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COMPARISON OF MRA AND ANN MODELING OF CUTTING FORCE WHEN TURNING AISI 1043 STEEL

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The modeling of cutting force is an important aspect in machining. This paper focuses on developing empirical models for main cutting force in turning AISI 1043 steel. The experimental data from measured main cutting force was used for models development. Two competing data mining techniques, regression analysis and artificial neural networks are applied in developing the empirical models. A comparison of regression models and artificial neural network models with experimental results using statistical measures was carried out. The predictive artificial neural network model was found to be capable of better predictions.

A FEEDIND, MIXING AND DOSING DEVICE FOR SAWDUST, USED AT PELLETS MILLS

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This article presents some aspects regarding the reduction of the negative impact generated by economical activities in the field of wood processing by realizing some equipments of pressed sawdust and refers mainly at the fuelling, dosage and homogenization mechanism which is a component part of the pellet grinders. The Fuelling, dosage and homogenization mechanism is installed on the pellet manufacture grinder is composed from a dosage device and a fuelling and homogenization device.

SOLUȚIE ECOLOGICĂ DE RECUPERARE A DEŞEURILOR METALICE REZULTATE ÎN URMA OPERAȚIEI DE ŞTANȚARE *(ECOLOGICAL RECOVERY SOLUTION OF METAL WASTE RESULTS FROM THE PUNCHING OPERATIONS)*

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The purpose of analysis for this paper is to collect industrial waste and their recovery through reuse. In present the reuse of industrial waste is realized through the application of modern technologies. In this context, the paper proposes a technical-economic analysis regarding a waste chopper.

ÉTUDE PARAMETRIQUE D'UN PALIER A RAINURES EN CHEVRONS *(PARAMETRIC STUDY OF A BEARING GROOVE IN RAFTERS)*

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The journal bearings with helical grooves has the advantage of having a low axial flow and also a good static and dynamic low eccentricity. We determined the bearing capacity and the static characteristics of a bearing with fixed parameters and parameters that vary. In this paper, we will present the modeling and numerical analysis for a generic case, using the finite element method.

APLICAȚII ALE FMEA ÎN MENTENANȚĂ PREVENTIVĂ A MAŞINILOR ŞI ECHIPAMENTELOR *(FMEA APPLICATIONS IN PREVENTIVE MAINTENANCE OF MACHINERY AND EQUIPMENT)*

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Preventive maintenance is the planned maintenance of an equipment/machine, performed to improve their uptime and to avoid the unplanned repairing activities. The purpose of preventive maintenance is to reduce the occurence of defects and the excessive worn of the machine/equipment. Using the FMEA for machines and industrial equipments, including tools and dies, helps to identify their potential failure mode in early design stages and as consquence, identification of the actions to be tacken to avoid unplanned breackdowns or their reparing time to be as short as possible. In the article, is presented various types of FMEA and their benefits and a case study of applying FMEA in planning of preventive maintenance of an assembly line of automotive components, working Just in Time, in order to assure its flawless functionality.

LA TENSION SUPERFICIELLE – PROPRIETE INTRINSEC DES LUBRIFIANTS
(SURFACE TENSION - INTRINSICAL LUBRICANTS PROPERTY)

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Surface tension is a physical and chemical parameter with a significant impact. It is present everywhere around us, but its the study appears to be insignificant in comparison with other parameters. We don’t take it into account during the dynamic processes because there are much many other more important properties that influence the lubricant. Regarding the static process, the surface tension impose the movement of the fluid which rest, using the pressure of Pascal. This paper present the importance of surface tension on the lubrication process.

ECONOMIC, SOCIAL, NATIONAL, ECOLOGICAL AND MORAL CRITERIA FOR ASSESSING THE EFFICIENCY AND OPPORTUNITY OF AN OBJECTIVE IN THE MINING INDUSTRY. CASE STUDY AT THE ROŞIA MONTANĂ PROJECT

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In the public opinion it became necessary to carry out a debate on the Roşia Montană project. In this article I shall present certain economic, social, national, ecological and moral criteria for assessing the efficiency and the opportunity of the project. Up to present, two options have been revealed: accomplishing the project of the Gold Corporation company or stopping it. The project opponents have not formulated any alternatives. In this article I am analyzing the efficiency and the opportunity of the Roşia Montană project based on a several working hypotheses and including the consequences of these working hypotheses.

ACTUALITATEA ECONOMIEI CUNOAŞTERII. VIITORUL ROMÂNIEI IN ECONOMIA CUNOAŞTERII
(THE ACTUALITY OF KNOWLEDGE ECONOMY. ROMANIA’S FUTURE IN KNOWLEDGE ECONOMY)

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The concept of Knowledge Economy is considered in different ways by specialists and political leaders.In a natural way they obtain different conclusions regarding the relevance of Knowledge Economyand the development strategy of Romania.Step by step we have now a relative consensus regarding the essential problemsabout this subject. In the present the political leaders recognizethe decisive importance of Knowledge Economy for the the future socio-economical development of our country.

ECONOMIA CUNOAŞTERII ŞI STRATEGIA DE DEZVOLTARE
(KNOWLEDGE ECONOMY AND DEVELOPMENT STRATEGY)

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The debates about the Knowledge Economy in Romania, taking into consideration development strategies, are in a great number in contradiction and in perpetual change. So, as results we have selected and we have presented three of the most important points of view: 1. the linear development, 2. the enhanced and continuous development of the industrial economy, 3. the global transformation of the economy.

EDUCATION TRENDS IN ROMANIA – A STATISTICAL ANALYSIS BY GENDER FOR THE LAST DECADE

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The past decade, the demand for international comparative quantitative information on education has grown tremendously, especially in Europe. The Bologna process as well as the Lisbon process has revived the interest for quantitative information on the development of national education systems. Quantitative information, and especially indicators, is a cornerstone of the new EU Open Method of Co-ordination. Comparison of the own national indicators with the rest Member States is seen as an important driving force for the development or adjustment of national policies to move towards the Lisbon objectives.

ABSORPTION OF EUROPEAN FUNDS, PRIORITY OBJECTIVE OF LOCAL COMMUNITIES DEVELOPMENT

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In order to recover a relatively loss of time spended basicly in a system which has differently conceved economy,fredom and development, for outlining in European landscape as a flourishing,educated,free and dignified nation , the adhesion of Romania to European Union must be looked beyound the espousal process by meaning that adhesion is not enough for that matter integration.This complex systemic throughout process entails many results which effects are pulled together for Romania's sustainable social and economic development in order to make a realist participation on European Union intern market.

MAINTAINING COMPETITIVE ADVANTAGE CONSIDERING THE DEVELOPMENT OF ENVIRONMENTAL PROTECTION REGULATIONS

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The need of regulations concerning the protection of natural environment is becoming more and more accepted, despite the belief that environmental regulations affect competitiveness. The prevailing concept is that there is a close relationship between ecology and economy. On the one hand there is the social benefit strict environmental standards produce, on the other hand there are the costs that firms must take to prevent pollution and support ecology - costs which increase prices and lower competitiveness.
However, this static view on the issue of environmental regulations, in which everything, except the regulations is kept unchanged, is wrong. If technology, products, processes and customer needs would be all the same, the conclusion that regulations would contribute to higher costs is inevitable. Yet, firms are operating in real economy of dynamic competition, not in the static environment of most economic theories. They always find innovative solutions to the problems competitors customers and regulators raise.

STRATEGIA MICILOR ÎNTREPRINDERI ROMÂNEŞTI ŞI INOVAŢIA, CA FACTOR DE SUCCES PE PIAŢA EUROPEANĂ
(ROMANIAN SMALL BUSINESS ENTREPRISES STRATEGY AND INNOVATION, AS SUCCESS FACTOR ON EUROPEAN MARKET)

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Innovation is a process whose objective is the achievement of a valuable, original and creative outcome. It gives the invention its economic dimension. Innovation-oriented firms are more likely to win over competitors, either by price reduction by following the reduction of costs, or by making better products that bring greater value to customers. For a leading European company innovation can be very handy having regard to available funds, unlike small businesses, which can be very innovative, but often encounter financing difficulties. However, there are several less expensive types of strategies the former can use, which merged with a correct prioritization can create a strong position on the European market, even for a small firm.