

CCTV TECHNICAL FORUM

NEW DIGITAL TECHNOLOGIES
FOR CLOSED CIRCUIT TELEVISION AND A MOVE TOWARDS
AUSTRALIAN DIGITAL CCTV STANDARDS

WHAT YOU WILL GAIN FROM THIS FORUM:

- Network with experienced CCTV experts and your peers
- Gain practical know-how in designing, installing, commissioning, maintaining and troubleshooting analogue and digital CCTV systems
- Unashamedly non-commercial presentations – No sales pitches
- Learn about new CCTV approaches and technologies through practical case studies and critical discussion
- Update your knowledge on best practice in CCTV and surveillance technologies
- Discuss the development of new digital CCTV standards within your industry
- Find practical solutions to your CCTV issues
- Learn about education and certification in the industry

WHO SHOULD ATTEND:

- Security system designers, installers and vendors
- Security managers and consultants
- Design engineers
- Electronics technicians and engineers
- Plant engineers
- Building management technicians and engineers
- IT, software and systems design professionals
- Consulting engineers

And all engineering professionals who have an interest in CCTV technology

Featuring Keynote Speakers:

VLADO DAMJANOVSKI

CCTV Expert - ViDi Labs
CCTV Standards Australia
Chairman
Author of "CCTV - Digital and
Networking Technologies"



CHRIS CUBBAGE

Security and Investigations
Specialist – Amlec House
Executive Editor - Australian
Security Magazine



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what's new in
electronics

INTRODUCTION TO CLOSED CIRCUIT TELEVISION (CCTV)

CCTV systems have undergone a remarkable technology transformation in the past decade, transitioning from analogue to digital, operating on a wireless or cabled network, with a host of additional features. These advances have made the design and maintenance considerably more complex.

The use of CCTV applications are wide ranging and include such diverse areas as security, offices, factories, casinos and mining to most commercial buildings. Due to concerns about security one even sees applications in a domestic or home environment.

The objective of this forum is to provide you with the latest developments and best practice in dealing with CCTV technology. This forum will offer you practical know-how in designing, installing, commissioning, maintaining and troubleshooting analogue and digital CCTV systems. Our aim is to provide you with useful expertise in building and maintaining high quality CCTV systems.

We have selected speakers who can present technical papers on a wide variety of industry topics to ensure that you return to your workplaces with the skills needed to apply best practice when dealing with your CCTV systems.

FORUM DAY 1 - 9th November 2011

8.00am	Registration	2.15pm	An Overview of the WA CCTV Market
8.15am	Opening Address	Session 3	Chris Cabbage
8.30am	HALF DAY WORKSHOP	KEY NOTE	SEE BACK PAGE FOR CHRIS'S BIO
Session 1	Includes Morning Tea - 10.30am	KEY NOTE	SEE BACK PAGE FOR VLADO'S BIO
KEY NOTE	Best Practice in Defining Requirements, Specifications, Selection, Installation and Commissioning of Digital CCTV Systems	3.30pm	CCTV Transition from Analogue to Digital
KEY NOTE	Viado Damjanovski CCTV Expert - ViDi Labs, CCTV Standards Australia Chairman	Session 4	Danny Chang
KEY NOTE	<p>In this action packed workshop, you will learn about the best approaches to follow in designing and building your next CCTV system no matter whether you are involved with the design, specification, selection, installation or commissioning of equipment.</p> <p>The material from the workshop forms the basis of the new proposed Australian digital CCTV standard. The brilliance of this methodology is something that can be easily used by an average installer, consultant and, of course, the end user. The systems considered are cameras, encoders, streamers, network switches, decoders, monitors, video recorders, switching, control and ancillary equipment for use in security and surveillance applications.</p> <p>This workshop will also cover the definition of a digital CCTV signal identification CCTV unit (ICU) and the following key parameters of a digital CCTV signal quality: Pixel count, images per second, lens quality and angles of viewing, video/image compression, latency and display quality.</p>	Session 4	Director - Kappalyn Technology Solutions
KEY NOTE	<p>The material from the workshop forms the basis of the new proposed Australian digital CCTV standard. The brilliance of this methodology is something that can be easily used by an average installer, consultant and, of course, the end user. The systems considered are cameras, encoders, streamers, network switches, decoders, monitors, video recorders, switching, control and ancillary equipment for use in security and surveillance applications.</p> <p>This workshop will also cover the definition of a digital CCTV signal identification CCTV unit (ICU) and the following key parameters of a digital CCTV signal quality: Pixel count, images per second, lens quality and angles of viewing, video/image compression, latency and display quality.</p>	Session 4	<p>This presentation will run you through the transition from analogue to IP in several stages and cover the issues involved at each stage. Stage one started in the early 90's when CCTV VHS recorders became computer based and the transition from tapes to HDD recording began. From this period computer engineering based enterprises began actively to take CCTV over IP. Stage two, transpired with the evolution of video servers which took the feed of analogue cameras and passed them along the ethernet network via the now ubiquitous Cat5 cable. Stage three was the ability to handle larger file formats of the megapixel cameras. It was at this stage that the biggest problems for this industry existed. The main issue was the capability of the current analogue industry to understand or comprehend the zeroes and ones of the digital industry, especially from the perspective of principally analogue laymen. Already the stalwarts of this industry were struggling not with just networking standards, capabilities, and terminologies, but the actual logistics of implementing a network and its technical complications and implications on a local and even a global scale.</p>
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KEY NOTE	<p>The material from the workshop forms the basis of the new proposed Australian digital CCTV standard. The brilliance of this methodology is something that can be easily used by an average installer, consultant and, of course, the end user. The systems considered are cameras, encoders, streamers, network switches, decoders, monitors, video recorders, switching, control and ancillary equipment for use in security and surveillance applications.</p> <p>This workshop will also cover the definition of a digital CCTV signal identification CCTV unit (ICU) and the following key parameters of a digital CCTV signal quality: Pixel count, images per second, lens quality and angles of viewing, video/image compression, latency and display quality.</p>	Session 5	Basil Delimitros
KEY NOTE	<p>The material from the workshop forms the basis of the new proposed Australian digital CCTV standard. The brilliance of this methodology is something that can be easily used by an average installer, consultant and, of course, the end user. The systems considered are cameras, encoders, streamers, network switches, decoders, monitors, video recorders, switching, control and ancillary equipment for use in security and surveillance applications.</p> <p>This workshop will also cover the definition of a digital CCTV signal identification CCTV unit (ICU) and the following key parameters of a digital CCTV signal quality: Pixel count, images per second, lens quality and angles of viewing, video/image compression, latency and display quality.</p>	Session 5	Technical Manager, IP CCTV & Access Control - Lan 1
KEY NOTE	<p>The material from the workshop forms the basis of the new proposed Australian digital CCTV standard. The brilliance of this methodology is something that can be easily used by an average installer, consultant and, of course, the end user. The systems considered are cameras, encoders, streamers, network switches, decoders, monitors, video recorders, switching, control and ancillary equipment for use in security and surveillance applications.</p> <p>This workshop will also cover the definition of a digital CCTV signal identification CCTV unit (ICU) and the following key parameters of a digital CCTV signal quality: Pixel count, images per second, lens quality and angles of viewing, video/image compression, latency and display quality.</p>	Session 5	<p>This presentation will cover IP CCTV from the ground up, starting with the benefits of an IP-based system, then delving into the various options, pitfalls and best practices to consider during each stage of the implementation processes - from the scoping, designing, planning and commissioning of a complete IP CCTV solution.</p> <p>Five case studies will give an in-depth look at recent deployments of IP CCTV systems in Australia including Education, Local Government, Retail and Healthcare, fully endorsed by the organisations that are using the technologies. You will be provided with a useful toolkit of items to consider in building your own IP CCTV system; all backed up by recent practical experiences. The presentation will close with a live demonstration of an open IP CCTV system followed by a Q&A session and open discussion.</p>
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KEY NOTE	<p>The material from the workshop forms the basis of the new proposed Australian digital CCTV standard. The brilliance of this methodology is something that can be easily used by an average installer, consultant and, of course, the end user. The systems considered are cameras, encoders, streamers, network switches, decoders, monitors, video recorders, switching, control and ancillary equipment for use in security and surveillance applications.</p> <p>This workshop will also cover the definition of a digital CCTV signal identification CCTV unit (ICU) and the following key parameters of a digital CCTV signal quality: Pixel count, images per second, lens quality and angles of viewing, video/image compression, latency and display quality.</p>	Session 5	NETWORKING SESSION
KEY NOTE	<p>The material from the workshop forms the basis of the new proposed Australian digital CCTV standard. The brilliance of this methodology is something that can be easily used by an average installer, consultant and, of course, the end user. The systems considered are cameras, encoders, streamers, network switches, decoders, monitors, video recorders, switching, control and ancillary equipment for use in security and surveillance applications.</p> <p>This workshop will also cover the definition of a digital CCTV signal identification CCTV unit (ICU) and the following key parameters of a digital CCTV signal quality: Pixel count, images per second, lens quality and angles of viewing, video/image compression, latency and display quality.</p>	Session 5	Cocktail Hour - 5.00pm to 6.00pm
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All forum papers are reviewed and selected for their high quality and technical value by our panel of specialists experienced in the theory and practice of CCTV technology.

FORUM DAY 2 - 10th November 2011

8.30am **The Challenges of Public CCTV Systems in North West WA**

Session **Chris Cabbage**

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Security and Investigations Specialist – Amlec House
Executive Editor - Australian Security Magazine

KEY NOTE

There are a range of issues for CCTV Systems in the North West of Australia, including environmental conditions, lighting, service availability, staff, travel costs and social issues. This presentation will explore several CCTV case studies including the "Review of the City of Perth's CCTV Operation" and the "West Pilbara CCTV Feasibility Study". Also covered will be CCTV feasibility and evaluation studies and town centre community safety and lighting audits for the Shires of Roebourne, Geraldton, Kalgoorlie and Bunbury. Chris will conclude with the learning outcomes found from these large North West regional CCTV feasibility studies.

9.30am **Evolution of Infrared Technologies in CCTV and Surveillance**

Session **Dmitri Ishchenko**

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Managing Director - AIS Defence Security

Infrared technologies used to be expensive and confined to high security applications. With significantly improved affordability we see some of them used in medium security and even in low security/residential installations in Australia. Most CCTV integrators are now at least somewhat familiar with infrared illumination and we are working to improve their familiarity with other infrared technologies such as short and long wave infrared and new equipment based on them. You will learn how in certain situations those evolved infrared technologies provide critical improvement in the ability of automated CCTV systems to detect and evaluate threats.

Morning Tea - 10.15am

10.45am **Latest Trends in Video Analytics Technology**

Session **Dr Rustom Kanga**

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CEO, iOmniscient

It has long been recognised that adding intelligence to a CCTV system greatly improves the productivity of the security team. However the quality of the video analytics software available in the market has been variable. In this session you will understand the current state of the art with respect to Video Analytics with examples of actual usage from live sites. The presentation will also address the considerations that are important in having a successful implementation.

11.30am **Measuring and Testing IP Camera Performance and Picture Quality**

Session **Vlado Damjanovski**

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CCTV Expert - ViDi Labs, CCTV Standards Australia Chairman

KEY NOTE

Currently there is no standard procedure for testing IP cameras. In this presentation Vlado will show you a SD/HD test chart he has designed to help you determine your camera resolution. This chart could be used in the CCTV industry as an objective guide in comparing different cameras, encoders, transmission, recording and decoding systems. This chart combines three charts in one: for testing standard definition (SD) with 4:3 aspect ratio, high definition (HD) with 16:9 aspect ratio and mega pixel (MP) cameras and systems with 3:2 aspect ratio. You can also check a lot of other details of an analogue or digital video signal, primarily the resolution, but also bandwidth, monitor linearity, gamma, colour reproduction, impedance matching, reflection, encoders and decoders quality, compression levels, details quality in identifying faces, playing cards, numbers and characters.

Lunch - 12.15pm

1.15pm **Deploying CCTV over Wide-Area TCP/IP Networks – Lessons Learned**

Session **Rodney Baker**

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ITS Electronics Technician - Dept for Transport, Energy and Infrastructure, SA

CASE STUDY

The Dept for Transport, Energy and Infrastructure (DTEI) operates a CCTV network comprising about 350 cameras spread across the greater Adelaide area, stretching from Gawler in the north to Seaford in the south, and eastward to Carey Gully. The system uses a diverse range of technology and has grown over the years, from the first dial-up slow-scan sites (some of which are still in operation) to IP cameras connected via optical fibre and microwave. This paper gives an overview of the system architecture as it stands, details some of the challenges, solutions and lessons that we have learned along the way.

2.00pm **Countering Terrorism through Surveillance: Integration of CCTV with Internet Technologies and Intelligence Sources**

Session **Dr. Robyn Torok**

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Centre For Policing, Intelligence and Counter-Terrorism, Macquarie University

CCTV has the potential to be a powerful tool in the fight against terrorism. Nonetheless, CCTV also has limitations and potential negative effects such as polarising marginalised communities and privacy issues. Hence, an understanding of socio-cultural impacts in the placement of CCTV is critical. A balanced approach is needed that utilises CCTV as a vital tool in a network of data collection that may also include: internet surveillance, facial recognition and forms of GPS tracking. Most importantly, these data sources need to be carefully co-ordinated, correctly monitored and easily available to police and intelligence agencies if they are to be effective.

Afternoon Tea - 2.45pm

3.15pm **CCTV Technology Platforms**

Session **Andrew Del Biondo**

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CCTV Systems Engineer - CAMVEG

The CCTV industry currently offers four types of CCTV technologies: Conventional analogue CCTV cameras; 960H format cameras; High Definition Serial Digital Interface (HD-SDI) cameras and lastly, IP cameras. Until recently, most organisations only discuss or consider 2 of these 4 technologies being analogue v IP. HD-SDI will become a significant alternative to HD IP cameras for users wanting superior picture quality to what analogue provides. In most cases it will be more affordable and easier for current analogue users, wanting to upgrade from SD resolution to HD resolution, to do so with HD-SDI technology rather than HD IP camera technology. This presentation will outline the differences, benefits and suitability of each of the four CCTV technologies. Importantly, this will be supported with sample recordings from each technology of the same scene.

4.00pm **Discussion Panel**

Session

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This session will provide delegates with the opportunity to ask our speakers questions and discuss CCTV issues in their workplace, covering typical problems and possible solutions.

Closing - 4.45pm

