

ACXIS - Automated Comparison of X-ray Images for cargo Scanning



Materials Science and Technology

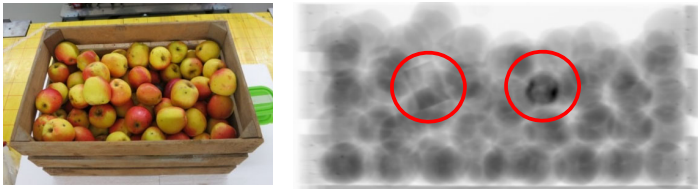
Aim

Improving the X-ray screening process at customs checkpoints through:

- A manufacturer-independent reference database
- Data acquisition of a large and varying amount of reference material
- Automatic target recognition algorithms (ATR) to detect illicit cargo
- Compatibility of X-ray images between scanner types
- training simulator for cargo screening officers

Data acquisition

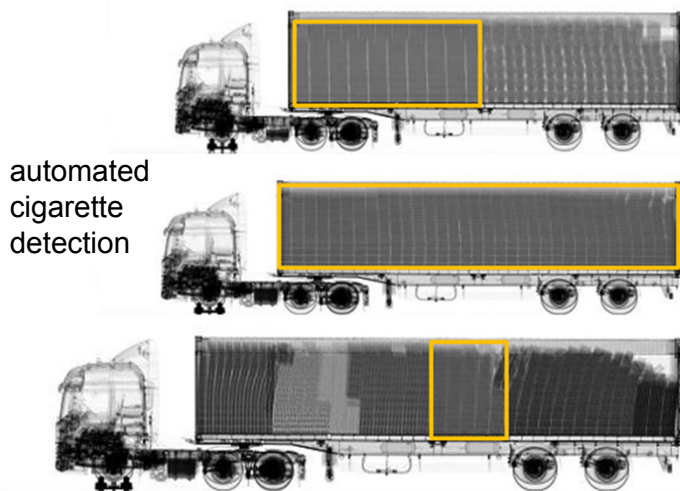
Data base with more than 35'000 images



Box of apples with hidden plastic explosives and hand grenade

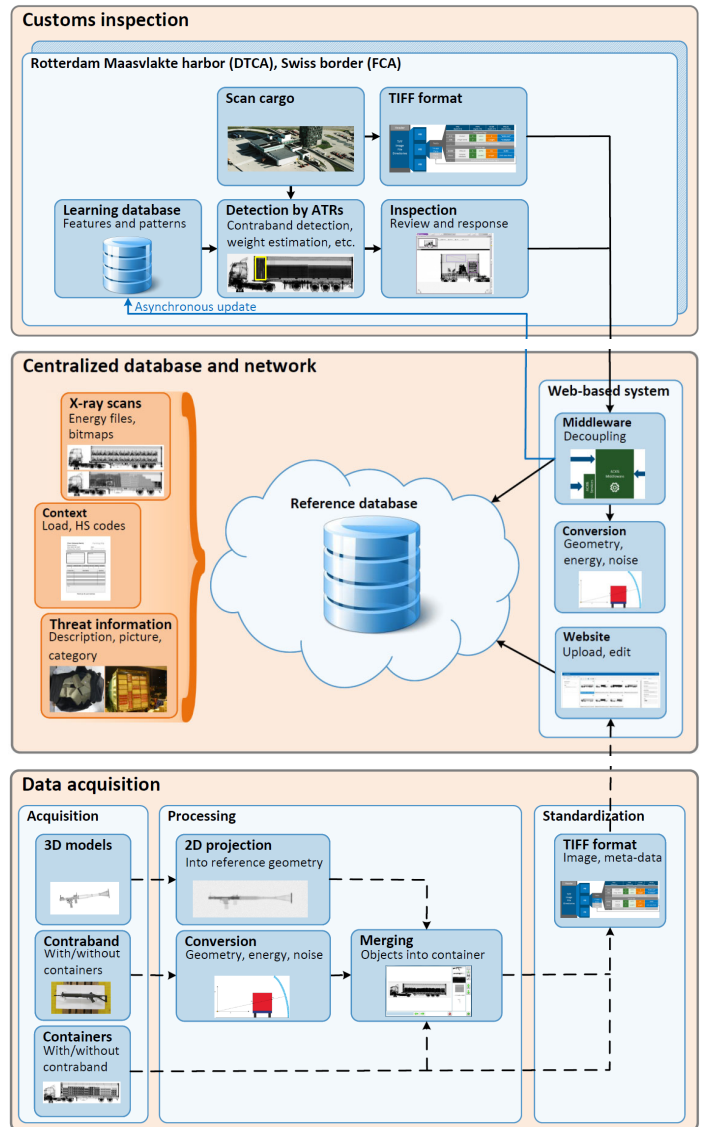
Automated target recognition (ATR)

- Texture recognition (e.g. cigarettes)
- Shape recognition (e.g. weapons)
- Anomaly or discrepancy detection in a region of interest (e.g. narcotics)
- Weight estimation

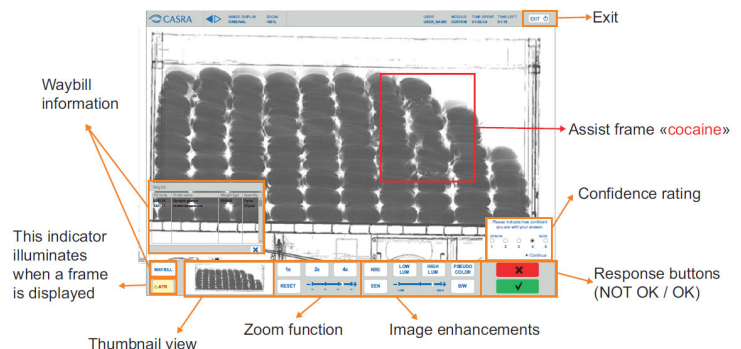


automated cigarette detection

Workflow



Training simulator



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