

Avigilon – Presentation

The Best Evidence™

York University, Technology Management Course
Fall 2014

Agenda

- Introduction of the company and founder
- Technology strategy
- Innovation performance
- Competitive dynamics
- Issues and recommendations
- Conclusion



Introduction

A Canadian company founded by Alexander Fernandes in 2004.

- Designs and manufactures high-definition surveillance solution systems
- Hardware and software designed in Canada
- Some manufacturing facilities in Canada.

Intro. video

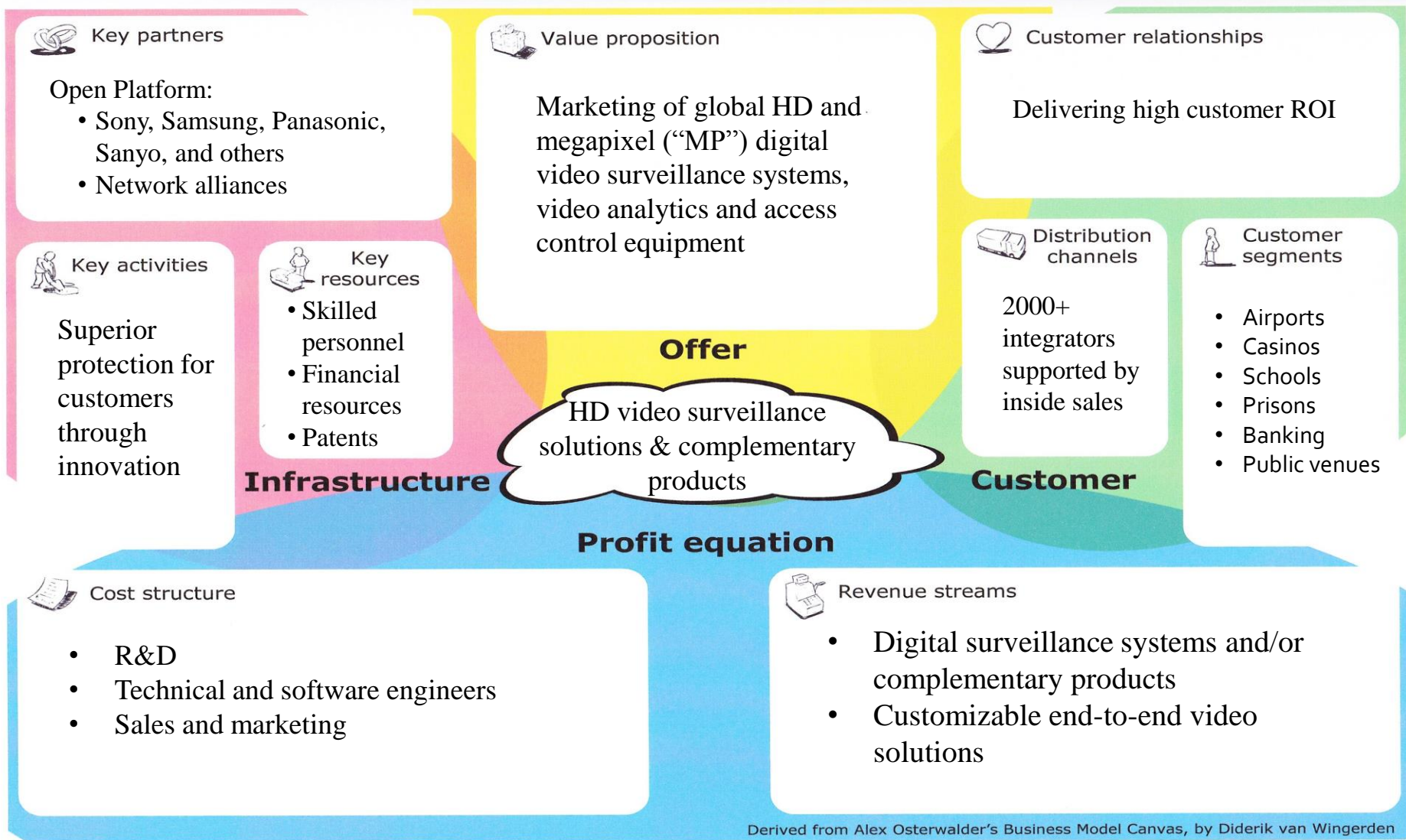
<http://www.youtube.com/watch?v=MKYz6cJw61U>

About the Founder

Fernandes: Founder, President, CEO, and Chairman;

- 20+ years of experience; very successful Avigilon IPO
- Previously founded Q-Imaging, and sold it.

Business Model



Dominant Design



HD Micro-Dome Cameras:

- Smallest dome camera in the industry
- Unparalleled image detail
- 30 images per second at full resolution.

Image Megapixels:

- **Industry Innovation:** Architectural innovation from VGA cameras to Pro HD cameras.
- **Internal Innovation:** Incremental innovation – successively improved innovations; increasing megapixels.

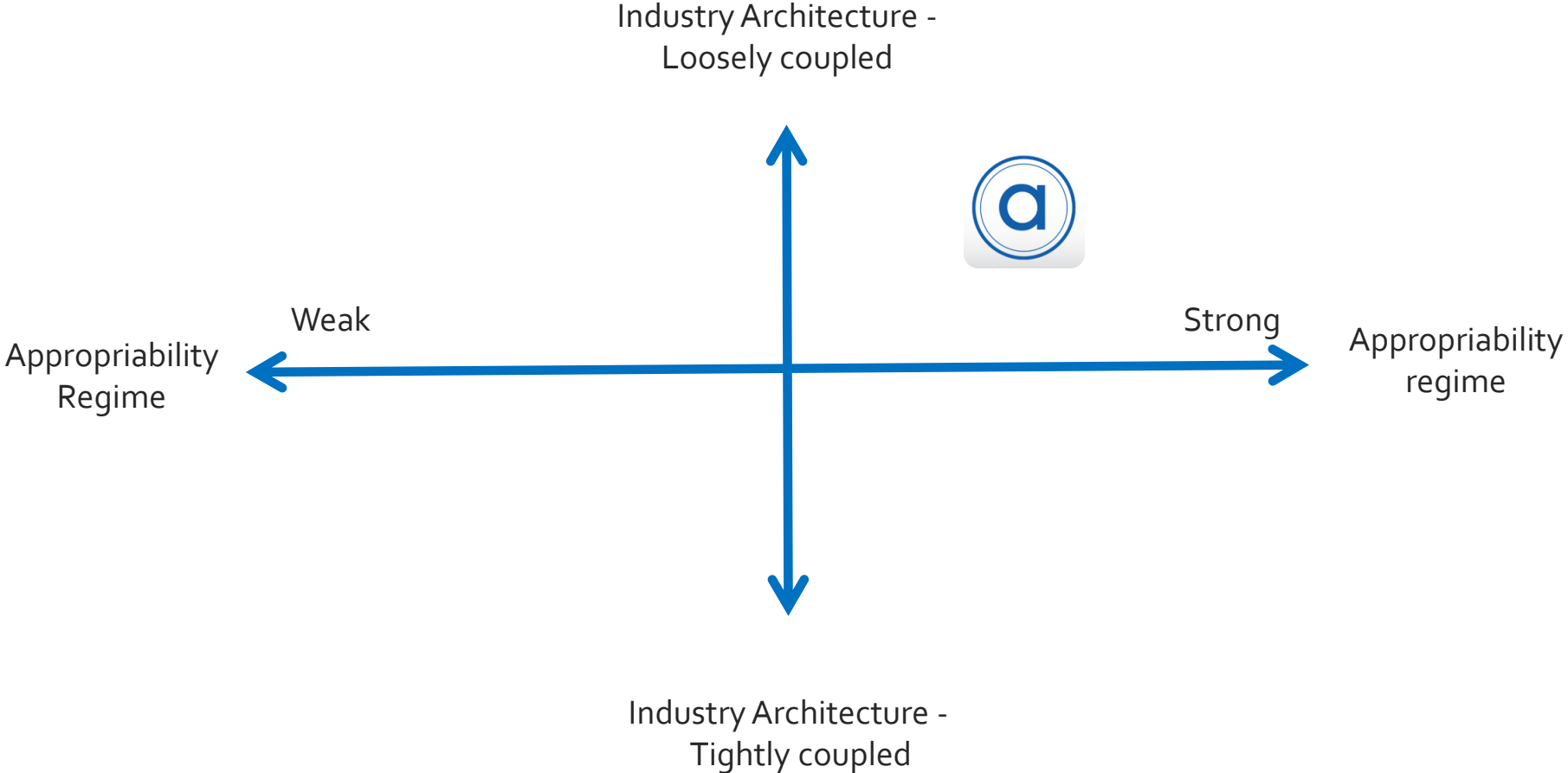


640px X 480px
VGA Camera
coverage

2592px X 1944px
5 MP Camera
coverage

6576px X 4384px
29 MP Camera
coverage

Industry Architecture



Technology Strategy

Dome Camera Video:

https://www.youtube.com/watch?v=QAqh8JXqqoE&list=UUH1g3jEVqwdpK-zF6GG_OQg&index=28

- Competes on a dominant design basis; an end-to-end surveillance system
- Also supplies complementary products
- Sold through a network of “integrators.”



Technology Strategy – Collaboration

Key alliances for compatibility and reduced R&D:

- ✓ Less market confusion
- ✓ Synergistic “best effects”

1. Joined *Lenel Open Access Alliance Program*
2. Became member of global *Open Network Video Interface Forum (ONVIF)*



Technology Strategy – Collaboration cont'd.

Pros:	Cons:
Building relationships with experts in their field	Private benefits to alliance partners
Value-added interactions	Possible appropriation
Co-opting other competitors	One-way knowledge transfer



All-In-One System

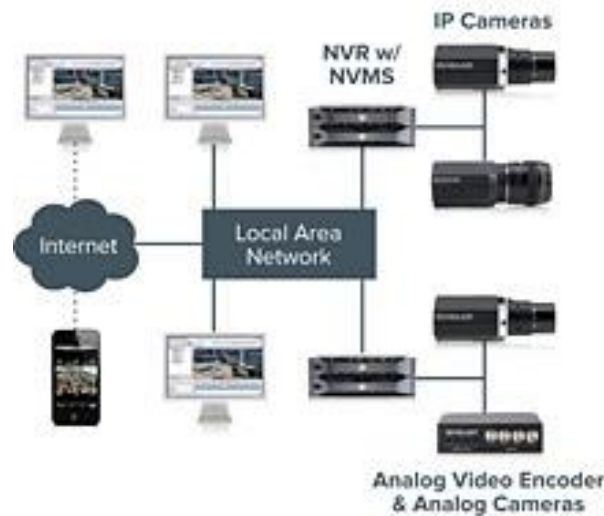
PTZ Dome Camera



Technology Strategy - Integration

Their ACC system easily adapts to conventional ones:

- ✓ Attract customers with legacy systems
- ✓ More scope of product diversification
- ✓ Leads to a larger installed base



4-Port Analog Encoder

Technology Strategy – Acquisitions

Limited resources + need for speed to market, lower costs, less risky;

- Three key acquisitions recently:

S2 Netbox: integrates access control with alarm & temperature monitoring;

RedCloud Security: patented access control systems;

Video IQ: patented real-time analytics – the future.



Rialto Analytics



Access Control



Technology Strategy – Network Externalities

Alliances & acquisitions increases the installed base.

- ✓ Less compatibility issues
- ✓ Complementary product demand – self reinforcing

Complement Products: cameras, lenses & enclosures; recorders; access controls; video analytics software; encoders; joystick keyboards; Ethernet accessories.



Joystick Keyboard

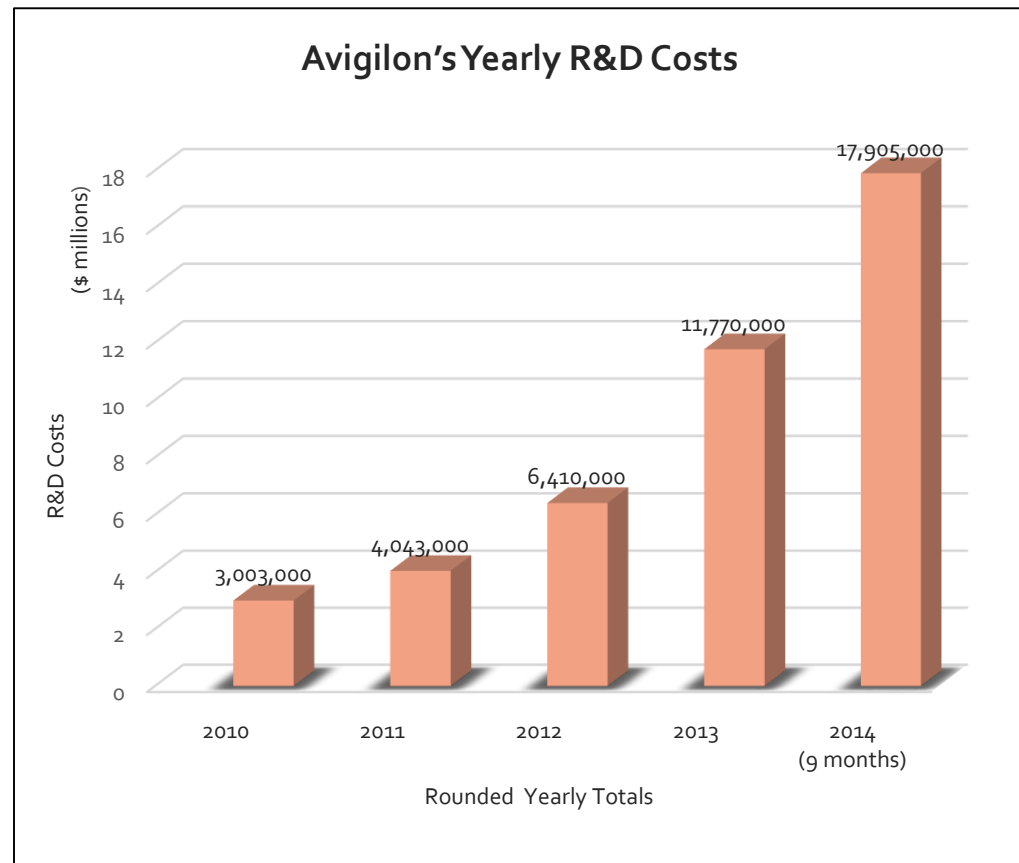
Recording Device



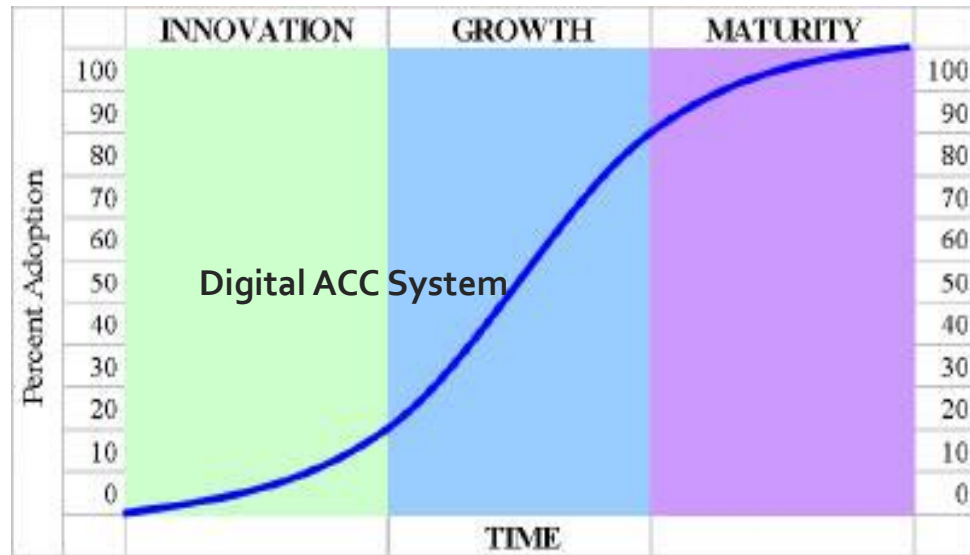
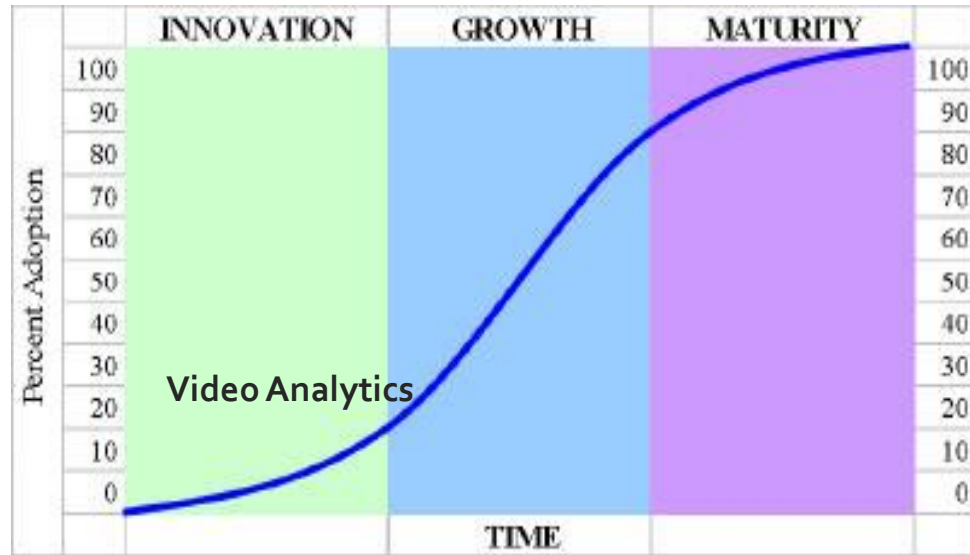
Technology Strategy – Patent Policy

Uses proprietary design & technology patents:

- ✓ Technological Trade Secrets for ‘special’ inventions
- ✓ Open platform integration; maximum compatibility
- ✓ Acquired companies with solid patents



Technology Strategy – S-curves



Innovation Performance

- **Input measurement:**
 1. Skill level of the labor pool
 2. Investment in machinery & equipment
 3. R&D development.

- **Output measurement:**
 1. Patents
 2. New products
 3. Speed to the market.

Input Measurements

Labor Pool Skill Level

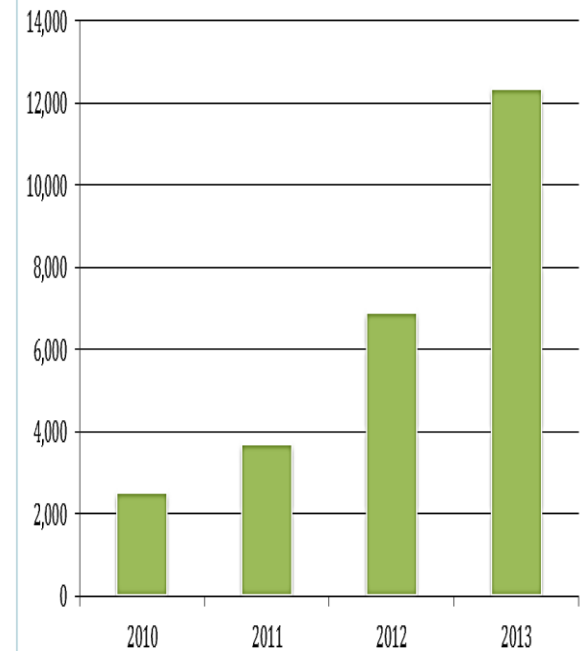
- Labor pool education
- Increase in employee related payables
- Increase in G&A company expenses

R&D Development

- R&D expenses:
 - Increased by 81% from 2012 to 2013
- R&D plans:
 - Continue to increase investment in R&D
 - Main thrust for fueling growth

Equipment Investment

Yearly Equipment Costs



Output Measurements

Patents

- IP Patents achievement
- 25 issued and 109 pending
- HDMS
- Video analytics

New Products

- New product sentiment
- HD digital Cameras
- Analog video encoders
- Avigilon Control Centre
- LPR/NPR Model
- Customized accessories

Speed to Market

- Easy Installation
- Fewer cameras needed with ACC
- Access to sales channels

Competition

- Market expanding rapidly
- Highly fragmented market
 - Low barriers to entry
 - Low market concentration (small to medium sized players)
 - Compete on differentiation (niche market) & economies of scale
- Analog → HD digital Surveillance systems are major catalyst for growth.



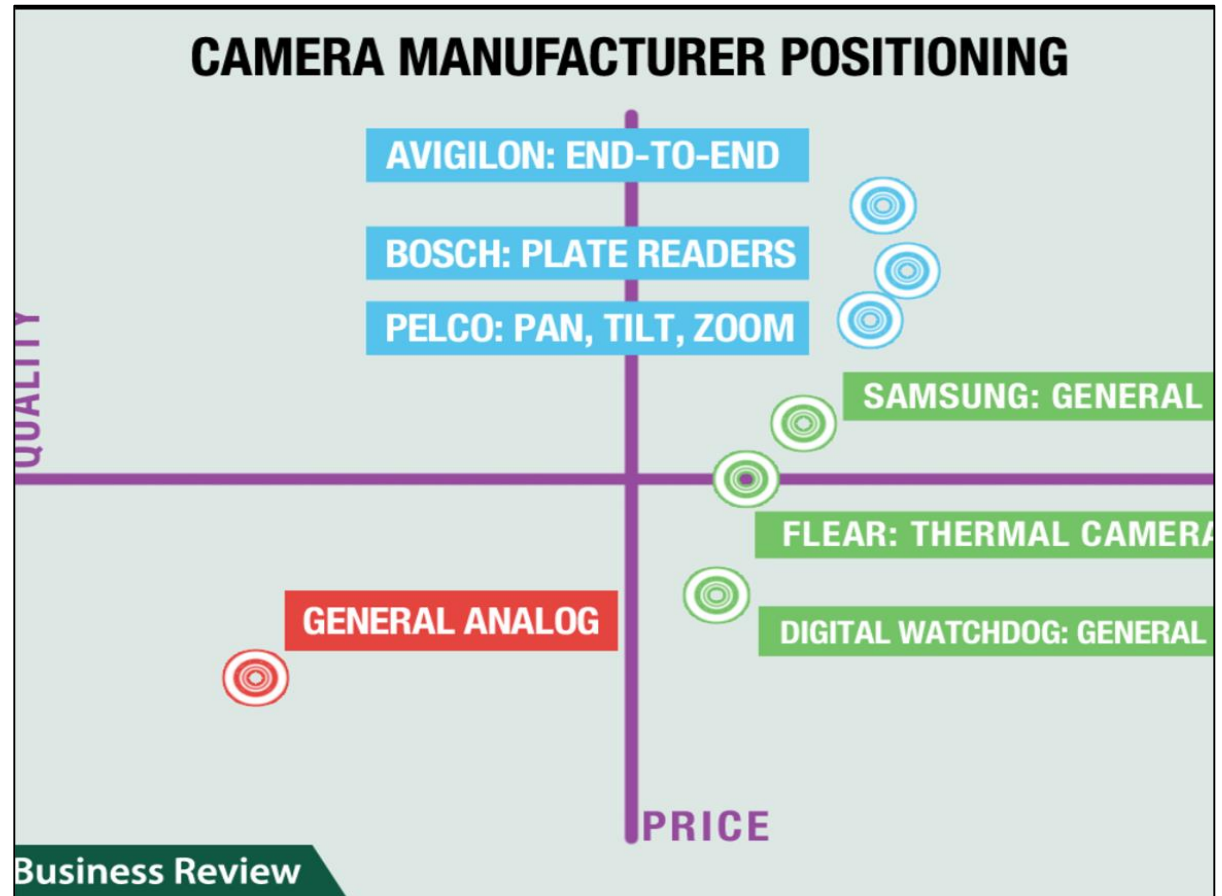
Major Competitors

Exhibit 11: Competing Products by Vendors

	VMS Entry level	VMS Enterprise	NVRS	Encoders	HD Cameras 3MP or less	HD Cameras > 3MP
AVIGILON	●	●	●	●	●	●
Arecont					●	●
Axis	●			●	●	●
Exacq	●	●	●			
Bosch		●	●	●	●	

Competition cont'd

- Bosch & Axis both have bigger R&D Budgets
- Avigilon lacks a *razor blade* business model



Industry Acquisitions

Exhibit 12: Recent Surveillance Transactions

Date	Acquiror	Target	Transaction Details
Dec-11	Infinova Ltd	March Networks	\$90mln (at ~0.5x sales)
Jan-08	March Networks	Cieffe SpA	\$29.7mln and up to \$14.8mln earn-out (at ~2x sales)
Aug-07	Schneider Electric	Pelco	USD\$1.2bln (at ~3x sales)
May-07	Cisco	BroadWare Technologies	Undisclosed
Mar-06	Cisco	Sypixx Networks	\$51mln

Current Issues

1. Management issues:

- CEO conflicting with management staff
- Departure of key executive members
- CFO Bradley Bardua's resignation sent shock waves through the market

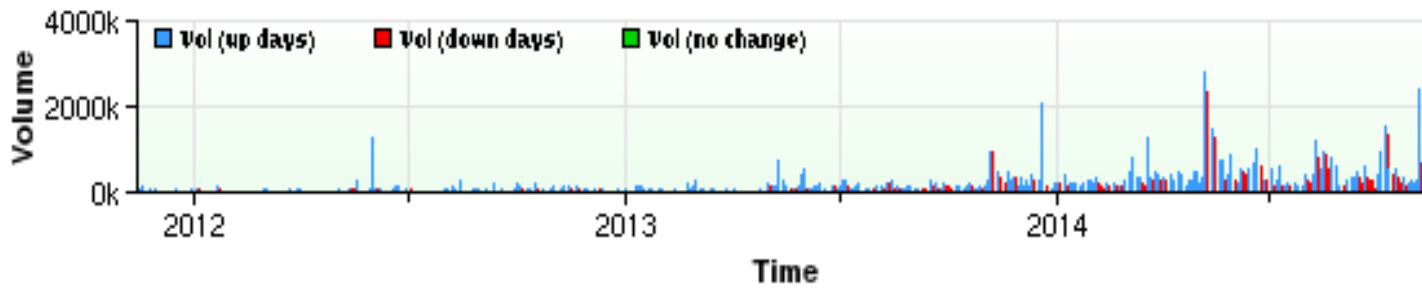
2. Stock Market performance:

- No dividends to shareholders
- Majority of revenues 'plowed back' into R&D innovation
- Fluctuating stock prices

Avigilon Corp Price (Canadian Dollar)



Low \$14.85
High \$34



Recommendations

- Ambidextrous (Explore & Exploit)
 1. Explore:
 - New markets, APAC (Asia Pacific), LATAM (Latin America)
 - Expand business development
 2. Exploit:
 - Speed, control and cost
 - Further potential alliances
- Increase Brand Awareness: Trade shows, marketing and strategic advertising
- Razor blade business model.

