




**Development of a Decision Support System for increasing the Resilience of Road Infrastructure based on combined use of terrestrial and airborne sensors and advanced modelling tools- Grant Agreement Number: 769129**

**D1.4.1: Societal impact report V1**

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## **Executive Summary**

The PANOPTIS Societal impact document is a report that contains the status of the project and the issues as concerns the societal, gender and ethical impact. The document is produced for each reporting period to keep a constant monitoring.

## 1 Societal impact

The domain of PANOPTIS, Road infrastructure better management, is a domain that does not create polemics inside the civil society. The roads are aging and the combination of climate change and shortening of budget to maintain them makes that any initiative to enhance the situation will be welcome.

**Events forecasts:** the models developed in PANOPTIS to have a more precise forecast of hazards (gust of wind, floods in particular) are based on more accurate weather forecasts and better and more detailed models. This progress is welcomed by both the RI managers and the citizens because they can thus take adapted measures to mitigate the impact of the events. The alerts given to the population will be more focused and locally relevant, avoiding thus bad surprises and under- or over-reaction.

**Vulnerability:** Even more than roads themselves, the vulnerability of civil engineering works is becoming a big issue. As demonstrated in Genova and few months later in Northern Greece, the bridges are ageing more quickly than expected. First due to the climate change that is bringing more and more disastrous situations (storms, floods, etc.) - both in frequency and in intensity- and second due to the dramatic increase of heavy traffic (trucks) for which the infrastructure was not prepared for. PANOPTIS is providing solutions to have more frequent updates of the status of bridges, tunnels and other works and to store them in a comprehensive data base with standardized criteria and annotations.

**Sensing;** To monitor the Road Infrastructure, PANOPTIS will integrate existing sensors and deploy new ones.

- The fixed sensors (accelerometers, weather stations) are connected to the information system through the middleware, so the data can be available in (near) real time without the need to send persons. The cameras are connected in respect of the laws, privacy and GDPR so as to guarantee that the data are processed and stored only for public safety reasons.
- The UAVs are used with instruments (cameras, Lidars) that can detect anomalies or changes in all the elements of the road infrastructure. The UAVs will not take pictures of cars or individuals that could allow any identification or any tracking. With the guarantee that the UAVs cannot be intrusive in citizens life, they are in generally very well perceived and to some extent recreational to watch flying.
- The satellites will be used to detect changes in the environment and do not raise any problem with the population in PANOPTIS as they are not used to check the land-use.

**System (HRAP, Information Management System, Situation and Decision Support):** PANOPTIS is bringing new real time capabilities to monitor the RI and to take the necessary decisions in case of issue or catastrophe. The system only manipulates data that describe the status of the road infrastructure and no personal data. It can also be used as a help for drivers to plan their travels to avoid issues or congested traffic. The system is therefore acceptable for the society as it brings an added value for the transport and travels.

## **2 Gender impact**

PANOPTIS deals with the monitoring of Road Infrastructure and its environment. The project is therefore totally gender neutral in the content.

The project team however takes great care about gender issues and pushes for an equal share between genders. It is to be noted that, as regards the civil engineering, female researchers are largely in majority (80%).

## **3 Ethical impact**

As described in the deliverable D10.1, all the measures have been taken to avoid any ethical issue. The images that have been collected and scored until now are:

- Without any person on it (pictures of the RI components),
- Or pictures of the consortium members that agreed on the use of them for dissemination purpose.

So until now, no ethical issue has been raised in PANOPTIS.