

# Risk Based Passenger Screening in Aviation Security

Implications and Variants  
of a New Paradigm

*Sebastian Volkmann*

Albert-Ludwigs-Universität Freiburg

Centre for Security and Society  
Husserl Archive



UNI  
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# Outline of the presentation



1. The traditional screening paradigm
  - Two functions of passenger screening
  - Undifferentiated screening and alarm resolution
2. Risk Based Screening (RBS) as a new paradigm
  - Security/cost/privacy trade-off
  - Three versions of Risk Based Screening
3. Identification of ethical and societal risks
  - Likely trade-offs in Risk Based Screening

# Conceptualizing passenger screening



- Goal of passenger security screening:
  - Prevent potential attackers amongst the passengers from bringing tools and means with them that allow attacking an airplane
    - Bombing
    - Hijacking
- Two main functions of security screening:
  1. Access control
  2. Revelatory function

# Conceptualizing passenger screening



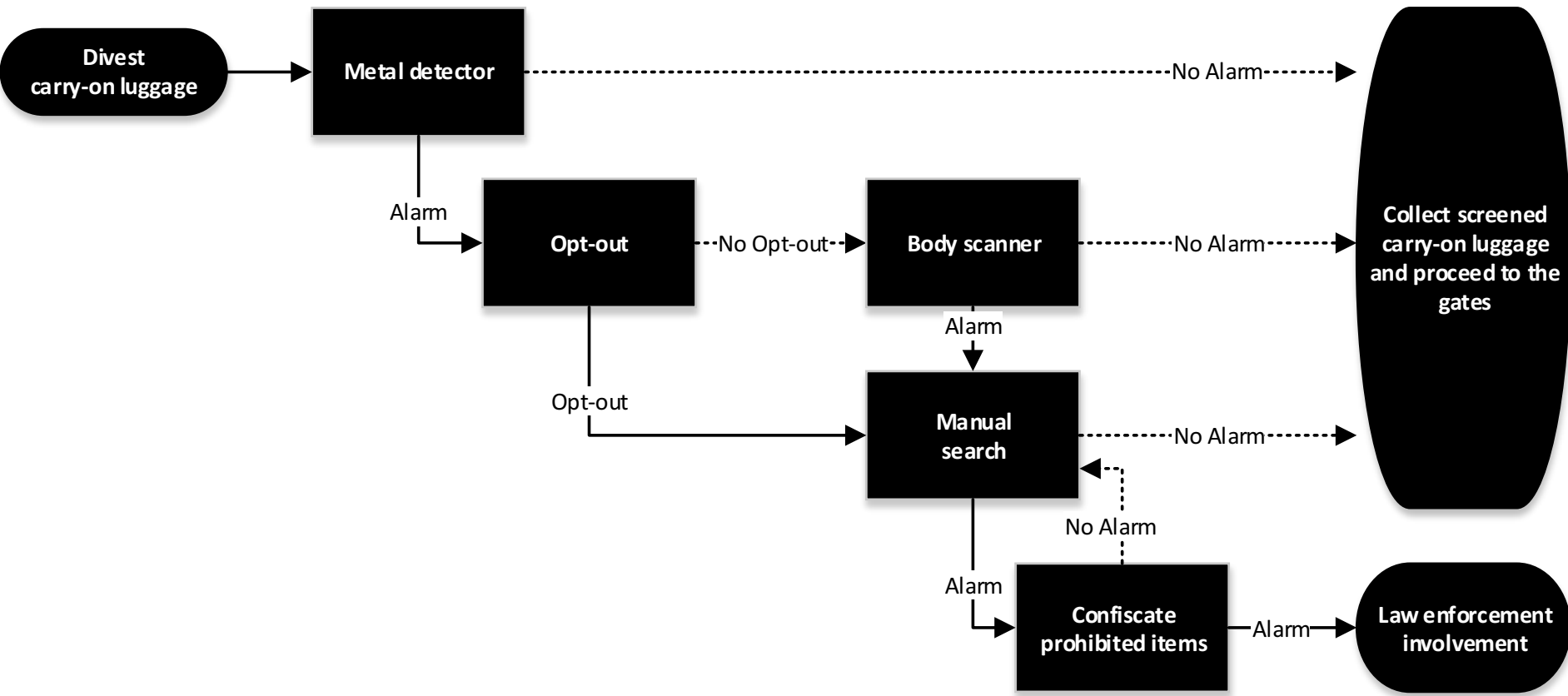
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# Traditional screening paradigm



- Primary screening measures
- Secondary screening for “alarm resolution”
- Also random alarms in some countries
- Undifferentiated screening:
  1. Screening independent from passengers’ identity
  2. All “paths” look the same (with some exceptions)

# Alarm/alarm-resolution logic



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# Security/cost/privacy trade-off



- Typical trade-offs
  - Security provision
  - Costs and customer satisfaction
  - Impact on the passengers' privacy and other ethical aspects



# Risk based screening paradigm



- Proposed changes in the screening approach
  - IATA: “more security, lower costs, less intrusive”
  - Don’t always screen passengers the same way
  - Differentiate screening according to risk data
  - Use resources more effectively

# Risk based screening paradigm



- Three versions of the new paradigm, as promoted e.g. by IATA, US TSA, UK DfT, NL
  1. Circumstantial Risk Based Screening
    - non-passenger-related data identifies a subset of flights that pose a higher risk of being attacked
  2. Passenger profiling using external risk data
    - IATA: “Screen different passengers in different ways”*
    - Intelligence services provide lists
    - Passengers are matched at the airport for low or high risk categories
  3. Behavioral analysis of passengers
    - Behavioral detection officers use “confidential” method to assess “behavioral cues” of deception

# IATA's Checkpoint of the Future



Image removed due to copyright reasons

IATA's three tunnel concept

Source: <http://www.dailymail.co.uk/travel/article-2046416/Airport-security-Body-scanner-future-unveiled.html>



Image removed due to copyright reasons

TSA Pre for passengers with background checks

<http://www.nbc4i.com/story/24033201/port-columbus-introduces-program-to-expedite-security-process>

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# XP-DITE's typology of ethical risks



Risk Categories	Privacy intrusion	Error and Discrimination	Restrictiveness
<b>Types of risks</b>	<b>Bags, pockets, luggage</b>	<b>Alternative screening</b>	<b>Restriction of free movement</b>
	<b>Body</b>	<b>False alarms</b>	<b>Lack of accountability</b>
	<b>Private life</b>	<b>False or incomplete external data</b>	<b>Misuse of data</b>
	<b>Disclosure to others</b>	<b>Affecting non-travellers</b>	<b>Lack of transparency</b>

*Please note: (1) In XP-DITE, research on RBS as such is out of scope, but the concepts developed remain applicable even with introduction of RBS; (2) XP-DITE's risk typology draws from DETECTER's table of relative moral risks.*

# Likely ethical trade-offs with RBS



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# Summary of likely ethical trade-offs



- Likely ethical benefits of passenger profiling
  - Less overall impact on passengers privacy
  - Less impact on freedom of movement
- Likely negative ethical impact
  - Deliberate difference in distribution of impact
  - Less accountability and transparency in screening mechanisms due to dependency on opaqueness
    - Higher dependency on reliable risk data usually coming from intelligence activities.
  - Higher risk of data misuse:
    - Necessity to confirm passengers' identity
    - Pull effect: Profiling dependent on surveillance data

# Literature and Thank You!



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