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Resilience management guidelines and Operationalization applied to Urban Transport Environment

CRAMSS

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RESOLUTE Workshop
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Co-ordinated by

Today's agenda

Now
- **The CRAMSS – overview**

13:00-14:00
- **Focus group discussion:**
  - **CRAMSS features**
  - **CRAMSS scenarios of use**
  - **CRAMSS user requirements**

14:00-16:00
- **User testing**

CRAMSS – Purpose

- **Collaborative** Resilience Assessment and Management Support System
  - Resilience is a team task.
    → Support collaboration among actors
  - Facilitate coordination of actions
    → Create emergence
  - Reduce the need for bilateral communication.
    → Liberate resources

CRAMSS – Purpose

- Collaborative **Resilience Assessment and Management** Support System
  - Visualize the UTS's status
    → Improve effectiveness of response
  - Facilitate the perception of interdependencies
    → Allow for more proactive action
  - Support the application of the ERMG
    → Tackle functional resonance and output variability

CRAMSS – Purpose

- Collaborative Resilience Assessment and Management **Support System**
  - Support individual (locally dispersed) actors
    → The CRAMSS makes suggestions, the actors decide
    → Actors continue using their expert tools
  - Resilience is oriented at operational success
    → The same tools are used in normal conditions and emergencies

CRAMSS – Purpose

- Empower (dispersed) expert actors to cope with uncertainty (support distributed decision making).
  - Provide real-time information
  - Connect data to functions in the UTS model
- Provide Decision Support
  - Evacuation DSS: Citizen movement
  - UTM DSS: Individual (street) Traffic Management
  - UPT DSS: Public Transport Management

CRAMSS – Actuation levels

- **Street level**: Better use of resources (e.g. street capacities) through the 3 Decision Support Systems (DSS).
- **Operator level**: Supporting operator decision making through status information.
- **Central Decision Maker level**: Putting single operations into a context. Making the whole picture visible.

CRAMSS – Target group

- »Central Decision Maker«
- UTS sub-system operators
- Mitigation services
  - Civil protection
  - Fire brigades
  - Police
- ???

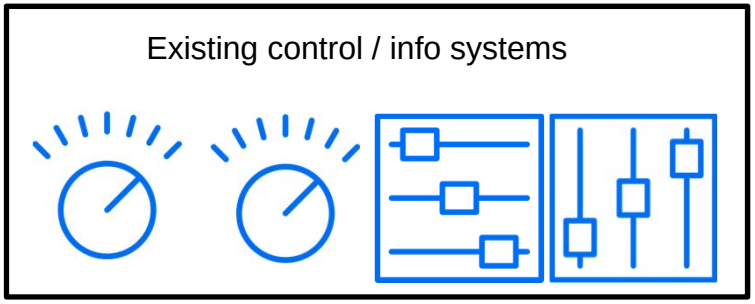
CRAMSS – Confidentiality level

- Most data is from openly available sources
- Some data may come from restricted access sources
- Even open data may, when processed and aggregated, pose the threat of abuse by criminals / terrorists.

→ Restricted access (individual login credentials)

CRAMSS – Implementation

- **Extra system used together with commercial / standard tools**



Pictures: Ctrlastudio; Freepic; madebyoliver; SimpleIcon

CRAMSS – Implementation

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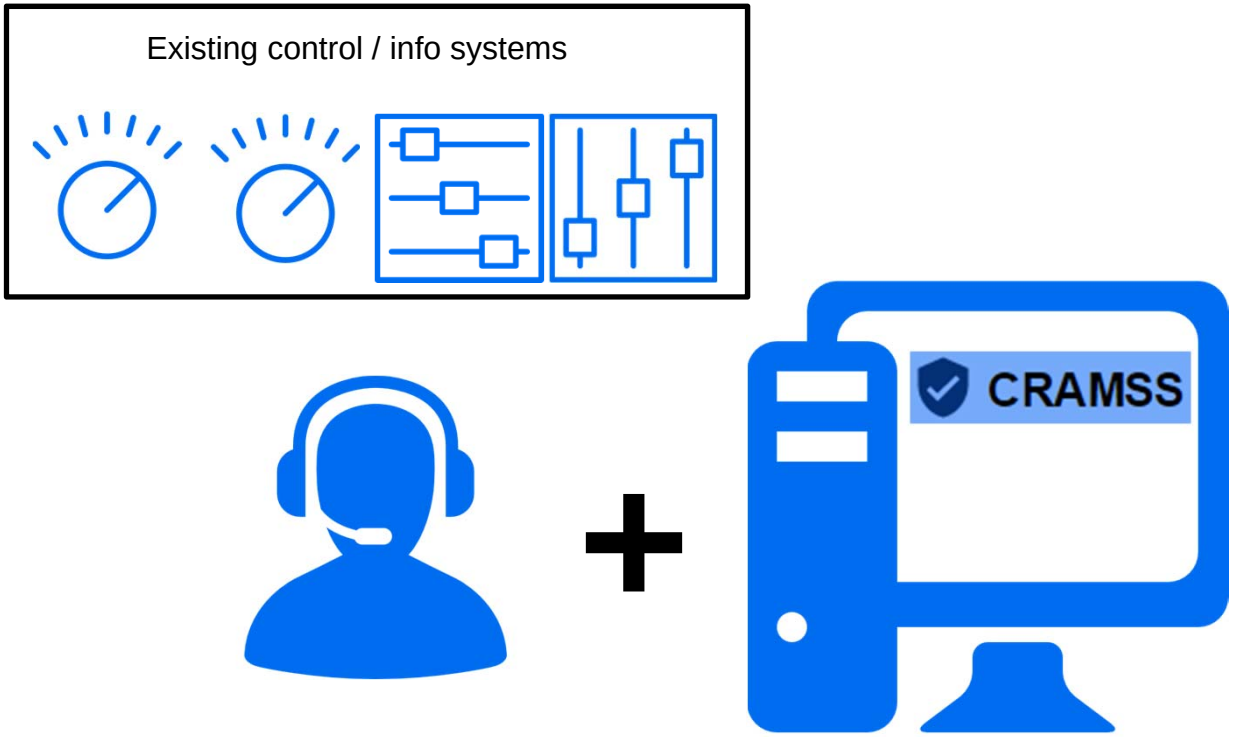

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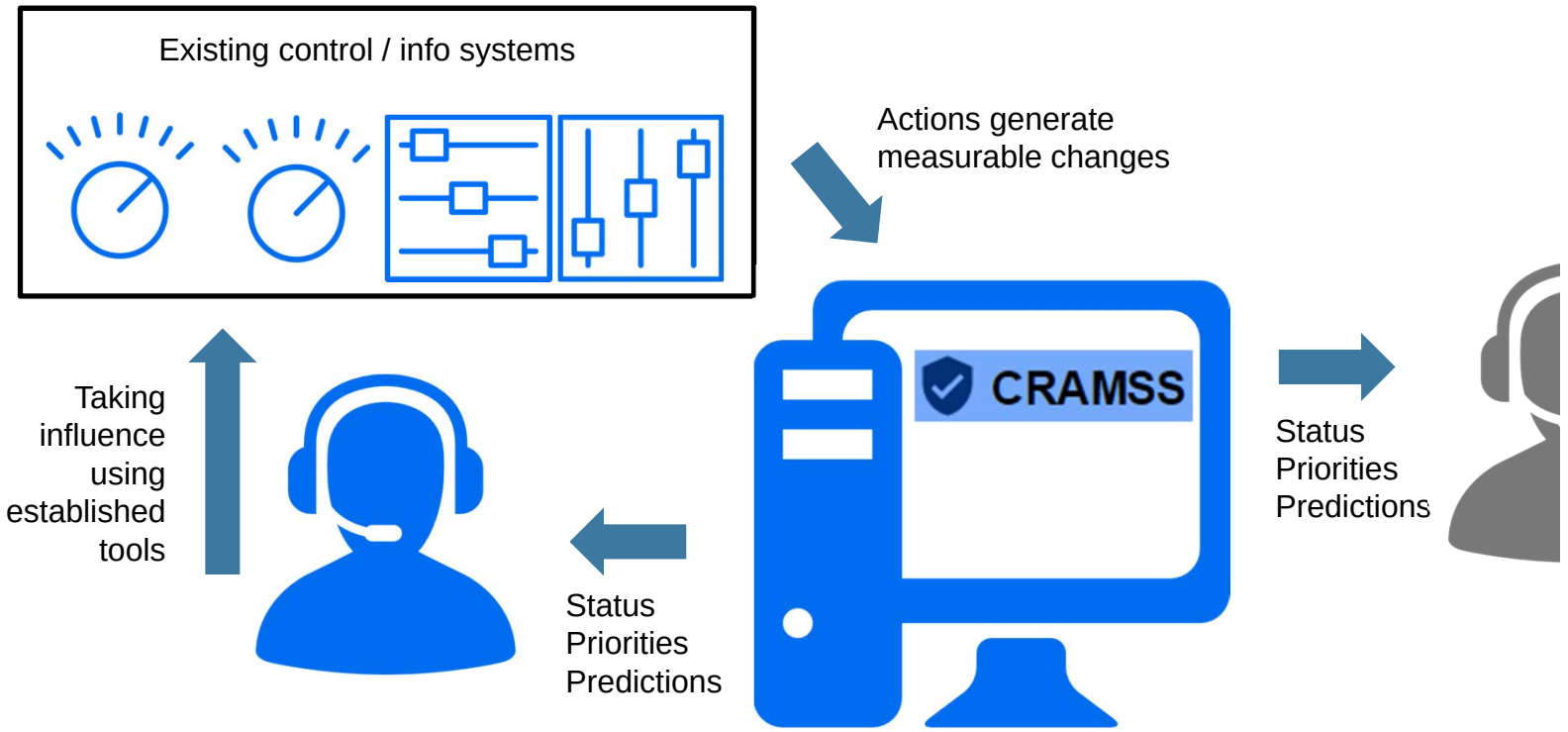
CRAMSS – Implementation



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CRAMSS – Implementation

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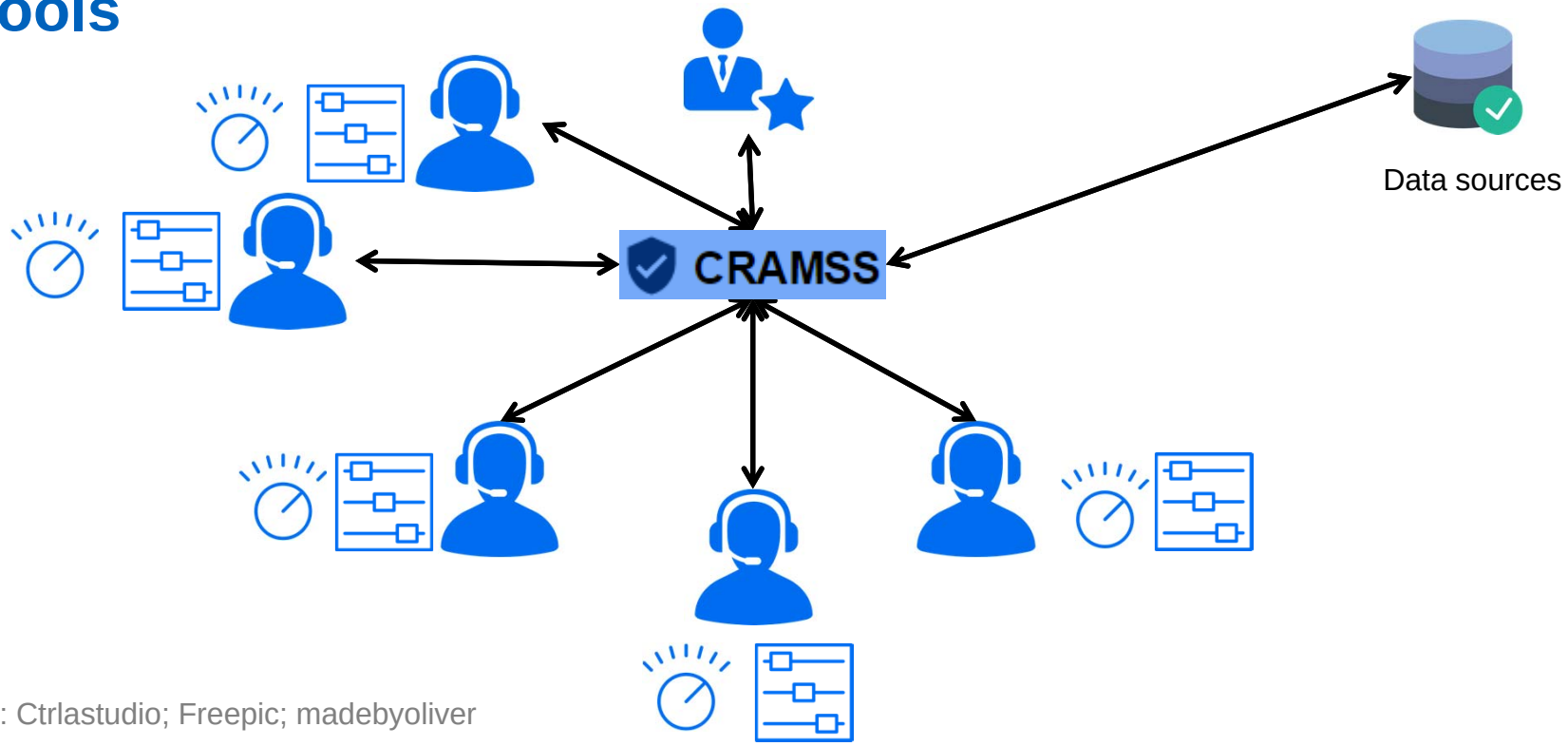

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CRAMSS – Possible contents

- **Data from**
  - **(open) databases**
  - **sensors**
  - **other users**
  - **citizens**
  - **… [to be discussed in the focus group]**

Focus Group Discussion

- Objective: collect and validate **user requirements**
  - Which **information** should the CRAMSS provide users with? How can it overcome current shortcomings?
  - Which **decisions** are most important to be supported by the CRAMSS?
  - **When and how** will actors most likely interact with the CRAMSS?
  - How can we design the CRAMSS for most **efficient interaction**?
  - Which extent of **personalization** is required / desired?
- Organization:
  - Groups of 8-12 persons discussing the potentials of the CRAMSS, guided by an instructor
  - Audio recording. → Consent required.
- Duration:
  - 1 hour

User tests

- Objective: find out how to improve the current design of the **CRAMSS prototype**
  - Which **elements of the design** are best to be used?
  - Which **structure** of information is recommendable?
  - Which **terminology** should be used?
- Organization:
  - 8 representative users (operators, decision makers, …) test the CRAMMS prototype sequentially
  - 2 instructors performing 4 tests in a row. Video recording of interaction.
  - Would you like to participate? Please register now.
- Duration per test:
  - ca. 20 minutes.

Consent form

- Participation in focus groups and user test requires agreement to
  - Recording data (audio; video; behavioural data) by Fraunhofer IAO
  - Processing of data by Fraunhofer IAO
  - Data will only be used for project purposes
  - Data will only be passed to third parties in aggregated / anonymized form
  - Data is treated according to the German Data Protection Act (BDSG).
- Please sign the consent form if you

Contact

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