

# MANAGEMENT PLAN FOR ZADAR

## Output factsheet: Strategies and action plans

Version 1

Project index number and acronym	CE32 AMIIGA
Lead partner	Central Mining Institute
Output number and title	O.T3.1.1 Management Plan
Responsible partner (PP name and number)	PP12 Water supply company Zadar
Project website	<a href="http://interreg-central.eu/Content.Node/AMIIGA.html">http://interreg-central.eu/Content.Node/AMIIGA.html</a>
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### Summary description of the strategy/action plan (developed and/or implemented)

Action plan for Zadar FUA (functional urban area) is divided in three main development targets. Targets are consisted of actions that must be implemented to reach the target. Some of the actions started in AMIIGA project duration and some will be implemented in future. First Development target is improvement of groundwater quality control. The main goal of AMIIGA project is to ensure good GW quality as well as a sustainable water supply system based on its own technological and human potentials. This target is going to be reached through education and training of laboratory staff and procurement of new laboratory equipment. Second development target is improvement of GW monitoring concept. It will be reached by drilling new piezometers which are equipped with different measuring equipment. Through implementation of AMIIGA project a new GIS data base was created and contains all so far gathered data about GW on FUA area. Third Development target is to ensure the implementation of the necessary measures. The aim is to complement the existing plan ie. defined measures in case of incident events based on new findings obtained with future numerical model upgrades. The upgrading of the numerical model will depend on obtaining new input data for the model of the upgraded GW monitoring system (drilling new piezometers, new measuring equipment, supplementing GIS database, etc.) Numerical model developed through AMIIGA project was based on data gathered from just 4 active piezometers. It is necessary to work on further model development. To get more precise and accurate model we need more data. Addition of the existing measures will go in the direction of defining the actions to be taken in the event of a deterioration in the quality of GW on the basis of the expected changes in weather condition (expected very intensive precipitation and droughts), ie. proposal to determine the working regime of water intakes in case of "clouds" avoiding or reducing the need to exclude certain water intakes from the water supply system.

### NUTS region(s) concerned by the strategy/action plan (relevant NUTS level)

HR033, Zadarska županija

### Expected impact and benefits of the strategy/action plan for the concerned territories and target groups

Functional urban area (FUA) of the pilot Zadar is hydro-geologically delineated according to the aquifer borders Bokanjac-Poličnik. The area of FUA is 245 km<sup>2</sup>. Beside Zadar, FUA comprises parts of seven other municipalities, Main benefit for Water supply and the whole FUA(functional urban area) is information on sources of pollution that will improve the management of water resources. In the case of an incident situation exceeding the permissible concentrations of harmful substances, intervention measures for rehabilitation will be provided. Improvement of the quality of groundwater and ensuring health-friendly water for human consumption.

### Sustainability of the developed or implemented strategy/action plan and its transferability to other territories and stakeholders

Upon completion of the AMIIGA project, a further 3 goals are envisaged to ensure effective corrective action in the event of incident pollution, all with the aim of improving the quality of groundwater and ensuring safe and safe water for human consumption. For certain goals, it is difficult to determine unambiguously the deadlines for their implementation, as they depend on the implementation of several necessary measures, and consequently on the closure of the financial structure. Improving the monitoring of groundwater quality depends on the drilling of new piezometers and the installation of new equipment for measuring. Complementarity of the defined measures in the event of accidents depends on the upgrade of the numerical model, which in turn depends on new piezometers, new devices and new groundwater sampling, etc. From this we see that the future goals for the purpose of improving groundwater management as well as the necessary measures for achieving these goals are mutually intertwined. The aquifer Bokanjac-Poličnik is a complex and highly sensitive karst aquifer, which is not sufficiently investigated. Because of the specific karst area, the transferability to other territories could be done through implementation of Management plan in their own FUA-s.

Water supply company Zadar will be responsible for further sustaining of the project outcomes and financing with possibility of co-financing further investments in infrastructure/works from City of Zadar and surrounding municipalities.

## Lessons learned from the development/implementation process of the strategy/action plan and added value of transnational cooperation

From the development process of the action plan in AMIIGA project, we learned how to establish a groundwater management plan. First through defining the FUA (FUA - a zone covering more administrative districts, where regional groundwater situation is investigated), then why and how to form the RIG (Regional implementation group). A RIG is needed to collect all relevant information available in the beginning of the project, to inform and to bundle the interests of all stakeholders and to initiate the necessary decisions and measures. Next thing we learned is how to define target values and goals of Management plan and how to differentiate groundwater quality goals and development goals.

## References to relevant deliverables and web-links If applicable, pictures or images to be provided as annex

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