

TSA Perspective

23rd Advanced Development for Security Applications (ADSA23)
Autonomous Security Systems

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Transportation
Security
Administration

Fitts and Posner's Three Stages of Learning (Motor Skills)

- **Cognitive Stage** –
 - Large movements are controlled consciously and appear more, than the other stages.
 - Students in this stage ask many Q's and experience frequent errors.
- **Associative Stage** –
 - Characterized by movements that are more fluid, reliable and efficient.
 - Some movements are controlled consciously, while others are automatic.
- **Autonomous Stage** –
 - Characterized by movements that are more refined, smoother, consistent, efficient, and largely controlled automatically.
 - In this stage students have less conscious thought regarding intentional movements



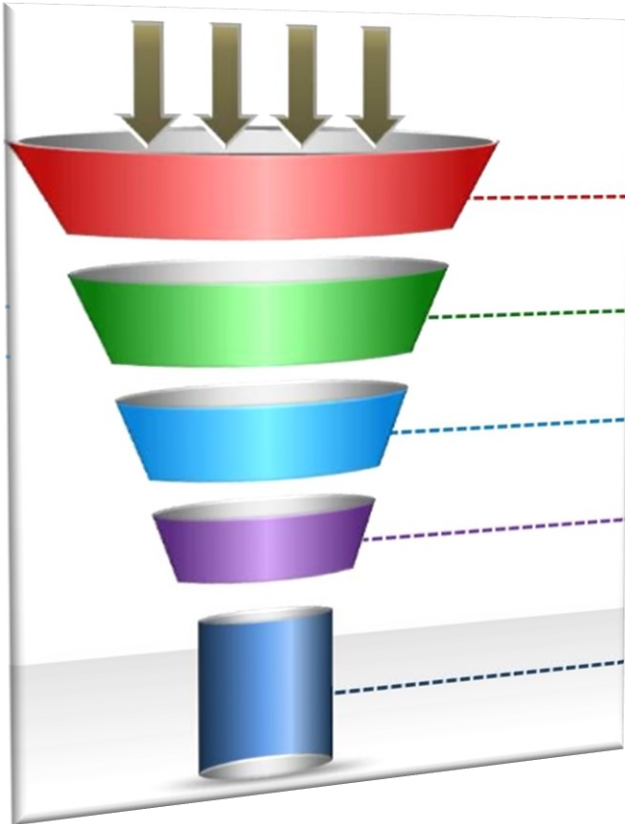
Autonomous Security Screening

Security Screening:

- ...the learning process is similar...
- Once acquired...as a whole, many functions are repeatable.
- The environment/conditions or scenarios may vary (...infrequently).
- The “Human Factor” ...fatigue, boredom, complacency



Where can Autonomous Screening Exist?



- Chk-bg, Cp, OPS, AR, IDM...
 - Explosives, PI, SoC...*(s/w algorithm dev't)*
 - Data Collection, Data Distribution, Data Standardization, Data Arch...
 - People, Systems (Self-Screening, Remote Screening, System Integration)...
- **“Autonomous Security Screening”**



Business Divers for Autonomous Security Screening



- COVID-19
- Cognitive Load
- Efficiency of Performance
- Innovation
- Passengers...



Discussion Topics

- What is your definition of an autonomous system?
- What specific examples do you have for autonomous systems?
- Does autonomy extend to humans such as vendors, screeners (TSO), and passengers?
- Should some functions TSOs be completely automated?
- Is there funding available from TSA for the development of autonomous systems?

