

# “The Catwalk”

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FEATURED ARTICLE

## The Opening of City of Dreams: An Interview with Surveillance Director, Leroy Daniel

*By Willy Allison*

Leroy Daniel is a casino industry professional with 16 years experience. He has been involved in eight casino pre-opening projects spanning several multi-lingual & regulatory jurisdictions in a surveillance or security capacity. Having just come from a highly successful opening at Crown Macau (which went on to become the highest volume VIP rolling chip casino in the world) as Surveillance Director, he now takes on the role of Director of Surveillance at the new City of Dreams Casino Project in Macau, once again under Melco Crown Entertainment Limited.

Melco Crown Entertainment Limited (NASDAQ: MPEL), a company listed on the NASDAQ Global Select Market, is a developer and owner of casino gaming and entertainment resort facilities focusing on the rapidly expanding gaming market found in Macau. Melco Crown Entertainment Limited operates its superbly designed and managed facilities through its Macau subsidiary Melco Crown Gaming, one of six companies granted concessions or sub-concessions to operate casinos in the former Portuguese enclave of Macau.

The City of Dreams opened this week (June 1st, 2009). It's a "must experience" integrated urban entertainment resort that will combine electrifying entertainment, stylish nightclubs, an amazing array of accommodation options, top-notch regional and international dining, world-class shopping as well as a spacious and contemporary casino. When fully opened, City of Dreams will offer approximately **550 gaming tables & 1,500 gaming machines**, 2,200 guest rooms, a wide range of restaurants and bars, an impressive array of some of the world's most sought-after retail brands, a kaleidoscope of entertainment options including The Bubble, a spectacular multimedia attraction and a Dragone inspired theatre production.



W.A. How big is your monitor room in terms of square footage, number of consoles and monitors?

L.D. [The surveillance footprint covers approximately 5,800 square feet, consisting of our Surveillance Operations Centre, Special Investigations Unit, Administration Offices, Situation Room, Technical Workshop and Training Centre. We are supporting within our division 54 consoles and workstations with active CCTV capability. In total, there are around 260 monitors.](#)

W.A. Can you explain the rationale behind the design of the room?

L.D. [Most of us usually inherit a surveillance system or room chosen and designed by parties that have never worked operationally in casino surveillance. At City of Dreams, however, we have had the luxury of designing every aspect of our Surveillance Operations Centre with an obvious focus on functionality, leadership, visibility of activity for decision making, communications -- and of course the operator themselves. Rather than the standard in CCTV rooms of having the management on shift sitting behind, or at the back of console workstation rows, we have embedded them into the heart of the operation on a raised dais with the surveillance consoles configured around the shift management in a circular design. We are very confident that this will allow for far more effective communications within the room itself and visibility of all the surveillance operators and monitors. Instead of having rows of mounted "wall monitors", we have brought the monitors down to the operators console, using "peripheral monitors" that are mounted closer to the operators so that they to see the details required for casino game protection.](#)

Other design features include ergonomically designed, height adjustable AME working consoles, tilt brackets on the monitors, dimmable task lighting at each individual console and high quality comfortable chairs. I am a firm believer that operator performance and departmental results is dependent on both the sphere the operator works in and the tools the company provides to deliver these results. There are many other things I could say here but going into this new project opening I feel confident that our purpose-built casino surveillance environment will give us an extra edge in protecting our business.



W.A. How many staff do you have in surveillance?

L.D. Over 100.

W.A. How many cameras in the system and what type are you using? (Manufacturer, megapixel etc)

L.D. We have installed just under 5,000 sets of Dallmeier IP Cameras across the entire complex, which have D1 resolution (720 x 576 pixels PAL).

W.A. Who was the installer and suppliers?

L.D. Our System Integrator is Elixir, which has extensive experience in the Asian region with extremely strong local expertise and front line support on the ground in Macau. We chose AME Systems for the Operator workstation consoles, as they have the ability to customize their products to suit individual property concepts and operating environment, along with outstanding support and installation teams and Dallmeier for the CCTV System and IP Cameras.

W.A. Approximately how much did the entire system and installation cost?

L.D. Over US\$10million. We are fortunate that our Company is very serious with regard to P.O.I (Protection on Investment) and revenue retention.

W.A. Can you describe how the system works from camera to monitor?

L.D. The surveillance system for City of Dreams is an IP based system with distributed architecture comprising of servers, switches, workstations, Network Storage Unit (NSU), and cameras. The IP cameras encode the images at 25fps at D1 (720 x 576 pixels) resolution and the signal is then transmitted to the NSU via the surveillance network for recording. The cameras support multicasting to enable the live video stream to be broadcast to multiple workstations/monitors while the recorded camera images are streaming from the NSU. All camera switching is done through a virtual matrix that has allowed us to utilize more effectively the large amount of space that would traditionally be taken up by an Analog Matrix.

We have one of the world's first and largest 100% end-to-end IP casino surveillance systems. This means image encoding takes place directly within the IP Camera unit prior to being run through the surveillance network after which decoding takes place just before play back on LCD monitors.

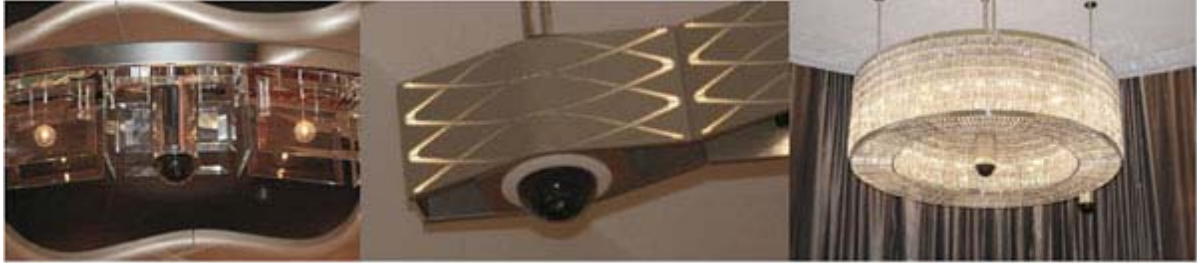
W.A. How and why did you select the system?

L.D. We identified the Dallmeier system as our operationally preferred product on the market. If you were to take a look at prisons, airports, shopping malls, hospitals, campuses and the likes, I believe you will find that few CCTV applications are as demanding as (or require a higher concentration of cameras as) casino operations. Numerous workstations with live streaming video, multiple consoles monitoring real time with constant reviewing and playback of footage with the need for fine details and high quality resolution. The more we can see those fine details on the gaming floor, the better we can serve the business by providing a high level of support to operational business units.

For this we needed a high-performing system suitable for casino operations. We also had to be able to customize the system with enhancements to better interface it to gaming and revenue associated applications. This for us meant "Dallmeier".

W.A. What challenges in general (technical or operational) have you had to overcome to set up such a large operation in Macau?

L.D. We've had to deal with very common issues in new projects such as the CCTV system clashing with existing ceiling design or lighting features. It has been an interesting challenge due to the complexity of the property. As we have rooms of varying ceiling heights, using various decorative fixtures and lighting design, this has led to the deployment of over 10 different camera mounting options in order to accommodate various design elements without compromising our revenues; this will definitely keep our technical team challenged for future maintenance and servicing.



W.A. When designing the system and camera layouts what considerations did you have to take into account to ensure all areas of risk were covered?

L.D. With regard to system design there were critical issues and areas that had to be considered such as redundancy, system availability, network traffic, latency, retention, archiving capacity, and network and system security -- all of which have been addressed.

As for cameras, the focus is generally around all revenue generating streams, high-value assets, sensitive gaming materials, cash/chip handling and counting areas, gaming products and peripheral profit centers. We have successfully used an effectively modern demarcation model between Security Control and Surveillance Rooms in the past that maximizes the surveillance focus and attention to core gaming and revenue protection. We will be implementing this again at City of Dreams to capitalize on enhanced performance and property control challenges.

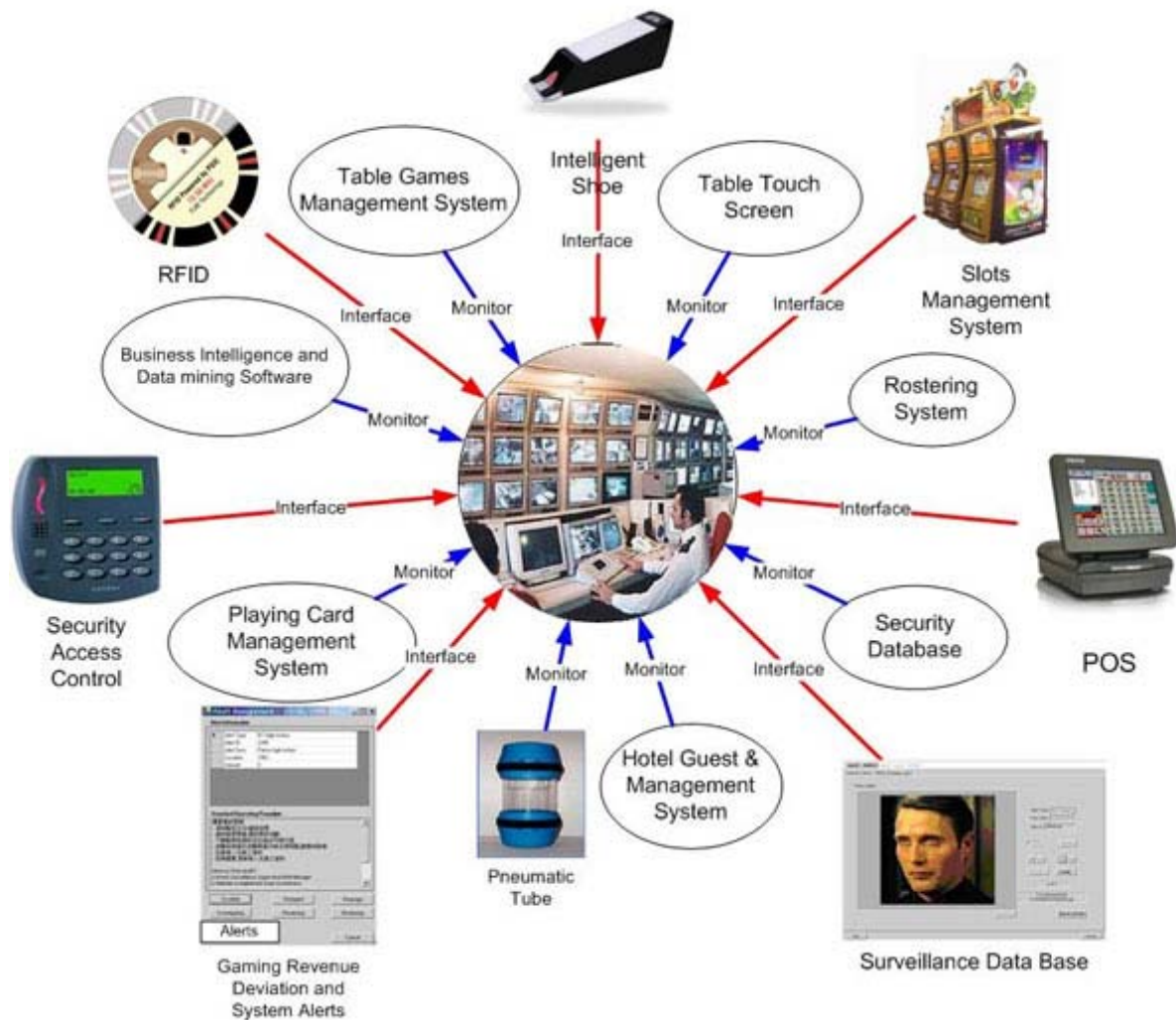
Our camera placement philosophy for gaming tables recognizes the increased risks associated with "squeeze" games such as Baccarat whereby the players handle the cards. Essentially, the cards are the gaming materials that will determine the outcome of any particular game. This brings to the table a whole host of new risks, thus cameras are placed in a more suitable position to deal with, or identify these heightened concerns.

Additionally, due to the dynamics of the Macau gaming market and continual reconfiguration of gaming product, we added increased flexibility into the system with primary usage of PTZ cameras in all gaming areas. This allows for negligible down time when reconfiguring pits or tables, resulting in zero revenue shrinkage due to closed gaming area.

W.A. What would you say are some of the bells and whistles in your operation?

L.D. In this age of digital recording, IP network systems, advanced software applications, high and low level interfaces, we try to leverage off current and advancing technologies to develop a "stateof- the-art" asset protection system.

With that in mind, we are integrating and interfacing into our entire core revenue, gaming and security systems. This not only means "real time" automated alerts, efficient resource allocation and proactive monitoring but also allows us to capture and utilize "business intelligence" so that resources can be allocated according to the business demands and needs at the time. Let's face it; resources are always stretched thin in Surveillance.



I fully believe that with CCTV systems and camera input numbers up in the thousands, the days of punching up cameras hoping to "catch" something are gone. Large-scale surveillance operations can no longer be "stand-alone" systems but must be an integrated part of the business. There are definite efficiencies to be gained in doing this because if you have relevant information and events coming directly into the room and being delivered straight to your operators you don't need as many of them continually looking for it. This is bottom-line dollars both saved and protected!

However, I would have to say our number one bell and whistle is definitely our exceptional Surveillance Operations and Technical Team!

W.A. Can you give any advice to any other surveillance directors thinking about setting up a megacasinio surveillance operation in Macau?

L.D. Yes, think twice! After that, firstly key involvement is critical in system selection, the "tool" of your surveillance operation, as well as the pre-project planning phase. Second, would be to create and implement the most effective and functional departmental structure and resources that you can. Thirdly, surround yourself with an experienced management team that has pre-opening experience, complemented by the best local talents.

W.A. Is there anything else you would like to add?

L.D. I would very much like to thank our City of Dreams surveillance team for their outstanding commitment and dedication to our project. We are nearly there and our "dream" of being a leading world-class surveillance operation will soon be a "reality"!

W.A. Cheers Leroy.

Note: This interview was conducted back in April this year, during a very busy period leading up to the opening on June 1. The Catwalk appreciates Leroy Daniel and Melco Crown Gaming taking time out to share information with us about their impressive new surveillance operation. We would also like to give a big thanks to Kelvin Chu who provided us with some great pictures.

Leroy Daniel is the Director of Surveillance at the City of Dreams. He can be contacted at [leroydaniel@cod-macau.com](mailto:leroydaniel@cod-macau.com).

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