

# The Future is Video Verification



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CEO of  
Radius Security**

# Agenda

- A. How can VAV make a difference for my business? Who is Radius?
- B. What is Video Verification
- C. Video Verification Bus. Models
- D. KPIs for Video Monitoring
- E. Financial Metrics for VAV
- F. Future of Alarm vs. Video Monitoring



## Does VAV make Traditional Alarms Obsolete?

- What is preventing my organization from embracing VAV vs. traditional monitoring?
- How might VAV change my relationship with my customers for the better?
- In the mind of your customer why are they installing a traditional alarm system? How does that change after a break-in and a significant loss has occurred?
- Could embracing VAV hurt my existing business?
- Would being a force multiplier for police change the perception of our industry to law enforcement?



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## A. Who is Radius?

- 1948 Based in Vancouver, a Fire Extinguisher Business
- 1982 Security Alarm Business started- rebranded Radius in 2008
- 2010 Opened Central Station – Bold, Immix
- 2011 1<sup>st</sup> RG car dealership
- 2012 1<sup>st</sup> RG construction site
- 2015 Expansion of RG to Alberta
- 2016 Expansion into Ontario
- We have 1-3 apprehension per night. We have 300 sites with 2000 cameras. We are the largest provider of video surveillance in Vancouver. We have no salespeople selling unverified systems.
- Our video surveillance RMR in 2016 grew 60% per annum and as of last month our video monitoring is at 325K per month. Our outdoor surveillance customers are 40% construction, 30% car dealerships, 30% are in several other sectors.
- I serve as co-chair on the TMA Managed Video Services Committee and am a Director on PPVAR “Partners for Priority Verified Alarm Response”, member of CACP – PSLC.



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## B. What is Video Verification?

- Crime in Progress Verification – (a) can verify that a human is present and (b) operator believes a crime has or is about to take place
- The method to perform the verification is not stated – could be video, audio, ...
- Leads to a 3 Level Threat Analysis – PPVAR BP on VAV: 1, 2, 3



1. That, a “Verified Alarm” shall be defined as an electronic security system event in which a trained central station operator utilizing a standardized protocol has determined the presence of human(s) and the high probability that a criminal offense is in progress.
2. That, a local enforcement department, officer or agency having the public safety/law enforcement jurisdiction to respond to “Verified Alarms” has the autonomy and authority to increase the priority of “Verified Alarm” calls in order to increase the probability of arresting criminal offenders and in reducing the probability of property loss.

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## B. What is NOT Verification?

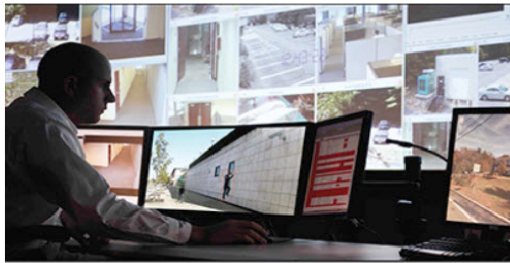
- ECV – Calling a person present on site would be verification, however, calling a person not on the site is not verification.
- Cross zoning – UK experience
- Multi-trip – cross zoning light



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## C. Video Verification Models

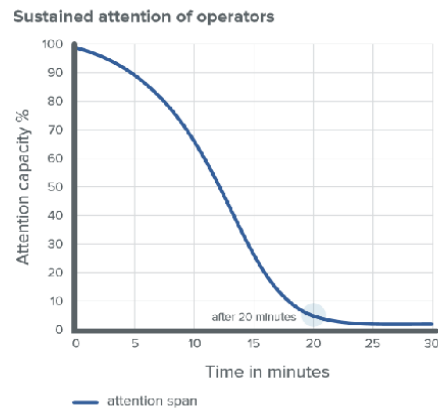
- Event vs. Live vs. Tours -
- Event Based Video Monitoring that are used for verification – (a) alarm system with a related camera system, (b) DVR/NVR video motion, (c) combo PIR/Camera, (d) video analytics
- Live Video – Wall of screens continuously on. Operator looking for suspicious activity.
- Video Tours – Cameras views are periodically switched to operator looking for suspicious activity



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## C. Video Verification Models

- Problems with Live View and Tours: Operator In-Attention and Misses
- Problems with Event Based Monitoring: Runaway False alarms, some applications won't work as anticipated, Time difference and FOV coverage between the device that triggered alert and the camera to verify the event



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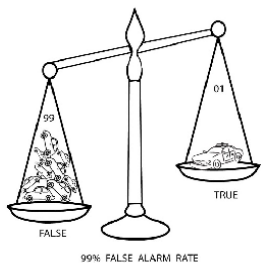
## D. Key Indicators



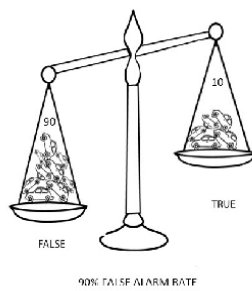
## D. Key Indicators - False Alarm Math

Q: How much better is a false alarm rate of 90% compared to a 99% rate?

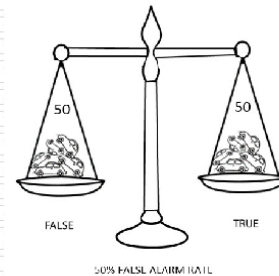
- A1. 1000% better   A2. 50% better   A3. 9% better   A4. None of the above



99% False =  
1% True



90% False =  
10% True



50% False =  
50% True



### D. Key Indicators – Incident Reports

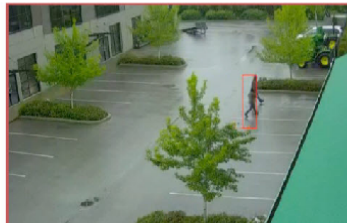
- Incident report on every police dispatch
- Include synopsis, pictures and dropbox video
- Forward to customer by 8am next bus day
- Forward to police upon request

From: [REDACTED]  
 Sent: April 24, 2016 3:00 AM  
 To: incidents Email Group  
 Subject: [REDACTED] Langley - APPREHENSION

By: [REDACTED] Langley  
 Summary: received alarm of two people trespassing through the parking lot and heading towards the building. They appeared on the other side where all the John Deere equipment were kept and that area was completely fenced off.

- Alarm time: 7:07am
- Location of Entry and camera activation: East side beside building from Ped 3 Cam 3
- SBA activated or Silent alarm: Silent
- Guard/Police disp: Yes Police at 7:00am
- Guard/Police arrived: approx 7:13am
- Where person/persons were last seen: Front entrance from PTZ
- Outcome: I immediately dispatched Langley RCMP to [REDACTED]. While on the phone with Police I was able to observe the two suspects trying to open the door to the building. They grabbed some tools and tried really hard to break through the door. One officer was prompt to attend and circle to the east side watching the suspects while he waited for backup. The suspects were able to open the door to go inside to look around. They set off the security account ([REDACTED]) while they went inside. Within a minute of them going inside the building, police went in to take them down. Police were able to apprehend the two suspects and handcuff them away. [REDACTED] (keyholder) was notified and he attended immediately. He appreciated the catch!
- Files: 2016-14160
- KH contact info and email address from Manitou: [REDACTED] E-Mail

Closing summary: My shift is over...I'll build the incident video later tonight!



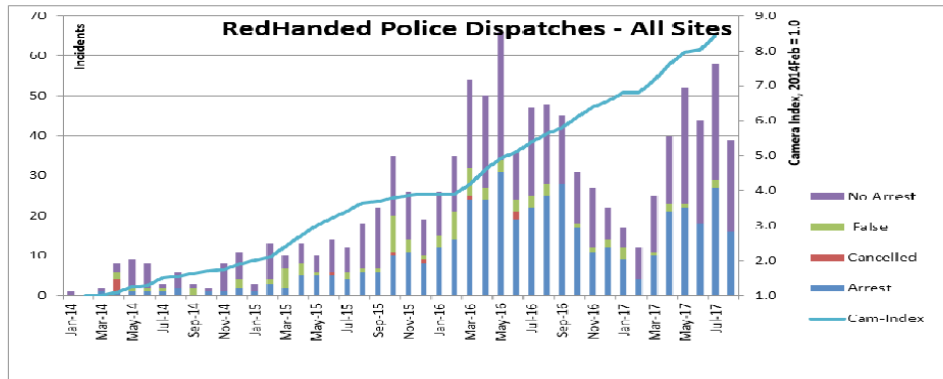
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### Apprehension - Video



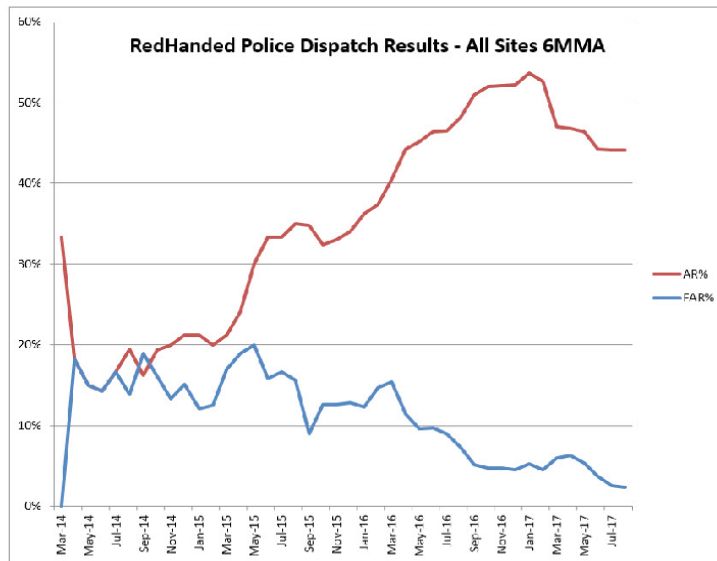
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## D. K.I. - Classify Police Dispatches



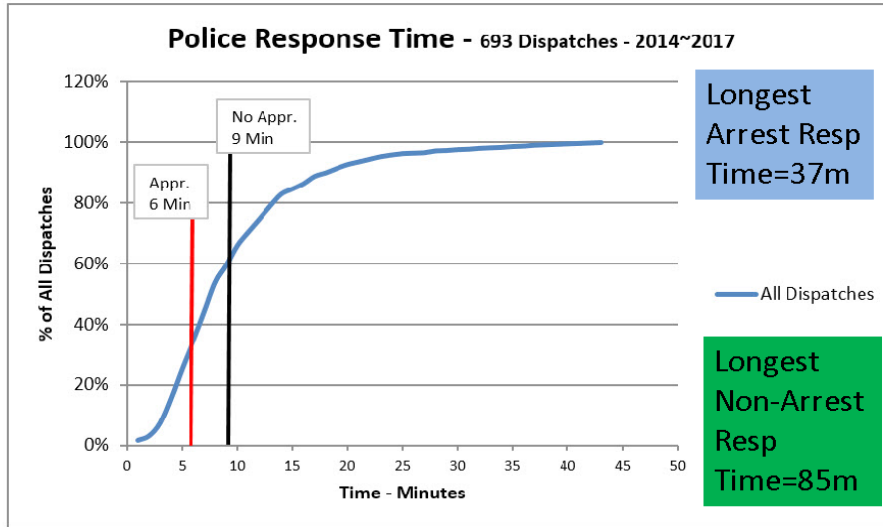
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## D. K.I. Measure AR%, FAR%



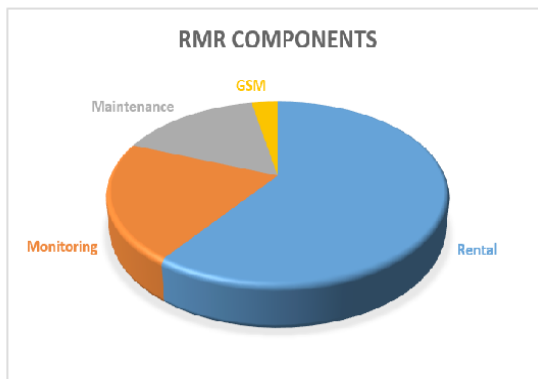
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## D. K.I. - Police Response Time



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## E. Financial Metrics



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## E. F.M. - Watch Your GSM Charges

Package:	Bronze	Silver	Gold	Platinum
Base	25	50	75	100
GB incl	0.5	3	5	10
\$/MB	0.1	0.1	0.1	0.1

GB	Bronze	Silver	Gold	Platinum
0.1	25	50	75	100
0.5	25	50	75	100
2	175	50	75	100
4	375	150	75	100
8	775	550	375	100
16	1575	1350	1175	700
32	3175	2950	2775	2300

### Factors that can Impact Profitability

- High Activity Sites
- Large Video Pulls (HD: 0.1GB/Hr)
- Customer Viewing over GSM
- Wrong Package Selection
- Alerts on Overage
- Admin is high, you should be getting 50% GP on GSM

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## E. Maintenance (What's included?)

### Factors that can Impact Profitability

- Contracts that clearly define what is included, what is extra
- Manage the work performed on tickets to track the labour and material
- Have standardized problem codes that coordinate with your included and extra charges
- Track the profitability of work covered by RMR separately from the profitability of work where extra charges apply
- This has high admin involvement, you should be making 50% GP on this work as your goal



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### E. Maintenance (What's included?)

Problem Code	May 1, 2017 - May 31, 2017			
	Count	Sales	Expenses	GP%
<b>Service Tickets with No Billing</b>				
S-RGD-MTI01 Monthly Maintenance RMR	107	42,737.40		
S-RG-10 Videofied System not Working	4		280.00	
S-RG-12 Alarms not being received				
S-RG-42 Programming Required	6		297.50	
S-RG-50 Video Loss/Scene Change alarm	13		1,904.97	
S-RG-60 Equipment Trouble	5		490.00	
S-RG-62 Relocate RG System				
S-RG-63 Extend/ Re-Aim Camera	5		849.48	
S-RG-64 Add Equipment	2		1,654.23	
S-RG-65 Remove Equipment	1		87.50	
S-RG-70 Video Retrieval Request				
S-RG-71 E-Care Failure on system	1		175.00	
S-RG-72 E-Care Failure on system	5		490.00	
S-RG-73 E-Care Internet				
S-RG-74 Missed Incident				
<b>TOTALS</b>	<b>67</b>	<b>42,737.40</b>	<b>16,459.78</b>	<b>61%</b>

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### E. Maintenance (What's included?)

Problem Code	May 1, 2017 - May 31, 2017			
	Count	Sales	Expenses	GP%
<b>Service Tickets with Billing</b>				
S-RG-10 Videofied System not Working				
S-RG-16 Battery AC Fail				
S-RG-22 RG Guard Dispatch	12	2,041.50	1,596.25	
S-RG-28 Clean, Defog, Weather solution needed	1	1,513.41	2,282.07	
S-RG-50 Video Loss				
S-RG-60 Equipment Trouble				
S-RG-62 Relocate RG System				
S-RG-63 Extend/Re-Aim Camera	3	2,441.10	574.97	
S-RG-64 Add Equipment				
S-RG-65 Remove Equipment	1	1,600.00	553.75	
S-RG-70 Video Retrieval Request				
S-RG-71 E-Care Failure on system				
S-RG-72 E-Care Failure on system				
<b>TOTALS</b>	<b>17</b>	<b>7,596.01</b>	<b>5,007.04</b>	<b>0.34</b>

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### E. Maintenance (What's included?)

Problem Code	May 1, 2017 - May 31, 2017			
	Count	Sales	Expenses	GP%
<b>Service Tickets still open</b>				
S-RG-10 Videofied System not working	2		-	
S-RG-12 Alarms not being Received	2		-	
S-RG-14 Alarms not being triggered				
S-RG-16 Battery/ AC Failure	2		-	
S-RG-20 IT Issue	18		140.00	
S-RG-24 RG Maintenance	13		4,654.00	
S RG 50 Video Loss/ Scene Change Alarm	8		769.05	
S-RG-60 Equipment Trouble	7		980.00	
S-RG-62 Relocate System	9		1,780.03	
S-RG-63 Extend/ Re-Aim Cam	3		-	
S-RG-64 Add Equipment	2		94.80	
S-RG-65 Remove Equipment	1		-	
S-RG-70 Video Retrieval				
S-RG-71 E-Care Failure on System (AC Trouble)				
S-RG-72 E-Care Equipment Trouble	1		210.00	
S-RG-73 E-Care Failure on System (Internet Trou	1		140.00	
S-RG-74 Missed Incident				
<b>TOTALS</b>	<b>73</b>		<b>8,767.88</b>	

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### E. Maintenance (What's included?)

Problem Code	May 1, 2017 - May 31, 2017			
	Count	Sales	Expenses	GP%
<b>Admin Hours: Admin, Training</b>				
		<Admin%, Training%, Mtg%>		
	13.00		455.00	
	2.50		87.50	
	0.75		26.25	
	4.50		157.50	
			-	
	88.00		3,080.00	
	3.50		122.50	
	2.00		70.00	
			-	
	1.50		52.50	
	4.25		148.75	
	7.00		245.00	
	-		-	
<b>TOTALS</b>	<b>127.00</b>		<b>4,445.00</b>	
WIP - Open Tickets Beg of Period - Deduct	73		(12,743.72)	
WIP - Open Tickets End of Period - Add	73		8,767.88	
No Billing Tickets Closed during Period	67	42,737.40	16,459.78	
Billed Tickets Closed during Period	17	7,596.01	5,007.04	
Admin Hours @35/hr			4,445.00	
		<b>50,333.41</b>	<b>21,935.98</b>	<b>56%</b>

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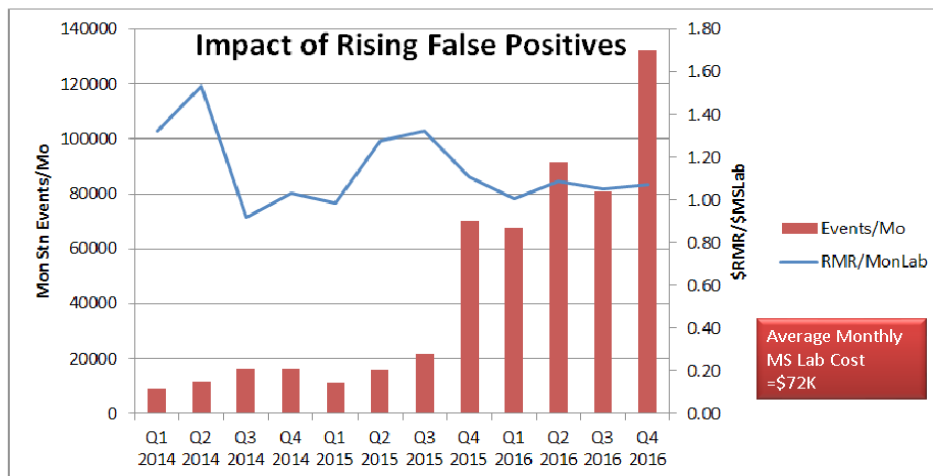
## E. Monitoring Profitability

- Types of occupancies attract more activity than others
- Define the types of false positives
- Initial system setup can have a big impact.
- Track your misses.



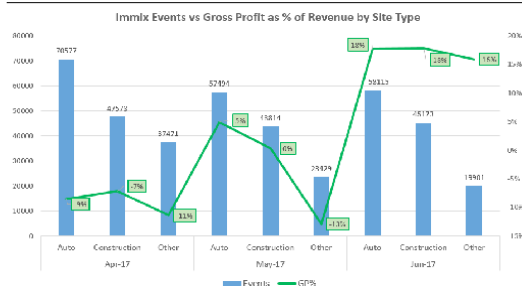
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## E. Monitoring - Managing False Positives



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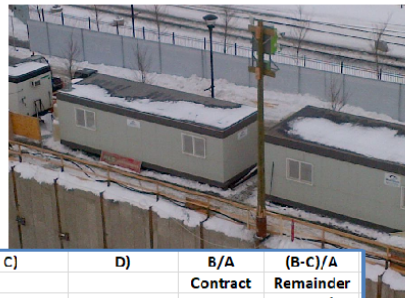
## E. Monitoring Profitability



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## E. Rental ROI

- Use a good job costing program
- Financing, capitalizing, amortization
- Track your C2C
- Temporary Sites will be problematic



	Site			A)	B)	C)	D)	B/A	(B-C)/A
Qty	Type	Start Mo	Terms	RMR Rental	Costs	Acc. Amort.	NEV	Contract Breakeven	Remainder Mth B/E
1	C	Apr-17	36	1,843.00	60,051.74	(41,292.42)	18,759.32	32.58	10.18
1	C	Apr-17	10	3,254.00	81,602.33	(48,960.89)	32,641.44	25.08	10.03
1	C	May-17	36	1,440.00	42,683.19	(1,422.78)	41,260.41	29.64	28.65
1	C	May-17	36	552.00	20,431.70	(2,922.36)	17,509.34	37.01	31.72
1	C	May-17	36	2,763.00	68,714.26	(2,290.48)	66,423.78	24.87	24.04
1	C	May-17	29	2,337.00	33,241.92	(1,108.06)	32,133.86	14.22	13.75
1	C	May-17	6	1,106.00	8,230.71	(274.36)	7,956.35	7.44	7.19
1	C	May-17	6	3,079.00	38,939.79	(969.90)	37,969.89	12.65	12.33
1	C	Jun-17	12	750.00	19,357.78	(322.63)	19,035.15	25.81	25.38
1	C	Jun-17	34	1,150.00	24,412.53	(406.88)	24,005.65	21.23	20.87
1	C	Jun-17	6	503.00	9,354.54	(155.91)	9,198.63	18.60	18.29
				174,529.06	4,895,776.58	(2,222,737.35)	2,673,039.24	28.05	15.32

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## E. RMR Attrition Analysis

- Adds and Cancels separate
- Start + Adds – Cancels = End of Month
- Define how you calculate attrition.
- Use rolling 12 months
- Is 28%~40% a problem?

	All RMR				
	Start Mon	Adds	Cancels	End Mon	Attr.%
<b>Based on Monthly Active sites</b>					
Dec-15	151,707.88	1,387.00	(1,926.50)	151,168.38	-
Jan-16	151,168.38	5,396.00	(4,978.24)	151,586.14	
Feb-16	151,586.14	8,388.00	(8,030.08)	151,944.05	30%
Mar-16	151,944.06	9,358.00	-	161,302.05	30%
Apr-16	161,302.06	10,251.00	(5,053.36)	166,499.10	32%
Oct-16	214,590.49	18,158.44	(12,868.31)	219,980.02	39%
Nov-16	219,980.02	11,863.00	0.00	231,843.02	35%
Dec-16	231,843.02	7,510.00	(2,442.00)	236,911.02	36%
Jan-17	236,911.02	7,147.00	(0.10)	244,057.92	34%
Feb-17	244,057.92	14,558.50	(19,205.54)	239,410.88	40%
Mar-17	239,410.88	19,578.76	-	258,989.64	37%
Apr-17	258,989.64	15,539.00	-	274,528.64	33%
May-17	274,528.64	14,266.00	(0.00)	288,794.64	29%
Jun-17	288,794.64	11,425.30	(7,233.00)	292,990.94	28%
Jul-17					

**Attrition% = 12M Cancels/ Start (12months ago)**

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## E. RMR Attrition Analysis

- Review your Attrition rate for Temporary vs Permanent Sites

Construction RMR					
	Start Mon	Adds	Cancels	End Mon	Attr.%
Dec-15	90627	0	(1,927)	88700	
Jan-16	88700	2560	(4,078)	86282.4	
Feb-16	86282.4	8388	(8,030)	86640.32	60%
Mar-16	86640.32	0	-	86640.32	49%
Apr-16	86640.32	10251	(5,054)	91837.36	53%
Oct-16	110060.75	13036	(12,869)	110227.84	62%
Nov-16	110227.84	3600	-	113827.84	57%
Dec-16	113827.84	0	(2,442)	111385.84	59%
Jan-17	111385.84	3414	-	114799.84	55%
Feb-17	114799.84	11780	(10,908)	109672.3	65%
Mar-17	109672.3	4519	-	114191.3	65%
Apr-17	114191.3	9134	-	123325.3	55%
May-17	123325.3	12499	(0)	135824.3	53%
Jun-17	135824.3	10004.3	(7,233)	138595.0	52%
Jul-17					

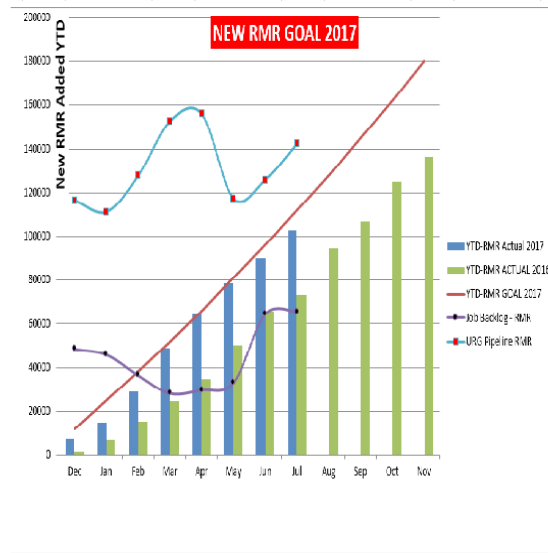
	Permanent RMR				
	Start Mon	Adds	Cancels	End Mon	Attr.%
Dec-15	61081	1387	-	62468	
Jan-16	62468	2836	(0)	65303.74	
Feb-16	65303.74	0	-	65303.74	0%
Mar-16	65303.74	3358	-	74661.74	0%
Apr-16	74661.74	0	-	74661.74	0%
Oct-16	104629.74	5122.44	-	109752.18	4%
Nov-16	109752.18	4261	0	114013.18	4%
Dec-16	114013.18	7510	-	121523.18	3%
Jan-17	121523.18	3733	(0)	125256.08	3%
Feb-17	125256.08	2799.5	(2,239)	129785.58	7%
Mar-17	129785.58	15059.76	-	144798.34	6%
Apr-17	144798.34	6105	-	151203.34	6%
May-17	151203.34	1767	-	152970.34	5%
Jun-17	152970.34	1425	-	154395.34	5%
Jul-17					

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## E. Budgets and Goals

- Create monthly and annual budgets
- Track WIP
- Track Sales Pipeline



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## F. The Future of Traditional and VAV

- TMA: ASAP customer may be the loser
- Video feed direct to police
- Fining the Monitoring Station
- DIY and Next Gen
- VAV for residential users will be DIY play only
- DIY/ MIY lower false alarm rates
- Large players and VAV



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