

CONTENTS

INTELLIGENT CONTROL SYSTEMS, ROBOTIC AND MECHATRONIC SYSTEMS

Study of the efficiency of the metal trading organization Boiko V.O., Rybnytskyi M.V.	14
Automatic monitoring of industrial buildings for the safety of structures, adjacent installations and technological units Bondar O.V., Besspalov K.I.	17
Research of automatic water level control in a tank Vinkovskyi M.S., Koyfman O.O.	20
Improving the process of loading the ball mill with grinding material Kovalevets R.V., Myrna N.V., Bundza O.Z.	25
Use of systems with artificial intelligence for controlling the sheet leveling machine Kovalenko A.K., Sahaida P.I.	28
Comparison of the methods for determining the parameters of controlled process Koyfman O.O., Miroshnychenko V.I., Vinkovskyi M.S., Isaiev A.B.	31
Automation of electric heating of industrial premises Kravchenko S.O., Miroshnychenko V.I.	35
Application of wave chain gears in drives of technological machines Krupko V.G., Krupko I.V., Suglovov V.V.	37
A system for predicting optimal mill performance to stabilize the finished product quality of the ore dressing factory Nikulin V.O., Miroshnychenko V.I.	41
Digital technical means of automation of distribution networks Omelnyskyi Yu.A.	43
The automation system of the heating unit of the plant management premises and adjacent buildings Okhrimenko S.S., Koyfman O.O.	46
Prospects for the use of drones in the mining industry Polovynkyn V.I.	49

An overview of automated control systems cos φ in the 6 kV electricity network Razzhyvin O.V., Prasol V.A.	51
Peak loads reduction in the energy system by adjusting the power consumption modes of coal mines Rukhlov A.V., Rukhlova N.Yu.	56
Automated system for vibration monitoring and diagnostics of a coke oven pusher Simkin O.I., Zolotarov D.G.	60
Use of modern automation technologies to improve personnel safety, reliability and efficiency of the coke oven gas pressure stabilization unit Simkin O.I., Korotysh V.Yu.	64
Analysis of the conditions for modernization of the blast furnace hot blast stove block control system Stetskiy V.V., Miroshnychenko V.I.	67
Information security of rental management systems Subotin O.V.	68
Automation of drying drum Uvarov M.O., Miroshnychenko V.I.	72
Study of gripper productivity and safety bridge cranes Kharchenko I.V., Holotiuk M.V.	74
Improving the efficiency of rock excavator electrical equipment and quarry power supply lines in the conditions of mining and ore enterprises of the Kryvyi Rih basin Khilov V.S.	77
Automation of glass glue filling unit of sewing press Cherepashchuk G.O., Potylchak O.P.	80
Improvement of control methods for pallet cars of the lurgi roasting machine Shcherbyna O.V., Bundza O.Z.	83

INNOVATIONS IN CIVIL AND OCCUPATIONAL SAFETY

Improvement of the system for ensuring safe working conditions for employees of the wagon farming Andrushchenko O.O.	86
Rope transport system Bartashevskiy S.Ye., Denischenko O.V.	89
Combating industrial dust at mining enterprises Bondarchuk R.D.	94
Rik-oriented system of management of occupational safety of a mining and metallurgical company Burlachenko K.O.	96
Implementation of concept in the educational process Volodchenkova N.V., Bohdanova O.V., Kruzhylo O.Ye.	100
Regulatory accordance of the component of occupational safety at a metallurgical enterprise Gerasimenko A.V.	102
Development of labor protection measures in coal mines Hizha M.P.	105
The practice of risk assessment at the workplace Dardesov A.O.	106
Artificial intelligence as an effective tool for ensuring the work safety of enterprises in modern conditions Dziurban M.H.	109
About the manufacture of protective structures and containers from ductile iron Doroshenko V.S., Klymenko S.I.	112
Protective properties of respirators and methods of their determination Zaitsev I.O.	113
Innovative technologies for the electrochemical synthesis of multifunctional materials for filter ventilation systems Karakurkchi H.V., Sakhnenko M.D., Korogodskaya A.M.	118
Implementation of European labor safety standards into Ukrainian legislation Kniazkova L.M., Chernykh Ye.M.	121

Expediency and practical application of the Elmeri method for identifying occupational hazards and assessing occupational risk at an enterprise Koniev L.L.	124
Sustainability of the work of pipe enterprises in wartime Korol R.M., Protopopova N.A.	127
Peculiarities of industrial safety audit at the enterprise Maistrenko V.V.	129
Rational use of collective and individual means of protection at the enterprise Peresunko N.V.	132
Implementation of a risk-oriented approach to increase safety during work at height in the construction industry Petchenko I.V.	135
Peculiarities of master’s training in civil safety under the educational program “Labor safety audit and consulting” Rekova N.Yu., Kruzhylo O.Ye., Volodchenkova N.V.	139
Improvement of working conditions in converter production as a result of modernization of technological equipment Repin M.V., Solodchenko T.V.	141
Analysis of accidents in the mining industry Rus Ya.V.	144
Identification of potential hazards in the construction of vibrating delivery and loading installations Tkalych I.M., Reshotka V.V.	146
Analysis and forecasting of the main indicators of injury in the construction industry Tsymbal B.M., Ursu O.O.	150
Research of hygiene working conditions and health conditions for assessment of occupational risk, injuries at the workplace Cheberiachko Yu.I., Kosternyi S.O.	154
Innovations in the field of labor safety during the repair work of high-rise buildings Shatov S.V., Bogachenko S.V., Goncharov D.D., Poslavsky D.S.	158

Identification of hazards, assessment of risks and development
of preventive measures on the example of a repair enterprise
Shmyhlenko O.V. 161

The impact of stress on productivity and efficiency of work on the enterprise
Yakovliev Ye.M. 164

MODERN ECO-FRIENDLY PRACTICES AND PROSPECTS FOR ENVIRONMENTAL PROTECTION

Modernization of the fire equipment of the mining and metallurgical
complex based on jet-niche technology
Abdulin M.Z., Terenchuk D.I., Dvortsyn G.R...... 168

Overview of atmospheric protection measures
in mining industry development regions
Avlasonok K.I., Maksymova N.M...... 171

Review of dust protection measures in the areas
of coke industry development
Halai V.A., Maksymova N.M. 175

Development of a methodology for calculating a sufficient amount
of reagent-collector for flotation enrichment of ash slag waste
Hlukhoveria M.R., Mladetskyi I.K...... 179

Use of macrophytes for assessment of the ecological condition
of technologically changed aquatic ecosystems
Hudym N.H...... 182

The latest technologies for reuse of sludge of metallurgical enterprises
in Ukraine
Dreshpak O.S., Berezniak O.O., Berezniak O.O., Chechel P.O...... 185

Study of the possibility of recycling waste from metallurgical productions
using glass technology
Zhdaniuk N.V...... 188

Relevance and prospects of using alternative raw materials
in metallurgical production
Zinchenko V.V...... 191

Features of the production of iron ore raw materials from hematite quartzites
Ivanchenko A.V., Smirnov O.Ya. 193

Biological reclamation of mining lands with biohums materials Kovrov O.S., Kolisnyk K.V.	196
Technical and economic indicators of the low carbon technology of renewable gas injection into the blast furnace Kutz H.O., Teslenko O.I.	199
Innovative technologies in the field of garbage sorting and waste disposal Minaiilo D.O., Nakempii O.K.	203
Some issues of regulatory and legal provision of environmental protection in Ukraine Navolniev I.Yu., Maksymova N.M.	207
Comprehensive visual survey as a mandatory tool for safe operation of tailings Pikarenia D.S., Orlinska O.V., Rudakov D.V.	211
Environmental and economic security of the enterprise: content and implementation of the development plan Polishchuk A.A., Maksymova N.M.	215
Analnsis of the impact of the metallurgical complex on the environment and health of the population Snihovyi D.V., Nakempii O.K.	219
Use of natural sorbents in water treatment processes Fediv I.S., Konanets R.M., Stepova K.V.	222
The use of returne water after flotation in the conditions of the production process of mining and concentration plants Khrystoforova O.O.	224
 MATHEMATICAL MODELING OF TECHNOLOGICAL AND BUSINESS PROCESSES	
Hybrid turbo-decoding method Bodnarenko B.O., Ivanov Yu.Yu., Skuratov S.M.	228
Mathematical simulation of rolling processes by pressure using MAPLE computer mathematics systems Hrudkina N.S., Malii Kh.V., Papazov V.M.	230

Development of a mathematical model of user behavior on the website and increasing its conversion Derzhevetska M.A., Kryvtsov O.V.	233
Exponential estimation of asynchronous motor parameters Dmytryshyn I.S.	236
Features of decoding block turbo-product codes Zvuzdetskii Ye.O., Ivanov Yu.Yu.	238
The mathematical modeling of physical processes as an element of practical training of students of technical specialties Kaidan V.P.	240
The use of maple cms in the course of studying the discipline “Higher and discrete mathematics” by students of economic specialties Kaidan N.V.	243
Qualitative analysis of the solution of one physical model switching in excel Kolesnykov S.O., Pogosyan A.V.	245
Implementation of elements of mathematical modeling in institutions of professional technical and vocational higher education during the teaching of mathematical disciplines Kotenko T.M., Sahay O.V.	248
Numerical simulation of energy-efficient solutions of steel melting bath with regarding kinetics of desulphurization under pneumatic stirring in the arc furnace of foundry class Niemytsev E.M., Timoshenko S.M.	251
Study of plastic deformation of copper under conditions of intensive combined loading Pashynska O.G., Boiko I.O., Zavdovieiev A.V., Kraliuk M.A.	255
Modeling the foundations of unit economics Pylypenko V.M.	259
Modeling of the synergetic effect of the university ecosystem Chala K.Yu.	262

**MODERN TOOLS IN BUSINESS
PERFORMANCE MANAGEMENT**

Optimal planning of long-term circulating stocks at the warehouses
of a motor transport enterprise

Hrushko V.V. 266

The method of qualimetric quality assessment improving
as the process management tool manufacturing

Dolzhanskiy A.M., Bondarenko O.A., Maksakova O.S. 268

Features of the organization of the staff mentoring process

Zaitseva D.M. 271

The method of hierarchy analysis in determining the priorities
of internal communication in the conditions of Metinvest Sichstal LLC

Zubavlenko V.V. 275

Martial law influence on staff turnover: causes analysis and consequences
in the conditions of “Southern mining and concentration combination”

Joint stock company

Kiblyk M.V. 277

Enhancing the efficiency of enterprise transport service processes
by using interactive dashboards

Kovalenko O.V. 280

Searching for opportunities to improve the system for assessing
the cost of strategic investment projects at Metinvest Sichsteel LLC

Kononiuk D.V., Latysheva O.V. 284

Management peculiarities of long-term stock in the mining
and concentration company condition

Latysheva O.V., Vyshniakova K.S. 288

Creativity as a key to the success of operational efficiency projects

Latysheva O.V. 291

Analysis of methods of forecasting volumes of rolled metal demand

Lyashenko S.V., Mints O.Yu., Bezruk R.I. 294

Counterparty compliance risk assessment and management methods

Mints O.Yu., Fokin Ye.A. 296

Researching the prospects of using data visualization to optimize the business decision-making process Nepliakh I.V., Shevchenko N.Yu.	299
Directions of improving the strategy of the ferriera valsider spa mining and metallurgical complex enterprise Ostrovyi S.O.	301
Improving metallurgical production management based on the compliance Petrenko V.O., Tuboltsev L.H., Fonarova T.A.	306
Optimizing the replacement of press equipment Pitsenko S.Yu.	309
The role of soft project manager skills in achieving company success in today’s environment of uncertainty and rapid change Rovenska V.V.	311
Increasing employees performance through their development Smyrnova I.I., Osadcha V.V.	314
Improving employees assessment as a tool of business efficiency management Smyrnova I.I., Osadchy D.A.	318
Leadership, self-development and teamwork as components of ensuring a favourable business environment Smyrnova I.I.	322
Improvement of the motivation system for the personnel of the repair service of the ingulets mining and processing plant Streltsov V.O.	325
Peculiarities of socially oriented investment projects in the field of metal construction in the conditions of Metinvest-SMC LTD Suiarko D.V.	328
Problems of cost estimation for projects at the initial stages of its planning Usatyi D.O.	331
Organizational structure optimization for ensuring enterprise resilience (case study Metinvest-Promservice, LLC) Kharchenko O.S., Isachenko D.Yu.	335

Lean philosophy in the budget development process of industrial enterprises	
Chupruna Yu.V.	338
Development of main digitalization measures at the enterprise	
Shevchyk T.V., Mints O.Yu.	340
Innovative studying methods in personnel performance management	
Shkrabak I.V., Neborachko A.V.	342