trading name was LL Elevators Pty Ltd.

KONE Presenters:

Robert Bergamin Graeme Hill Roger Haig Chris Downing Niko Miletic



Johannes began his timeline story in a presentation of some of the most advanced buildings in the world and under construction starting with the unique Tytyrri underground test shaft, but all featuring KONE equipment. For example:-

1998 KONE Tytyrri Underground  
329m Lift Test Shaft

1968 EPL 55m Lift Test Tower.

DD = Double Decker lift.

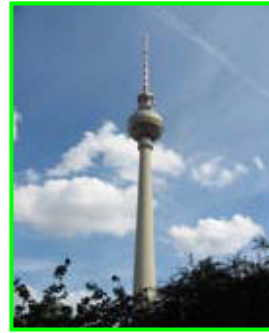
DSC = Directional Control System



**1980**  
Sydney Tower  
Double  
Decker  
7m/sec



**1990** 311  
South Wacker  
Chicago  
88 Floors



**1996**  
Berlin TV  
Tower.  
Travel 226 m  
6m/sec

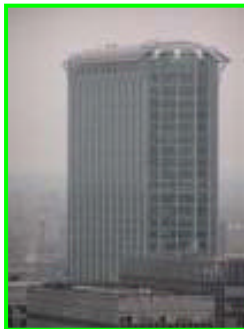
**1998**  
Tytyri Finland  
Test Tower  
329m  
Up to 12m/sec



**1999**  
Oxford House  
Hong Kong  
8m/sec



**1999**  
KONE  
Introduces  
MX32, MX40  
MX100



**2000**  
City Point  
London  
8m/sec



**2000**  
Park Hyatt  
Chicago  
237m travel  
71 floors



**2003**  
Swiss-Re  
London  
6m/sec

**2003**  
Abu Dhabi  
National  
Bank



**2003**  
Shangri La  
Dubai



**2000**  
City Point  
London  
8m/sec



**2004**  
Riverside  
Hotel  
Moscow



**2004**  
Gallileo  
Frankfurt  
DCS

**2004**  
Double  
Decker Lift  
Technology  
with  
TOSHIBA  
Introduced



**2004**  
Taipei 101  
Building.  
DD

**2005**  
Hyatt  
Center  
Chicago



**2005**  
Skyper  
Frankfurt  
DCS



**2005**  
Turning  
Torso  
Malmo  
Jump Lift



**2005**  
Finance  
Street  
Beijing



**2005**  
Q1 Gold  
Coast  
Australia  
9m/sec



**2005**  
Gallileo  
Frankfurt  
DCS

**2006**  
Circle on  
Cavill  
Surfers  
Paradise



**2006**  
Park Place  
Dubai



**2006**  
Toyota-  
Mainichi  
Nagoya  
DD



**2006**  
Southern  
Cross Hotel  
Melbourne



**2006**  
Sports City  
Tower Qatar  
300m  
6m/sec



**2007**  
SWFC  
Shanghai  
DD

**2007**  
Qatar Doha  
Office  
Tower  
44 floors  
8m/sec



**2008**  
Trump  
Tower  
Chicago  
97 floors



**2008**  
Dubai Towers  
Doha  
89Floors  
445m  
8m/sec



## KONE Destination Control System:

Since KONE's launch of a paper at the Elevcon Conference in Beijing in June

2005, we have begun to gain a better understanding as to how KONE sees the Destination Control System in the market.

- Normal Hall Call System
- **KONE GuideOn Destination Control System**
- User Interface

Johannes outlined the standard concept of the DCS but failed to contain his enthusiasm on the versatility that this system brings to the market by detailing some of the existing and proposed installations. His presentation compared conventional and DCS demonstrating the importance of 'Time to Destination' and where 'Mixed Traffic' needed to be more closely considered as the heaviest demand.



Johannes discussed three ways in which allocation of demands can be dynamic to suit specific buildings or periods of the day. eg.

- ? **WAITING TIME OPTIMISATION:**  
All cars serve all floors resulting in maximum floor overlap
- ? **INTERMEDIATE OVERLAP:**  
All floors served by 60% Of cars resulting in a 60% overlap.
- ? **MAXIMUM BOOSTING:**  
Floor overlap has been minimized resulting in only one car serving each floor.



Of critical importance is the interface between the user and the system. It needed

to be varied to fit the building purpose, with more lateral solutions like mobile phone demand input in some instances, or more strategically locating lifts throughout the building with multiple lobby assembly points.

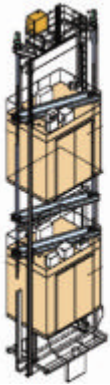
A proposed optimal interface concept entailed integration with access gates.

Whatever the circumstance, with the means of input changing so rapidly, each will probably open the door to a new solution. The power of the DCS is the efficiency and flexibility in allocation of the demand.



## KONE Destination and Double Deck Efficiency:

As pointed out by Johanna in his presentation, the double deck is not new to the lift industry, only that it has been slow to evolve in application because of its inefficiencies in conventional operation and mostly suitable only to very high large floor area buildings.

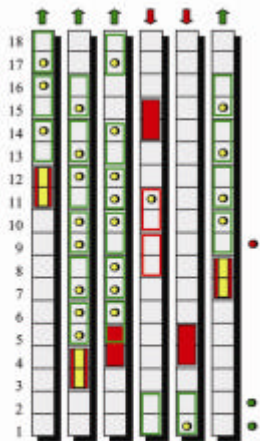


**Add  
Adjustable  
Floor  
Height  
And we get:**

First update was to overcome the difference in distance between consecutive floor levels. This saw the ability to automatically change the distance between the two decks at any time to improve the efficiency of use so that nearly all levels could always be accessed per stop



- Stops at every other floor for incoming traffic
- Decreases passenger journey times by reducing the number of stops
- First introduced in 1931 in the New York Subway Terminal Building

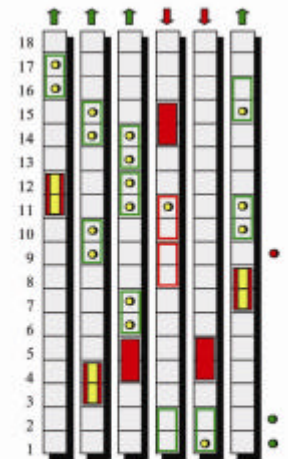


**Conventional DD**

This latest advance though, addresses most of the past inefficiencies of *Directional Demand* control systems, through the combination of the *Destination Demand* Control System with the high capacity *Double Deck* installation.

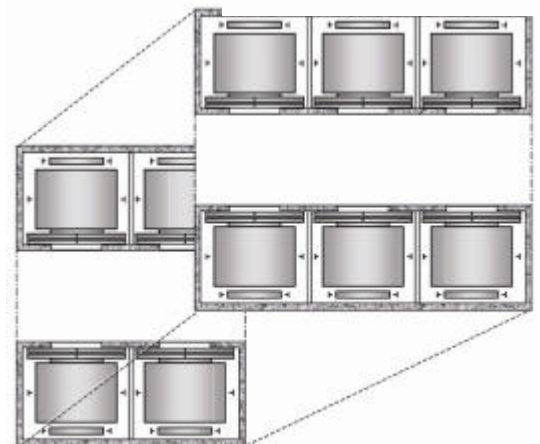
Here the much more efficient allocation of calls to specific decks in a bank of lifts greatly improves the efficiency of use of the much higher capacity two lifts in each shaft.

This also reduced the need to have passengers on a deck stopping at a floor where there is no demand, and being able to allocate highest calls to the top deck and lowest call to the bottom deck, thereby removing the need for transitional lifts or escalators.

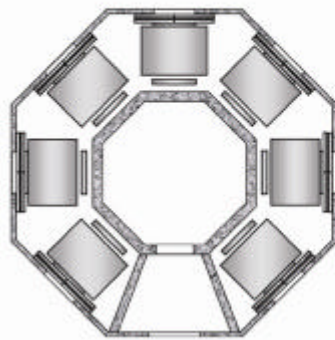


**DD with Destination Control**

All these features help to increase the transparency to the user of the significant advantage of getting closer to enabling **double the capacity in the same building footprint**. This transparency and flexibility in layout may enable even mixed double and single decks lifts in the same bank to finer tune the solution to the building size and capacity.



The usual architectural freedoms associated with Destination systems enabled improved core layout, or even same group separated cores spreading distribution but still from the same passenger source.



**more  
Architectural  
Freedom**

With the higher capacity of Double Decker lifts, lobby congestion needs to be considered, and once again the combination of the destination system enables multiple smaller lobbies to better control congestion if needed.

### KONE TMS 9900:

Where as the Double Deck lift and the Destination system concepts combine with fixed parameters such as number of lifts, speed, floors served etc. to any building access solution, the world of the control system designer with increasing computer speeds and means to convert more and more input information into dynamic control outputs, means we are seeing machines seem to become what we term intelligent.

The presentation was to demonstrate how the TMS 9900 is optimised to dispatching for all traffic conditions through the following key points offered to clarify the concepts within the system.

#### ? **Artificial intelligence.**

- passenger flow detection
- traffic forecasts.
  - ✍ continuous allocation with traffic forecasts
  - ✍ destination control with traffic forecasts.

#### ? **Fuzzy logic.**

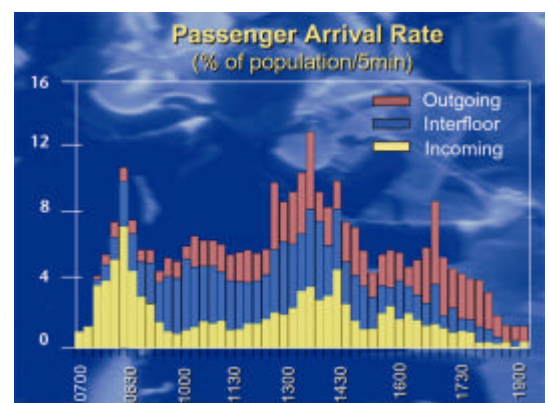
- traffic pattern recognition.

#### ? **Genetic algorithm.**

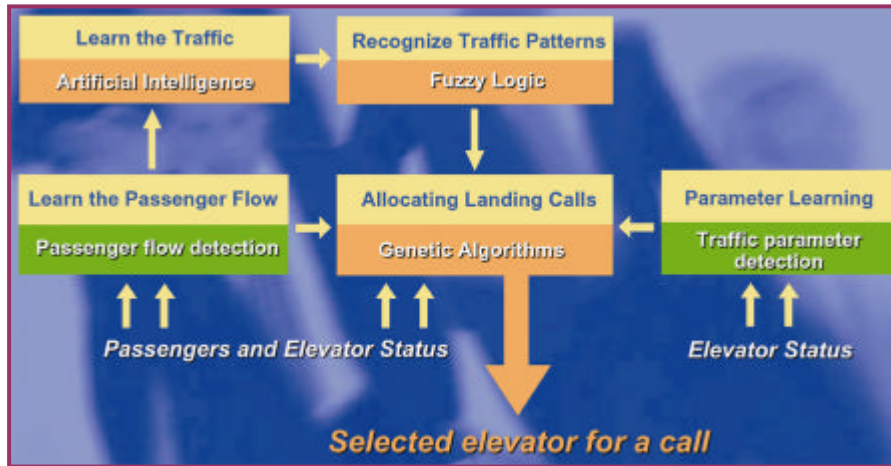
- continuous allocation

#### ? **Boosting traffic.**

- conventional group
- concentrated passenger service
- destination control system

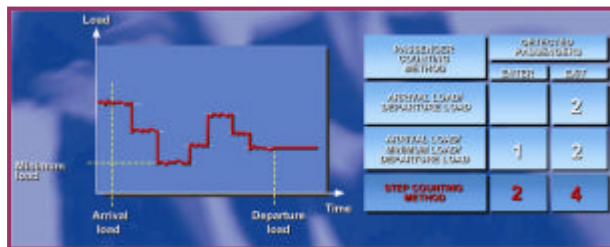


And so KONE's latest TMS 9900 was proposed as the heart of their most advanced lift control system today, that can be applied to both conventional and destination control inputs systems.



The adjacent flow chart demonstrates the relationships between inputs, functions and output allocation to the demand.

### Passenger Flow Detection:



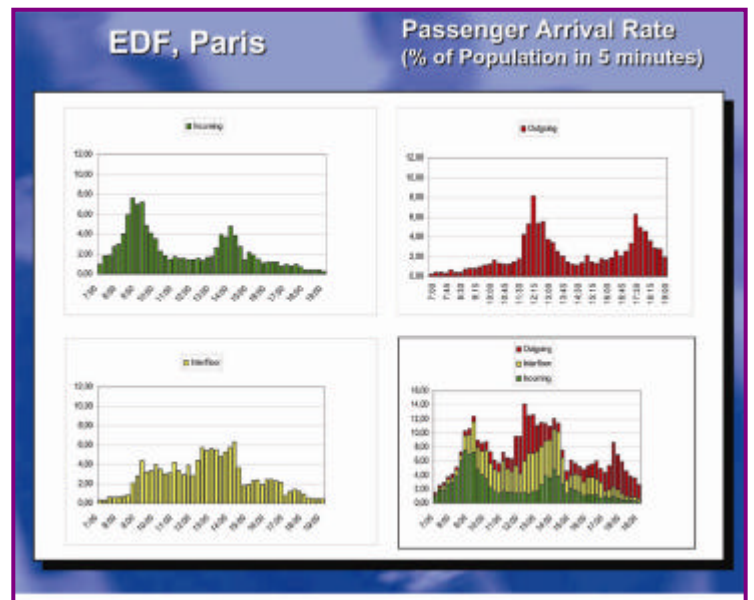
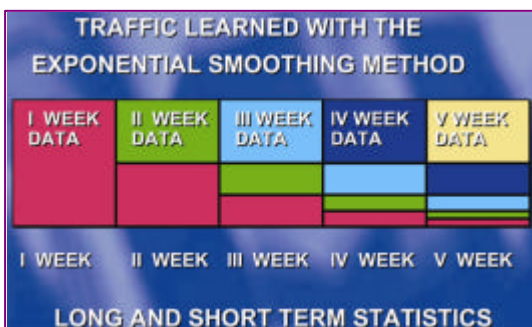
Determining accurate passenger flow in and out of the lift is critical to enable the status of any one car at any time, as well as building a historical statistical picture of passenger flow. And so the KONE system through use of load cell input and data analysis achieves this

dynamic step counting method of passenger status and 5 minute interval of recorded history to continuously update the TMS 9900.

### Traffic Forecasts:

Passenger flow is stored to provide statistical forecasts for each floor and for each weekday.

An exponential smoothing method is applied to the learned data to which the results of this data enable learned traffic forecasts to be produced. These provide analysis data, and continuous dynamic update of the system specific to each installation or bank of lifts.



### Traffic Forecasts with Continuous Allocation:

For standard hall call systems, with accurate forecasted data now available, allocation of hall demands can be optimized to reflect the known traffic patterns. For example, during a heavy down period, allocations of high up demand can be optimized to retain average down waiting times relative to the condition.

### Traffic Forecasts with Destination Consultation System Allocation:

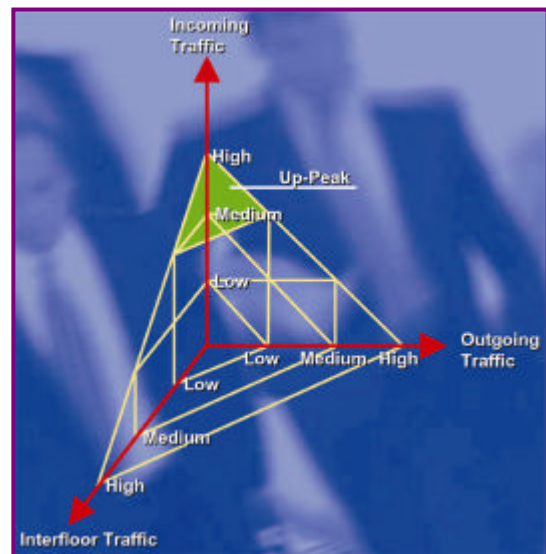
This control system forecasts how many passengers don't usually give destination calls for any period of the day, and uses ghost passengers in allocation to position lifts for forecasted demands.

Elevator destinations are able to be shown at the lobby and all passengers don't have to give their destination call.

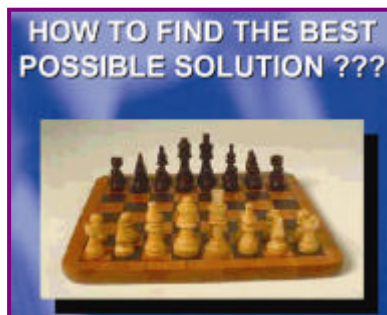
### Traffic Pattern Recognition:

Through the adaptation of Fuzzy Logic software, inputs to allocation decisions can also be made in the TMS9900.

Through identifying **High, Low and Medium, Incoming, Outgoing** and **Inter-floor traffic** movement and its **Intensity**, KONE have identified **36 traffic patterns** in buildings in which to respond to.

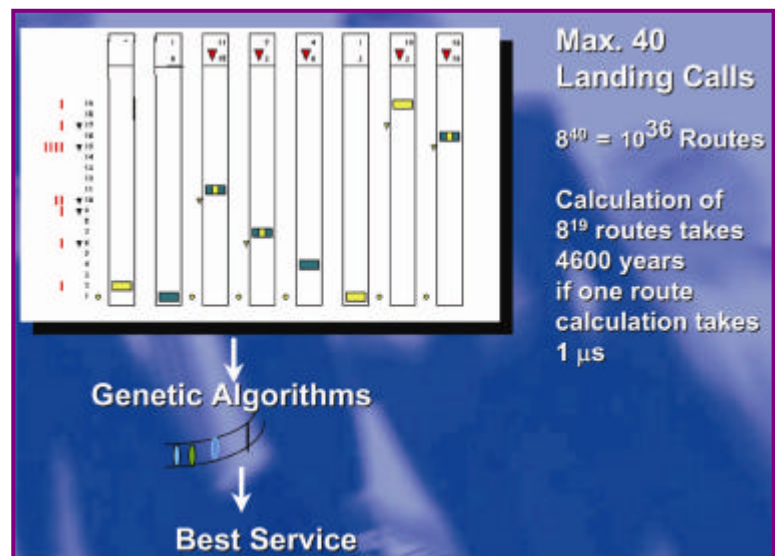


### Genetic Algorithm:



Still today even the fastest computer cannot deduce every possible chess move within a reasonable time, and so KONE have produced a means of lift selection based on Genetic Algorithms to produce the best possible solution for the selection of any individual lift for allocation at any point in time.

Not having sorted out my own Genetic Algorithm yet, the closest I could come was to accept that subject to the speed of the computer, the algorithm whirls away considering as many ordered possibilities based on the number of lifts available and demands within a set time, and allocates as best it can at that point in time. Phew, I'll leave it at that!

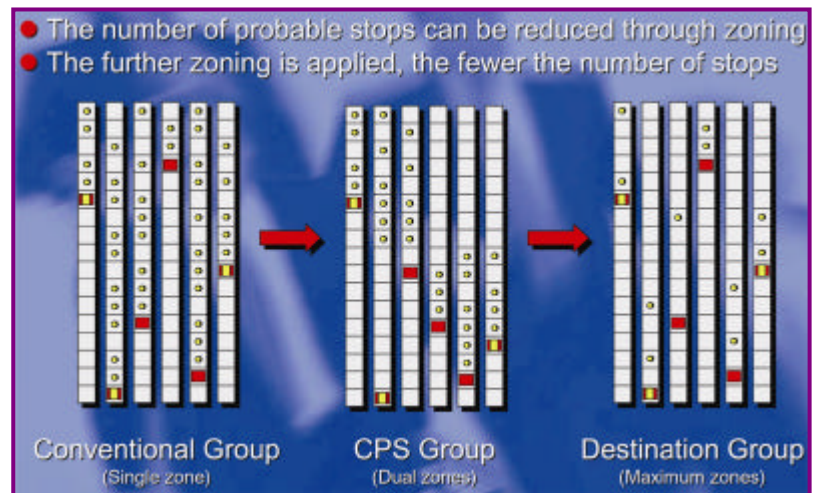


## Boosting Traffic:

Zoning and Channelling (Otis) has been used with many variations to more efficiently allocate demand throughout a building. It began by breaking the building into fixed zones along with strategic parking, and as technology allowed moved to dynamic zoning, whereby certain conditions or times of day could automatically vary the size of zones within the building to best suit the condition.

Johannes demonstrated the evolution of these concepts under the term Boosting and presented comparison between the efficiencies attained using three terminologies:-

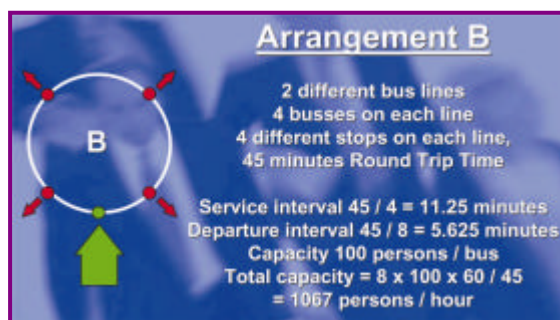
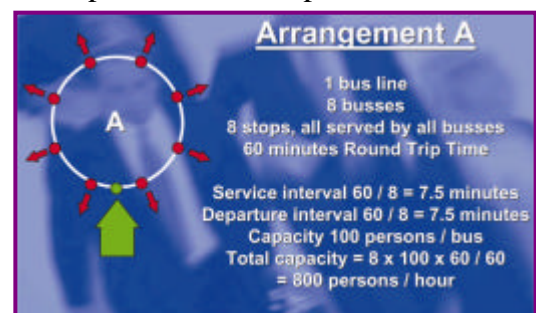
- ? **Conventional Group.**
- ? **Concentrated Passenger Service (CPS).**
- ? **Destination Control System (DCS).**



As an example, Johannes used 8 busses for lifts in a bank, and using the traffic study convention of determining the capacity of people moved per hour for comparison purposes.

### Conventional Group:

For this example Johannes demonstrated by using 8 busses serving all 8 stops the capacity of the conventional system achieved 800 passengers / hour.

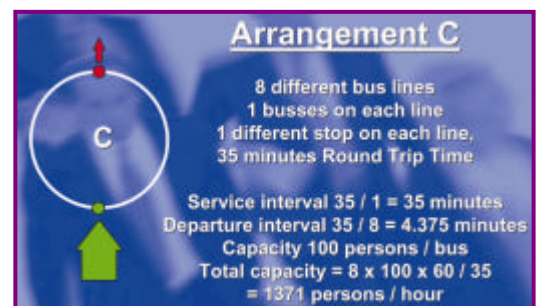


### Concentrated Passenger Service:

By concentrating passengers to serve two groups or 2 bus lines with 4 busses each, he demonstrated a higher capacity of 1067 passengers per hour.

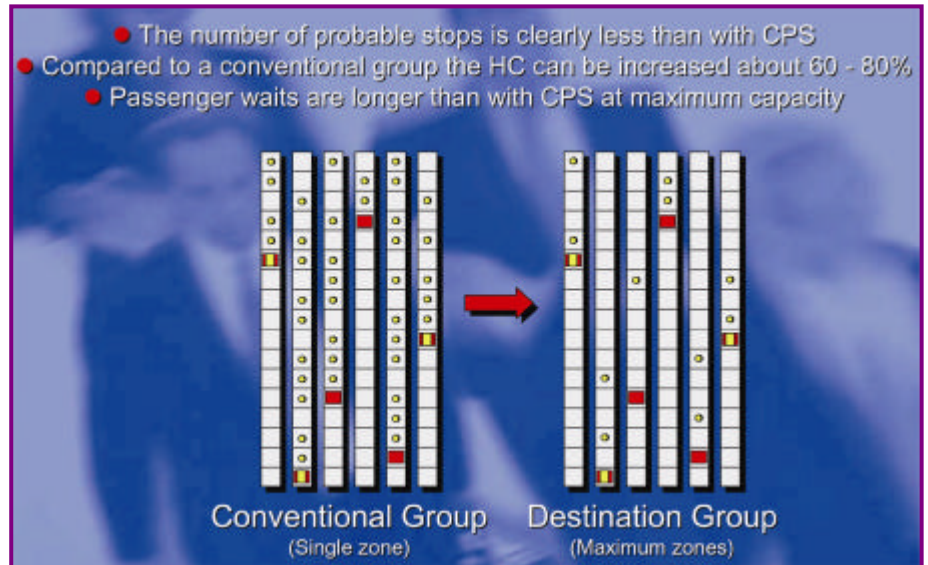
### Destination Control System:

In this instance the system is more like a taxi company with 8 different bus lines and a bus on each with only 1 stop to serve on each. The improvement in capacity in one hour achieves 1371 persons / hour.



And so, depending upon the control system used, we can gain improved capacities using the same number of lifts and stops to serve.

From these models and comparisons using the TMS9900 system, Johannes was therefore able to conclude with the following observations:



### THE DESTINATION CONTROL SYSTEM IS GOOD IN BUILDINGS:-

- ? Permanent elevator users (offices).
- ? 20-30 floors in one group.
- ? Many elevators.
- ? Heavy traffic.
- ? Extension floors.
- ? Difficult elevator layouts.

### DESTINATION CONTROL DOES NOT HAVE MUCH ADVANTAGE IN BUILDING WITH:-

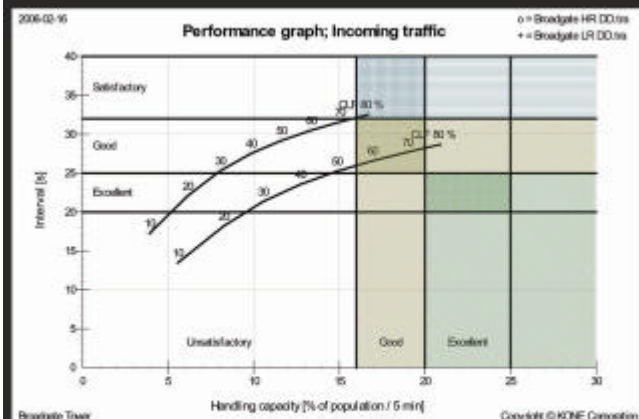
- ? Occasional user and visitors (shopping centers).
- ? Much inter-floor traffic.
- ? Light traffic (residential buildings)
- ? A few floors only (2-10).
- ? A few cars only.

## BROADGATE TOWERS – A Traffic Study:

The KONE Broadgate Towers project was a traffic study carried out as a comparison between the use of a Conventional Control Double Deck solution and the same project employing the Destination Control system. The following tables speak for themselves clearly demonstrating the value of the Destination System option.

Floor	Comment	Height (m)	Travel h. (m)	Population	Entry %	Low-rise	High-rise
33	Office	4,15	134,9	100	-		D
32	Office	4,15	130,7	100	-		D
31	Office	4,15	126,6	100	-		D
30	Office	4,15	122,4	100	-		D
29	Office	4,15	118,3	100	-		D
28	Office	4,15	114,1	100	-		D
27	Office	4,15	110	100	-		D
26	Office	4,15	105,8	100	-		D
25	Office	4,15	101,7	100	-		D
24	Office	4,15	97,5	100	-		D
23	Office	4,15	93,4	100	-		D
22	Office	4,15	89,2	100	-		D
21	Office	4,15	85,1	100	-		D
20	Office	4,15	80,9	100	-		D
19	Office	4,15	76,8	95	-	D	T
18	Office	4,15	72,6	96	-	D	T
17	Office	4,15	68,5	96	-	D	
16	Office	4,15	64,3	96	-	D	
15	Office	4,15	60,2	96	-	D	
14	Office	4,15	56	96	-	D	
13	Office	4,15	51,9	96	-	D	
12	Office	4,15	47,7	96	-	D	
11	Office	4,15	43,6	96	-	D	
10	Office	4,15	39,4	96	-	D	
9	Office	4,15	35,3	96	-	D	
8	Office	4,15	31,1	96	-	D	
7	Office	4,15	27	96	-	D	
6	Office	4,15	22,8	96	-	D	
5	Office	4,15	18,7	96	-	D	
4	Office	4,15	14,5	96	-	D	
3	Office	4,15	10,4	96	-	D	
2	Entrance upper	6,225	4,2	0	50	MD	MD
1	Entrance lower	4,15	0	0	50	MD	MD

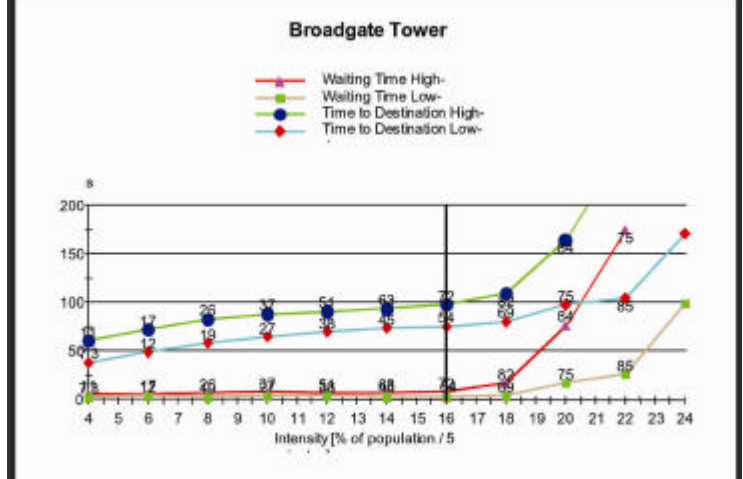
### Conventional Double Deck Elevators Calculated



LR 5HC = 20.9% ●  
HR 5HC = 16.7% ●

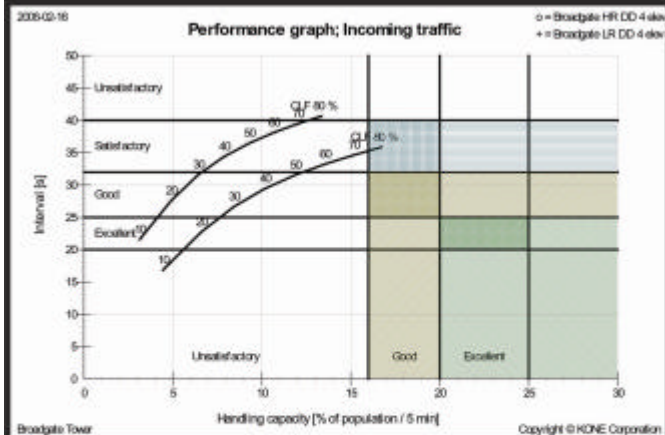
At 15% HC the LR has an interval of 25.5 seconds ●  
While the HR has a interval of 31.5 seconds ●

### Conventional Double Deck Elevators Simulated



LR 15% WT = 11.2 sec ● All Rises OK ● LR 15% TTD = 77 sec  
HR 15% WT = 13.2 sec ● HR 15% TTD = 99 sec

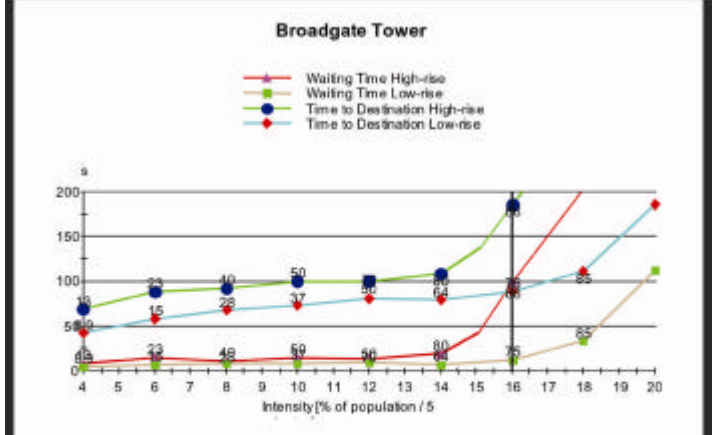
## Conventional Double Deck Elevators Calculated



LR 5HC = 16.7% ●   
 HR 5HC = 13.4% ● **High Rise starts failing**

At 15% HC the LR has an interval of 34.5 seconds ●   
 While the HR has a interval of 40.6 seconds at max HC ●●

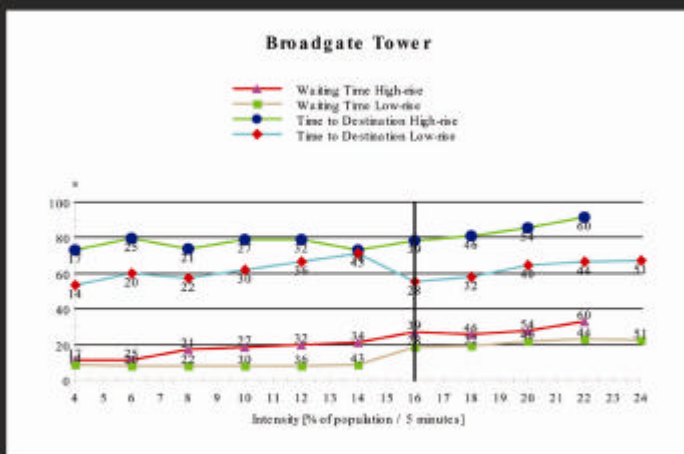
## Conventional Double Deck Elevators Simulated



LR 15% WT = 13.8 sec ●   
 HR 15% WT = 35.0 sec ● **High Rise starts failing**

LR 15% TTD = 90 sec ●   
 HR 15% TTD = 123 sec ●

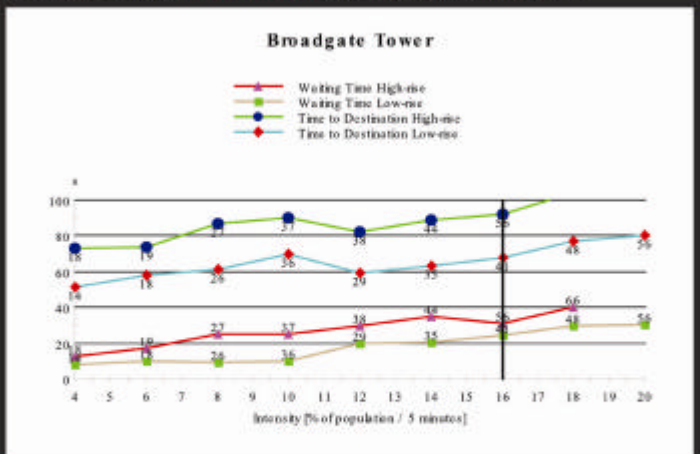
## Double Deck Destination Elevators



LR 15% WT = 17.4 sec ●   
 HR 15% WT = 22.3 sec ● **All Rises OK**

LR 15% TTD = 61 sec ●   
 HR 15% TTD = 76 sec ●

## Double Deck Destination Elevators Simulated



LR 15% WT = 25.2 sec ●   
 HR 15% WT = 30.0 sec ● **All Rises OK**

LR 15% TTD = 68 sec ●   
 HR 15% TTD = 90 sec ●

## Parameter Comparison

**Low Rise Comparison**  
 All elevators functional  
 at 15% HC



## Parameter Comparison

**High Rise Comparison**  
 All elevators functional  
 at 15% HC



## Parameter Comparison

### Low Rise Comparison Four elevators functional at 15% HC

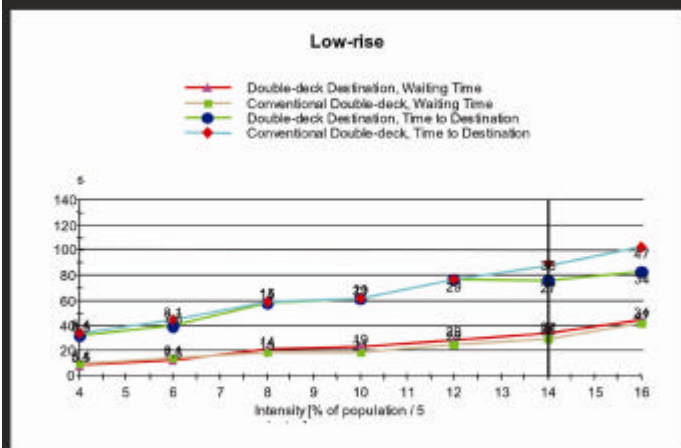


## Parameter Comparison

### High Rise Comparison Four elevators functional at 15% HC

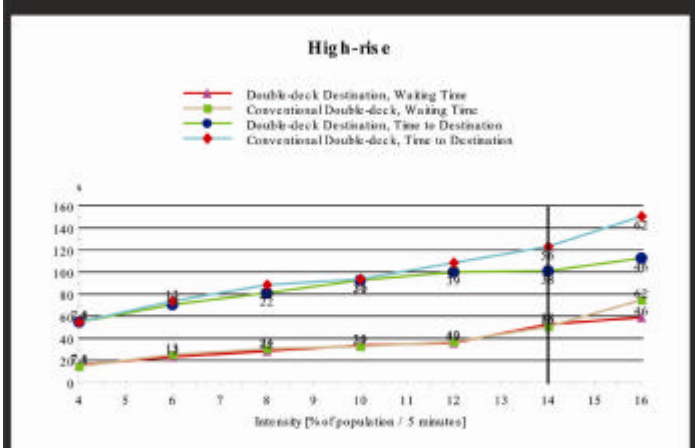


### Low Rise Conventional Double Deck versus Double Deck Destination



LR DD 14% WT = 29.6 sec      LR DD 14% TTD = 90 sec  
LR DD 14% WT = 33.0 sec      LR DD 14% TTD = 75 sec

### High Rise Conventional Double Deck versus Double Deck Destination



HR DD 14% WT = 50.0 sec      HR DD 14% TTD = 123 sec  
HR DD 14% WT = 52.2 sec      HR DD 14% TTD = 101 sec

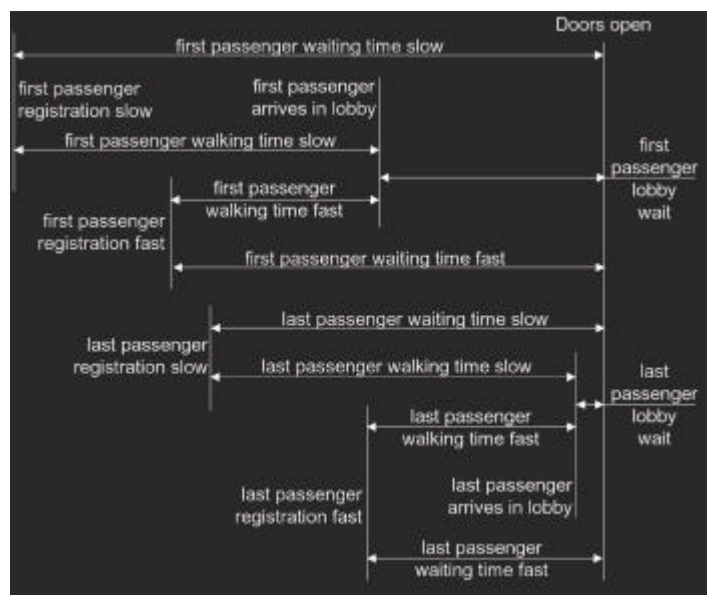
## Walking Time

Slow Speed = S = 0.6 m/s  
Normal Speed = N = 1.0 m/s  
Fast Speed = F = 1.6 m/s



Shortest time:  $4.2 + 4.3 + 6.2 = 14.7$  sec  
Average Normal time:  $7 + 18 + 10 = 35.0$  sec  
Longest time:  $11.7 + 18.0 + 16.7 = 46.4$  sec  
Difference  $F - S$ :  $46.4 - 14.7 = 31.7$  sec

Waiting times at elevator will increase considerably



## *A Late Afternoon Inspection of Q1:*

All good things must come to an end sometime, and the presentations had all been captivating, but lunch was ready, and there was so much to talk about.

The 55 attendees were allocated to set tables as groups, with lunch starting for the first group and so on in succession so that an approximate 15minute window for each group meant an orderly progression of people up to the top of the tower to inspect the machine room.



L-R Peter Evans. Graeme Hill. Robert Bergamin. Mark Bennett. Peter O'Conner MD



Jon Williams Ron Perez

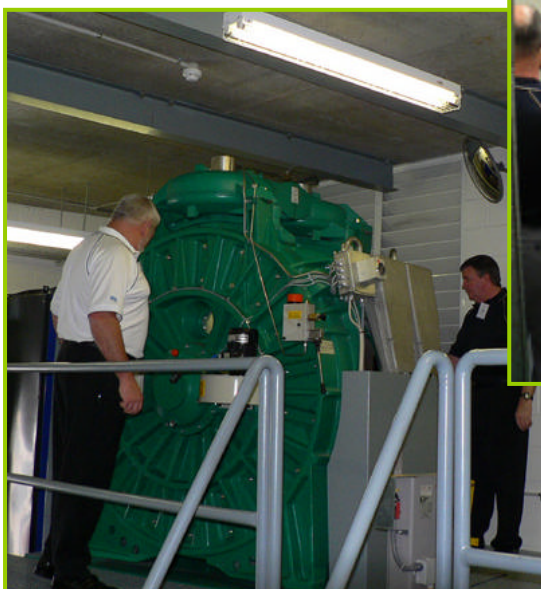


Greg Brown Roger Tringham Murray Barr

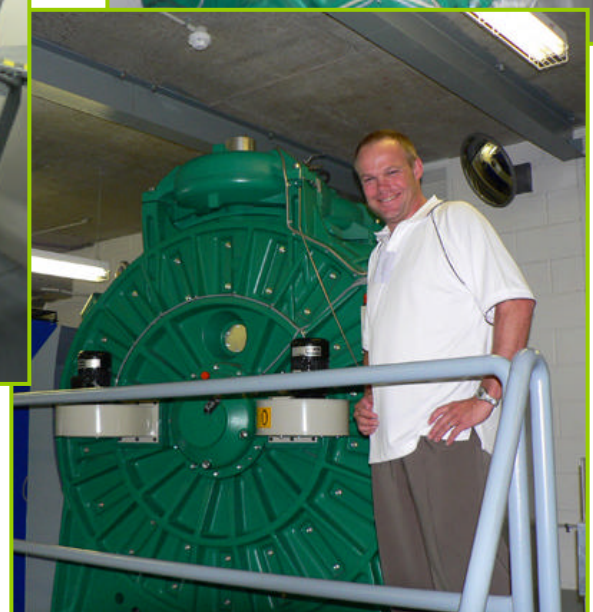
The MX100 machines used to drive the observation lifts at 9m/sec were nothing less than impressive, but you can only look at a lift machine for so long, and the view from the roof of the tower was absolutely spectacular.



L/R MX 40's Multi-level Machine room.



H/R The Mighty MX 100



To bring the Seminar to a close, all gradually returned to the 77<sup>th</sup> level 360° glazed panoramic observation deck, and still the discussion continued until finally Ron Watson opened the bar to bring formalities to an end.



Roger Tringham - Murray Barr - Greg Brown



Now the formalities may have ended, but the talk didn't, and no matter where you ended up for dinner you were sure to run into discussion groups walking up and down the Surfers Paradise Boulevard, or in Clifford, Laycock, Trickett or Hanlan street bars as old acquaintances were renewed and new ones made.

L/R Lyall Senior - Greg Brown - Keith Kohnstone - Bob Johnston  
Jon Williams - Ray Atkinson - Roger Tringham - Russell Appleton



Ken Germaine - Ray Atkinson

By 11:30pm the streets had quietened and it was time for most and I as well to return to Q1 for sleep, as tomorrow we'll be back in New Zealand. But before driving to Brisbane to pick up connecting flights in the afternoon, the NZ contingent first have to check out the *Circle on Cavill* in the morning, only four blocks away.

This twin tower giant is the latest Sunland Group Surfers Skyscraper still under construction and due for completion in 2006.



## [The Circle on Cavill:](#)

It's six AM and a light shower has freshened the air as I walk toward the renowned Surfers Paradise beachfront in front of the Q1 tower. I've brought my togs and hope to experience the serenity of a beautiful deserted beach as I take on the undertow and rip of this mighty ocean beach to catch a few waves. I at least wish to be able to say 'I'd been for a dip'. But alas, it was like Madison Ave at lunch time, all shapes and sizes, colors and creeds brazenly walking up and down my beach. At least there was no one in the water. Although I was not sure whether or not they were awaiting a shark to take me, but all seem interested in my cavorting and occasional dumping as I fought the wild surf to stay on my feet.



Feeling refreshed and with breakfast out the way, the intrepid NZ contingent with safety helmets and boots on approached the large construction site more like tourists than seasoned construction workers. Maybe it was just the continual high we had been on over the past few days. But soon ably directed by Wayne Blair; Contracts Manager for KONE, I felt the fond memories of experiences as a youth on construction sites with the many characters that make up the site culture. The site office lady was new, no such thing in my days; I hope she wears ear-plugs. But there was still the familiar magazine centerfolds stuck on the plywood wall of the



site shed that first exposed me as a young apprentice straight from school to the world of lust and male bravado. But what was this, a cadet engineer on a computer updating daily reports, that's also new! But then in walks the foreman, Sam; cool, in control with years of experience under his belt to address every situation, and ensure the wide range of characters that make up a site installation crew work as one.

Circle on Cavill				
	Lift No's	Pass / Load	Speed	Rise
North Tower H/R	1	21 - 1600 kg	7.0m/s	71 stops
North Tower H/R	2 - 3	21 - 1600 kg	7.0m/s	32 stops
North Tower L/R	4 - 6	21 - 1600 kg	4.0m/s	46 stops
South Tower H/R	7 - 10	21 - 1600 kg	6.0m/s	51 stops
Reception	11	21 - 1600 kg	1.6m/s	5 fr - 1r
Service Lift	12	4000 kg	0.5m/s	3 stops
Centre Manager	13	21 - 1600 kg	1.6m/s	5 stops
Loading Dock	14	4000 kg	0.5m/s	2 stops
Disabled Access	15	3 - 330kg	0.13m/s	2 stops
Home Office 2	16	21 - 1600 kg	1.6m/s	6 stops
Home Office 1	17	21 - 1600 kg	1.6m/s	5 stops
Escalators	E1 - E4	ECO 3000	0.5m/s	
Autowalk	MW1-MW4	ECO 3000	0.5m/s	

Like a caterpillar we wend our way through areas of changing degrees of light with little to distinguish the area we enter from the one we left except for the loud noises of construction going on around, with the senses alert for anything unexpected in this alien environment.

Finally we reach the wire mesh interlocked doors of the site Alimak, our caged vehicle to climb the side of the bare concrete tower.

I enter first, and am pressed against the rear gate that opens to nothing, seemingly suspended in air as we begin our ascent. We emerge from the dark depths into sunlight our eyes adjust and before us a film

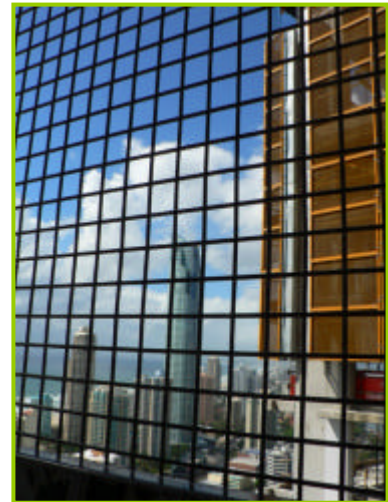


begins that carries us through the streetscape cafes and shops, above the pools and shopping precincts to apartment dwellers beginning their day.

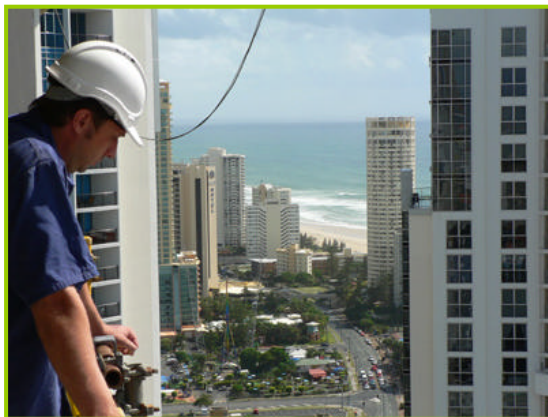


Ever up to the apartment towers and offices as they gradually shrink and still we climb. Finally we

jerk to a stop and emerge onto open floors with safety guard rails on their extremities, and once again we seem on top of the world with an early morning vista that includes the whole peninsula of Surfers Paradise and surrounding hills. All high-rise towers are now below



with the exception of the Q1 tower in the distance, an impressive sight.



Into the heart of the building we climb bare concrete stairwells and negotiate dark passageways to unlock a non-descript door and peer up a ladder into the cramped environment of the jump lift controller and KONE MX32 machine.



Wayne Blair - Ron Perez



Immediately above a bare concrete shaft is being prepared for this whole drive assembly to once again be lifted to its final height over a couple of days.

A few floors down the three lift group top of shaft is fully decked in to support fixed templates and piano lines that can be demounted, repositioned, and replumbed above the finished guide rails for the next jump stage.

A temporary rigged beam enables electric winches to

be positioned over each shaft as needed to raise guide rails into position from the pit, and false cars are used to complete installation of all shaft equipment.



With obvious effort put in to evolve processes for installation through a good team spirit, and adopting suitable tools to make the process efficient, it is not surprising that the Sunland Group are well pleased with KONE installation management and crews.

To return to Mother Earth we skip the 'Alimak' and utilize the jump lift with its speaker call system handled like a taxi dispatcher by the usual; 'crane rigger / lift driver', who is always well respected on site: 'otherwise it's the stairs'. Not a bad ride, and I understand KONE are looking to retain the jump lift in future high rise installations where with tightening programming removal can hold up critical site crane removal.



**W**e alight to be able to take a ride on the latest KONE ECO3000™ Escalators, the result of bringing together the experience of O&K Rolltreppen and North American manufacturer Montgomery, who now both form part of the KONE solution.



Using their patented 96% efficient planetary gear TransVario® drive that incorporates a compact chainless design, these units demonstrate all the virtues of quiet, low maintenance, energy efficient solution, which is even aesthetically pleasing.





Probably not surprisingly the ride and door operation was no different to any other Monospace®.

The end is neigh, but time must be taken, and I believe I speak on behalf of all attendees and 'Shirley', to thank all those involved in making this journey so memorable, from the KONE boys in Sydney and Brisbane who showed us around, to the NZ representatives Ron Perez, Greg Brown and Russell Appleton, the presenters, Robert Bergamin, Graeme Hill, Chris Downing and Niko Miletic, and for so enthusiastically providing his engine-house of knowledge, Johnannes de Jong.



*Special thanks must go to Ron Watson and Roger Haig who with Kathryn McAllister worked mainly behind the scenes as a great team to put this 'Customer Focus, Technical and Product Development Update' together.*

No chasing the Sun this time, as soon as we reach altitude the black of night envelops us, but stuck in a middle seat, I keep my wings in and try to get into conversation with a chap from New Guinea. It'll be a long flight; I pay my \$2.50 with a mix of Aussie and NZ coins for a paper cup of coffee I have to make myself, no movie, no meal, maybe sleep.

*Bob Johnston LEC NZ.*

