

Trace Detection and Metadata

ADSA18

Advanced Development for Security Applications (ADSA)
Workshop 18: Collection and Use of Metadata for Improving
Aviation Security Systems

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May 16, 2018

So what? Who cares? (AKA “the Crawford compulsory”)

- What space/topic/area is being addressed?

I am addressing the use of trace detection in all relevant areas where it is used

- What topic/issue/problem have you solved?

Nothing has been solved. This presentation opens up a dialog related to the potential use of metadata to enhance the decision making from trace detection

- So what? Who cares? Why should TSA, DHS and the audience care about your solution?

Everyone should care: TSA, DHS, passengers, the airline industry. A better understanding of screening paradigms and clearer risk based decisions would be a benefit to all

Metadata is "data that provides information about other data"

What does that mean for trace detection?

- Temporal (time, date)
 - e.g. 9/11, 4/19, 4/20
 - end of shift
- Environmental (temperature, humidity)
 - Factors that impact sampling and instrument performance
- Sampling location
 - Handles of luggage vs. side, person hands vs. shoes vs. items in pocket
- Sampler/operator
 - Performance variabilities
- Instrument metrics
 - Samples in past hour, RIP intensity



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Metadata usage



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- Can we legally save metadata from screening activities?
- Can we save passenger information related to screening? (e.g. alarms)
- How do we collect, store, analyze? (and pay for it)
- Past work on contamination studies have shown that there is potential value here
- How do we assess some factors that are important, but hard to quantify (e.g. screener sampling performance)?
- Some metadata is low hanging fruit (e.g. instrument performance)
- Would be useful not just in assessing past performance, but can be used to assess new instruments and CONOPS against baseline
- Large dataset collection and extensive analytics would likely be critical to enable value – is it worth the cost/effort?
- Can this data, if stored and properly analyzed, be used to add meaningful risk based decisions to trace based screening?