

CENTRAL INSTITUTE FOR LABOUR PROTECTION – NATIONAL RESEARCH INSTITUTE

CIOP-PIB STRATEGIC PLAN FOR RESEARCH AND DEVELOPMENT 2026-2028

Warsaw, December 2025

CIOP  **PIB** **75** YEARS

INTRODUCTION

The Central Institute for Labour Protection – National Research Institute (CIOP-PIB), as a research institution supervised by the Ministry of Family, Labour and Social Policy (MRPiPS), focuses its research and implementation activities on actively supporting the Ministry in carrying out its responsibilities related to the following two areas of government administration, as defined in the Act of Parliament of 4 September 1997 on Government Administration Departments (Journal of Laws of 1997, No. 141, item 943, as amended):

- **Labour** – for employment relations and working conditions (art. 21 par. 1 item. 2),
- **Social Security** – for social and vocational rehabilitation of persons with disabilities (art. 31 par. 1 item. 6).

The Institute's mission is to conduct research and development activities in the field of engineering and technology sciences, specifically within the discipline of environmental engineering, mining and energy, with a focus on human protection in the working environment and ergonomics.

The Institute also carries out research and development activities in two additional scientific fields: medical and health sciences, and social sciences. The research and development activities undertaken by CIOP-PIB are aimed at improving the quality of work and life, as well as enhancing health protection and social security.

The Institute's comprehensive research and development activities are conducted, among others, to:

- 1) Identify workplace hazards and assess occupational risks,
- 2) Develop innovative technical solutions that support improvements in working conditions, occupational safety, and the protection of workers' health and lives,
- 3) Prevent the social exclusion of various groups of workers and promote longer professional activity,
- 4) Develop new technologies and improve the protective performance and ergonomic properties of existing personal and collective protective equipment using state-of-the-art technologies,
- 5) Develop modern tools, including those based on virtual reality (VR) and augmented reality (AR) technologies, for use in education and rehabilitation,
- 6) Acquire new knowledge in the field of human protection in working and living environments.

Ad 1) Comprehensive occupational risk assessment in the workplace is possible thanks to the Institute's staff, whose high-level competencies are recognised by both national and international scientific communities and who represent a wide range of disciplines, including engineering and technical sciences, medical and health sciences, and social sciences. The expertise of the staff, combined with the Institute's globally unique laboratory and mobile research facilities, enables the implementation of interdisciplinary studies covering the identification, study of human impact, assessment, and elimination of all occupational hazards. This includes emerging risks associated with economic and technological development (e.g. new energy sources, digitalisation, and artificial intelligence), hazards driven by climate change, and new psychosocial risks.

Ad 2) This objective will be achieved through activities aimed at developing innovative solutions that support workers in the work environment, with a particular focus on innovative personal protective equipment technologies.

Ad 3) This objective will be achieved through research focused on:

- ensuring adequate psychosocial and physical working conditions, well-being, and work-life balance for young and older workers, mothers, as well as individuals engaged in new forms of employment,
- strengthening appropriate mechanisms that facilitate the labour market participation of persons with disabilities or those at risk of disability through the development and implementation readiness of a model for comprehensive assessment of professional competencies as well as psychosocial and physical abilities.

Ad 4) This objective will be achieved through research focused on improving the protective and functional performance of personal protective equipment, drawing on the latest advances in materials engineering (e.g. biomimetic materials, self-healing materials, and shape-memory materials) and information technologies, as well as addressing the need for rapid response to emerging risks, such as epidemic and civilisation-related hazards.

Ad 5) This objective will be achieved through research focused on the development of innovative training applications based on virtual and augmented reality technologies, tailored to the needs of various occupational groups, as well as other training tools based on virtual reality techniques (e.g. machine and vehicle simulators for training employees in sectors with a high rate of occupational accidents).

Ad 6) The acquisition of new knowledge in the field of human protection in working and living environment will support the identification of hazards and the study of human exposure to emerging physical, chemical, biological, and psychosocial risks.

The results of the above activities effectively assist the Ministry of Family, Labour and Social Policy (MRPiPS) in implementing state policy aimed at improving occupational safety and working conditions, as well as fostering a culture of safety in both working and living environments.

The dynamically developing expertise and experience of the Institute's staff provide **essential and highly valuable support to the Ministry of Family, Labour and Social Policy (MRPiPS) at both European and national level. This support includes, among other things, the development of new regulations, amendments to the existing legislation, and the interpretation of legal provisions and requirements in the area of occupational safety, as well as the work of the Interdepartmental Commission for Maximum Admissible Concentrations and Intensities for Agents Harmful to Health in the Working Environment.**

BASIC PRINCIPLES AND THEMATIC PRIORITIES FOR RESEARCH AND DEVELOPMENT ACTIVITIES FOR 2026–2028

Thematic priorities – basic principles

The topics of research and development activities, in accordance with the Statute of CIOP-PIB and the *Prospective Directions of Scientific, Development and Implementation Activities for 2021–2030*, are determined on the basis of:

1. a systematic analysis of the state of occupational safety and working conditions, and the resulting socio-economic trends and needs,
2. the activity plans and objectives of the Ministry of Family, Labour and Social Policy and other ministries, public administration bodies (including the Social Insurance Institution – ZUS, the Agricultural Social Insurance Fund – KRUS, and the State Fund for the Rehabilitation of the Disabled – PFRON), as well as institutions supervising working conditions (the State Labour Inspection – PIP and the State Sanitary Inspection – PIS),
3. the opinions of the Labour Protection Council at the Sejm of the Republic of Poland,
4. international strategies concerning safety and the protection of persons in the working environment.

These research priorities have also been used as a basis for planning the National Programme for the Improvement of Safety and Working Conditions (Phase VII).

In the years 2026–2028, the Institute's **research and development activities are planned to be financed** from four main sources:

1. state budget funds allocated under the National Programme for the Improvement of Safety and Working Conditions (Phase VII),
2. the subsidy granted by the Minister of Science and Higher Education,
3. funds obtained under national and international programmes supporting scientific research and development projects (including NCN, NCBR, European Funds and Horizon Europe),
4. agreements concluded with external entities, obtained through participation in tendering procedures and competitive calls for proposals.

Thematic priorities – plan

In the years 2026–2028, the Institute plans to **carry out research and development activities concerning the development and dissemination of new solutions aimed at shaping a modern system for the protection of persons in the working environment and improving social security through the implementation of:**

- 1) the National Programme for the Improvement of Safety and Working Conditions (Phase VII),
- 2) statutory research activities,
- 3) projects implemented with funds obtained under national and international programmes,
- 4) agreements concluded with external entities for the implementation of expert work and scientific research.

Ad 1) National Programme for the Improvement of Safety and Working Conditions (Phase VII), the implementation of which will continue in the years 2026 - 2028.

This program supports the fulfilment of the obligations of the Government of the Republic of Poland arising from membership of the European Union and serves as the National Strategy in the field of occupational safety and health. It encompasses the implementation of tasks related to the services of the state as well as research and development projects within the scope of scientific research.

The scope of tasks related to the services of the state for 2026–2028 will address issues such as:

- methods for testing and assessing protective measures and equipment designed to protect against harmful factors in the working environment,
- research and assessment of exposure to harmful and burdensome factors in the working environment,
- prevention of risks associated with new forms of work and the use of artificial intelligence systems,
- assessment of psychophysical health and the promotion of health-oriented behaviours,
- development of online databases and information and training services,
- innovative educational, training and occupational health and safety management tools using VR and AR technologies,
- knowledge transfer through publications, dissemination activities and social media.

The scope of research and development projects planned to be implemented in 2026–2028 includes:

- new products, materials and technologies in the field of personal and collective protective equipment,
- solutions based on machine learning aimed at improving safety of employees,
- monitoring and assessment of the working environment, including the use of XR technologies and artificial intelligence,
- criteria, testing methods and measurement devices for the assessment of workplace environmental factors,
- assessment of physical and psychosocial hazards and prevention of social exclusion.

Ad 2) Statutory research activities will be carried out within the framework of the subsidy granted to the Institute by the Ministry of Science and Higher Education. The topics of the tasks planned for implementation in 2026–2028 will include, among others:

- development of principles for the identification, assessment and mitigation of chemical, particulate and biological hazards in the working environment,
- development of principles for the identification, assessment and mitigation of physical hazards in the working environment,
- adaptation of workplaces to human psychophysical capabilities,
- advancement of occupational safety technologies,
- activities supporting the development of scientific research and the dissemination of scientific knowledge.

Ad 3) Projects implemented with funds obtained from national and international programmes in 2026–2028 will address:

- ensuring appropriate psychosocial and physical working conditions,
- preventing labour market exclusion of persons with disabilities and workers aged 50+,
- the impact of climate change on working conditions,
- the application of new forms of work organisation and reduced working time arrangements,
- the use of advanced information technologies and artificial intelligence to improve efficiency, occupational safety and working conditions,
- healthy and sustainable environment, as well as resilient food production and distribution systems.

Ad 4) Agreements concluded with external entities for the performance of expert work and scientific research. For the years 2026–2028, the Institute plans to maintain its continuous expert involvement in programmes

implemented by external institutions (including inter alia the Social Insurance Institution – ZUS) and to systematically obtain commissioned projects through participation in tendering and competitive procurement procedures. These activities will include research studies, expert assessments, analyses, opinions, recommendations and guidelines, as well as consultations and training in the field of occupational safety and health, based on the results of the Institute's scientific research activities.

Within the framework of these activities the Institute carries out work supporting enterprises and institutions in acquiring knowledge on workplace hazards and on the possibilities of their elimination or mitigation. The Institute also conducts laboratory testing of products for certification purposes, as well as measurements and assessments of workplace environmental parameters and factors affecting the safety and health of workers.

Furthermore, in 2026–2028 the following activities are planned:

1. Standardisation, in the field of occupational health and safety and ergonomics –carried out at the Institute in accordance with the rules resulting from the Standardisation Act of 12 September 2002 (Journal of Laws No. 169 item 1386, as amended), including:

- substantive and organisational work,
- participation of experts from the Institute in CEN and ISO technical committees and working groups,

2. Interdepartmental Commission for Maximum Admissible Concentrations and Intensities for Agents Harmful to Health in the Working Environment – including substantive and organisational work,

3. International cooperation in science and technology - including:

- participation in European Union research and innovation programmes, according to the topics of announced calls for proposals,
- cooperation with foreign institutes, inter alia within the PEROSH network (Partnership for European Research in Occupational Safety and Health), including participation in projects, seminars, webinars and scientific internships,
- participation in the work of the European Commission and other European Union bodies, including representation of Poland in the Advisory Committee on Safety and Health at Work (ACSH) and in the Management Board of the European Agency for Safety and Health at Work (EU-OSHA),
- cooperation with international organisations, including network structures (EU-OSHA, EUROSHNET - European Occupational Safety and Health Network).



A detailed description of the research and development activities undertaken by the Institute will be presented in the annual activity plans of CIOP-PIB.