

2014

# Video Surveillance

Whitepaper

**boston**ANALYTICS

*(A division of Pythos Technology (P) Ltd.)*

# Agenda

**BA Introduction**

**Video Surveillance Market Landscape**

**Established and Emerging Markets**

**Key Industry Trends**

**Critical Competencies and Success Factors**

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**BA Introduction**

**Video Surveillance Market Landscape**

**Established and Emerging Markets**

**Key Industry Trends**

**Critical Competencies and Success Factors**

# BA Introduction

- Boston Analytics ('BA') is a Strategy and Advanced Analytics firm
- Founded in 2004, BA is headquartered in Boston, with offices in GCC (Dubai, Doha, Bahrain), India (Mumbai, Delhi), China (Shanghai), and Singapore. We have associate firms in Brazil and Africa
- Our engine is a team of 150+ consultants and analysts based in multiple Global Delivery Centers (Mumbai, Delhi and Bahrain), complemented by a global network of partners, subject matter experts and domain specialists
- We operate globally and support global corporations, financial institutions and professional services firms
- Specialist in growth markets such as BRICS, APAC, MENA and LATAM where we help clients enter new markets, expand operations and improve business processes
- Uniqueness based on: Industry/Emerging Markets Expertise, Strategy/Investment Management Expertise and an Analytics Platform that dramatically reduces 'Time-to-Execution'

## Global Presence

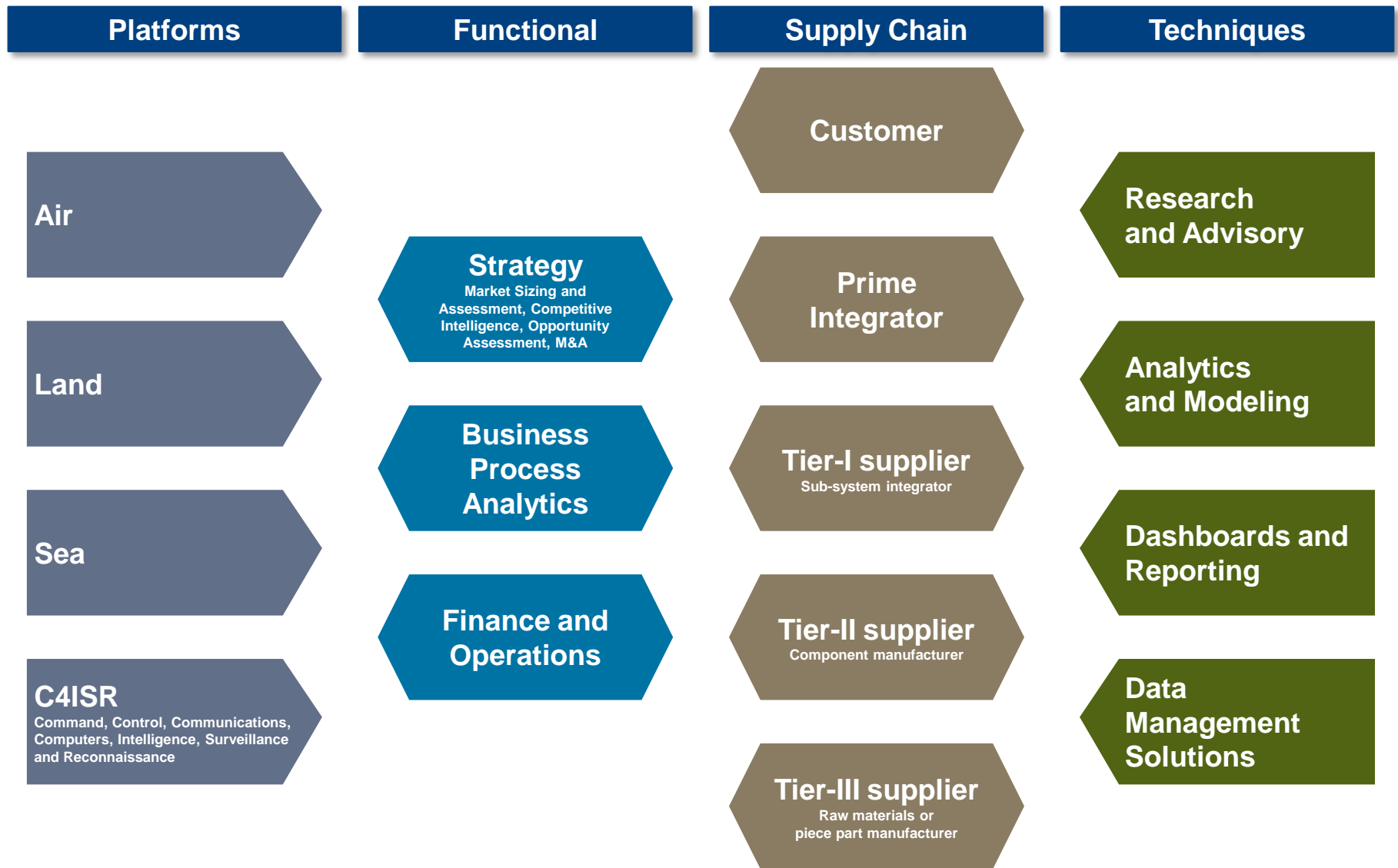


## Representative Clients



Boston | New York | Gurgaon | Mumbai | Dubai | Bahrain | Singapore | Shanghai

# Cross-Platform Experience



# Project Experience

## Air

- Market assessment for applications of aluminum in aerospace, transportation and specialty products
- Aerospace engineering talent supply for the UK
- Assessment of the Indian Aerospace electronics market
- Airport ground support equipment market in India
- SAARC growth opportunities in commercial aviation
- Engineering Services Outsourcing (ESO), MRO and procurement opportunities for a European aerospace consulting firm

## Land

- Homeland security market analysis
- US “critical infrastructure protection” market analysis
- Indian A&D industry: supply chain transformation
- Detailed analysis of defense offsets in 10 emerging defense markets
- Detailed profiling of IT solution providers to the A&D industry
- Due diligence support for a potential acquisition in the defense aerospace industry
- Dedicated / retained team for a British defense, security and aerospace company

## Sea

- Detailed analysis of four key maritime verticals: shipping, shipyards, ports and container logistics in South Asia
- Market assessment, competitive intelligence and tendering information in 8 emerging countries for MMO services for Oil & Gas production and processing facilities
- Middle-East shipping sector investment report
- Identification of potential acquisition partners for protective and marine coatings in China

## Communications

- Detailed analysis of the global Video Surveillance market, so as to narrow down growth sectors across 10 geographic markets
- Video Imaging and Analytics Technology Market for law enforcement agencies
- Opportunity assessment within Intelligent Transport Systems (ITS) in Europe, focused on the integration of the modern telecommunications and information technology into vehicles and traffic
- Assessment of the Security and Video Surveillance market in BRICS, for a leading Indian security system installation company

# BA helps clients in new market entry and expansion strategy: from planning to implementation

5

## Implementation Support

- Monitoring KPIs, progress dashboards
- Tracking success against milestones
- Taking corrective actions

1

## Opportunity Identification and Assessment

- Opportunity identification and screening
- Market assessment
- Customer assessment
- Competition assessment

4

## Strategy and Execution Roadmap

- Strategy and initiatives (overall and by must-win battles)
- Inorganic options (potential target identification and assessment)
- Financial projections and cost structure
- Organization, resources, and capabilities to support delivery
- Measurements
- Tracking mechanisms

2

## Routes-to-Market Assessment

- Role and importance of channel entities
- Overall organization and coordination of channel
- Economics of distribution and value chain
- Trade practices and after sales support
- Role of joint ventures and/or any alliances



3

## Business Case Development

- Identification of growth sweet spots
- Assessment of ease of entry
- Assessment of strategic fit

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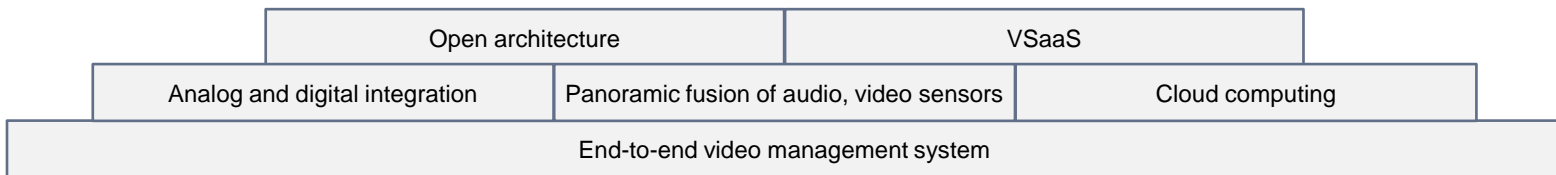


# The video surveillance (VS) value chain is composed of three entities: hardware providers, software providers and integrators

	Video Collection	Edge Analytics	Transfer	Storage	Archival, Search, Retrieval	Central Analytics
	Surveillance and recording performed by cameras	Analytics performed by the camera's inbuilt computing system	Transfer of video data (either analog or digital) to the next stage	Storage of video data (either analog or digital)	Meaningful coding of data to facilitate quick retrieval when necessary	Analysis of stored video and call back of a specific incident or period
1 Hardware Tech. Providers	<ul style="list-style-type: none"> <li>Analog – CCTVs</li> <li>Digital - IPTVs</li> </ul>		<ul style="list-style-type: none"> <li>Wired</li> <li>Wireless</li> </ul>	<ul style="list-style-type: none"> <li>Digital Video Recorders</li> <li>Network Video Recorders</li> <li>Storage Area Networks</li> </ul>	<ul style="list-style-type: none"> <li>Encoders</li> <li>Monitors</li> </ul>	
2 Software Tech. Providers		<ul style="list-style-type: none"> <li>Perimeter violation</li> <li>Virtual tripwire</li> <li>People/object counting</li> <li>Congestion detection</li> </ul>	<ul style="list-style-type: none"> <li>Bandwidth management</li> <li>Video compression</li> </ul>	<ul style="list-style-type: none"> <li>Video compression</li> <li>Data reduction technologies</li> </ul>	<ul style="list-style-type: none"> <li>Intelligent Search</li> <li>Tagging</li> <li>Metadata</li> <li>Big Data management</li> </ul>	<ul style="list-style-type: none"> <li>Face, name plate recognition</li> <li>Unidentified object detection</li> <li>Behavioral analytics</li> </ul>

## 3 Integrators

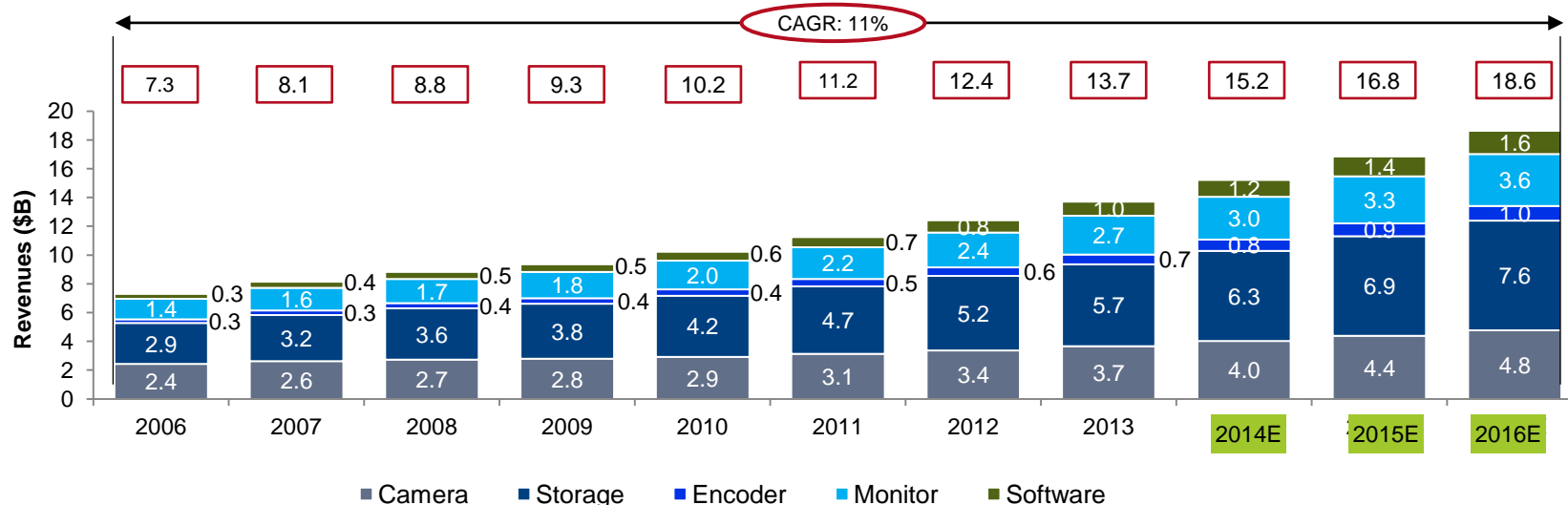
Integrators are vendors who install and merge (integrate) a company's various security technologies into a whole physical security program



Source:  
(1) BA Analysis

# The VS market is expected to grow at a CAGR of 11% up to 2016, with the highest projected growth in surveillance software

Video Surveillance (VS) Revenues (\$B) by Segments: 2006–2016<sup>(1),(3)</sup>



## Growth Rate by Segments (%)

Technology Segments	2006–16
Camera	7%
Storage	10%
Encoder	15%
Monitor	10%
Software	17%

## Key Points<sup>(1),(2)</sup>

- The VS market is primarily driven by local and national governments' efforts to mitigate, prepare for and combat rising security threats from terrorists and other perpetrators
- The IVS and Video Analytics (VA) industry revenues combined totaled \$13.5 billion in 2013, and are estimated to reach \$39 billion in 2020
  - The total market for VS is expected to reach \$18.6B by 2016, growing at a CAGR of ~11%
- Shift to network video surveillance
  - IP/Network video surveillance market will grow almost four folds in terms of revenue by 2018 at a CAGR of around 25% from 2013–2018
  - Network Video Surveillance sales in the BRIC region are expected to increase by more than 30% in 2012

Sources:

- (1) Global Video Surveillance Market, 2010, A Frost and Sullivan report
- (2) <http://www.prweb.com/releases/intelligent-video/surveillance-vca-va/prweb10565272.htm>, (accessed 26 Nov, 13)
- (3) BA Analysis (for VS revenues post 2010)

# Growth is being driven primarily by government initiatives to combat security threats and the need for security at international events

## Market Drivers

### Growing Global Security Threats

- The Boston Marathon bombing, Kenya Mall attack etc. have re-focused attention on preemption of terror attacks
- Threat to civilian infrastructure is driving need for better surveillance abilities, with a growing focus on prevention rather than just post-incident analysis
- Growing evidence indicates that effective and integrated surveillance can prevent further attacks<sup>(1)</sup>
- Increasing mobility and availability of information makes it necessary to have an integrated and mobile surveillance management



### Security Priorities of Emerging Markets

- Governments in India and China are launching extensive video surveillance initiatives, driven by incidents like the 2008 Mumbai attacks and incidents in China's Northwest
- China's largest city Chongqing plans to spend \$781.6 million by 2014 to install 200,000 new video surveillance cameras, bringing the total to 510,000<sup>(2)</sup>
- Govt. of India has issued large tenders for purchase of analytics equipment<sup>(3)</sup>



### Global Sporting & Other Events

- Events such as FIFA Worldcup 2014 and Olympics 2016 has accelerated the video surveillance market in Brazil
- Sochi Winter Olympics 2014 and FIFA World Cup 2018 have driven the Russian market's growth



#### Sources:

- (1) [www.nbcnews.com/video/nightly-news/52245948](http://www.nbcnews.com/video/nightly-news/52245948), accessed 14 Nov 2013
- (2) [www.huffingtonpost.com/2011/07/...chongqing-surveillance\\_n\\_890382.html](http://www.huffingtonpost.com/2011/07/...chongqing-surveillance_n_890382.html), accessed on 14 Nov, 2013
- (3) <http://www.thehindu.com/news/national/government-buying-deep-surveillance-monitoring-equipment/article5026465.eco>, accessed 14 Nov, 2013
- (4) <http://www.telegraph.co.uk/news/worldnews/europe/russia/10359587/Russia-planning-near-total-surveillance-of-visitors-athletes-at-Sochi-Winter-Olympics.html>, accessed 14 Nov, 2013

# An uncertain global financial climate and lack of unifying industry standards have adversely affected the VS market

## Market Inhibitors

### Economic Downturn

- Uncertain global financial climate in markets like Europe, South Asia are increasing risk and reducing demand<sup>(1)</sup>
- New and more expensive technologies like IP cameras are affecting price sensitive countries like India
- IT and surveillance spend has reduced due to slow growth in sectors and traditional verticals for the VS market



### Lack of standards / Industry Development

- Many emerging markets lack industry standards, industry associations or market awareness to tap their full potential
- Convergence has led to a proliferation of different standards from different industries
- This has led to incompatibility between systems produced by different manufacturers, leading to less reliability and higher costs for consumers<sup>(2)</sup>
- These have also led to high import duties in some key geographies like India<sup>(3)</sup>

### IT-Enablement

HD H.264

### Compatibility

### Privacy issues and other social concerns

- Increasing public concern about privacy issues, led by issues such as the Snowden revelations etc.
- Changing regulations and legislations to factor in and limit scope of surveillance systems



#### Sources:

- (1) <http://security-today.com/articles/2011/12/06/report-despite-economic-uncertainty-outlook-for-video-surveillance-market-remain-strong.aspx>, accessed on 14 Nov 2013
- (2) <http://security-today.com/articles/2011/12/06/report-despite-economic-uncertainty-outlook-for-video-surveillance-market-remain-strong.aspx>, accessed on 14 Nov 2013
- (3) <http://www.dutycalculator.com/dc/73728394/electronics-video-games/other/cctv-cameras-without-monitor/import-duty-rate-for-importing-ip-surveillance-from-united-states-to-india-is-1/>, accessed on 14 Nov 2013

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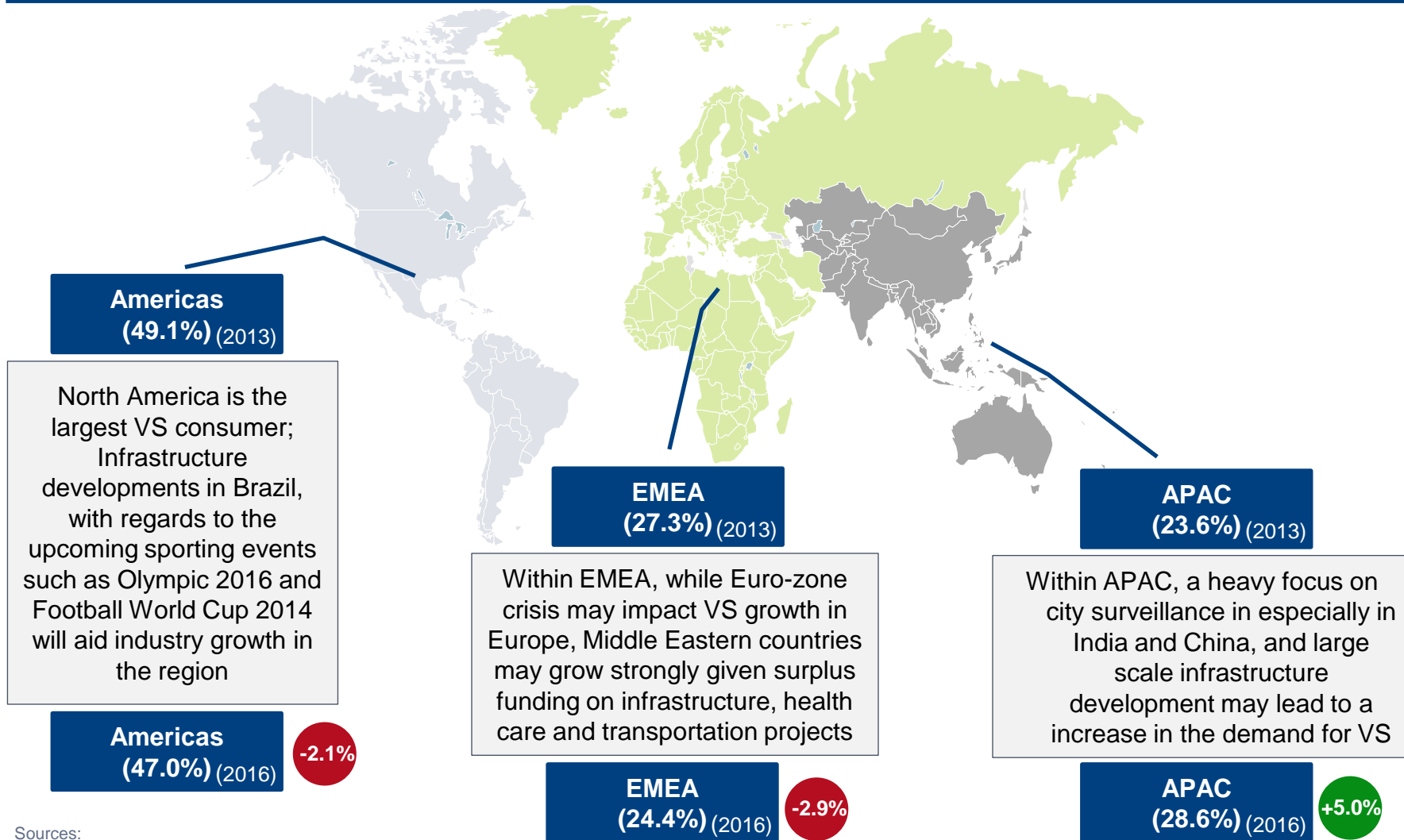
**Established and Emerging Markets**

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# While Americas lead the video surveillance market globally, emerging markets, specifically Asian markets are expected to drive future growth

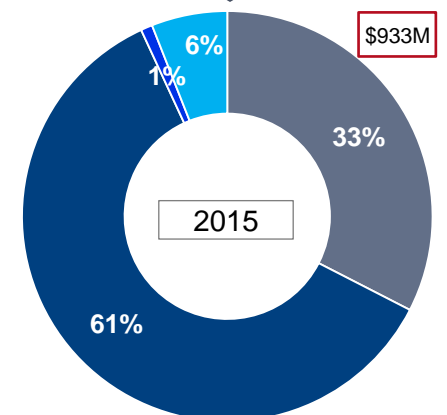
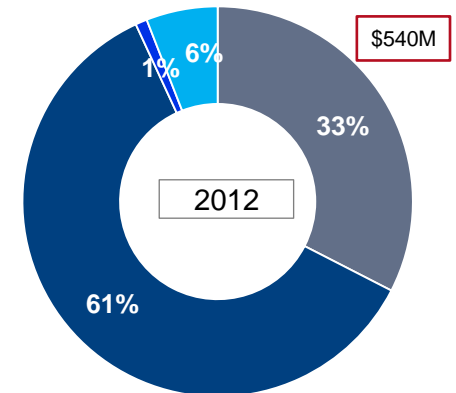
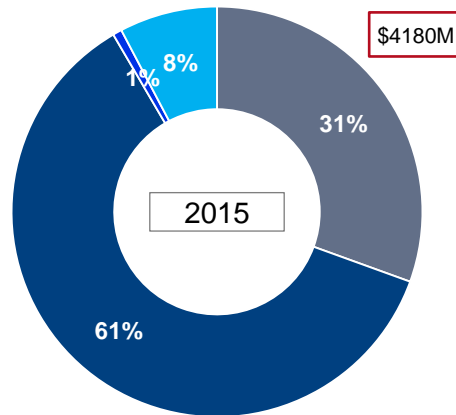
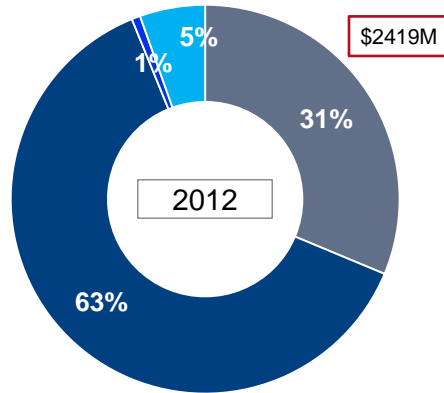
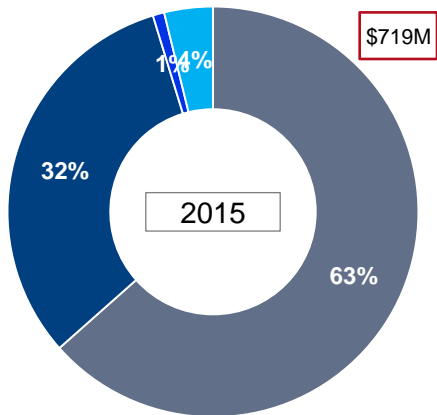
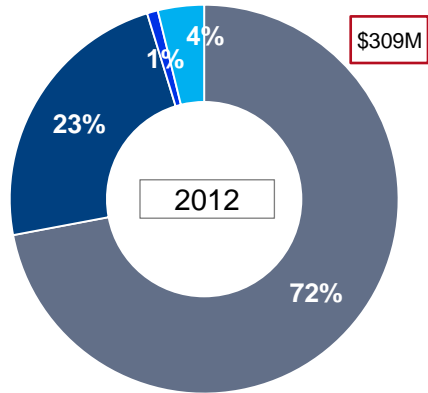
Global surveillance market by region, 2013



Sources:

- (1) Saudi video surveillance market set to grow 25% in 2016, eclipsing UAE
- (2) Global Video Surveillance Market, 2010, A Frost and Sullivan report
- (3) BA Analysis

# Within emerging markets, cameras and storage equipment account for bulk of the revenues in the VS industry



Cameras
  Other hardware (storage etc.)
  Video Analytics
  Other Software

Source:  
(1) BA Analysis

# In India, public security, transportation and banking appear to be the most attractive end use sectors for VS



End Use Application	Product Segment		Drivers, Key Projects	Risks and Challenges	Overall Attractiveness	Key Players in the End Use Sector
Public Security	C	OH	<ul style="list-style-type: none"> <li>Domestic &amp; international security concerns driving demand</li> </ul>	<ul style="list-style-type: none"> <li>Delays in project initiation and tender allocation</li> </ul>		<b>Integrators:</b> Allied Digital, Innovative  <b>Suppliers:</b> Verint, IBM, Cisco, Delta
	OS	VA	<ul style="list-style-type: none"> <li>Safe City Projects coming up in major cities such as Bangalore (\$24 M), Surat, Mumbai, Delhi</li> </ul>	<ul style="list-style-type: none"> <li>Expensive end-to-end systems are not encouraged; project-specific solutions are preferred</li> </ul>		
Transportation	C	OH	<ul style="list-style-type: none"> <li>Projects include BMTC bus surveillance project (\$20 M), Chennai Suburban Railway project (\$6.45 M)</li> </ul>	<ul style="list-style-type: none"> <li>Dealing with government, lobbying</li> </ul>		<b>Integrators:</b> HCL Infosystems
	OS	VA		<ul style="list-style-type: none"> <li>Delays in project initiations</li> </ul>		
Retail	C	OH	<ul style="list-style-type: none"> <li>Growth of shopping malls and recognition of (a) public security, and (b) merchandise security</li> </ul>	<ul style="list-style-type: none"> <li>Usually small size projects, driven by private retailers</li> </ul>		<b>Suppliers:</b> Dahua
	OS	VA				
Banking & Financial Services	C	OH	<ul style="list-style-type: none"> <li>New Reserve Bank of India requirement for video surveillance inside and outside ATM kiosks</li> <li>&gt;100,000 ATMs to be affected</li> </ul>	<ul style="list-style-type: none"> <li>Establishing partnerships with financial institutions</li> </ul>		<b>Integrators:</b> Secutech <b>Suppliers:</b> Bosch, Axis
	OS	VA				
Education	C	OH	<ul style="list-style-type: none"> <li>Delhi University implemented CCTV based VS in two campuses</li> </ul>	<ul style="list-style-type: none"> <li>Small size projects, driven individually by institutions</li> </ul>		<b>Integrators:</b> Alvarion <b>Suppliers:</b> HikVision
	OS	VA				
Health Care	C	OH	<ul style="list-style-type: none"> <li>Video Surveillance in Tiruchi Government Hospital</li> </ul>	<ul style="list-style-type: none"> <li>Not much focus on VS in the healthcare sector</li> </ul>		NA
	OS	VA				
Defense	C	OH	<ul style="list-style-type: none"> <li>\$2 B to be spent in the next 5 years to boost UAV fleets</li> <li>\$3M budgeted to boost coastal surveillance equipment</li> </ul>	<ul style="list-style-type: none"> <li>Large scale projects, Stringent regulations</li> </ul>		NA
	OS	VA		<ul style="list-style-type: none"> <li>Data sensitivity</li> </ul>		

Key product segments for the industry

Very High High Medium Low

C = Camera  
OH = Other Hardware  
OS = Other Software  
VA = Video Analytics



# Government sponsored intelligent transport systems & smart city projects are expected to boost the VS industry in China



End Use Application	Product Segment		Drivers, Key Projects	Risks and Challenges	Overall Attractiveness	Key Players in the End Use Sector
Public Security	C	OH	<ul style="list-style-type: none"> <li>Domestic &amp; international security concerns driving demand</li> <li>Jingjiang City Project 3.20</li> </ul>	<ul style="list-style-type: none"> <li>While China faces strong criticism from the community, it still deploys VS infrastructure extensively across its cities</li> </ul>		<p><b>Integrators:</b> Shanghai Ziya Information Technology</p> <p><b>Suppliers:</b> Axis Communications, Vimicro</p>
	OS	VA	<ul style="list-style-type: none"> <li>Major Video Surveillance and Audio Coding deployment in Ziyang City (\$14 M)</li> </ul>			
Transportation	C	OH	<ul style="list-style-type: none"> <li>Projects include Ningbo City Bus mobile surveillance project covering more than 3600 buses; Shenzhen Intelligent Transport System</li> </ul>	<ul style="list-style-type: none"> <li>China being one of the leaders in Intelligent Transportation Systems, presents opportunities as well as competition in the segment</li> </ul>		<p><b>Suppliers:</b> Hikvision, Infinova</p>
	OS	VA				
Retail	C	OH	<ul style="list-style-type: none"> <li>Beijing Police orders malls, cafes, restaurants, hotels to install HD cameras</li> </ul>	<ul style="list-style-type: none"> <li>While government and civic bodies are driving the sector, the sector may become significant only in the near future</li> </ul>		<p>NA</p>
	OS	VA				
Banking & Financial Services	C	OH	<ul style="list-style-type: none"> <li>China's Banking Bureau, Financial Supervisory Commission, requires video surveillance</li> </ul>	<ul style="list-style-type: none"> <li>The sector appears to have a comparatively lower focus on large scale VS projects</li> </ul>		<p><b>Suppliers:</b> Axis Communications</p>
	OS	VA	<ul style="list-style-type: none"> <li>People's Bank of China installed 157 HD Network Cameras</li> </ul>			

Key product segments for the industry

C = Camera      OS = Other Software  
OH = Other Hardware      VA = Video Analytics

Very High    High    Medium    Low

# Upcoming mega sporting events in Brazil are driving expenditure in large scale public security VS projects



End Use Application	Product Segment		Drivers, Key Projects	Risks and Challenges	Overall Attractiveness	Key Players in the End Use Sector
Public Security	C	OH	<ul style="list-style-type: none"> <li>Integrated Command and Control Centers in Rio for upcoming mega events – World Cup 2014 and Olympics 2016 (implemented) (\$44 M)</li> </ul>	<ul style="list-style-type: none"> <li>Highly competitive segment, with dominance from global MNCs</li> </ul>		<b>Suppliers:</b> IBM, Cisco
	OS	VA				
Transportation	C	OH	<ul style="list-style-type: none"> <li>Rio's Supervia Stations Surveillance System project (Implemented)</li> </ul>	<ul style="list-style-type: none"> <li>The segment is expected to have high investments in the coming years, and is already on radar of global MNCs</li> </ul>		<b>Integrators:</b> VMI Sistemas de Seguranca  <b>Suppliers:</b> Hikvision, Bosch
	OS	VA	<ul style="list-style-type: none"> <li>Curitiba's Intelligent Urban Transport and Mobility Project for 2,500 buses (\$20.5 M)</li> </ul>			
Retail	C	OH	<ul style="list-style-type: none"> <li>Grippon a leading grocery chain store, installed 40HD cameras to monitor its store</li> </ul>	<ul style="list-style-type: none"> <li>Rising trend of HD surveillance in commercial spaces; though they offer low volume projects</li> </ul>		<b>Integrator:</b> Paris Cabos  <b>Suppliers:</b> Vivotek, Avigilon
	OS	VA				
Banking & Financial Services	C	OH	<ul style="list-style-type: none"> <li>Banco do Nordeste do Brasil (BNB), the largest regional development bank in Latin America, installed 46 IP cameras in its administrative center</li> </ul>	<ul style="list-style-type: none"> <li>Partnerships are often required with other security companies engaging in business with banking and financial institutions</li> <li>Relatively low penetration of electronic security</li> </ul>		<b>Integrators:</b> Imagem Segurança  <b>Suppliers:</b> Axis, March Networks
	OS	VA				
Defense	C	OH	<ul style="list-style-type: none"> <li>Integrated Border Monitoring System (SISFRON) project for surveillance of 16,886 Km of land border (Timeline: 2009–19) (\$6 B)</li> </ul>	<ul style="list-style-type: none"> <li>The ambitious border surveillance project is already underway, and many of the primary suppliers are already selected</li> </ul>		Embraer, Orbisat, Harris
	OS	VA				

Key product segments for the industry

C = Camera  
OH = Other Hardware  
OS = Other Software  
VA = Video Analytics

Very High
 High
 Medium
 Low

# Smaller markets in Africa, SE Asia and Middle East are also registering strong growth



## Africa<sup>(1),(2)</sup>

- The South African market, at \$90 M, is the largest African market. Revenues from network equipment surpassed those from analog in 2012 in South Africa
- Growth of shopping malls across Africa makes Retail a lucrative target vertical. Recent security concerns (following Nairobi Mall Attack) have caused a rise in demand
- However low economic growth across the continent (single digit growth is forecast for 2013 and 2014), a weakening Rand in South Africa and on-going labor disputes in key vertical markets for video surveillance are major concerns

## South East Asia<sup>(3),(4)</sup>

- South East Asia includes both developed markets (like Singapore) and emerging markets like Vietnam, the Philippines and Indonesia. Vietnam is fastest growing market between 2010 and 2015, at a CAGR of 22.3%, although it only comprises 10% of the market
- Development programs focusing on hard infrastructure is driving demand for physical security – for example, the MP3EI, Indonesia's national development plan, envisions transforming 44 airports to international standards and upgrading further 120 airports; Malaysia 's total airport security spending is expected to reach \$180.6 M by 2015
- However import tax have been as high as 30–35% in some countries (example Vietnam), acting as a deterrent to foreign manufacturers (note: recent compliance with WTO has eased this concern)

## Middle East<sup>(5),(6)</sup>

- Turkey is the largest market in the Middle East. Although the market is dominated by analog equipment, large enterprises have been investing in network cameras since 2011. A large number of projects are 'green field', making strategic relationships within the region critical
- Global recession hit Saudi Arabia far less than most other countries; the Saudi Arabian market for network video surveillance equipment is expected to grow by 25% a year from 2011–2016, while the UAE market which is forecast to grow by around 15% a year

### Sources:

- (1) <http://security-today.com/articles/2013/12/04/lions-share-of-the-african-video-surveillance-market.aspx>
- (2) <http://www.securityafricamagazine.com/?p=665>
- (3) [http://www.imsresearch.com/press-release/Vietnam-The-Fastest-Growing-Video-Surveillance-Market-in-South-East-Asia&cat\\_id=130&type=LatestResearch](http://www.imsresearch.com/press-release/Vietnam-The-Fastest-Growing-Video-Surveillance-Market-in-South-East-Asia&cat_id=130&type=LatestResearch)
- (4) <http://www.indonesia-investments.com/projects/government-development-plans/masterplan-for-acceleration-and-expansion-of-indonesias-economic-development-mp3ei/item306>
- (5) [http://www.securitymarketintelligence.com/press\\_releases/How\\_to\\_Win\\_Video\\_Surveillance\\_Business\\_in\\_the\\_Middle\\_East](http://www.securitymarketintelligence.com/press_releases/How_to_Win_Video_Surveillance_Business_in_the_Middle_East)
- (6) <http://www.securityinfowatch.com/news/10722265/strong-growth-predicted-for-video-surveillance-market-in-saudi-arabia>

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# Convergence with the IT industry is driving both innovation as well as an overall move towards consolidation

Business Trends	Key Details
<p>Conditions are right for consolidation, but uncertainty remains<sup>(A)</sup></p>	<ul style="list-style-type: none"> <li>■ <b>Fragmentation:</b> The fragmentation of the surveillance market has been increasing – the top 10 surveillance vendors account only for 40% of the market from 50% four years ago<sup>(1)</sup></li> <li>■ <b>Convergence:</b> Convergence of multiple industry segments and technologies has opened opportunities for synergies</li> <li>■ <b>Uncertain:</b> Similar conditions have existed for years but have not resulted in significant consolidation. Last few years have also witnessed a neutral M&amp;A stance from the bigger companies</li> </ul>
<p>Use of surveillance beyond security is growing</p>	<ul style="list-style-type: none"> <li>■ <b>Retail Sales/ Marketing Processes:</b> IP cameras are being integrated with point of sale (POS) systems to help with loss prevention, identifying purchase patterns and developing optimum store layout</li> <li>■ <b>Traffic management:</b> Multiple video streams help conduct real-time analysis of traffic conditions to monitor construction sites, help first responders etc.</li> <li>■ <b>Environmental / Operational uses:</b> Intelligent IP video cameras are being integrated with smart building technology to encourage energy efficiency</li> </ul>
<p>Going remote</p>	<ul style="list-style-type: none"> <li>■ <b>VSaaS:</b> VSaaS has opened the possibilities of providing all types of surveillance in a remote manner, not just physical security</li> <li>■ <b>Remote Usage:</b> Surveillance is used in retail, training, operational management etc. Remote provision gives users a window into their business when they are not on site</li> </ul>
<p>Convergence is occurring on multiple axes</p>	<ul style="list-style-type: none"> <li>■ <b>Convergence:</b> IT enablement of video surveillance has affected hardware, software and services in different ways, however, primary impacts are on:               <ul style="list-style-type: none"> <li>– Growing importance of IP-based technology competencies</li> <li>– Entry of IT firms into the integrator and security management segments</li> <li>– Growth of consultancy and management services</li> <li>– Growth of analytics (edge and core) and video compression</li> </ul> </li> </ul>

Note:

(A) Please refer to appendix for more insights on M&A trends in the industry

Source:

(1) [http://ipvm.com/report/video\\_surveillance\\_companies\\_top10\\_market\\_share](http://ipvm.com/report/video_surveillance_companies_top10_market_share), accessed on 14 Nov 2013

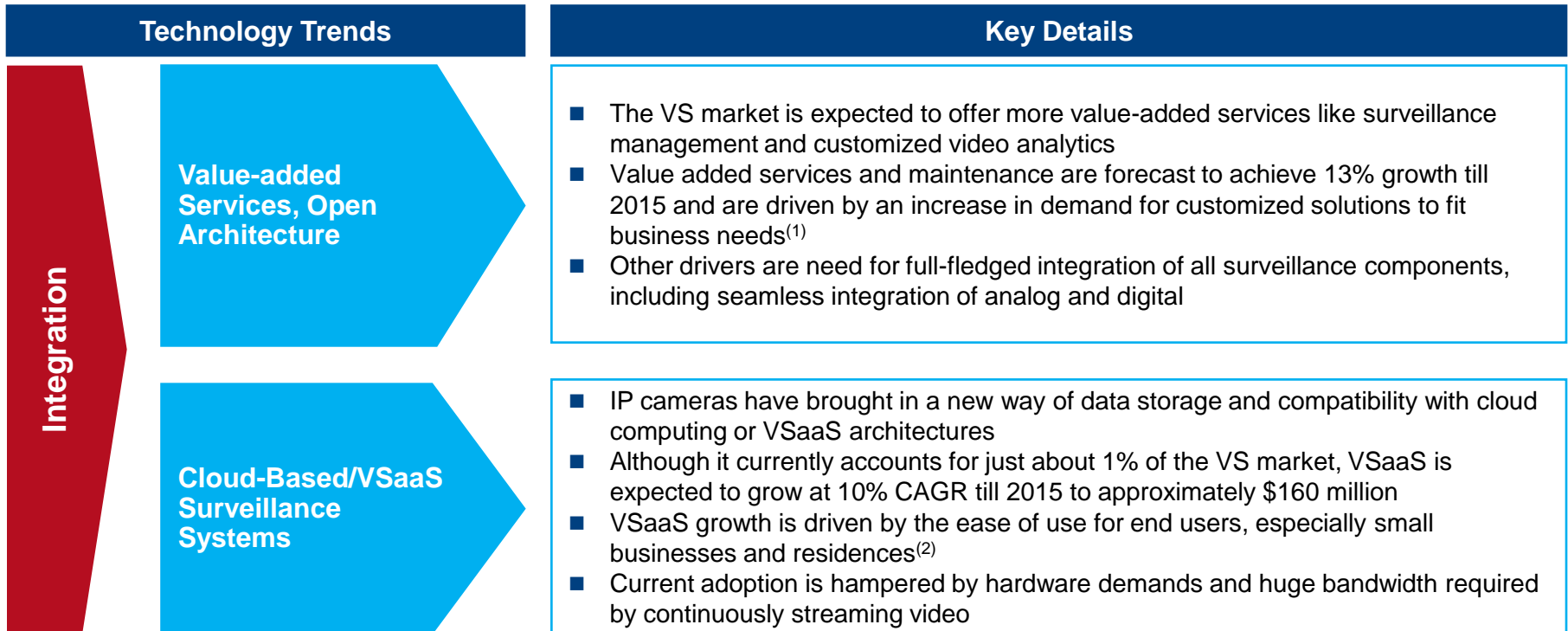
# This convergence has also triggered a new set of trends in the hardware and software segments of the VS industry

	Technology Trends	Key Details
Hardware	Shift to IP Video Cameras	<ul style="list-style-type: none"> <li>Video surveillance users are phasing out CCTV cameras and shifting to IP; IP cameras are expected to grow at 25% CAGR from 2013 to 2018<sup>(1)</sup></li> <li>An estimated 50% of the market have digital cameras in 2013</li> <li>A move to IP videos makes storage cheaper and more efficient as digital videos are smaller in size</li> </ul>
	Growth in storage requirements	<ul style="list-style-type: none"> <li>Over 413 petabytes of data is being produced in just one day by all the new video surveillance cameras installed worldwide in 2013<sup>(2)</sup></li> <li>Growth of 52% CAGR is anticipated for storage capacity shipped from 2010 to 2016, to accommodate this growth</li> <li>Growth is driven by the transition to IP cameras, growth in HD quality surveillance needs and general market growth</li> </ul>
Software	Shift to Edge-based and distributed analytics	<ul style="list-style-type: none"> <li>There is a shift of storage and analytics from a central server to devices, driven by innovations in processor power and storage technologies</li> <li>Edge-based devices increasingly provide basic analytics and storage</li> <li>Advantages include reduced processing/storage requirement of central servers</li> </ul>
	Rise of Big Data	<ul style="list-style-type: none"> <li>Daily data dump from video cameras is expected to more than double in just four years, expanding to 859 PB in 2017<sup>(2)</sup></li> <li>This is promoting the use of technologies that are designed to handle and process big data in the surveillance market</li> <li>For example, new data compression algorithms such as High Efficiency Video Coding (HEVC) standard—also known as H.265—has been claimed to double the data compression ratio when compared to H.264<sup>(2)</sup></li> </ul>

Sources:

- <http://www.businesswire.com/news/home/20130828005925/en/Research-Markets-Global-Video-Surveillance-Market-Forecast>, (accessed 14 Nov 2013)
- [http://www.cepro.com/article/video\\_surveillance\\_recordings\\_create\\_413\\_petabytes\\_of\\_data\\_every\\_day/](http://www.cepro.com/article/video_surveillance_recordings_create_413_petabytes_of_data_every_day/), (accessed 14 Nov 2013)

# New hardware and software trends are forcing integrators to offer more value added services and more cloud based systems



Sources:

(1) IP Mega Trends 2011/2012– Milestone whitepaper

(2) <http://spotonsecurity.com/2010/05/25/getting-our-head-out-of-the-clouds/>

# Agenda

**BA Introduction**

**Video Surveillance Market Landscape**

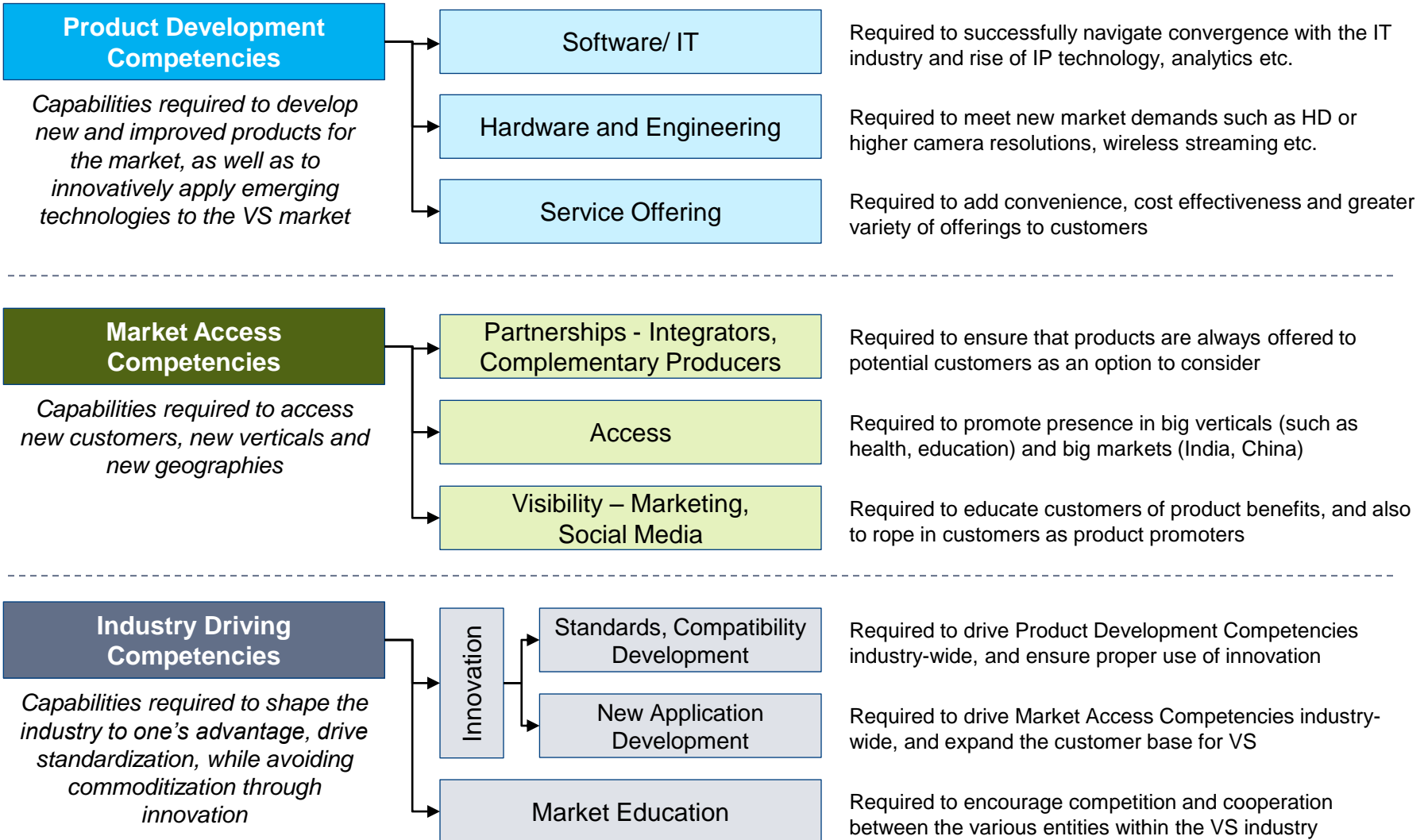
**Established and Emerging Markets**

**Key Industry Trends**

**Critical Competencies and Success Factors**

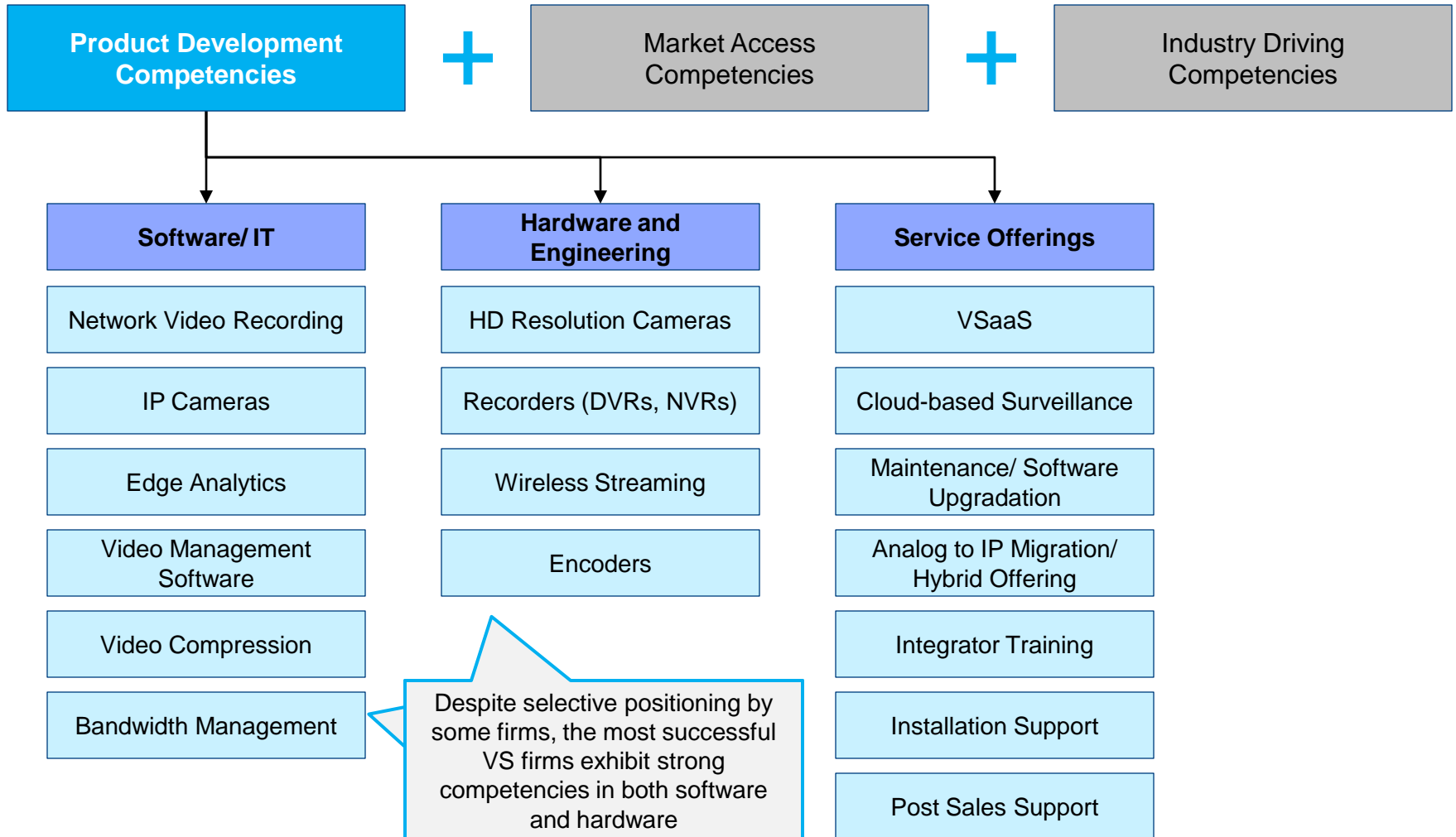


# As the VS industry undergoes significant transformation, successful companies will seek not just to develop products and gain market access, but also to shape the industry

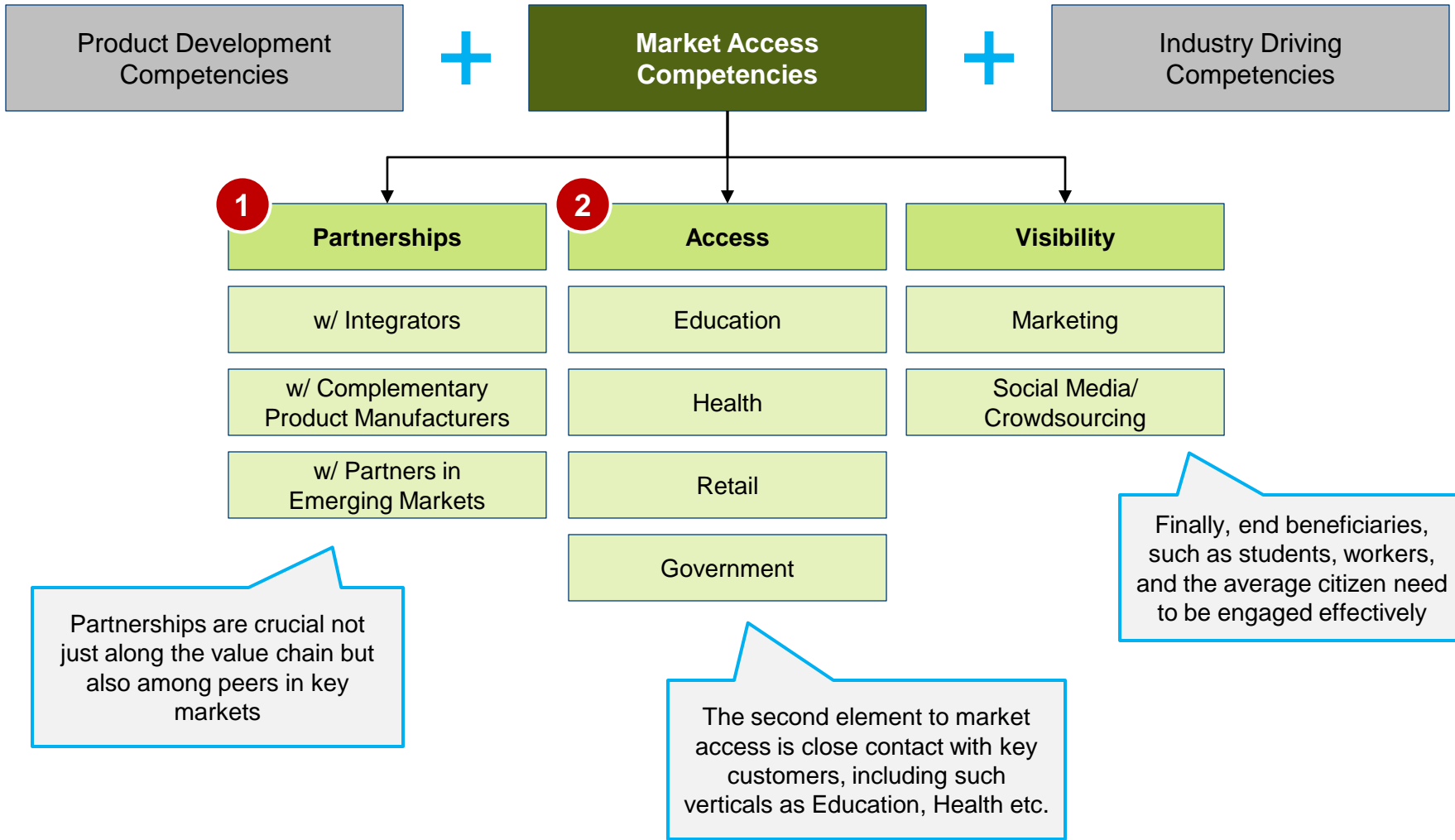


Source:  
 (1) BA Analysis

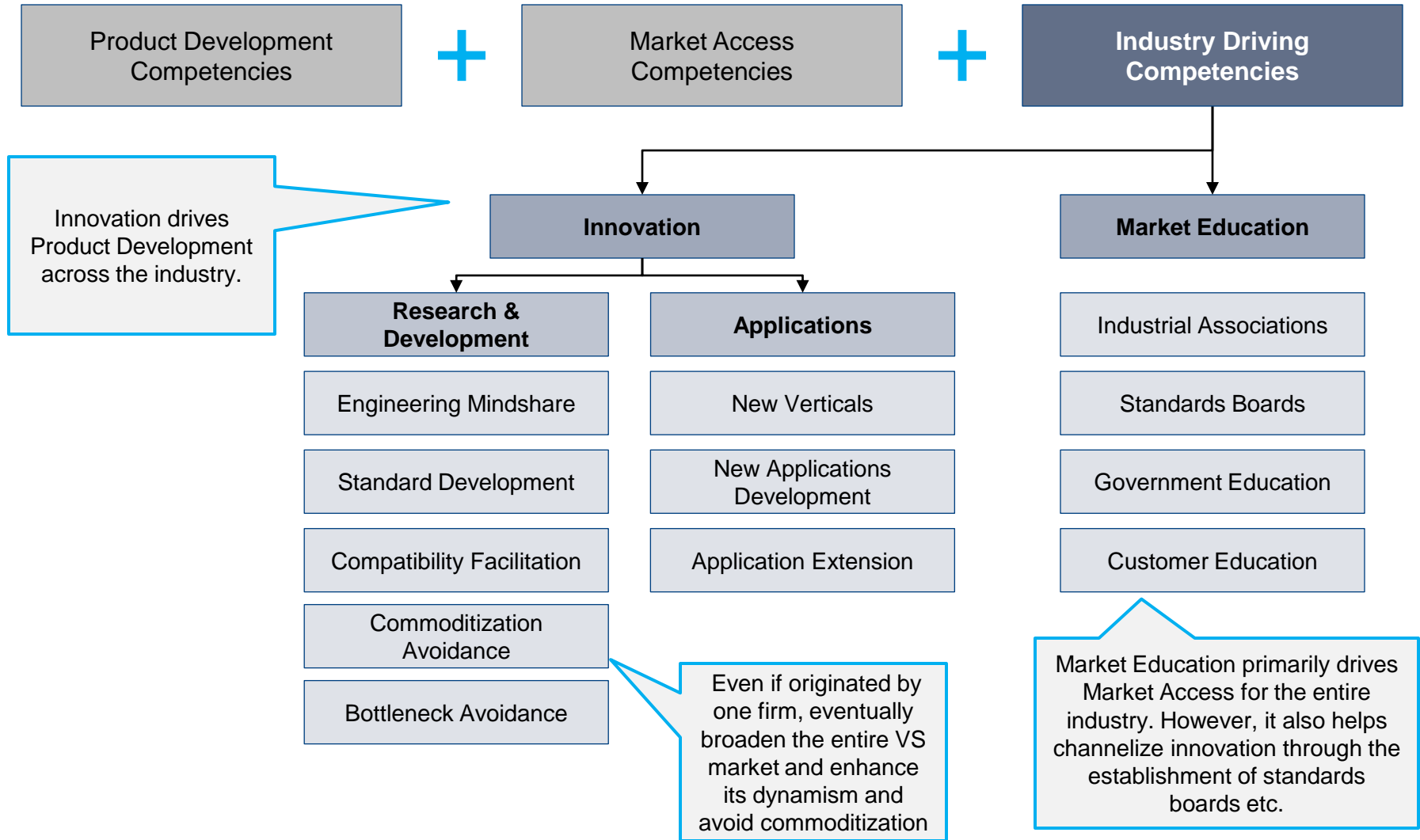
# Successful product development involves developing both software and hardware capabilities, and backing them up with quality services











# Developing market access requires engaging on all levels of the value chain right up to the end beneficiaries of surveillance



# The most successful VS firms have seized the opportunity to shape the industry to their advantage through innovation and aggressive market education



# Between 2000–2010, conglomerates in the security business actively engaged in mergers and acquisitions for growth





Year	Buyer	Company Acquired/ Merged with	Competencies Acquired			Strategic Importance
2000		Pittway	PD	MA	ID	<ul style="list-style-type: none"> <li>To expand product and service offering in home and office control systems</li> </ul>
2001		Detection Systems and Radionics, Inc	PD	MA	ID	<ul style="list-style-type: none"> <li>To acquire Market Access in the North American security and life safety products manufacturing/supply business, and additional sales channels in Latin America, Asia-Pacific (including Australia), and Europe</li> </ul>
2002		Philips Communications and Security, Inc	PD	MA	ID	<ul style="list-style-type: none"> <li>To expand offerings in video surveillance portfolio, as well as sales channels, to its business</li> </ul>
2003		Silent Witness Enterprises Ltd	PD	MA	ID	<ul style="list-style-type: none"> <li>To expand CCTV product offerings, and broaden capabilities in video surveillance segment</li> <li>To expand service offerings with specialized security requirements, particularly in BFSI and transportation</li> </ul>
2008		Extreme CCTV	PD	MA	ID	<ul style="list-style-type: none"> <li>To expand video surveillance portfolio</li> </ul>
2009		Republic Intelligent Transportation	PD	MA	ID	<ul style="list-style-type: none"> <li>To expand solutions offerings and service offerings in the transportation industry</li> </ul>
2010		GVI Security	PD	MA	ID	<ul style="list-style-type: none"> <li>To establish a strategic partnership to provide optimal security solutions and develop one product line under Samsung brand</li> </ul>
2010		GE Security	PD	MA	ID	<ul style="list-style-type: none"> <li>To enhance UTC's geographic diversity by leveraging GE Security's strong presence in North America</li> <li>To increase total product and technological offerings</li> </ul>

Sources:

- (1) <http://www.memoori.com/innovations-strategic-acquisitions-continue/>, accessed 24 Oct 2013
- (2) <http://www.economist.com/node/21552631>, accessed on 24 Oct 2013

MA = Market Access  
ID = Industry Driving  
PD = Product Development

## However, in the recent years, participation of major suppliers in mergers and acquisitions has been neutral

Year	Buyer	Company Acquired/ Merged with	Competencies Acquired			Strategic Importance
2011		Signature Security Group	PD	MA	ID	<ul style="list-style-type: none"> <li>To increase scale and attractive operating synergies in Australia and New Zealand</li> </ul>
2012		Lorex Technology	PD	MA	ID	<ul style="list-style-type: none"> <li>To acquire Lorex's retail channels and advanced e-commerce capabilities (for their thermal camera products)</li> </ul>
2012		Traficon	PD	MA	ID	<ul style="list-style-type: none"> <li>To acquire high performance video analytics capabilities to Flir</li> <li>To provide a powerful roadway monitoring solution for cities and municipalities</li> </ul>
2012		Pelco	PD	MA	ID	<ul style="list-style-type: none"> <li>To offer combined advantage of Pelco network cameras and Hikvision NVR solutions</li> </ul>

MA = Market Access ID = Industry Driving PD = Product Development

### Key Points

- In the last few years, impetus from major security business conglomerates on mergers and acquisitions has slowed down. One of the possible reasons could be investments in other business areas
- Investment has also risen from companies operating in adjacent segments, mainly IT, Communications and Defense with easier integration with the video surveillance industry
- Significant interest has been observed for specialists in verticals such as transportation, which may benefit the buyer in expanding their reach in the vertical
- Though there are many small players in the industry, it is expected that many of them will be forced to exit, as they will not be able to afford associated R&D costs, eventually leading to consolidation in the industry

Sources:

- (1) <http://www.memoori.com/tag/hikvision/>, accessed on 24 Oct 2013
- (2) <http://www.memoori.com/innovations-strategic-acquisitions-continue/>, accessed 24 Oct 2013

# Case Study: NICE’s acquisition of Orsus enhanced its software and IT competencies, helping it shape the situation management industry

## Fact File

- **Date of Acquisition:** December 2009
- **Deal Value:** \$22 M (all-in-cash)
- **Acquirer:** NICE Systems is a global provider of advanced solutions that enable enterprises and security organizations to extract insight from interactions, transactions, and surveillance.
- **Target:** Orsus was a pioneer and market leader in the field of situation management – a comprehensive and unique approach that coordinates the interaction between people, technologies, and responses.
  - Flagship product was Situator, which gathered information and informed everyone of next steps
- **Target Segment:** High end video surveillance, general Physical Security
- **Target Market:** Israel

## Context and Details (1),(2)

- The Video Surveillance Market was witnessing important advancements in security management software, and NICE Systems wanted to define the industry in this space
- NICE had domain experience on the video surveillance side, and this acquisition allowed them to provide a more complete solution for high-end, more complex applications
- Further, it was looking to expand its presence in new verticals through solutions that helped overcome the challenge of managing multiple siloed security and safety systems in **cities, municipalities, and critical infrastructure**
- NICE continues to offer Situation Management solutions under the “**Situator**” brand name

Competencies	Synergy	Details
Software/ IT	✓	■ Situation Management software/technology
Hardware & Engineering	✗	
Service Offering	✓	■ Complete solution for management of siloed info
Partnerships	✗	
Access	✓+	■ Significant visibility and access through Orsus’ major clients such as US National Guard, several Port Authorities etc.
Visibility	✓+	
Innovation	✓+	■ Emerged as one of the early drivers of situation management software and analytics.
Market Education	✓+	

- ✓ Competency acquired
- ✗ Competency not acquired
- ✓+ Competency enhanced

Sources:

(1) <http://www.securityinfowatch.com/article/10497324/what-the-orsus-acquisition-means-for-nice>, accessed on Dec 12, 2013

(2) BA analysis



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