

Regional Waste Information System and its Role in Waste Management of the Slovak Republic

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Abstract:

The paper will issue from the previous author's paper "Waste Management Information System of the Slovak Republic" presented on 15th International Symposium Informatics for Environmental Protection in Zürich. The new version of the Slovak Regional Waste Information System (RISONet – Internet version of the regional waste management information system) was developed by the team of prof. Hrebicek at Faculty of Informatics in the cooperation with Center of Waste Management and Environmental Management of the Slovak Environmental Agency Bratislava for the collection of waste statistics and waste management of the Slovak Republic. The RISONet has been operating at all Environmental Departments of District and Regional Offices of the Slovak Republic, which have responsibility for waste administration and regulation.

The new RISONet has been developed as a special web application and database (Interbase) server with applications operating under Linux operating system. It has been developed for waste management, data collection and processing on regional level or district (this data collection and verification is under way annually and quarterly). The RISONet has been programmed in special scripting language – PHP (version 4.0.6) using HTML, DHTML, JavaScript, SQL and Interbase database (according to quantity of records, we developed a special client for Interbase administration.).

The kernel of the RISONet is provided by a web server Apache, which acts as an information transformation and distribution system for input and output data streams. Connectivity to information and data resources is ensured through a resource locator database (Borland Interbase) and an intelligent advanced querying information system (e.g. SQL).

The RISONet client is equipped an advanced web browser (e.g. Microsoft Internet Explorer) and a user authentication module, which run on the basic computer hardware of the user. The user interface implements the local or regional client-central interaction functionality of the system kernel. Communications between the user clients, the central databases and dynamic data sets in RISONet, experts and added value tools is provided by Internet communication protocols (e.g. TCP/IP). On future demand satellite communications (e.g. for the hazardous waste transport) or mobile phones (e.g. WAP communication protocol) will be used by the RISONet also.

The main objectives of the RISONet are to establish a information system on waste generation, recovery, data collection, treatment and disposal compliance with the European Union legislation and also with the prepared European Union waste management statistics information system. The RISONet is focused on monitoring, forecasting and decision-support systems and services, addressing both national and international waste management advanced system, for citizens and municipal or state administration, agriculture and industries together with the services for the identification, assessment, monitoring, transport and prevention of risks hazardous waste. It is provide as data for the monitoring for the national and regional waste management policy, as fulfil freedom access to the environmental information for public (citizens, businessmen, scientists, industry associations, NGOs, etc.). In particular, it is enable possibility to detect in detail the generated waste types together with the economic actors responsible for the generation and the destination of these wastes. Disparities regarding different relative waste amounts is permit the formulation of concrete regional and national waste management policy aims to ensure basic environmental conditions in the Slovak Republic and to fulfil the European Union waste management objectives. The goal of the RISONet is also to offer interactive services to citizens and make them available at natural meeting points for people, especially in remote and rural areas.

In the paper will be present actual experiences with solving different problems in implementation and using RISONet in all Slovak waste state administration. Especially data collection and validation, data safety and organization problems with respect to freedom access to environmental information.