Paweł Hanus: **Determination of Coefficient of Usefulness of Former Austrian Cadastre Documentation for Legal-Surveying Works in Poland** • Geomatics and Environmental Engineering 2009, Vol. 3, No. 2

Works, which aim is to determine real estate legal boundaries, are usually of surveying-legal kinds. These works are: real estate delimitations, real estate subdivisions and also regulation of real estate legal status. Performing these works of such kind, on south-east part of Poland needs from the surveyor skill of application archive cadastral documentation of former Austrian cadasdre. The paper presents proposal of determination of usefulness of this documentation, especially maps of cadastre of former Austrian annexation. In the paper, on the basis of taken assumptions, formulas for this coefficient have been determined. There has been also proposals for determination of accessible values of this coefficient and statistic analysis verifying correctness of taken solutions.

Keywords: cadastre, real estate cadastre, legal boundary, maps of former Austrian cadastre, real estate delimitation, real estate subdivision, regulation of real estate legal status

Krzysztof Koreleski: **The System of Spatial Planning and Land Management in Poland** • Geomatics and Environmental Engineering 2009, Vol. 3, No. 2

The article presents an overview of general space planning and management principles, taking into consideration economic, social and environmental aspects. It describes the system of spatial planning in Poland based upon central planning (the national spatial management scheme) and local planning (spatial management plans for provinces, local spatial management plans). By implementing the guidelines and tasks set out in the study of determinants and directions of spatial development and local spatial plans, Polish communes play a major role in the realisation of spatial policies. The article considers the issues of environment protection in spatial planning at a local level, taking into account land consolidations, the localisation of technical linear infrastructure, the realisation of building works, public-purpose investments, the principles of earth surface protection (soil and mineral protection, land reclamation, permissible land use forms of ecologically protected areas). Infrastructure and settlement state evaluation concludes that Polish transport infrastructure is

underdeveloped and underinvested, energy infrastructure relies almost entirely on non-renewable energy sources, whilst Polish settlement system is characterized by a polycentric urban pattern and an unfavourable, dispersed rural structure.

The implementation of the National Strategic Reference Framework for 2007–2013 will bring about a significant growth of Polish GDP, for example: expressway and motorway network will be extended, the percentage of renewable energy sources will increase and the condition of Poland's natural environment will continue to improve.

Keywords: spatial planning, system, Poland

Marek Kulczycki: **A Survey of Preferences as a Basis for Setting Weights for Property Characteristics** • Geomatics and Environmental Engineering 2009, Vol. 3, No. 2

Real estate is a specific good on the market, thus buyers' preferences are also specific – preferences in reference to property's features taken into consideration during buying decision process.

The knowledge of buyers' preferences is getting more and more important in Poland. Some time ago, a huge excess of demand over supply caused, that potential buyer was forced to get rid of majority of preferences and buy this, what has not been bought yet. In very many cases, the purchase concerned a flat in not-existing-yet building but only in project. Presently, the rate of demand and supply is changing with benefit for buyers. In predictable future, we can meet situation that flats already built will be waiting for buyers empty and developers before starting every new investment will perform much more deep analysis of profitability, the analysis consisting among others of analysis of preferences of future customer.

According to Common National Principles of Valuation, weights of market characteristics are set on the basis of analysis of behavior and analysis of preferences of real estate market participants. In the paper, computational method which can serve among others to setting weights for property characteristics on the basis of opinions of potential buyers acquired by a survey is presented.

Keywords: real estate, buyers' preferences, property's features

Grzegorz Lenda: **Algorithms for Automatic Surface Scanning of any Given Shape for Reflectorless Robotized Tacheometers** • Geomatics and Environmental Engineering 2009, Vol. 3, No. 2

Laser scanning is an effective method to measure structures in detail but scanners or scanning tacheometers dedicated to this method are sold at hardly affordable prices. Robotized reflectorless tacheometers are substantially more common and can perform analogous tasks. However, usually they have relatively primitive scanning algo-

rithms that make it impossible to survey surface areas with complicated contours. This article presents a few advanced scanning methods for such tacheometers. They take into account their small speed of measurement, so the number of potential unnecessary observations outside the right structure is limited to a minimum. Two fully automatic methods and one pre-assisted have been worked out. The automatic methods are intended to be used for structures with simpler contours, while the pre-assisted one requires some participation of the user but it enables scanning structures with any shape.

Keywords: surface laser scanning

Robert Oleniacz, Anna Tomkowicz: **Uncontrolled Combustion of Household Wastes and Vegetation Remains in a Rural Community – Questionnaire Results** • Geomatics and Environmental Engineering 2009, Vol. 3, No. 2

The paper presents the results of questionnaire studies referring to the problem of uncontrolled burning of wastes and vegetation remains in a selected Polish community. The questionnaire covered 100 residents of the community, representing all the age groups and education levels. Based on this it was found that the combustion of wastes in households (mainly to obtain heat) and/or open combustion of plant remains and other garbage takes place in more than half households. Such actions are much more frequent in case of elderly and worse educated people than in case of younger and better educated ones. This is partially a result of lower awareness of elderly and poorer educated people about the threats for environment. Among the burned wastes the most often mentioned were newspapers, magazines, cardboard and packages of plastic, including PET bottles. Some inhabitants also admitted burning PVC materials, clothes, shoes, tyres, varnished wood and other wastes, which could form large quantities of toxic emissions, including organic ones, e.g. chlorinated dioxins and furans or polycyclic aromatic hydrocarbons. People commonly burning different wastes and other garbage usually did not hear about the mentioned above substances or did not realized the significance of the problem. However, in the questionnaire, they expressed the will to limit such a way of wastes neutralization in their households.

Keywords: rural waste, uncontrolled burning, public awareness

Andrzej Uznański: **RTN Measurements Accuracy Test in Reference to MSPP** • Geomatics and Environmental Engineering 2009, Vol. 3, No. 2

The RTN measurements in Poland date back to 2006, when the Małopolska System for Precision Positioning (MSPP) was started up. In 2008, the nationwide ASG-EUPOS system was put in operation in

Poland. The paper presents the results of the test measurements aimed at evaluating the accuracy of position determination of points, based on the MSPP. The GPS static measurements, RTN measurements, tachymetric measurements and precision levelling were performed on 24 test points stabilised in the distances of approx. 12 km, 21 km and 34 km from the KRAW station located centrally in the MSPP. During the test measurements ca. 3000 positions of points were determined altogether, using the following mountpoints: RTCM_FKP, RTCM_23VRS, RTK3.0 (RTCM 3.0 VRS) and KRAW_RTCM30. While analysing the averaged results of the measurements of the test points, it can be concluded that the information published on the MSPP website (regarding the point position accuracy of at least 3 cm for situation and 5 cm for height) is reflected in the measurement results. Taking into consideration each of the solutions individually, the values were indeed exceeded for the horizontal coordinates – 3.6% and for the height 5.6%, except for the Single Baseline solution, in which the height differences were only rarely below 5 cm.

Key words: Real Time Networks, Ntrip, Virtual Reference Station