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## ABSTRACTS

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### CONCEPTION AN INTELLIGENT NODE ARCHITECTURE FOR INTRALOGISTICS

(pages 31-37)

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**Keywords:** logistics, Cyber Physical System - CPS, Industry 4.0

**Abstract:** Intralogistics makes up an important part of the supply chains some call it the 'heart of the logistics'. Lately the appearance of cyber-physical systems has been caused significant changes in this area, enabling not only a set of interconnected devices, but let new concepts to be implemented. This paper presents a novel control structure between the centralized and decentralized concepts – the so called intelligent node – which opens new possibilities for local control of intralogistics processes. The paper surveys possible connection of the intelligent node to the simulation based digital twin.

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### DETERMINATION OF IMPORTANCE OF ORE RAW MATERIALS EVALUATION CRITERIA

(pages 39-43)

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**Keywords:** costs, production, ore, price

**Abstract:** Industrial enterprises are now obliged to solve complicated and comprehensive problems. As a rule, they have a multi-criteria character, whereas separate criteria have fundamentally different properties. Logistics mathematics-based tools enabling the evaluation of these complicated problems are being more and more applied at present. A common problem can be the evaluation of a series of supplier's offers for commodities, which are typical by a wide spectrum of properties. It could be, for example, input production raw materials. A possibility of the use of mathematic tools in evaluating the quality of the ore raw materials was analysed within the performed investigation. The paper deals with an analysis of the results in determining a relevant importance of separate criteria.

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## **APPLICATION OF THE PRINCIPLES FOR LOGISTICS PRODUCTION COMPANY EFFECTIVITY**

(pages 45-51)

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**Keywords:** testing, system, simulation, automation, modernization

**Abstract:** The thesis focuses on the effectiveness of product testing. A system analysis is used in diploma thesis in the detailed analysis of the individual subsystems and their characteristics, which later improve the project proposal and emphasize the efficiency and the demands or requirements of the company for the final solution of the problem. The solution utilizes Tecnomatix 13 simulation of individual product testing, and its results are later taken into account in the economic evaluation of the proposed testing system. At the same time, the current situation is compared with the proposed project.

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## **IMPROVEMENT OF EFFECTIVENESS OF PRODUCTS PLACING AND DISPATCH IN THE DISPATCH WAREHOUSE OF THE ROUGH ROLLING PLANT**

(pages 53-57)

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**Keywords:** logistics, management, warehouse, Pareto analysis

**Abstract:** The paper describes a metallurgical enterprise and its production plants, including assortment of the manufactured products. The paper continues by the system of placing these products into a dispatch warehouse of the rough rolling plant, describes its benefits and disadvantages in connection with another processes. It also contains several alternatives of products disposition in warehouse with regards to certain criteria, as well as reasons why the enterprise should place emphasis on a correct lay-out of the products, which will lead to the grow of the effectiveness of placing and dispatch of the products and - by this - to the decrease of the total costs of the enterprise.

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## **COULD ACCELERATORS AND EQUITY CROWDFUNDING COMBINE TO IMPROVE ACCESS TO FINANCE FOR EARLY STAGE STARTUPS?**

(pages 59-63)

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**Keywords:** financing, venture capital, startups, entrepreneurship, technological companies

**Abstract:** The main goal of this article is to explore possible concepts of combining the acceleration program and equity crowdfunding. Both are venture capital instruments that finance businesses at the very early stages of their life cycle. The equity crowdfunding and the acceleration programs can be used to raise capital for business creation, first production and product distribution. In addition to the capital, they provide start-ups with additional benefits such as mentoring, networking, feedback from the crowd and a pool of experts. The authors of the paper believe that a combination of these two tools can even increase their positive impacts. In this article the authors of the paper search the first providers combining accelerator programs and equity crowdfunding. Afterwards based on those examples and their common features there are classified different concepts of how to combine acceleration programs and equity crowdfunding. Moreover, short characteristics are added for each concept and brief description of the process of each identified concept.

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