

# Risk-based Access Control (RiBAC) Solution Step-by-step Training Guide

---

Institute of Microelectronic Applications (IMA)  
Czech Republic



SUNRISE

This project has received funding from the European Union's Horizon Europe research and innovation programme under Grant Agreement No. 101073821



The material presented and views expressed here are the responsibility of the author(s) only.  
The EU Commission takes no responsibility for any use made of the information set out.

# Overview of the RiBAC Solution

---

- + **RiBAC** (Risk-Based Access Control) is a solution developed as part of the SUNRISE project to support flexible, risk-based access management. It enables organisations and authorities to control access to services or spaces based on criteria like health status, vaccination, or location.
- + **RiBAC** also incorporates visual detection capabilities, such as identifying whether a person is wearing a mask, scrubs, or other required indicators, helping to enforce compliance with safety protocols. With an intuitive interface, it supports the application of clear, adaptable access policies during both emergencies and routine operations.
- + **RiBAC** is especially useful during pandemics to manage access in a way that supports containment and reduces risk. Outside emergency contexts, it can be used for planning, simulations, or to manage access in sensitive settings such as healthcare facilities or large gatherings. Its flexibility makes it suitable for both preparedness and response.

# Content Overview



SUNRISE

This step-by-step guide helps users navigate the RiBAC solution, focusing on access control management and risk-based decision-making. It supports users in understanding how to apply rules, interpret data, and use visual detection features (e.g. masks, scrubs) effectively. This guide complements the [training video](#).

01

User Approaches  
RiBAC

04

Identifier  
Presentation

02

Mask Detection

05

Health Credential  
Validation

03

Temperature  
Measurements

06

Access Decision

# User Approaches RiBAC

---



SUNRISE

- + The system **activates automatically** when someone approaches.
- + Integrated RGB and infrared cameras begin monitoring without any user input.
- + No contact or physical interaction is needed to begin the process.

# Mask Detection



SUNRISE

- + The **RGB camera** checks for required protective items (e.g. face masks, scrubs).
- + Visual recognition software analyses the image in real time.
- + The system alerts the user if required items are missing.
- + ⓘ *Accuracy for mask detection reached 98.5% during testing.*

# Temperature Measurements



SUNRISE

- + The infrared camera scans the forehead area for **temperature**.
- + Readings are calibrated using a blackbody reference target.
- + If the temperature exceeds the allowed threshold, access is denied.
- + ⓘ *This step happens automatically and takes only a few seconds.*

# Identifier Presentation

---



SUNRISE

- + The user presents their ID, typically using an RFID card or badge.
- + RiBAC supports multiple industry standards including **Mifare**, **DESFire**, and **LEGIC**, ensuring compatibility with existing systems.

# Health Credential Validation



- + The user scans a **QR code** (e.g. vaccine certificate) if the system requests it.
- + Only the necessary data (e.g. certificate status) is extracted.
- + The system **respects privacy** – no sensitive info is stored after use.

# Health Credential Validation



- + The entire check process takes **less than 20 seconds** for most users.
- + If all access conditions are met, the system grants access and triggers the access point (e.g. door or gate) to open.
- + If any condition (e.g. mask, temperature, ID, or credentials) is not met, the system provides **clear on-screen guidance** about what is missing or required before access can be granted.



# SUNRISE

## Thank you for following the training.

For more information:  
<https://sunrise-europe.eu/>



This project has received funding from the European Union's Horizon Europe research and innovation programme under Grant Agreement No. 101073821

The material presented and views expressed here are the responsibility of the author(s) only.  
The EU Commission takes no responsibility for any use made of the information set out.