TMA-AVS-01 Scoring Standards Committee

Alarm Validation Scoring Kickoff Presentation

Mark McCall
Stanley Security, Chair
David Holl
Lower Allen Township, Co-Chair
Larry Folsom
I-View Now/ADT, Co-Chair
Larry Dischert
LRD Consulting, Recording Secretary

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Agenda

September 10th 2020 – Kickoff Meeting

- Anti-trust Statement
- Housekeeping
- Schedule for upcoming calls
  - 9/10, 4:30E/1:30P
    - Kickoff Call
  - 9/17, 4:30E/1:30P
    - Review TMA/PPVAR Scoring Overview Whitepaper
    - Review working draft document for standard
    - Discuss upcoming schedules/calls and initial tasks/assignments
- Committee Makeup
- TMA-AVS-01 Overview
- Public Safety Presentation
  - Why a Scoring Standard is important to Public Safety
- MCP Presentation
  - Injury Severity Prediction Model used by OnStar – How it relates

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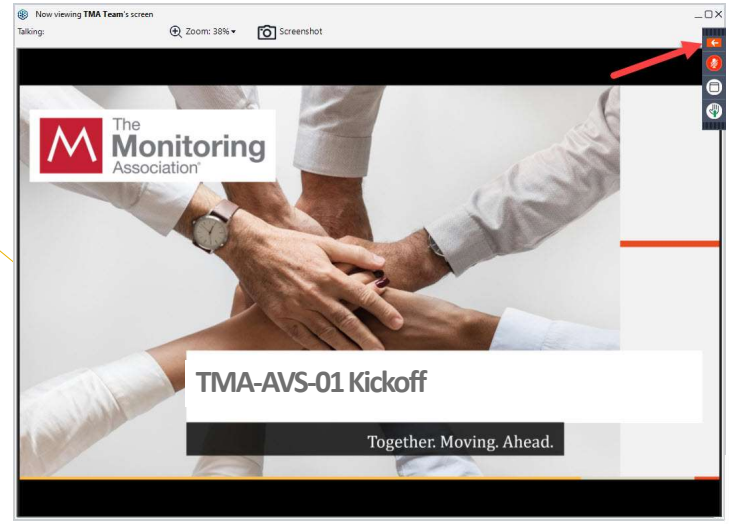
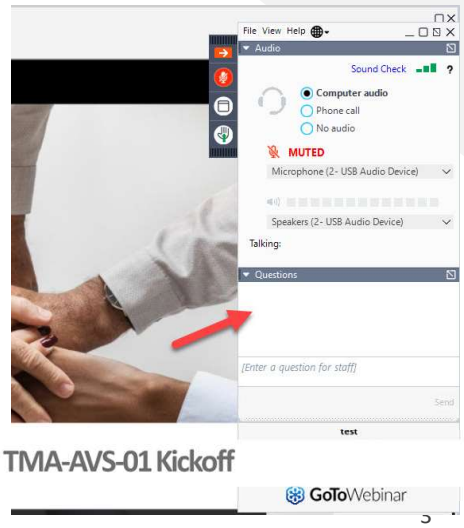
Housekeeping

September 10th 2020 – Kickoff Meeting





Committee Makeup

Alarm Industry Member Name and Affiliations

Name	Company		Name	Company
Anita Ostrowski	Vector Security, Inc.		Morgan Hertel	Rapid Response Monitoring
Anthony Iannone	Affiliated Monitoring		Noe Avalos	G4S Secure Integration
Anthony Sharpy	Guardian Alarm		Sean Githens	Redwire
Chris Newhook	American Alarm and Communications, Inc.		Shane M. Clary, Ph.D.	Bay Alarm Company
JoeAllen Gentry	Washington Alarm Inc		Stan Martin	SIAC
Joey Rao-Russell	Kimberlite		Steve Butkovich	CPI Security Systems
Larry Robert Dischert	LRD Consulting-JCI/Tyco		Suzie Nye	AvantGuard Monitoring Center
Lucinda Guerrero	Bay Alarm Company		Teresa Gonzalez	Lydia Security Monitoring, Inc. dba: COPS & UCC
Mark E McCall (Chair)	**Stanley Security**		Thomas Nakatani	ADT

Committee Makeup

Manufacture/Software/Service Providers Member Name and Affiliations

Name	Company		Name	Company
Alison Chase	Alarm.com		Randall Gellens	Core Technology Consulting
Bob Finocchioli	Evolon		Rick Denos	MAS
Chris Brown	Immix		Ryan Fouts	RapidDeploy
John Romanowich	SightLogix		Sascha Kylau	OneTel
Jon Adams	Digital Monitoring Products		Stephen Aponte	Resideo Technologies, Inc.
Kevin Stadler	Evolon Technology		Stephen Tapper	Immix Software (Formerly SureView Systems)
Larry Folsom (Co-Chair)	**I-View Now**		Thom Meyer	Bold Group
Mark Skeen	JCI/Qolsys		Tim Tracy	Resideo Technologies, Inc.

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Committee Makeup

Public Safety Member Name and Affiliations

NRTL and Specialty Experts Member Name and Affiliations

Name	Company		Name	Company
Andy King	City of Franklin Fire Department		Nicola Tidey	Mission Critical Partners, Inc.
David Holl (Co-Chair)	**Lower Allen Dept of Public Safety**		Kirk MacDowell	MacGuard Security Advisors Inc
Frank Fernandez	Miami Police (Ret.) Reserve Officer		Sam Bauder	Intrado
Jay English	APCO		Steve Schmit	UL LLC
Michael Brown	National Sheriffs Association			
Tony Dunsworth	City of Alexandria			

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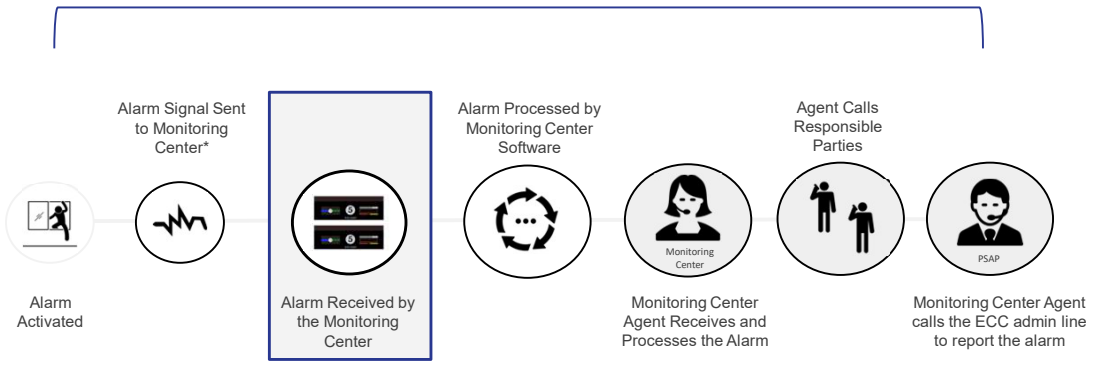
TMA-AVS-01 Overview

Standard Monitoring Center Workflow



TMA-AVS-01 Overview

OnStar Model

Advanced Automatic Collision Notification (AACN) to ECC/PSAP Workflow

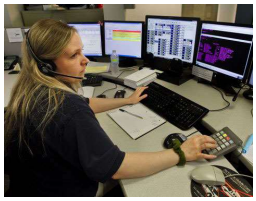
AACN-equipped vehicle

voice comms

VEDS

Telematics Service Provider (TSP) call center

voice comms ONLY



911 Emergency Communications Center (ECC)

- Upon crash, vehicle initiates a wireless call to the TSP, transmits VEDS data
- TSP assesses the situation, predicts injury severity, notifies 911 by phone
- TSP operator verbally transmits select data to the 911 call taker
- 911 continues caller interrogation, uses CAD to dispatch responders

TMA-AVS-01 Overview

Potential Data Sources

Panel Data
- Any burglar alarm
- Multiple trips same zone
- Multiple trips different zone
- Recent closing/opening
- Perimeter alarm
- Interior alarm
- Perimeter, followed by Int
- Glass break
- Smoke alarm
- Schedule exceptions
- Abort/cancel
- Time of event

Video Data
- People seen
- People have weapons
- People have burglary tools
- Vehicles seen, recognized or not
- License Plate Readers, unknown plate
- People remaining, loitering
- Vandalized property
- Severe weather seen
- Smoke/Fire

Audio Data
- Weather heard, thunder, etc.
- Breaking or destruction
- Voices heard
- Elevated conversation heard
- No audio
- Audio of activity (walking, doors, etc.)

Personal Data
- Occupants phones not on site
- Occupants phone on site at alarm
- Other phones (keyholder list) on site at alarm
- GPS shows occupants not home
- GPS show occupants at home
- Event initiated
- Event confirmed
- Other end user/customer input

Other Data Source
- Twitter, Nextdoor, etc. (social media) feeds with key word
- RSS feeds, utility companies, etc.
- PD alerts, broadcasts live
- Crime reports
- Crime index for location
- Customer specific/environmental
- Predictive analytics, fire equipment fails
- Floor plans

Biometric Data
- Facial recognition, friend seen
- Facial recognition, foe seen
- Facial recognition, no match
- Voice match, friend
- Voice match foe
- Voice match unknown

Environmental Data
- Weather harsh
- Weather good
- Interior temperature normal
- Interior temperature high/low
- CO level high
- CO level normal
- Power outage

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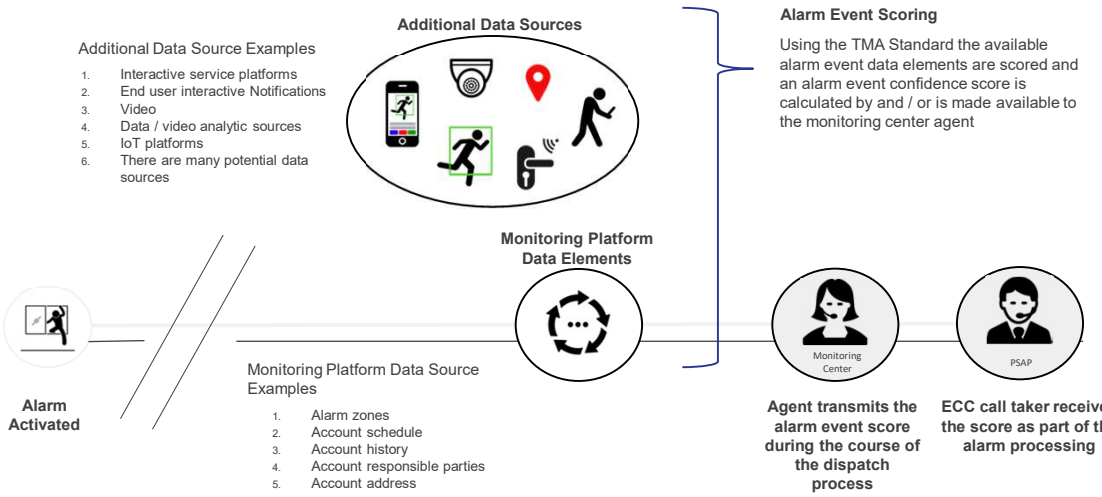
TMA-AVS-01 Overview

Adding Alarm Event Scoring to Alarm Agent Workflow



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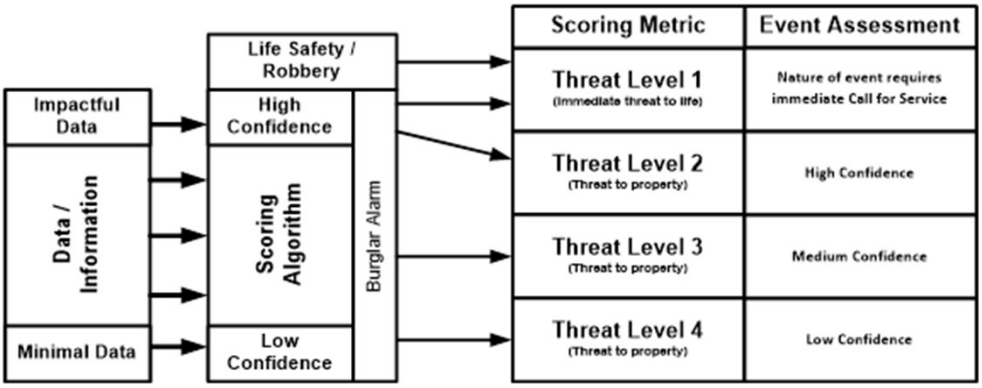
Threat Level Determination



For illustration purposes only

Standards committee to define terminology, Scoring metric methodology, actual number of event assessment levels , etc.

TMA-AVS-01 Scoring Standards Committee

Public Safety

Why a Scoring Standard is important to Public Safety

David Holl

Lower Allen Dept of Public Safety

Jay English

APCO (Association of Public-Safety Communications Officials)

Frank Fernandez

Miami Police (Ret.) Reserve Officer

Dave Holl

Background in Brief

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Public Safety

WHY this standard is critical!

- Life safety for owners and occupants – Both commercial and residential
- Officer Safety Enhanced – Prearrival Info
- Situational Awareness - Ongoing Updates
- Response Intel - Verified and Validated
- Response Logistics
- Enhanced Apprehension Potential

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Yamaha Burglary – Real Case Study

FR

- Call Received by Alarm Company (Unknown time)
- Alarm Company notifies Emergency Communications Center (ECC) (0320 hrs.)
- ECC dispatched to police as general nonspecific alarm – no additional information provided (0327 hrs.)
- Police arrive and find no vehicles on premise with front door glass shattered (0332 hrs.)
- Video on premise hard drive storage only – not transmitted/streamed to Alarm Company
- Owner arrives on premise and officers view video from back office - officer realizes…
- While responding, she passed the white car and pick up with trailer not realizing it was the suspects leaving the burglary scene
- Suspect vehicles freely leave area southbound on Interstate 83 to Baltimore
- Motorcycles never recovered, no one arrested, and burglary never solved

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Yamaha Burglary – 9 motorcycles removed in 00:02:50

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Yamaha Burglary – Replay with standards-based protocols

FR

- Call Received by Alarm Company (Unknown time)
- Alarm Company notifies ECC of active video verified burglary (High score: Threat to Property) (0320 hrs.)
- ECC dispatches alarm to police with standards-based protocols by 0321 hrs.
- Advising of the white car and pickup pulling a trailer involved and leaving scene.
- While responding, police officer passes the white car and pick up with trailer observed at the scene and leaving by the alarm company.
- Officer does a U-turn, requests backup for a felony stop of suspect vehicles.
- Additional officers respond to scene and physically verify business entry and thefts.
- Motorcycles all recovered, perpetrators arrested, and burglary solved.
- Alarm company, ECC, and police officers working together in a collaborative partnership!

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Jay English

Background in Brief

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Audible Alarm, perimeter sensor tripped, pawn store

- Dispatched Standard Code-2 call, two units.
- Time was some time after midnight.
- Secondary unit arrives at same time as primary.
- On arrival ECC advised units on scene and will be checking the front door and advise the address appears to be a gun store, not a pawn store.
- Before the officers get very far from their cars, dispatch advises to stand by.
- The ECC has re-contacted the alarm company who confirms this is a gun store, and that this gun store also deals in high- powered weapons.
- The ECC has now now received information from the alarm company that it appears to be an interior trip, not an exterior trip. Almost immediately, the ECC advises officers that they are now being told that there are multiple interior trips and that they are to stand by and "do not approach".
- As the officers are standing by, dispatch initiates the alert tones (we referred to them as the hot tones) and sounds three loud beeps on the radio.
- They then advise the entire sector that 4-Adam 81 and 4-Adam 83 are on scene of a gun store burglary in progress, and that the alarm company is indicating that the suspects have breached the inner perimeter of the high-powered, and semi automatic weapons vault, and the alarm company is stating there is also a ceiling sensor "trip", and the suspects may be in the ceiling of the multi-unit shopping center the gun store is located in.
- We are ordered to quad off the entire shopping center and wait for additional units.

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High Risk Pawn Store Burglary

- This is just an example of how a standardize approach to alarms will help the alarm companies ask the right questions, and make the right determination as to what type of call and situation they are relaying to ECCs.
- Also, how ECCs can do the same in asking the right questions of the alarm companies, based on this standardized, prioritized approach being proposed by the working group.
- Standardization, uniform interrogation based on it, and a clear understating of what the priority levels mean, on both sides of this equation, will result in better information to responders, hopefully BEFORE they arrive on scene, and will enhance both situational awareness and officer safety.

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Problem to be Solved

- There is not a **Standard** on how the myriad of Alarm Companies across the nation provide information to the Emergency Communication Centers (ECCs) regarding alarm information and severity of alarms received.
- An alarm is not just an alarm. It has many intricacies and complexities, which can mean life or death to occupants and to responding officers.
- **Standard** protocols that can be implemented to provide timely information to responding officers is ESSENTIAL!
- **Standards** that can be trained and implemented in alarm company central stations and ECCs and police academies across the country are critical!
- Public Safety is in need of this, and has been, for many, many years.
- We have the opportunity to create a new paradigm and public-private PARTNERSHIP!

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COMMENTS
Frank Fernandez & Bob Finney III
Chief of Police & ECC Director

Backgrounds Brief

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TMA-AVS-01 Scoring Standards Committee

MissionCriticalPartners

Nicola C. Tidey, RPL, ENP
Communication consultant

As a former ECC/PSAP Director

20 years volunteering as a firefighter/EMT

Major contributor to APCO standards, chairing various standards development committees as well as being a trained occupational and process facilitator.

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Improving Car Crash Outcomes

Advanced Automatic Collision Notification (AACN)

- Vehicle Emergency Data Set (VEDS)
- Primary data elements:
  - Delta V (maximum change in velocity)
  - Principal direction of force (PDOF)
  - Seatbelt usage (potential ejection)
  - Crash with multiple impacts
  - Rollover status
  - Vehicle type / description / location

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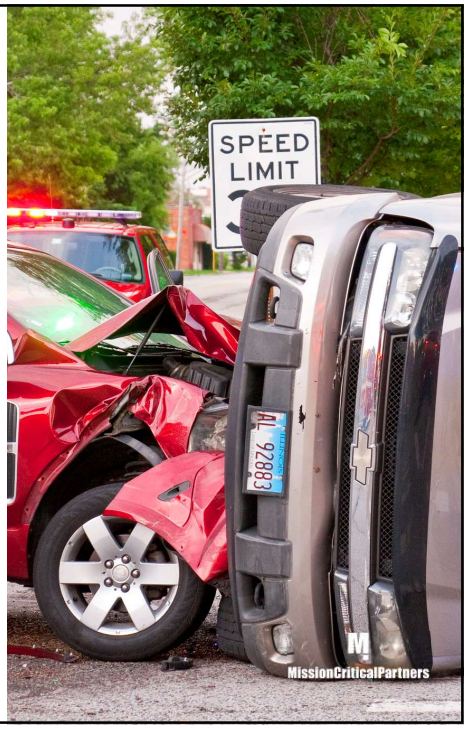
Using Data to Effect Response

AACN provides foundation for decision schemes:

- Computer aided dispatch (CAD) incident type code
- Incident location / responder agencies
- Quantity and types of first responder resources to dispatch (basic / advanced life support, heavy rescue, air ambulance, etc.)
- Local and regional field triage protocols
- Hospital transport destination (trauma center vs. non-trauma center)



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Predicting Injury Severity

A decade of data from **National Automotive Sampling System Crashworthiness Data System** (NASS CDS) used to create and validate the **Injury Severity Prediction** algorithm

Examples:

Criteria	Data
Delta V	12 MPH
Seatbelts	In Use
Multiple Impacts	NO
Rollover	NO
Injury Severity	**NORMAL**

Criteria	Data
Delta V	35 MPH
Seatbelts	Not in use
Multiple Impacts	YES
Rollover	YES
Injury Severity	**HIGH**

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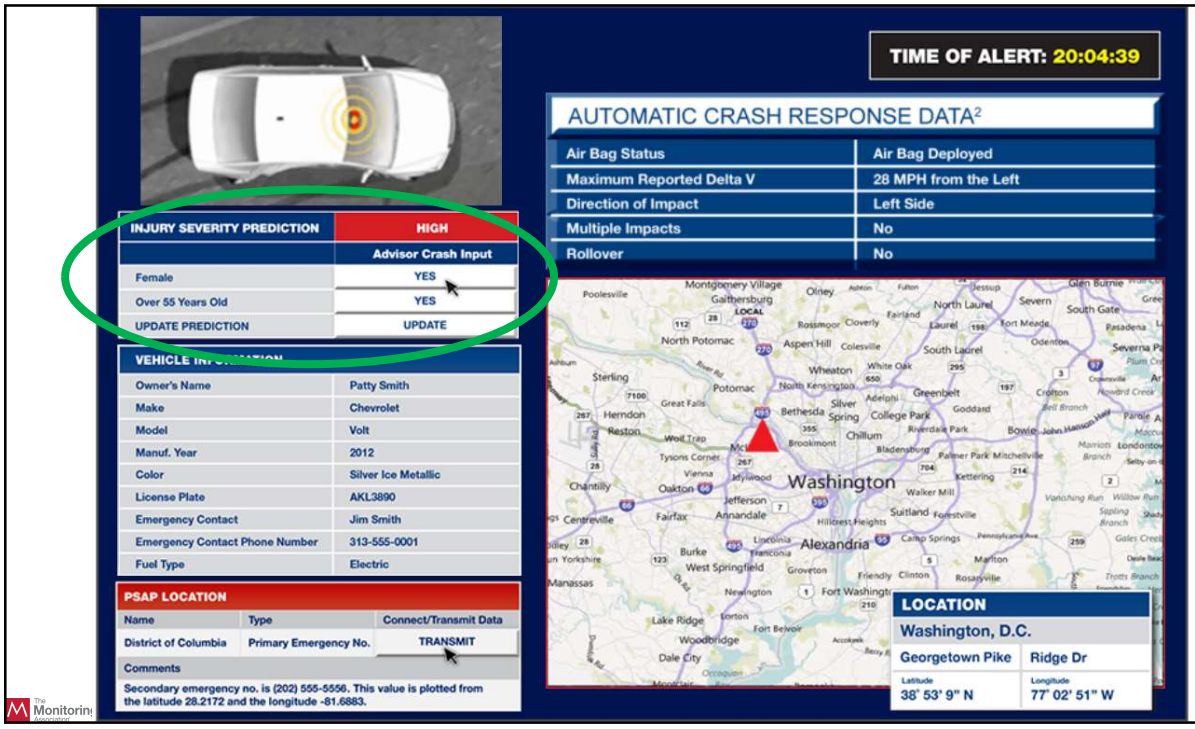

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AACN to PSAP Workflow (Today)

AACN-equipped vehicle | **Telematics Service Provider (TSP) call center** | **911 Emergency Communications Center (ECC)**

- Upon crash, vehicle initiates a wireless call to the TSP, transmits VEDS data
- TSP assesses the situation, predicts injury severity, notifies 911 by phone
- TSP operator verbally transmits select data to the 911 calltaker
- 911 continues caller interrogation, uses CAD to dispatch responders

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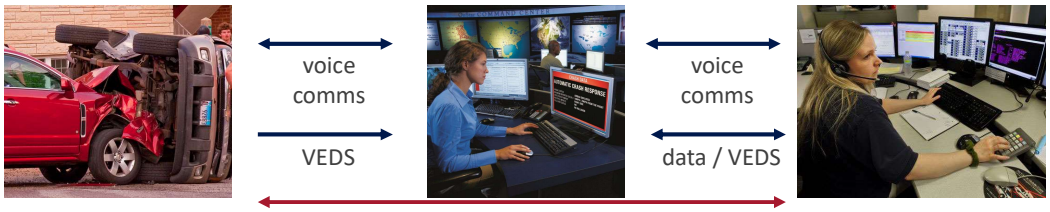
AACN to PSAP Workflow (Next Generation 911)



AACN-equipped vehicle | **Telematics Service Provider (TSP) call center** | **911 Emergency Communications Center (ECC)**

- Upon crash, vehicle initiates a wireless call to the TSP, transmits VEDS data
- TSP assesses the situation, predicts injury severity, notifies 911 electronically
- VEDS data is automatically shared with 911 (potentially bypassing the TSP)
- 911 continues caller interrogation, uses CAD to dispatch responders
- VEDS data is shared electronically with responders

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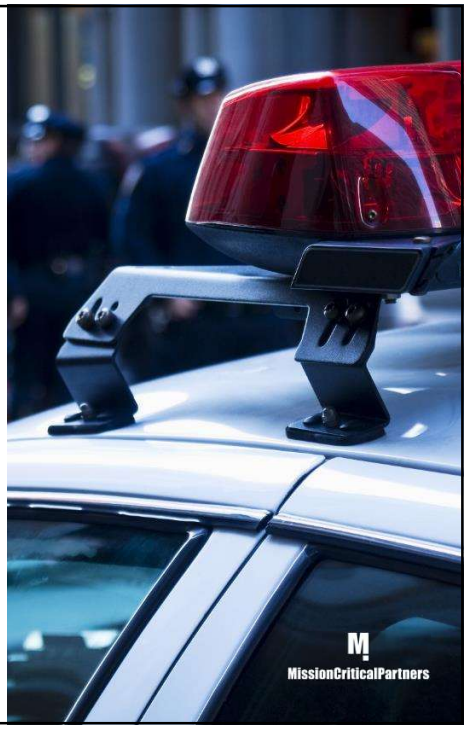
Alarm Industry Opportunity

- Use predictive analytics to establish, validate, and constantly improve a scoring model for alarm data

Criteria	Data
Temp Sensor	140° F
Video	Fire visible
Multiple Alarms	3 interior
Location	Commercial
Status	VERIFIED

Criteria	Data
Temp Sensor	76° F
Video	Nothing seen
Multiple Alarms	NO
Location	Residential
Status	Low Priority



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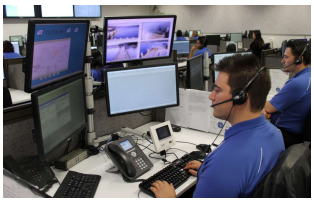
ASAP to PSAP Workflow (Next Generation 911)

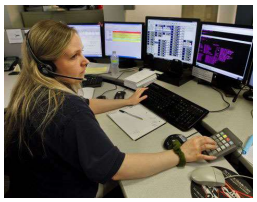
fire alarm system

alarm data →



alarm subscriber monitoring center

← alarm data via ASAP →



911 Emergency Communications Center (ECC)

- Upon alarm activation, alarm data is transmitted to alarm monitoring center
- Alarm company verifies alarm, notifies 911 electronically using ASAP-to-PSAP
- Alarm data with high priority verification score is automatically entered into CAD and responders are dispatched with high priority
- Alarm data affecting verification score is shared electronically w/ responders

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Q&A and Next Call

September 10th 2020 – Kickoff Meeting

- September 17th, 4:30PM Est/1:30PM Pst
  - Deep Dive into TMA/PPVAR Scoring Overview Whitepaper
  - Review working draft document for standard
  - Discuss upcoming schedules/calls and initial tasks/assignments

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