

REVIEW

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of the materials submitted for participation in the competition for holding the academic position “Associate Professor”,
in the field of higher education – **5. “Technical Sciences”**,
in professional field – **5.13 “General Engineering”**,
specialty – **“Industrial Management”**.

In the competition for holding the academic position “Associate Professor”, announced in the State Gazette, Issue 48 of 13.06.2025 and on the website of the Technical University of Gabrovo, for the needs of Department “Management” at the Faculty of Economics, Principal Assistant Tsanka Marinova Zlateva-Petkova, PhD, Eng. participates as the sole candidate for this academic position.

1. Brief biographical data

The academic profile of Principal Assistant Tsanka Marinova Zlateva-Petkova, PhD, Eng. is built onto strong foundations that are both wide and profound. They cover “Philosophy and law” at the “Aprilov” National High School, three specializations (Trade and Marketing, Production Flow Technologies, and Production Management), two master’s degrees (Industrial Management and Business Management), and a PhD in professional field 3.8 “Economics” for the PhD’s thesis titled “Analysis and evaluation of the quality of human resources” successfully defended in 2013. That colorful palette, enriched for decades, makes her participation in the competition in the professional field 5.13 “General Engineering” a natural continuation of her development and success.

The teaching experience of the candidate includes nearly 20 years, and more than 10 years she is a principal assistant. Her investment in developing her intellectual capabilities and the desire to share them for the benefit of society by her teaching activity at the Technical University of Gabrovo demonstrate her level of engagement and dedication, which distinguish Principal Assistant Tsanka Marinova Zlateva-Petkova as a promising professor and researcher.

2. General description of the presented materials

The candidate, Principal Assistant Tsanka Marinova Zlateva-Petkova, PhD, Eng., participates in the competition for holding the academic position “Associate Professor” with the following research publications aligned to the minimum national requirements (MNR):

- ✓ PhD diploma (50 points): *conforms to the MNR*;
- ✓ 1 monograph “Management of the Industrial Enterprise in a Competitive Business Environment” (ISBN: 978-954-683-720-2; 2025) – indicator C.3 (100 points): *conforms to the MNR*;
- ✓ 3 research publications in issues that are referenced and indexed in renowned global databases (Scopus) – indicator D.7 (33,3 points) and 16 research publications in non-referenced issues that are scientifically peer-reviewed or are published in collective volumes – indicator D.8 (320 points), or 353,3 points in total for indicator D: *exceeds the MNR*;

- ✓ 1 textbook “Business Planning” (ISBN: 978-954-683-594-9; 2019) – indicator F.23: *exceeds the MNR and conforms to the requirements of the Technical University of Gabrovo*;
- ✓ 1 teaching aid (guidebook) “The Business Plan. From Idea to Implementation” (ISBN: 978-954-683-635-9; 2021) – indicator F.24: *exceeds the MNR and conforms to the requirements of the Technical University of Gabrovo*.

3. Reflection of the candidate's scientific publications in the scientific community (known citations)

I consider that the research publications of Principal Assistant Tsanka Marinova Zlateva-Petkova, PhD, Eng., submitted for participation in the competition, have been objectively evaluated by the reviewers and the participants in the relevant research forums both in Bulgaria (Sofia, Plovdiv, Burgas, Veliko Tarnovo, Gabrovo) and abroad (Latvia, Ukraine). The free access to the publications and their availability on the internet makes them convenient for use by the research community.

This criterion also includes “Citations or reviews in issues that are referenced and indexed in renowned global databases or in monographs and collective volumes” – indicator E.12 (90 points): *exceeds the MNR*.

4. Overview of the content and the results in the presented works

The monograph „Management of the Industrial Enterprise in a Competitive Business Environment“ (2025) meets the requirements for a habilitation thesis (monograph). Principal Assistant Tsanka Zlateva-Petkova, PhD, Eng. provides an in-depth overview and analysis of the chronology and contemporary trends influencing the performance of industrial organizations. The essence of the research provides a detailed overview of the state of the subject matter, presenting a distinct triptych built upon the interplay between the management of the industrial enterprise, human resources, and their quality as a factor for the organization's competitiveness.

The monograph comprises: an introduction, three chapters of comparable length (“The State and Challenges for the Management of the Industrial Enterprise”; “The Leading Role of Human Resources in the Management of the Industrial Enterprise – Current State and Trends”; and “Dimensions of Competitiveness and the Quality of Human Resources in the Industrial Enterprise”), with summaries and conclusions at the end of each chapter, and an overall conclusion featuring 7 key findings, as well as a bibliography. The total volume of the monograph is 260 pages, containing text, 19 figures, and 6 tables. The bibliography includes 126 literature sources, spanning the period from 1999 to 2025, which are correctly cited throughout the text of the monograph.

The monograph summarizes findings related to the dynamics of the modern business environment of the industrial enterprise. The influence of the industrial enterprise's competitiveness has been researched, analyzed, and evaluated. Conclusions are drawn regarding the significance of digitalization for the prosperity of the industrial enterprise. The benefit of a holistic approach to human resource management for maximizing the potential of human capital is substantiated. It is proven that the knowledge, skills, and abilities of the personnel are among the most significant and renewable resources of the industrial enterprise. It is confirmed that lifelong learning leads to an increase in the industrial enterprise's competitive advantage.

The competition for the academic position of "Associate Professor" includes 19 *research publications* (3 of which are in issues that are referenced and indexed in renowned global databases and 16 – in non-referenced issues that are scientifically peer-reviewed or are published in collective volumes), categorized by Principal Assistant Tsanka Zlateva-Petkova,

PhD, Eng., into the following 3 theoretical domains (TD) within the speciality of “Industrial Management”:

- TD1 „Management of industrial enterprises“: 7 publications (2 in Scopus + 5 non-indexed publications);
- TD2 „Management of projects, processes and resources in industrial enterprises“: 9 publications (1 in Scopus + 8 non-indexed publications);
- TD3 „Application of high-energy technologies for marking stainless steel samples“: 3 non-indexed publications.

TD1 presents the system view of industrial management. The key results in this TD include:

- Developed schemes detailing the optimization process for design and technological approaches in the engineering product design and manufacturing. [publication 7.1];
- Analytical study of the state of innovative development and innovative obsolescence in 15 manufacturing enterprises in Bulgaria. [publication 7.2];
- A conceptual model for transitioning from Industry 4.0 to Industry 5.0 and defined stages of digital maturity, related to digital transformation. [publication 8.1];
- A comparative analysis of the investment attitudes of industrial enterprises in the context of crisis. [publication 8.2];
- A critical analysis of current aspects in organizational management, such as goal setting, control and effective execution of functions, causes of worker and employee alienation from organizational goals, competitive remuneration, career development management, etc. [publication 8.3];
- A competitor analysis for the development of well-justified and successful policies and strategies for the competitiveness of industrial enterprises. [publication 8.4];
- A classification of the types of Key Performance Indicators (KPIs) and defining requirements for KPIs. [publication 8.5].

The publications in TD2 share the common process approach applied in the management systems of industrial organizations. The results in this TD encompass:

- A systematization of the factors that facilitate or hinder the process of competitive engineering design. [publication 7.3];
- An analysis of the factors that determine the successful implementation and maximum utilization of ERP (*Enterprise Resource Planning*) systems. [publication 8.6];
- A comparative analysis of potential engineering projects for creating new or reconstruction of existing industrial production processes and enterprises. [publication 8.7];
- A systematization and generalization of the groups of processes that are needed for the successful realization of engineering projects, considering their easier implementation and adaptation to practice. [publication 8.8];
- An analysis of the role of the research project manager and the interpersonal dynamics within the research team [publication 8.9];
- A systematic analysis and methodology for creating a production programme for the introduction of a new product into the production nomenclature of industrial enterprises. [publication 8.10];
- A study of human resource management in production flow. [publication 8.11];

- A definition of the role of human resource management within the framework of knowledge management in industrial enterprises. [publication 8.12];
- An adaptation of foreign best practices in human resource management, taking into account the specific context of the business environment in Bulgaria. [publication 8.13].

TD3 reveals the application of the system and process approach to management for solving specific engineering tasks through the use of modern technologies, ensuring quality and innovative solutions to current problems. The key results from these publications are:

- Analysis of numerical experiments for the laser marking process of C22 structural steel samples. [publication 8.14];
- Investigation of the influence of speed and impulse duration on the fiber laser marking process of X6Cr13 stainless steel samples. [publication 8.15];
- Analysis of the influence of frequency and raster step on the marking contrast of C60 structural steel samples. [publication 8.16].

The textbook „Business Planning“ (2019) provides a concise overview of fundamental knowledge regarding the theory and methodology of planning, covering the basic principles, essence, technology, and organization of corporate planning, the specifics of the contemporary business environment and its impact on planning activities, as well as the planning toolkit. Distinctively structured by the author across 248 pages, the following sections are covered: 1) Theoretical and Methodological Foundations of Planning; 2) The Corporate Planning Process; 3) The Corporate Planning Environment; 4) Organization of Corporate Planning; 5) Production and Human Resources – Key Factors for Organizational Competitiveness; 6) Planning Toolkit. The textbook is used in the education of students from the specialties “Business Administration” and “Industrial Management” at the Technical University of Gabrovo.

The teaching aid (guidebook) “The Business Plan. From Idea to Implementation” (2021) is focused on the practical application of business plans. The guidebook is designed for seminar classes in the discipline “Business Planning” for students from the specialties “Business Administration” and “Industrial Management” at the Technical University of Gabrovo, but it is also suitable for business professionals, as it contains not only specific procedures for developing a business plan but also concrete recommendations for preventing errors. Three parts are presented across 163 pages: 1) Methods and Techniques for Generating Business Ideas; 2) Technology and Standards for Developing a Business Plan; 3) Sample Models for Developing a Business Plan.

5. General characteristics of the candidate's activity

5.1. Educational and pedagogical activity (work with students and doctoral students)

The solid teaching experience of Principal Assistant Tsanka Marinova Zlateva-Petkova, PhD, Eng., is a proof of her outstanding work with the students whom she lectures, teaches, assigns course projects, leads production and pre-diploma practices. Until now she has taught 13 disciplines, and also has mentored, both scientifically and methodically, the theses of bachelor's and master's degree students.

5.2. Research, scientific and applied activity

The research maturity reached by Principal Assistant Tsanka Marinova Zlateva-Petkova, PhD, Eng., is justified by facts. In the period 2023-2025 she has been a reviewer and a member of scientific committees of international science conferences indexed in Scopus. She participated in 11 research projects of the Technical University of Gabrovo between 2012 and 2024. She has more than 50 research publications allocated in the following thematic domains: organizational management, human resource management, process and product innovations, etc.

5.3. Implementation activity

Elements of the research publications are implemented in practice as a result of the participation of Principal Assistant Tsanka Marinova Zlateva-Petkova, PhD, Eng., in research projects. Among them, it is impressive that she is the research manager for the project “Development of Innovative Management Products and Services for Companies that Operate in the Field of Mechatronics and Clean Technologies” (2021).

6. Contributions (to research, to science and practice, applied).

Principal Assistant Tsanka Marinova Zlateva-Petkova, PhD, Eng. has presented her view of the contributions contained in her publications. The report provided by the candidate contains 20 contributions to science and practice, and 6 applied contributions.

According to me, the more significant of all contributions formulated by Principal Assistant Tsanka Marinova Zlateva-Petkova, PhD, Eng., are:

- A developed conceptual model for transitioning from Industry 4.0 to Industry 5.0 that focuses on the stages of digital maturity and the strategies for achieving balance between technologies, the human factor, and sustainability. [№ 7];
- A developed systematized methodology for creating a production programme for implementing a new product in industrial enterprises. [№ 14];
- A new model for a remuneration system – proposed is a structure of payment that is aligned to qualification, flexibility, collective results and engagement, and that enhances traditional systems for labour remuneration. [№ 15];
- A developed model for assessment of the impact of ERP on key performance indicators by quantitative comparison „Before and after ERP“ using indicators such as order processing time, data accuracy, administrative costs, customer satisfaction and return on investment (ROI). [№ 11];
- An empirical model of innovation readiness in industrial enterprises based on the analysis of indicators such as innovative active enterprises, revenue, employment rate, and cooperation in crisis. [№ 8];
- A developed methodology for assessing the competitiveness of an industrial enterprise. [№ 4];
- A developed methodology for determining the temperature fields in the zone of application of various values of power density, scanning speed, frequency and raster step for laser marking of stainless steel X6Cr13 samples. [№ 18].

I agree with the formulation and classification of the applied contributions.

7. Evaluation of the candidate's personal contribution

The monograph, the textbook, the teaching aid, and the 16 research publications in non-referenced issues that are scientifically peer-reviewed or are published in collective volumes are the works of a sole author – Principal Assistant Tsanka Marinova Zlateva-Petkova, PhD, Eng. She is a co-author in the 3 research publications in issues that are referenced and indexed in renowned global databases with scientific information. The personal contribution of the candidate is beyond any doubt because she is the sole author of most of the publications, and the lack of explanation for the contribution of each co-author in the collective publications indicates that they all have equally contributed to performing scientific research, creating and presenting the relevant publication.

8. Critical remarks and recommendations

I recommend that the scientific and applied contributions are reorganized in a way that highlights their significance. I propose that they start with the development of new

systematizations, models and methodologies, and the end of the list of contributions to contain those of them that serve as justifications and interpretations.

After searching and taking into consideration the information contained in the Scopus, Google Scholar and ResearchGate profiles of Principal Assistant Tsanka Marinova Zlateva-Petkova, PhD, Eng., I have found additional publications and citations in comparison to the ones that are used in this competition for “Associate Professor”: two new publications and a total of 23 citations (Scopus), 35 citations in Google Scholar, as well as 20 citations in ResearchGate. These achievements can be built upon and can be used in upcoming procedures. A sign of the achieved higher research level would be to highlight citations by foreign researchers in issues indexed in Web of Science and/or Scopus.

I would recommend that the future research and publication activity of Principal Assistant Tsanka Marinova Zlateva-Petkova, PhD, Eng., increases the share of Web of Science and/or Scopus indexed publications that would have a positive effect on her research indexes and would contribute to the research status of the Technical University of Gabrovo.

9. Personal impressions

My personal impressions of Principal Assistant Tsanka Marinova Zlateva-Petkova, PhD, Eng. date back to the moment I was chosen to be a reviewer of her monograph. Her life and professional experience ensure the depth of her thoughts and confidence in her actions. I value her openness and devotion to her self-improvement. She demonstrates her readiness to contribute to any team of which she is part of, as well as to the prosperity of each cause she is engaged with.

10. Conclusion

Considering the abovementioned facts, I propose that Principal Assistant Tsanka Marinova Zlateva-Petkova, PhD, Eng. is elected an “Associate Professor” in the field of higher education – 5. “Technical Sciences”, in professional field – 5.13 “General Engineering”, specialty – “Industrial Management”.

20.10.2025

Reviewer:
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