

SICHERHEIT IM ÖFFENTLICHEN RAUM

Making Sense of Abundant Video Data

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SURVEILLANCE AND PROTECTION



Advanced visual surveillance systems enable insight into real-world scenes

- to contribute to the safety and security of persons in public spaces
- to support the protection of (critical) infrastructures
- to facilitate processes involving people flow

SURVEILLANCE AND PROTECTION

The core problem: abundance of video data



Where?

Who?

What?

When?

How?

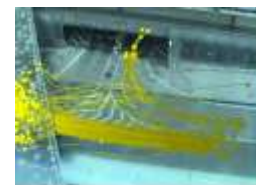
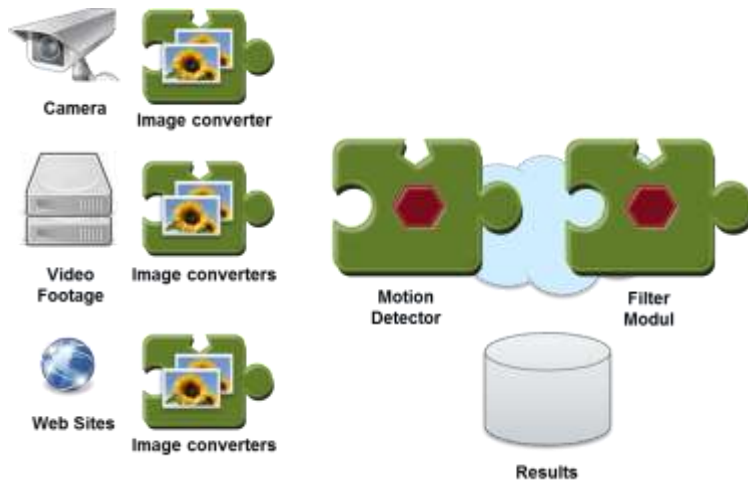
- Examples: event detection in public spaces, airport security,...

APPLICATION EXAMPLE

Video exploration

Interactive tool, combining

- Computer Vision algorithms
- Video archive interfacing
- User Interface & data manipulation



Moving Objects



Faces



Tripwire Detektor



License Plates



Similarity search

APPLICATION EXAMPLE

Video exploration

Example:

- Find all similar objects (e.g. „red“ cars) entering the garage between 6:00 am 8:00
- Modular image processing
- GPU-based acceleration
- Interactive visualisation

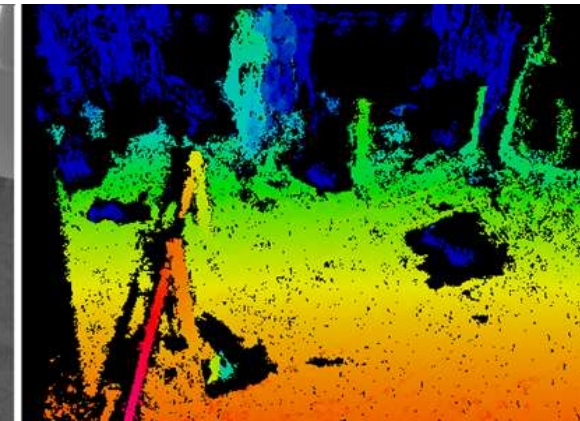
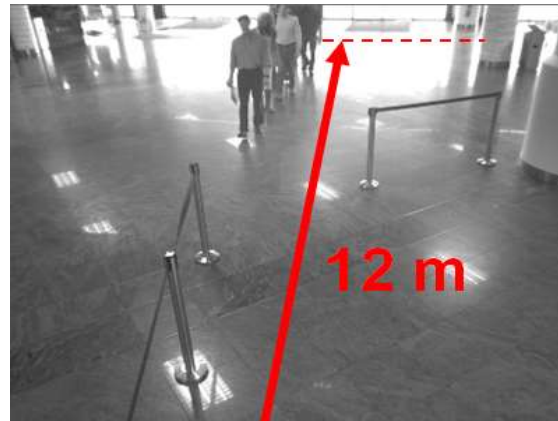


PEOPLE DETECTION, TRACKING & COUNTING

Our approach

3D-enhanced vision algorithms

- Based on AIT's 3D stereo-camera system: passive stereo based depth measurement
- Advantages:
 - Depth ordering
 - Robustness against illumination, shadows,...
 - Enables scene analysis

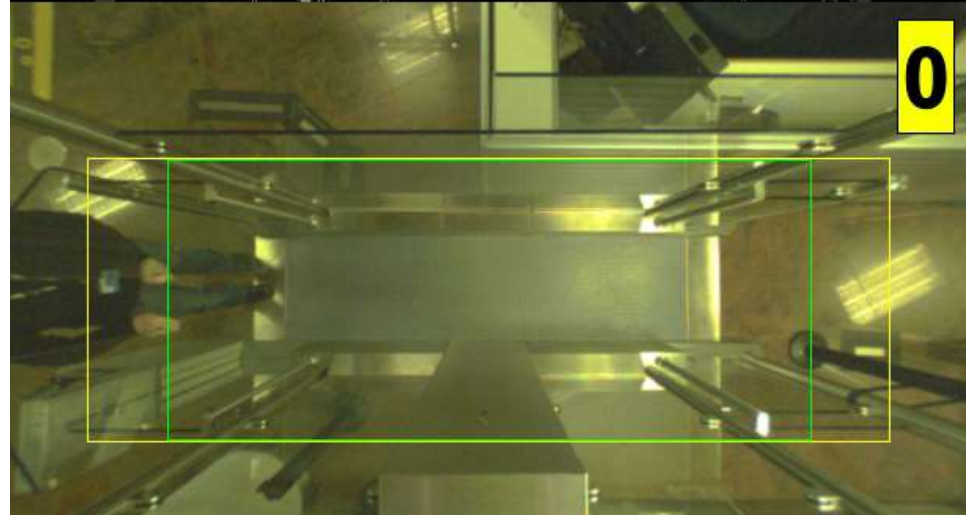
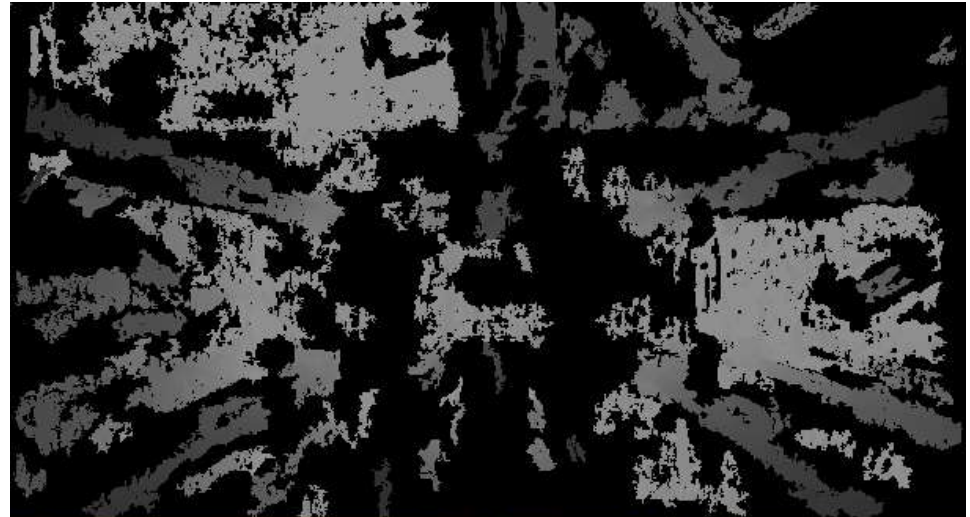


APPLICATION EXAMPLE

Person separation for e-gates



E-gate test installation:
Vienna Airport, Non-Schengen-Arrivals

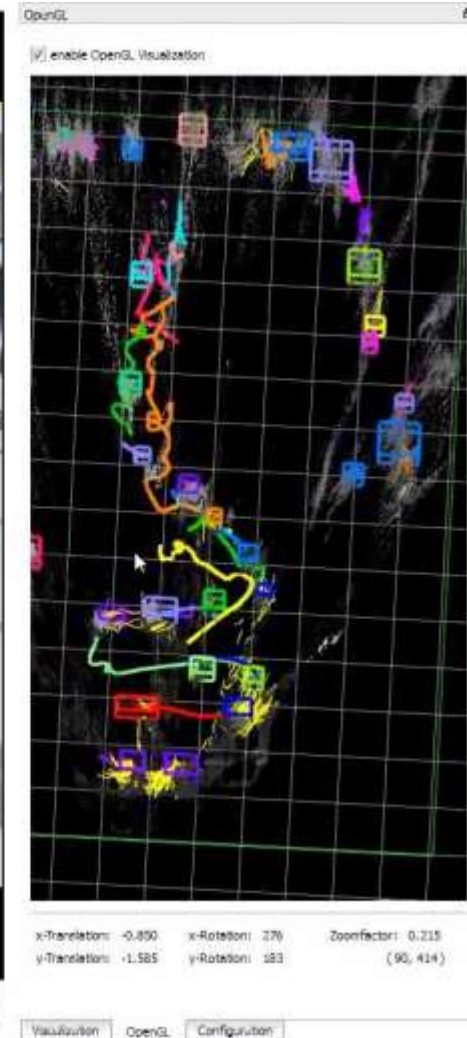


APPLICATION EXAMPLE

Queue length analysis



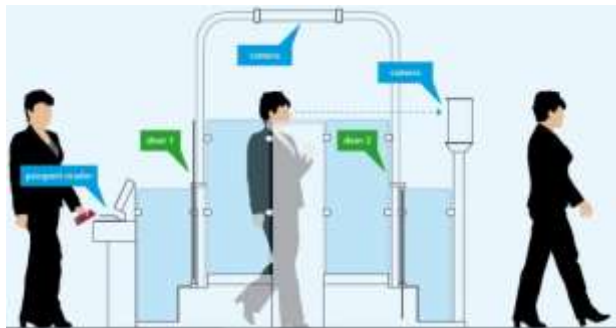
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APPLICATION DOMAIN

Automated & mobile border control

- European “Smart Border Package”
- Air, land and sea borders
- Optimization of passenger flow
- Passport inspection
- 3D stereo vision for e-gates: enhanced person/object detection
- People counting and queue length analysis



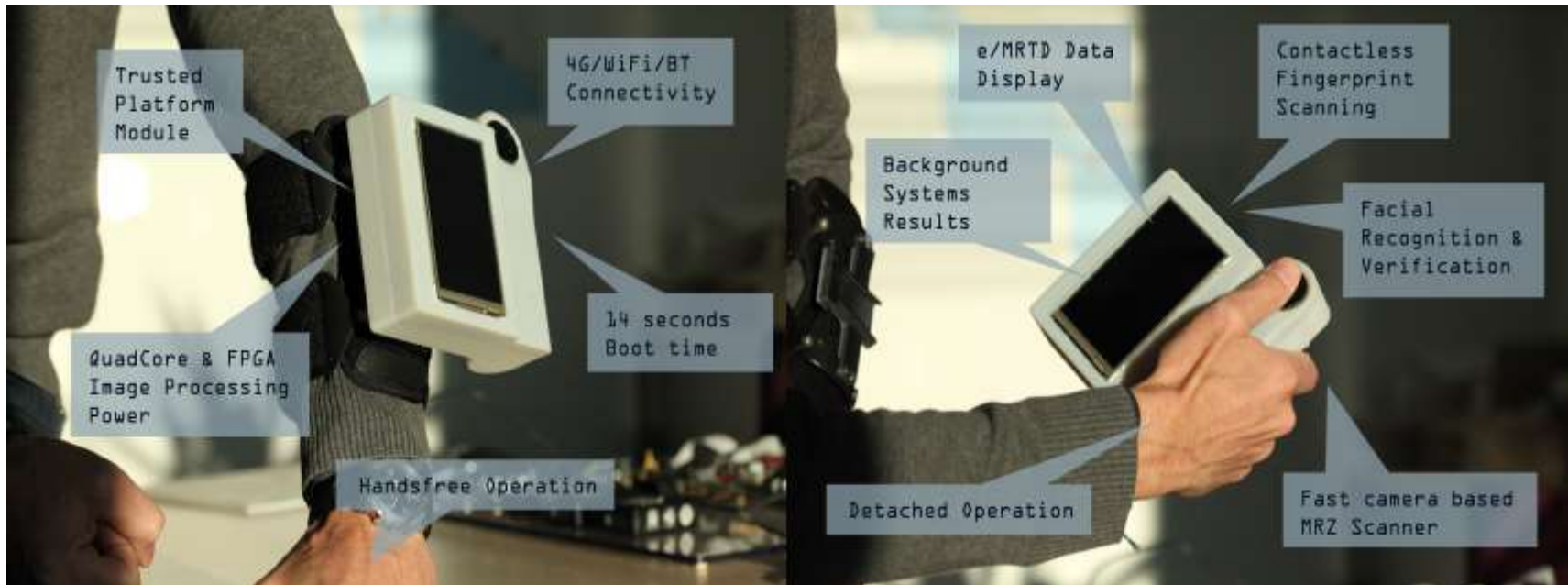
MOBILE IDENTITY MANAGEMENT

High-end bio-sensor technologies



MOBILE IDENTITY MANAGEMENT

High-end bio-sensor technologies



MOBILE IDENTITY MANAGEMENT

Application DEMO



THANK YOU!

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