

# Fast Situational Awareness and Near Real-time Disaster Mapping Network Application

## SUMMARY

5G-EPICENTRE's Fast Situational Awareness and Near Real-time Disaster Mapping Network Application is a vertical solution planning to transfer images from a camera (SMP) to a containerized AI Analyzer (AI-AS) Network Application, running on the 5G Core Network. An also running containerized Proxy-NS will relay the images to the Display-Devices (as part of the AS). The AI-Analyzer Network Application will recognize objects and send the found objects meta data to the Display device (MVD).

## CONTACT

For more information, do not hesitate to visit the website <https://www.5gepicentre.eu/> and/or contact the 5G-EPICENTRE team.

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## ARCHITECTURE & DEPLOYMENT



### Vertical Application domain:

- Image Sender
- Display Device
- Network Application Domain:
- Containerized AI-Analyzer

### Network Application

- Containerized Proxy NF
- Containerized Dummy-Image-Sender NF

The Mobile Display Device receives the relayed images and the detected objects meta data and displays the information's with e.g. boxes around objects and prediction tag.

The AI-Network Application and the Proxy-NS expect to receive images with timestamps in a pre-defined format. The format depends on the classic Unix timestamp format.

To measure processing times and latency's the AI-Network Application and Proxy-NS will generate timestamps on receiving, on processing start on processing end and on finished after sending the metadata or images. They will send these timestamps for further calculations via MQTT to the HHI 5G MQTT instance.

For further testing Dummy-Image-Sender NF is provided, which sends images in the right format periodically to the proxy and AI-Analyzer. The Dummy-Image-Sender NF is fully containerized too.

The vertical system will interact with the 5G-EPICENTRE cloud-native environment and the underlying 5G infrastructure as shown in the following Figure.

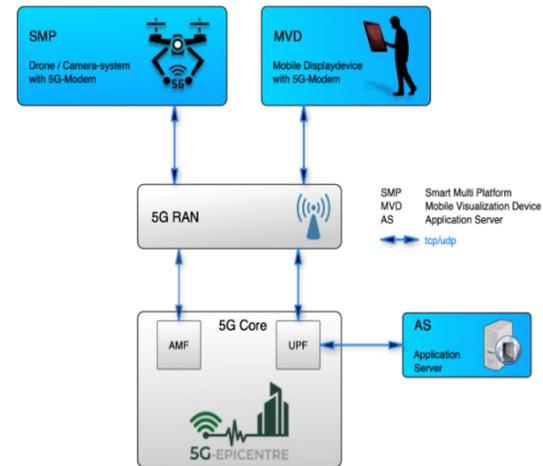


Figure: UC6 vertical system under test - specific architecture