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**ABSTRACTS**

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*doi:10.22306/atec.v4i3.37**Received: 16 May 2018**Accepted: 30 June 2018***ANALYSIS OF PROTEINS AND PEPTIDES BY MASS SPECTROMETRY**

(pages 33-37)

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**Keywords:** proteins, peptides, mass spectrometry**Abstract:** Analysis of proteins and peptides by mass spectrometry became possible by the end of the 20th century. MS is a method of analytical chemistry. It works with a  $m/Q$  ratio where  $m$  is the mass and  $Q$  is the fragment charge. It is used to determine the mass of particles, to determine the elemental composition of a sample or molecule, and to elucidate the chemical structure of molecules such as peptides and other chemical compounds. Its principle is based on ionizing chemical compounds and measurements of their mass relative to charge.*doi:10.22306/atec.v4i3.38**Received: 24 May 2018**Accepted: 15 June 2018***5D OF BIM – RESEARCH STUDIES AT HOME AND SELECTED COUNTRIES AROUND THE WORLD**

(pages 39-43)

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**Keywords:** building information modelling, 5D, cost, implementation, cost management tools**Abstract:** Currently time is characterized as a stage of dynamic progress and expanding use and implementation of information and communication technology generally. Data and information about cost and budgeting are required in the knowledge society heads grow every day. Several studies suggest that the use of Building information modelling (BIM) and cost management tools contributes on cost reducing of project and enterprise management. However, these studies also indicate that their use in small and medium sized enterprises is low. Several surveys have been carried out abroad on this issue. The exploitation of Building information modelling to support cost management in many enterprises is a priority and one of the main steps and procedures to successfully manage enterprises and construction projects. Building information modelling and cost management tools are one of the possible solutions for cost reducing. Article discusses issue of possibility to use cost management tools and Building information modelling in Slovak construction industry and

abroad from various point of view. The main objective of this article is to make an overview of using BIM technology and cost management tools at home and abroad. The paper also aims to point to new research opportunities and to identify research issues in this area.

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## **SPECIFIC FEATURES OF NATURAL GAS SUPPLY IN SOME EU COUNTRIES**

(pages 45-57)

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**Keywords:** seasonal effects, monthly domestic production, monthly net import, monthly gas consumption, gas balance

**Abstract:** The monthly gas balances for Hungary and for five other EU Member States were investigated between 2008 and 2017. For the analysis, monthly data available in the EUROSTAT database [nrg\_103m] was used to ensure that the data for the different countries are comparable. Time charts for each country were used with a three-figure set of figures. For each country studied, the first member of the graph group shows the seasonal changes in the use of natural gas for the period 2008-2017. The timely changes in the liability side of domestic production and net imports, the domestic user's use of the user's page, are time-consuming, and the storage activity is illustrated by the quantities extracted from the containers. In the second graph of the group of figures, the monthly opening and closing stock of the gas stored in the given country / country group, as well as the change in the net import, are shown. Finally, the third figure illustrates the change in inventory variability for the gas year from 1 April to 31 March. The authors conducted the analysis for the EU-27, Hungary, Austria, France, Italy and the Czech Republic, and their findings were formulated for the listed countries.

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