# THE NATIONAL ACADEMY OF SCIENCES OF UKRAINE

# Scientific and practical journal



Economy of Industry

Since 1997

Published quarterly



No. 2 (90) 2020

# The scientific and practical journal "Economy of Industry" has been publishing since 1997 The certificate of the journal state registration is KB No. 23249-13089IIP dated 22.03.2018 The journal is published quarterly

The journal is included in the List of specialized scientific editions of Ukraine (category δ) (in accordance with the Order of the Ministry of Education and Science of Ukraine

of October 15, 2019 No. 1301)

ISSN 1562-109X (Print) ISSN 2306-532X (Online) The Journal is registered in the International Center of periodicals (ISSN International Center, Paris)

The journal "Economy of Industry" is indexed in the Ukrainian nationwide abstract database "Ukrayinika naukova" and is placed in the Scientific electronic library of periodicals of the NAS of Ukraine. The periodical is included also in the global electronic library of science periodicals EBSCO Publishing, in the Ulrich's Periodicals Directory as well as in the world's largest network of library content and services WorldCat. The journal is indexed by the scientometric base Index Copernicus (Poland). Since November 2011 the journal has been included into the International Scientometric Database "Scientific Electronic Library E-Library.Ru (the Russian Science Citation Index — RSCI)". The periodical is indexed in the freely accessible search system GoogleScholar. Since 2013 the journal is indexed in the Scientometric Databases: DRJI (Directory of Research Journals Index) and Research Bible (Japan). The journal is included in the Citefactor service that provides access to quality controlled Open Access Journals and in the reference database of the European Reference Index for the Humanities and the Social Sciences (ERIH PLUS).

#### Founders:

The NAS of Ukraine, The Institute of Industrial Economics

#### E-mail:

RPokotylenko@econindustry.org, admin@ econindustry.org. Web: www.econindustry.org. Web: iie.org.ua

#### The address of the editorial office:

2 M. Kapnist Str., Kyiv, Ukraine, 03057. **Tel.**: 38 (044) 200-55-71. **Mobile tel.**: 38(095) 291-03-11

#### **Editorial Council:**

AMOSHA O.I. (Chairman of the Editorial Council, Fellow of the NAS of Ukraine, Institute of Industrial Economics of the NAS of Ukraine), ALEXANDROV I.O. (Doctor of Economics, Professor, Odessa National Polytechnic University), DEMENTIEV V.V. (Doctor of Economics, Professor, Financial University under the Government of the Russian Fed-GEETS V.M. eration), demician of the NAS of Ukraine. Institute of Economics and Forecasting of the NAS of Ukraine), KWILINSKI A. (PhD in Economics, London Academy of Science and Business, England), LIBANOVA E.M. (Academician of the NAS of Ukraine, Institute of Demography and Social Studies named after M.V. Ptukha of the NAS of Ukraine), MAKO-GON Yu.V. (Doctor of Economics, Professor, Mariupol State University).

#### **Editorial Board:**

VISHNEVSKY V.P. (Chief Editor, Member of the Editorial Council, Fellow of the NAS of Ukraine, Institute of Industrial Economics of the NAS of Ukraine), ZALOZNOVA Yu.S. (Deputy Chief Editor, Corresponding Member of the NAS of Ukraine, Institute of Industrial Economics of the NAS of Ukraine), POKOTYLENKO R.V. (Deputy Chief Editor, Managing Editor, PhD in Economics, Institute of Industrial Economics of the NAS of Ukraine), GARKUSHENKO O.M. (Secretary of the Editorial Board, PhD in Economics, Institute of Industrial Economics of the NAS of Ukraine), ANTONYUK V.P. (Doctor of Economics, Professor, Institute of Industrial Economics of the NAS of Ukraine), BRYUKHOVETSKAYA N.Ye. (Doctor of Economics, Professor, Institute of Industrial Economics of the NAS of Ukraine), BULEEV I.P. (Doctor of Economics, Professor, Institute of Industrial Economics of the NAS of Ukraine), CHEREVATSKYI D.Yu. (PhD in Technical Science, Institute of Industrial Economics of the NAS of Ukraine), KHARAZISHVILI Yu.M. (Doctor of Economics, Institute of Industrial Economics of the NAS of Ukraine), KRAVCHENKO O.O. (Doctor of Economics, State University of Infrastructure and Technology), MAYBU-ROV I.A. (Doctor of Economics, Professor, Ural Federal University named after the First President of Russia Boris Yeltsin, Russia), MYKHNENKO V. (PhD in Political Economy, University of Oxford, United Kingdom), NOVIKOVA O.F. (Doctor of Economics, Professor, Institute of Industrial Economics of the NAS of Ukraine), PAJAK K. (Doctor of Economics, Institute for International Cooperation Development, Poland), POGORLET-SKIY A.I. (Doctor of Economics, Associate Professor, St. Petersburg State University, Russia), SOLDAK M.O. (PhD in Economics, Institute of Industrial Economics of the NAS of Ukraine).

Articles for publication in the scientific and practical journal are selected under the terms of competition by the results of internal and external reviewing. The authors of the articles are fully responsible for accuracy of facts, dates, titles, proper names, data, and quotations. The publisher may not share the opinions expressed in articles, and does not assume any obligations concerning authors' points of view. Reprints and translations are allowed only in the consent of the author and publisher. Materials are printed in the source language.

The issue is approved for publication by the Academic Council of the Institute of Industrial Economics of the NAS of Ukraine (protocol No. 4 dated 14.04.2020)

© The Institute of Industrial Economics of the NAS of Ukraine
© Economy of Industry, 2020

| – Економіка промисловості 🕏 | Economy of Industry — |
|-----------------------------|-----------------------|
| – Економіка промисловості 🔑 | Economy of Industry — |

### **CONTENTS**

# MACROECONOMIC AND REGIONAL PROBLEMS OF INDUSTRIAL DEVELOPMENT

| Salikhova O. B., Shelud`ko N. M. Institutional and financial mechanisms to stimulate  |     |
|---|-----|
| technology innovation in industry: the experience of France, lessons for Ukraine  | 5   |
| Kniaziev S. I. Experience of european smart industry development  | 27  |
| Pidorycheva I. Yu. Innovation ecosystem in contemporary economic researches   | 54  |
| Zanizdra M. Yu. Methods and practice of applying environmental foresight:   |     |
| analytical revie  | 93  |
| PROBLEMS OF INDUSTRIAL ENTERPRISES' AND PRODUCTION COMPLEXES' ECONOMICS   |     |
| <b>Bryukhovetskaya N. Ye., Chernykh O. V.</b> Industry 4.0 and digitalization of the economy: opportunities to use foreign experience in Ukrainian industrial enterprises | 116 |
| SOCIAL AND ECONOMIC PROBLEMS OF INDUSTRIAL DEVELOPMEN   | Т   |
| Pankova O. V., Ishchenko O. B., Kasperovich O. Yu. Labour and employment  |     |
| in a digital transformation: priorities for Ukraine in the context of global trends   |     |
| and formation of Industry 4.0   | 133 |
| REVIEWS, INFORMATION MESSAGES   |     |
| <b>Zharkin A. F.</b> Digitalization as a tool for economic growth: world experience   |     |
| and Ukrainian realities   | 161 |
|   |     |

## Науково-практичний журнал

**№** 2 (90)

2020

Scientific and practical journal



Economy of Industry Виходить щоквартально

Видається з 1997 року

Оригінал-макет підготовлено у відділі інформатизації наукової діяльності Інституту економіки промисловості НАН України

Літературний редактор

О. А. Кокорєва

Комп'ютерна верстка

Я. Є. Красуліна

Відповідальний редактор

Р. В. Покотиленко

### Засновники:

Національна академія наук України, Інститут економіки промисловості

Свідоцтво про державну реєстрацію журналу КВ № 23249-13089ПР від 22.03.2018 р.