# MARVEL

## Multimodal Extreme Scale Data Analytics for Smart Cities Environments

### WHY?

Empower smart city authorities to better support their societies!

### WHAT?

MARVEL aspires the convergence of a set of technologies in the areas of AI, analytics, multimodal perception, software engineering, HPC as part of an Edge-Fog-Cloud Computing Continuum paradigm, to support data-driven real-time application workflows and decision making in modern cities, showcasing the potential to address societal challenges very effectively.

### HOW?

- Addressing and solving rising challenges in the Big Data Value chain regarding data acquisition, data analysis and processing, data storage and curation, as well as data visualisation.
- Prioritising and strengthening of open science and open data through enriching and sharing a Data Corpus to drive research and innovation in multimodal processing and analytics.
- Heavily investing in research and innovation.
- Engaging citizens to promote breakthrough innovation.

## OBJECTIVES

**1.** Leverage innovative technologies for data acquisition, management, and distribution to develop a privacy - aware engineering solution for revealing valuable and hidden societal knowledge in a smart city environment.
**2.** Deliver AI-based multimodal perception and intelligence for audio-visual scene recognition, event detection and situational awareness in a smart city environment.
**3.** Break technological silos, converge very diverse and novel engineering paradigms and establish a distributed and secure Edge-to-Fog-to-Cloud (E2F2C) ubiquitous computing framework in the big data value chain.
**4.** Realize societal opportunities in a smart city environment by validating tools and techniques in real-world settings.
**5.** Foster the European Data Economy vision and create new scientific and business opportunities by offering the MARVEL Data Corpus as a free service and contributing to BDVA standards.

## NUMBERS

Start: 01.01.2021
Duration: 36 months
Participating Organisations: 17
Number of countries: 12
Call ID: H2020-ICT-2020-1
Topic: ICT-51-2020
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## PARTNERS

FORTH · infineon · Aarhus University · Atos · Italian National Research Council · INTRASOFT International · Fondazione Bruno Kessler · audEERING · Tampere University · Privanova · Sphynx Technology Solutions · Comune di Trento · ITML · Greenroads Malta · Zelus · PSNC

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