



**Universitatea Tehnică a Moldovei**

**Programul de masterat Inginerie Electrică**

# **Automatizarea stației de tratare a apei WWTP Gardabani, Georgia**

**Teză de master**

**Masterand: Moldovan Artiom**

**Conducător: dr.conf. Ilie NUCA**

**Chișinău – 2018**

**Universitatea Tehnică a Moldovei**  
Facultatea de Energetică și Inginerie Electrică  
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**Admis la susținere**  
Șef departament dr.conf. Ilie NUCA  
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„12” \_\_\_\_\_ 2018

## **Automation of the wastewater treatment plant WWTP in Gardabani, Georgia**

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## ABSTRACT

This project contains: 72 pages, 31 illustrations, 2 tables, 5 annexes, 19 bibliographical sources

**Keywords:** SCADA systems, wastewater treatment plant, PLC, HMI, Software, Hardware, License, screens, automation, communication network.

**The object of study:** Automation of the wastewater treatment plant.

**The aim of the project:** Creating the program for the automation of the wastewater treatment plant.

In this project, the problem was the realization of a SCADA system and automation system that will reduce the costs of maintenance, will increase energy efficiency and will help to improve the quality of wastewater that drains into the river and which comes directly from the sewerage of Tbilisi and Gardabani. The automated station will work non-stop, with high efficiency in water quality and cleaning. The warranty of this station is 25 years without mechanical defects, from which comes the decrease on the maintenance expenses towards a non-automated station.

This project includes:

- Identification of each object and description of destination and function. Its automation and competence are in accordance with the specification.
- Making communication between hardware and building a single network
- Making graphical user interfaces for SCADA system and established control condition.
- Creation and implementation of SCADA system was conducted at the company's request „**STRABAG**” Bucuresti, România, in collaboration with „**Salonix**” Chisinau, Moldova.

Project general description:

Country: Georgia

Location: Gardabani

Client: Gardabani Sewage Treatment Plant LLC, Tbilisi

Architect: Regierungsbaumeister Schlegel GmbH & Co. KG

General designer: HPC AG Germany

Electrical and automation and SCADA works special designer: Salonix-TEH SRL

Inlet flow: Nominal flow 470.000 m<sup>3</sup>/day, Maximum flow 676.500 m<sup>3</sup>/day.

Construction Period: 08/2017 – 05/2018 (9 Months)

Main contract value: € 13,68 Mio.

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