



Management of socio-economic system development based on project management in conditions of economy and society digitalization

РЕКОМЕНДАЦІЇ ЩОДО ДОТРИМАННЯ САНІТАРНОЇ БЕЗПЕКИ ПІД ЧАС ПРОВЕДЕННЯ ТРЕНІНГІВ



1. ПЕРЕБУВАЙТЕ У ЗАХИСНІЙ МАСЦІ.

Маску слід носити з урахуванням правил її використання, змінюючи кожних дві години, або коли вона стає волога. Медичну маску слід одягати кольоровою стороною назовні.



2. СЛІДКУЙТЕ ЗА ТЕМПЕРАТУРОЮ СВОГО ТІЛА.

Вимірюйте температуру щоразу, коли у Вас виникнуть сумніви щодо свого самопочуття.



3. ДОТРИМУЙТЕСЯ ДИСТАНЦІЇ.

Уникайте натовпу та залишайтеся на відстані хоча б 1 метра від оточуючих, особливо тих, які кашляють, чхають або мають ознаки лихоманки.



4. ДОТРИМУЙТЕСЯ ПРАВИЛ ДЕЗІНФЕКЦІЇ.

Часто мийте руки із милом або використовуйте антисептик. Намагайтеся не торкатися руками до рота, носа та очей.



5. ПОДБАЙТЕ ПРО ОТОЧУЮЧИХ.

Під час кашлю та чхання прикривайте рот і ніс серветкою або згином ліктя. Після цього неодмінно помийте руки.



6. РЕАГУЙТЕ ВЧАСНО.

При ознаках респіраторного захворювання негайно залиште місце проведення тренінгу, зверніться до лікаря та повідомте організаторів.

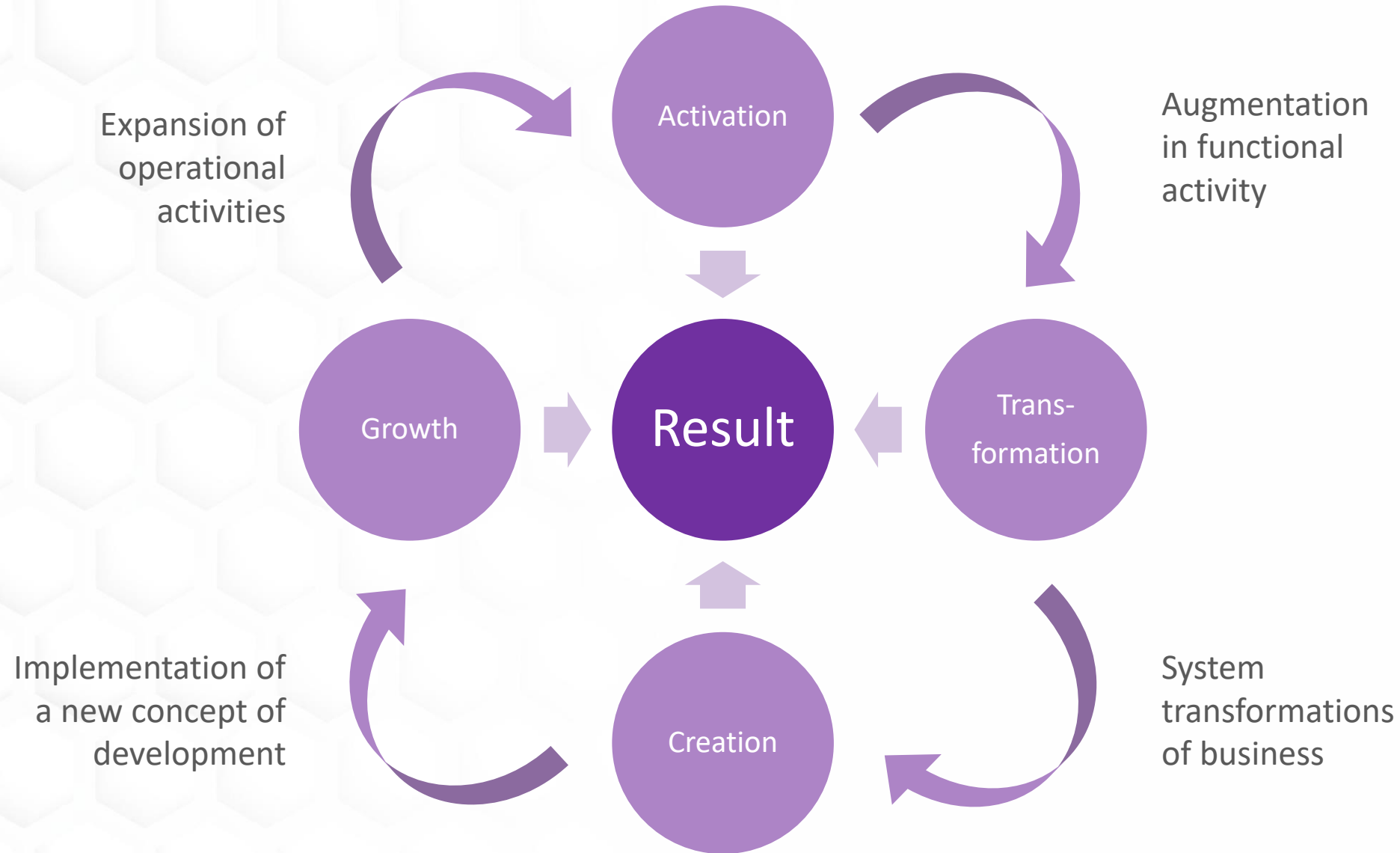
ПРАВИЛА РОБОТИ НА ТРЕНІНГУ

- ✓ Цінувати час.
- ✓ Повага до інших.
- ✓ Не переривати, говорити по черзі.
- ✓ Одночасно говорить лише одна людина.
- ✓ Бути позитивними.
- ✓ Правило додавання.
- ✓ Правило персоніфікації.
- ✓ Гендерна чутливість.
- ✓ Добровільність.
- ✓ Правило «стоп».



RULES

Development directions of the socio-economic system



Typology of the development of the socio-economic system



Typological sign	Type of enterprise development	Characteristic type of enterprise development
1. By scale changes	Complex	Covers all spheres of enterprise functioning.
	Fragmentary	It provides for only partial changes in certain spheres of the enterprise's functioning.
2. By character development	Growing	Constant increase in functional activity.
	Downward	Constant decrease in functional activity.
	Chaotic	Random changes in functional activity.
3. By level uncertainty	Deterministic	Development indicators are clearly achieved.
	Probable (risky)	Development indicators are achieved with a certain probability.
	Unspecified	Development indicators cannot be established.
4. By level planning	Tactical	Managed change process within a short-term period (1 year).
	Strategic	Long-term process of change (>1 year).
5. By degree management	Controlled	Planned management of development in order to achieve the set goal and objectives.
	Unmanaged (inherent)	Self-organization of the system in the absence of significant managerial influence.

Typology of the development of the socio-economic system



Typological sign	Type of enterprise development	Characteristic type of enterprise development
6. By object of changes	Organizational and administrative	Development that leads to a change in the management system of the enterprise.
	Innovative and investment	Development that leads to a change in innovative and investment activity at the enterprise.
	Technical and technological	The development of equipment and technology, which leads to an increase in the efficiency of technological processes at the enterprise.
	Socio-economic	Development leading to the improvement of the socio-economic condition of the enterprise.
7. By level balance	Marketing	Development leading to improvement of competitiveness and sales of products.
	Balanced	Stable economic growth of all components of the system.
8. By harmony development	Unbalanced	Inconsistency in the rates of development of the constituent elements of the system.
	Concerted	Development covering all aspects of the enterprise's interaction with the business environment.
9. By direction of development	Uncoordinated	Development covering only partial aspects of the enterprise's interaction with the business environment.
	Extensive	Expanding the scale of operational activity.
	Intensive	Increase in functional activity.
	Transformative	Systematic transformation of business.
	Creative	Change of the conceptual basis of activity.

Key categories of influence on the development of enterprises



Name	Characteristics
1. Mission of the enterprise	The main purpose of the existence of the enterprise, which determines not only the types of activities, but also lays the foundation for the further successful realization of the enterprise's potential.
2. Vision (direction of development)	An ideal model of what the enterprise should look like in the future, what it is moving towards in the process of implementing the mission.
3. Values and politic	Enterprise values that determine the behavior, and hence the organization's policy on the market. An incorrect policy that contradicts the direction of market development can lead to the "dropping" of the enterprise from the market, and, accordingly, to the loss of consumers of products. An example of a wrong policy and wrong choice of values is the Nokia company. In the past, the world leader in the production of mobile devices is now a secondary organization.
4. Purposes	Require coordination not only with the mission, vision, values and policy of the enterprise, but also with the factors of the internal environment (resources and capabilities) of the enterprise.
5. Development plan	Outlines the principles of enterprise development, thereby justifying the main strategy and tactics of the organization.
6. Development program	It involves a continuous process of planning, analysis, evaluation, control, regulation, which is aimed at harmonizing the company's capabilities with market requirements.

Principles of analysis and management of socio-economic system



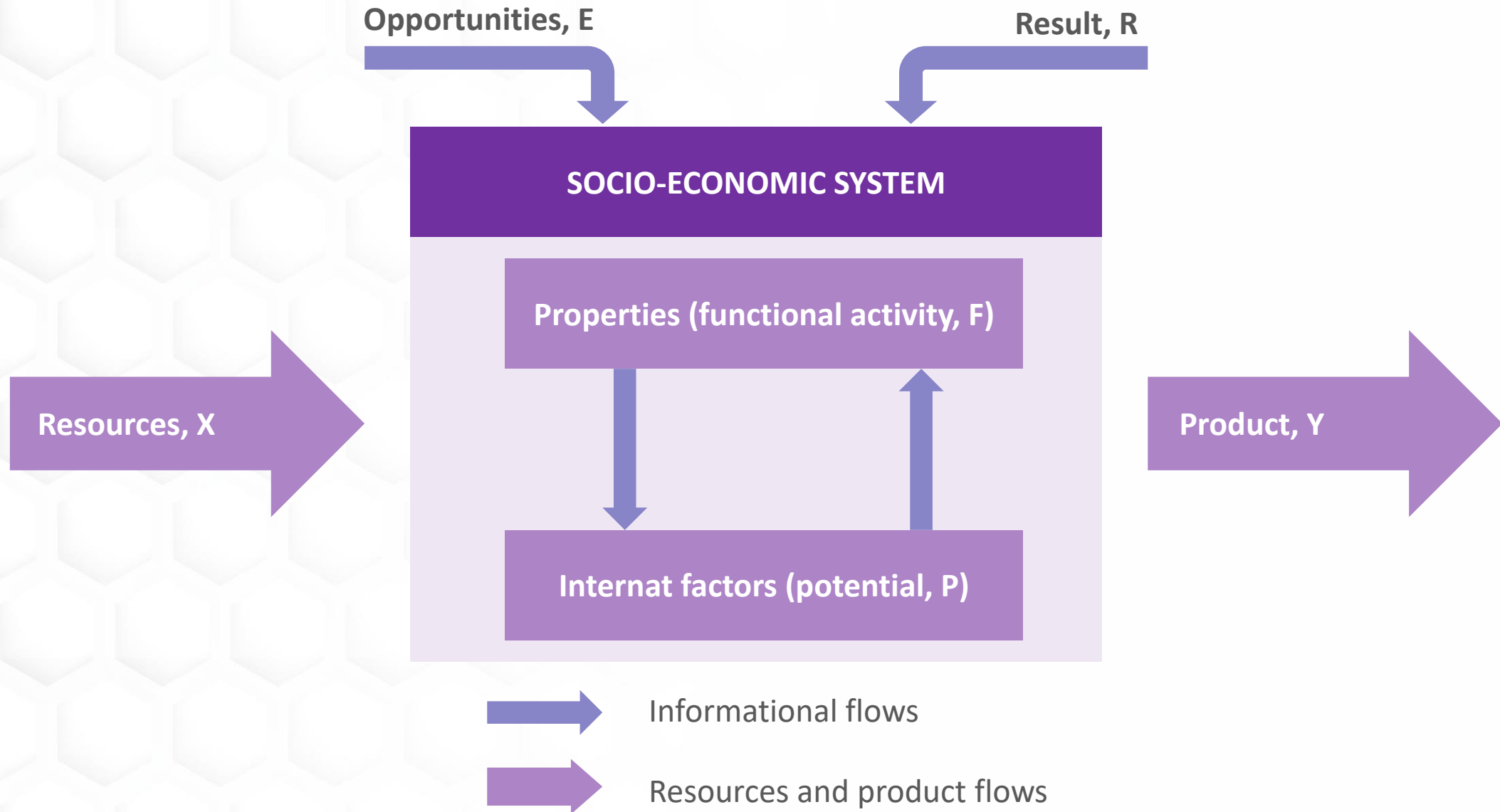
Principle	Characteristic
Emergencies	It provides for the excess of the properties of the system as a whole compared to its elements, depending on the system's complexity.
External addition	Assumes the existence of a "black box" - reserves, due to which the unaccounted effects of the internal and external environment are compensated.
Choosing the reasoned decision	It involves deciding the presence of several alternatives.
Decompositions	It provides for the expediency of dividing the object into parts with a rational distribution of functions and tasks between them.
Hierarchies	It involves multi-level management with an appropriate level of centralization.
Purposefulness	It involves the formation of the main goal and a set of local goals subordinate to it.
Optimality	It involves achieving the maximum result when using limited resources.
Motivations	It provides for the proper motivation of the staff.
Foresight	It takes into account the possibility of the occurrence of risks, weight of their influence and probability.
Systematics	It provides the coordinated functioning of active elements of the socio-economic system.

General management functions



Function	Content
Prognostication	Development of scenarios for the possible movement of the enterprise in the future is envisaged.
Planning	Principle of flexibility is implemented as much as possible, and the plans take the form of programs with decomposition into individual projects.
Organization	Separation of divisions, positions and powers for their implementation, development of elements of the organizational structure of development support, determination of aspects of evaluation of the effectiveness of their performance, represented by specific goals and metrics.
Motivation	Improvement of the existing motivational space depending on the development tasks set in combination with an assessment of the readiness of the staff, as well as the causes and sources of possible resistance.
Controlling	Involves not only the traditional monitoring of the achievement of the set values of the main indicators of the enterprise's activity, but also specific metrics of program and project management.
Regulation	Involves a permanent review of development management processes depending on the results of monitoring their implementation, the actual level of resistance to changes in the development process, the level of achieved performance indicators and metrics of development projects.

Interaction of elements of the development of the socio-economic system

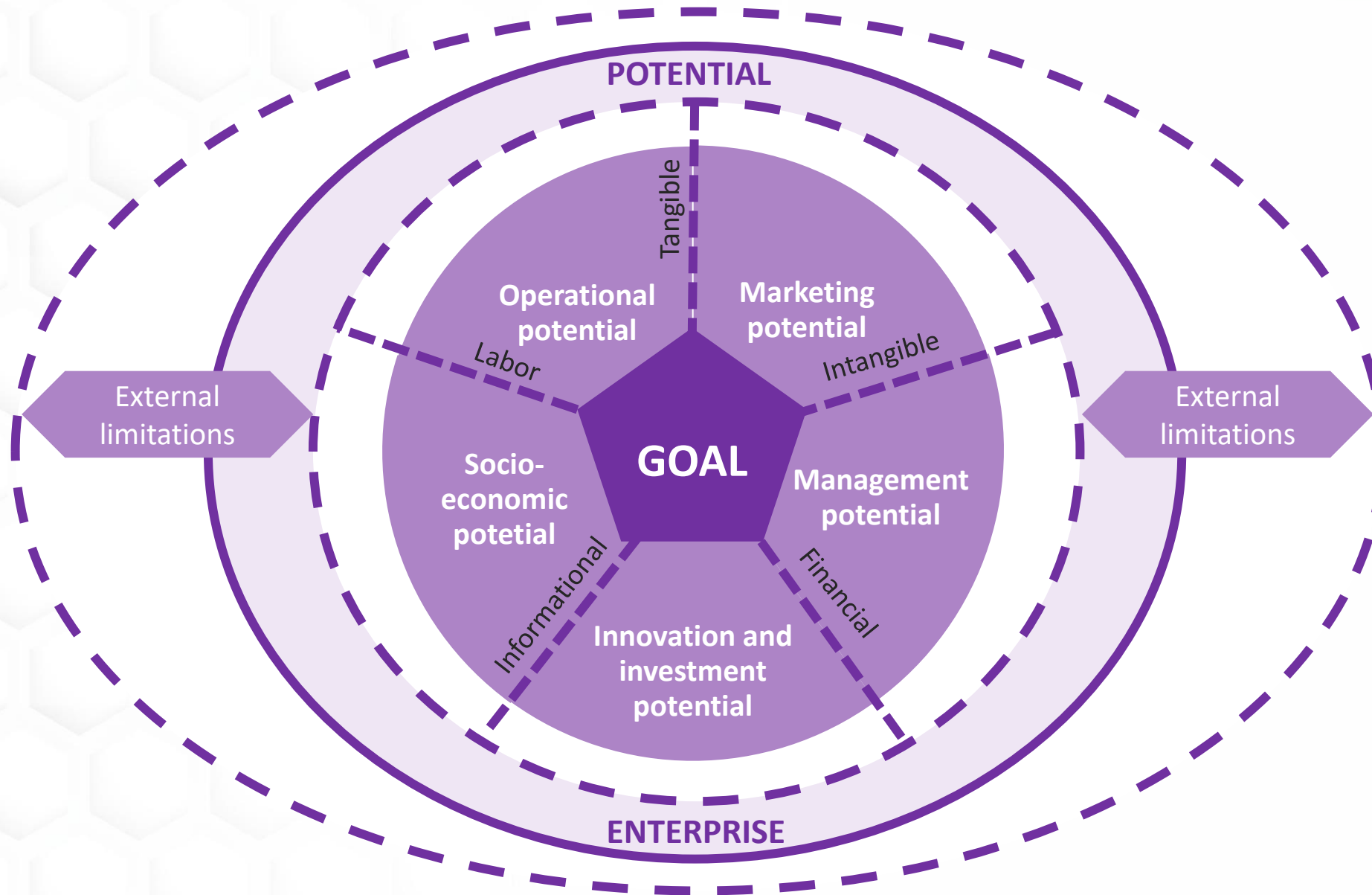


Conceptual models of enterprise development

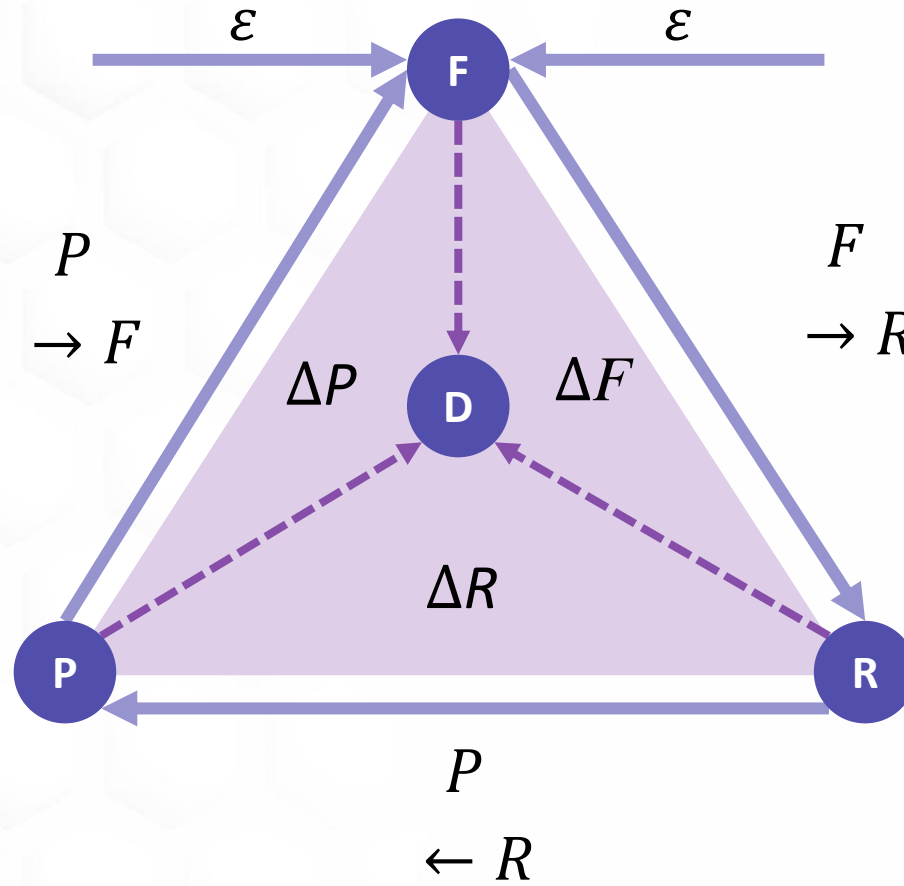


Direction of development	Typ of development	Model code	Content of the conceptual model
1. Growth	Elemental	KMG	Expanding the scope of operational activities by increasing potential without significant changes in the effectiveness of activities.
2. Activation	Mixed	KMA	Expanding the scope of operational activities by increasing potential without significant changes in the effectiveness of activities.
3. Transformation	Systemic	KMT	Systemic transformation of the enterprise through structural transformations and improvement of business processes to increase the effectiveness of activities.
4. Creation	Systemic	KMC	Mastering new types of activities, creation of new products, implementation of new technologies and business processes to increase the effectiveness of activities.

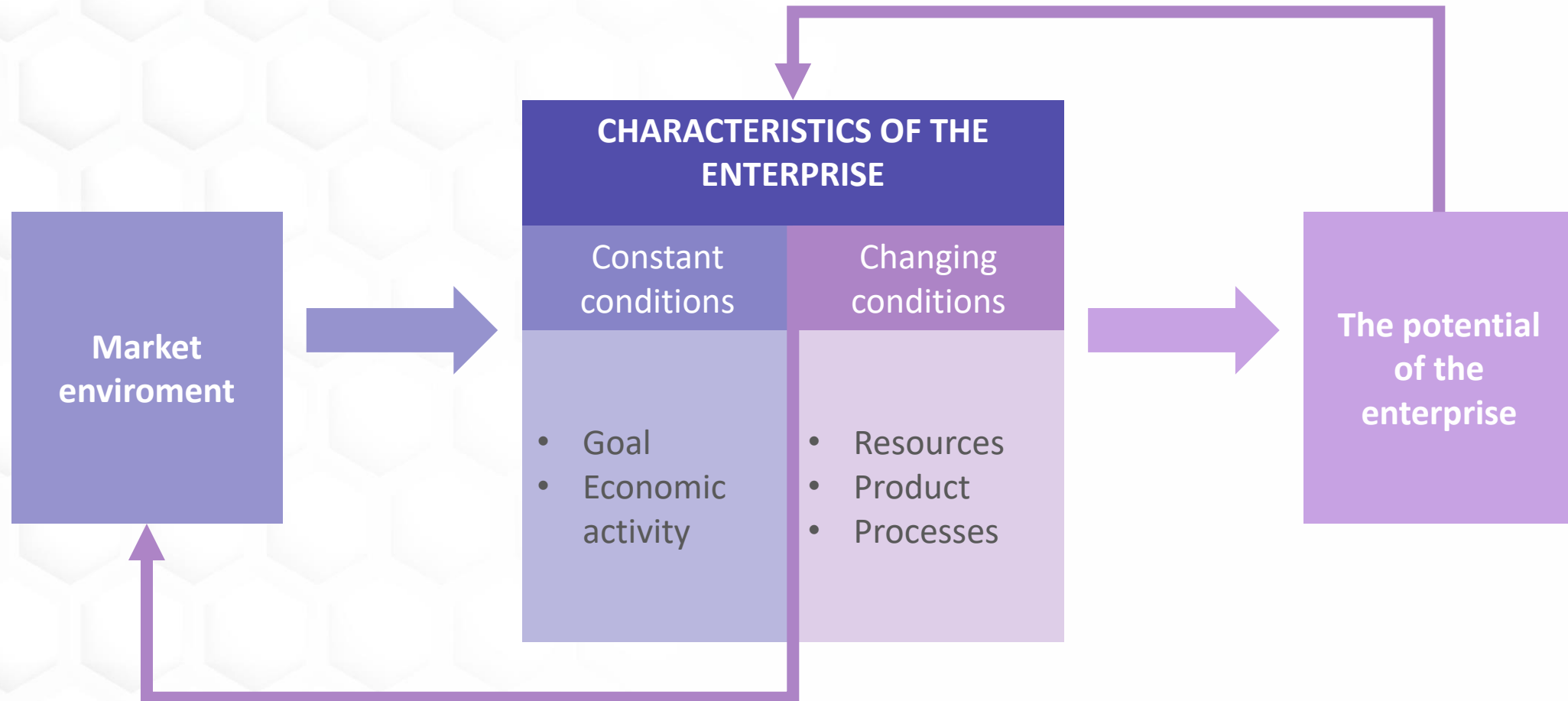
Graphical model of the potential of the socio-economic system



Triangle of development of the socio-economic system



Conceptual model of enterprise potential formation



Development project problems and directions for their solution



Type of problem	Direction of solving the problem
1. Methodological	<ul style="list-style-type: none">• Development of a development management methodology based on the functions of forecasting, planning, motivation, monitoring, regulation and control of development projects.• Development of a typology of development projects based on clearly defined characteristics.• Formation of development project management methodology.• Formation of methodological approaches to evaluating the effectiveness of development projects.
2. Methodological and applied	<ul style="list-style-type: none">• Development of tools for proactive management of enterprise development.• Development of management methods, procedures, provisions that formalize the activity of the development project management system.
3. Organizational and managerial	<ul style="list-style-type: none">• Formation of the intellectual space of the development project.• Ensuring that the level of management culture at the enterprise is adequate to the requirements of project management.• Creation of the development management subsystem as a component of the enterprise management system and the development of corporate regulations regarding its integration into the enterprise management system.• Implementation of the project management methodology in the enterprise management system.

Performance indicators of business accelerators

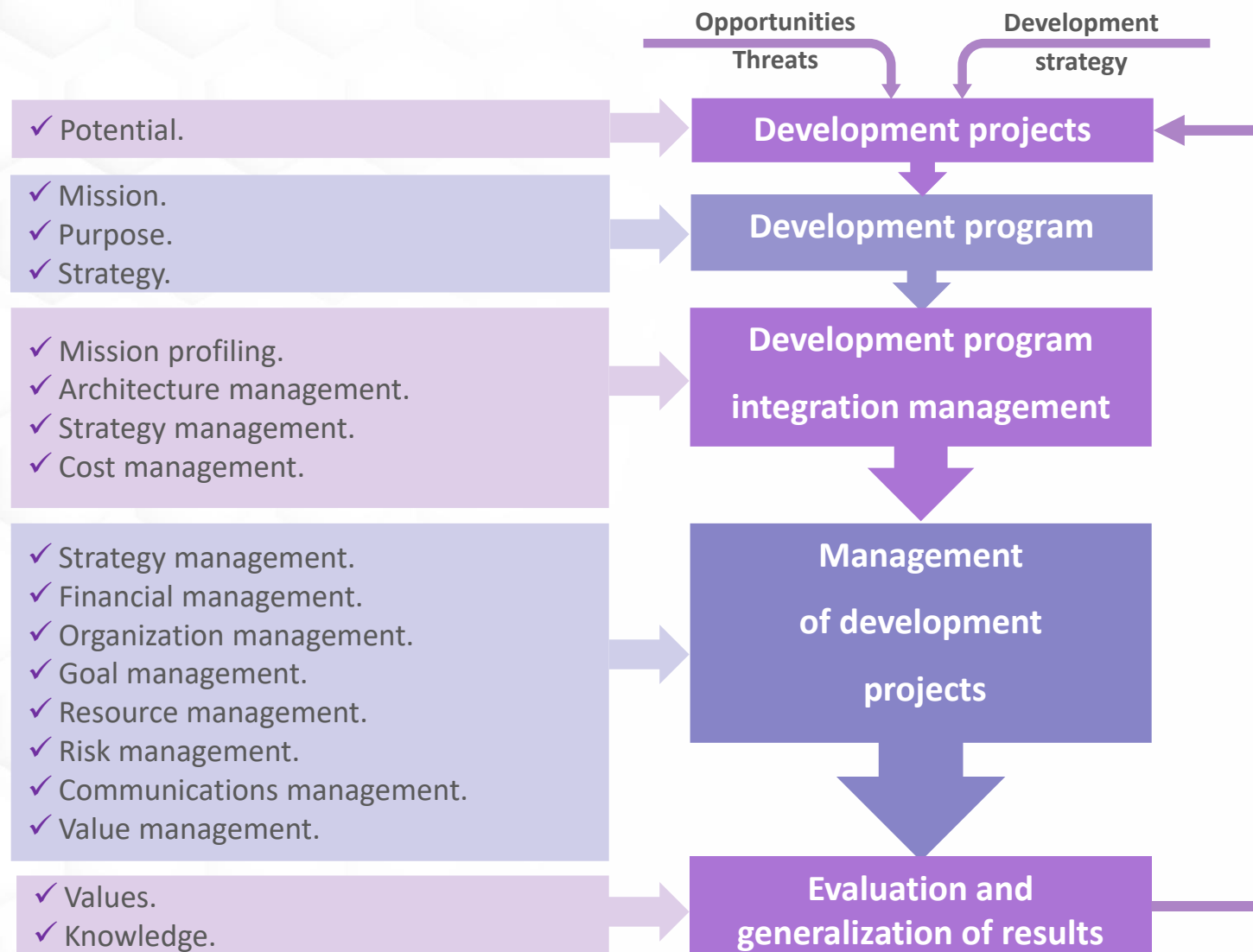


Business accelerator	Year and country of establishment	Duration of the acceleration program, months	The volume of investments in the project, thousands of US dollars	Share in the capital of the organization, %	Average annual volume of investments, million dollars. USA
YCombinator	2005, USA	3	120,0	7	3,36
500Startups	2010, USA	4	112,5	6	1,95
Techstars	2006, USA, UK	3	20,0	6	1,63
Startup-bootcamp	2010, more than 20 cities	6	17,5	8	0,7
GrowthUP	2010, Ukraine	6	25-50	5	notapplicable
Eastlabs	2012, Ukraine	4	20,0	15	1,0
WannaBiz	2012, Ukraine	notapplicable	50-500	5-10	0,1

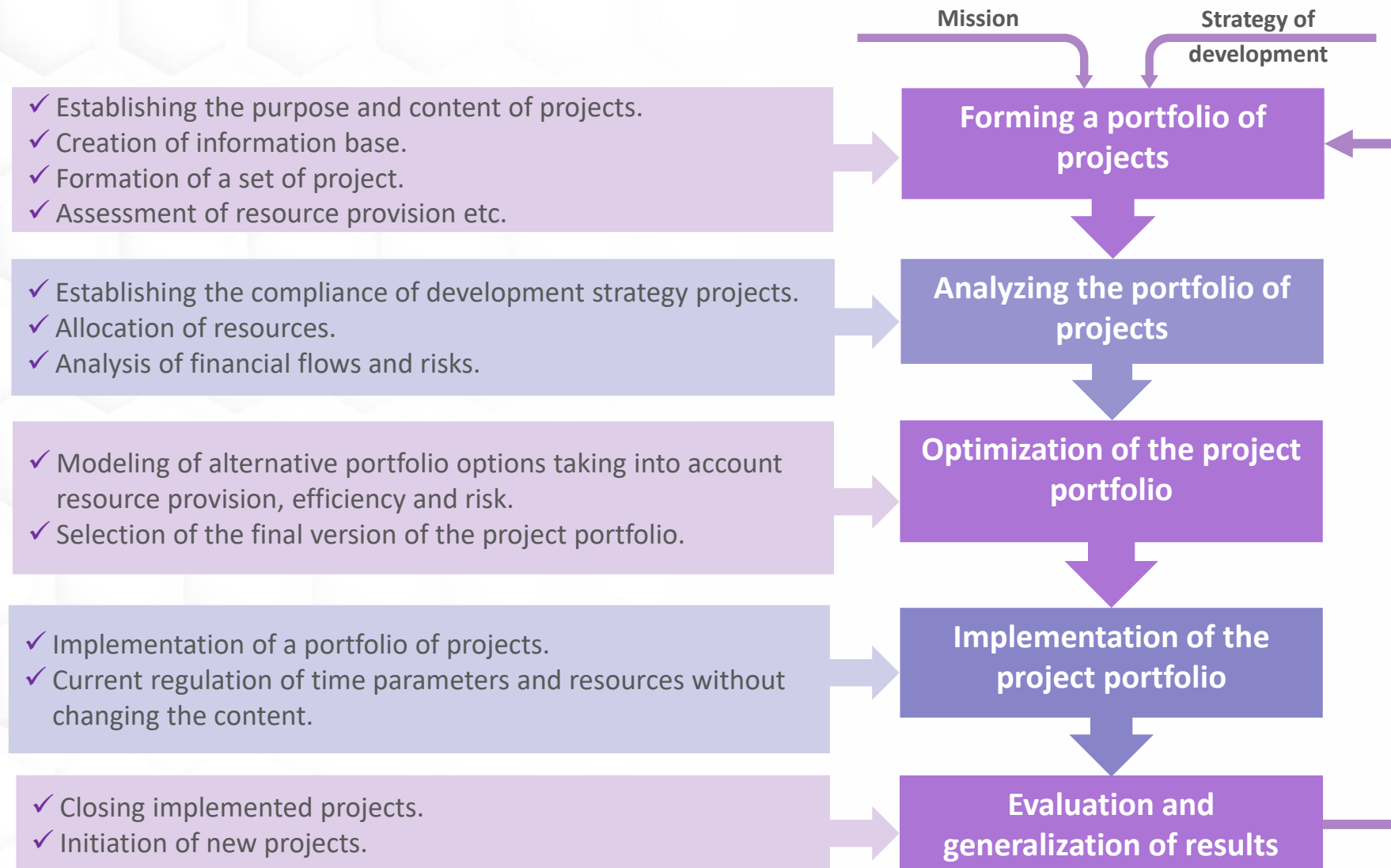
Graphical model of managing the development of the socio-economic system



(according to the methodology of the P2M standard)



Graphical model of portfolio management of social and economic system development projects



Characteristics of project management methodologies



Methodology	Type of methodology	Characteristics
1. PMBoK, ISO 21500	Strictly regulated, structured	<ul style="list-style-type: none"> ✓ Orientation to achieve stable and high results of the organization's activities. ✓ Setting goals for cost, time, quality and content. ✓ Establishing groups of project management processes: initiation, planning, execution, control, closing. ✓ Processes permeate the following areas of knowledge: management of integration, content, deadlines, cost, quality, risks, procurement, stakeholder interaction. <p><i>Principles:</i> use of organizational project management; control and regulation within the permissible limits of project parameters.</p>
2. Agile	Flexible, decentralized	<ul style="list-style-type: none"> ✓ Modular approach to project implementation. ✓ Free choice of the management system project team. ✓ Adjusting to the conditions and processes of the organization. <p><i>Principles:</i> teamwork; adaptation to internal and external conditions; readiness for change.</p>
3. Scrum	Flexible, structured	<ul style="list-style-type: none"> ✓ Decomposition of the project into independent parts. ✓ Highlighting the most important component parts of the project - the work increment. ✓ Setting priorities by the value of elements of the work increment. <p><i>Principles:</i> consistent development and independent implementation of project parts; turbo mode for performing work increment elements; empirical control of processes; interaction during work performance and self-organization.</p>

Characteristics of project management methodologies



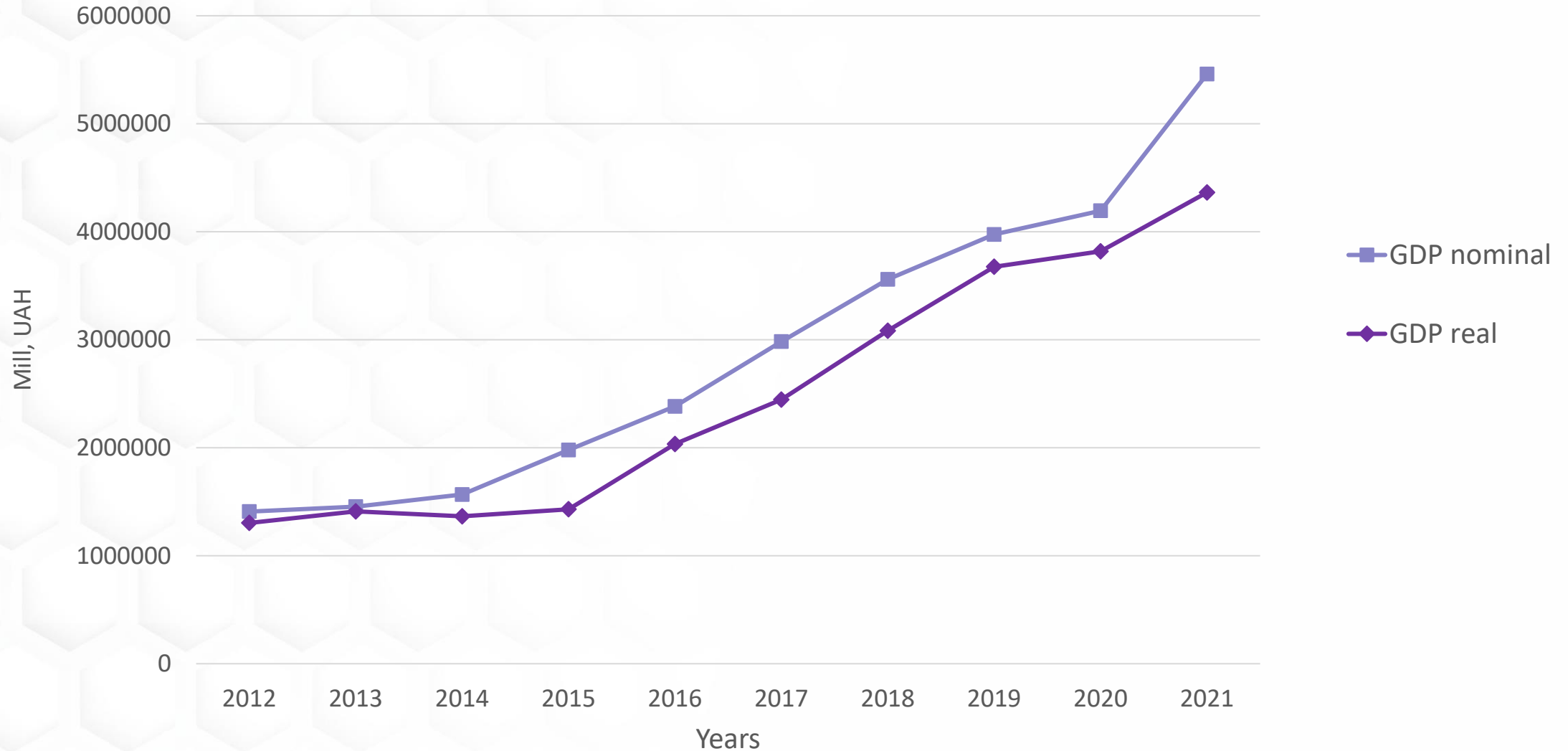
Methodology	Type of methodology	Characteristics
4. Lean	Flexible, integrated	<p>Focused on continuous improvement of the operational activities of the organization.</p> <p><i>Principles:</i> resource-saving production; minimal losses; development of transaction flows.</p>
5. P2M	Flexible	<ul style="list-style-type: none"> ✓ Focused on increasing the value of the organization. ✓ It involves consideration and combination of different views, ideas, solutions. ✓ Allows for the possibility of changing the scale of the project and including new elements in the design process. <p><i>Principles:</i> design is a process of co-creation on the intellectual platform of the community of stakeholders; prompt response to changes in the project environment; justified choice of alternatives at each stage of the project.</p>
6. PRINCE2		<p>Flexible, structured</p> <ul style="list-style-type: none"> ✓ Focused on providing the relevant performers with the necessary information in time to make informed decisions. ✓ It is based on seven principles, covering seven processes that unite seven themes. <p><i>Principles:</i> continuous business justification of the feasibility of the project; analysis and use of previous practical experience; establishment of roles and responsibilities; management by successive stages; strict delegation of authority; emphasis on the quality of the final product of the project; adaptation to the external environment of the project (corporate culture and standards).</p>

Characteristics of project management methodologies

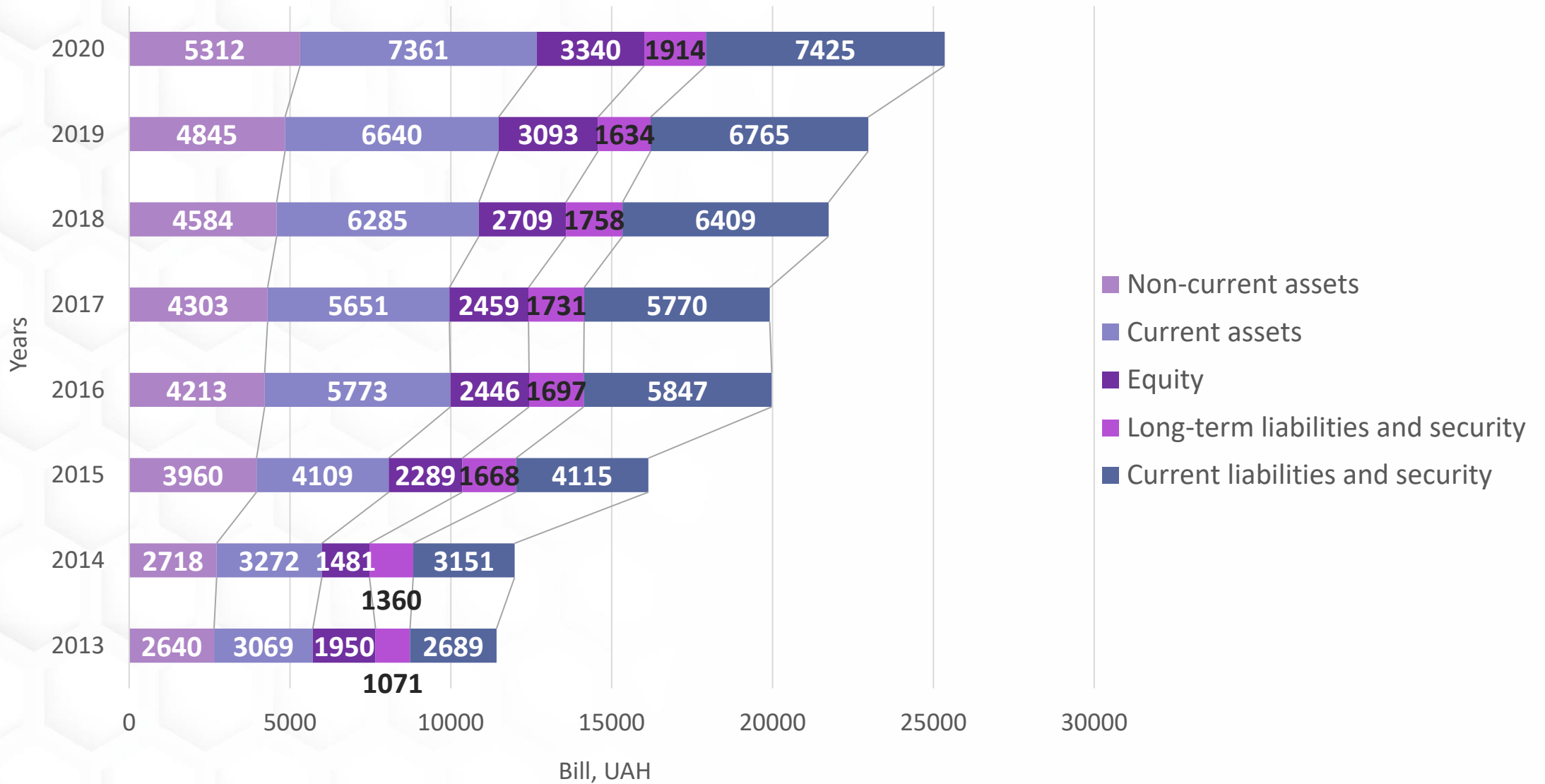


Methodology	Type of methodology	Characteristics
7. Kanban	Flexible, evolutionary	<p>✓ Focused on ensuring the production of only the required products, in the required quantity and at the specified time.</p> <p><i>Principles:</i> gradual and balanced implementation of changes in the organization; encouragement of evolutionary changes in the system; respect for current processes, establishment of roles, distribution of duties and positions; encouraging leadership at all levels of the system.</p>
8. Kaizen	Flexible, evolutionary	<p>✓ It is focused on the continuous improvement of the organization and the development of personnel in order to achieve production without losses.</p> <p><i>Principles:</i> focus on customers; small continuous changes in all areas of the organization; creation of working and cross-functional teams; planning and analysis of results; quality and standardization of processes; open recognition of problems; formation of supportive relationships; spread of experience along the horizon of self-improvement and self-discipline; delegation of authority; information openness of the organization.</p>

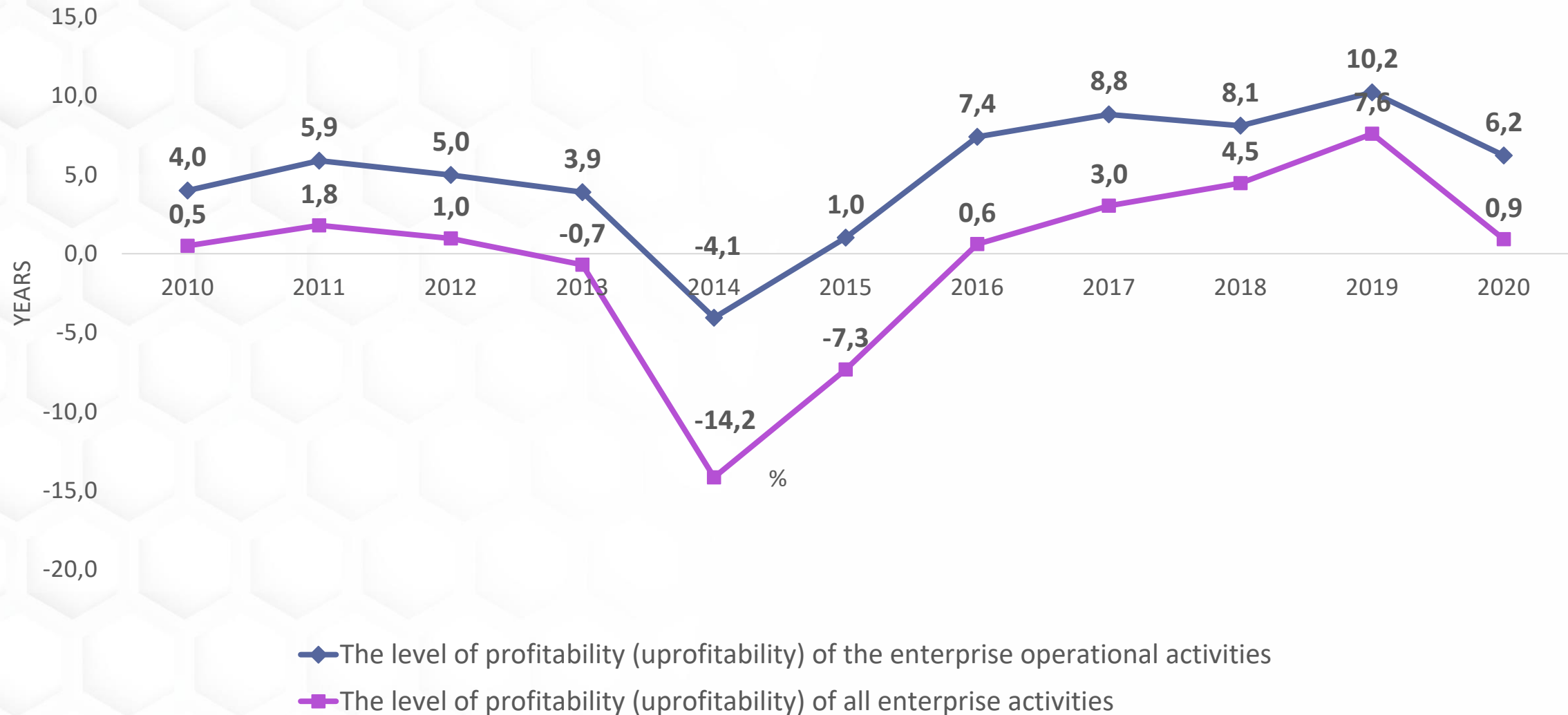
Dynamics of nominal and real GDP of Ukraine for 2012-2021



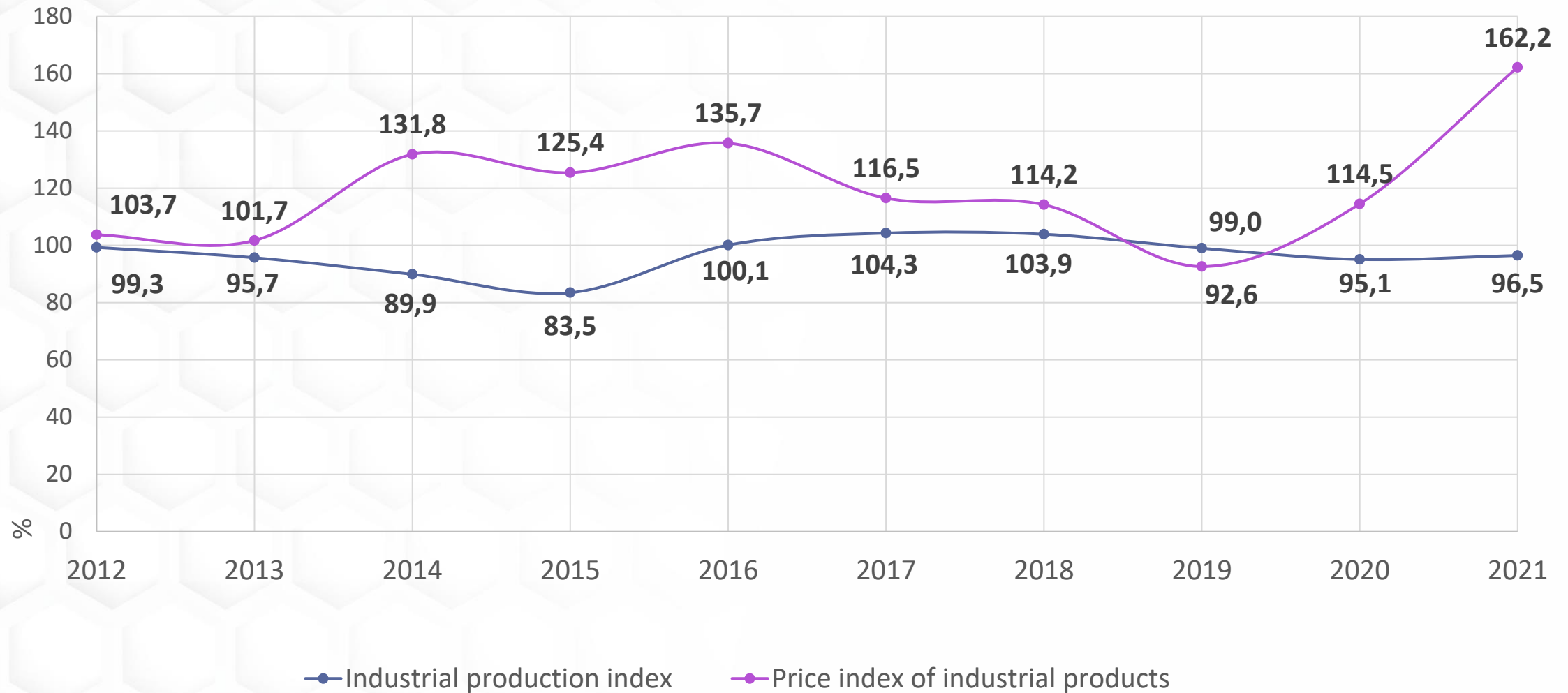
Dynamics of enterprises balance sheet items in Ukraine for 2013-2020



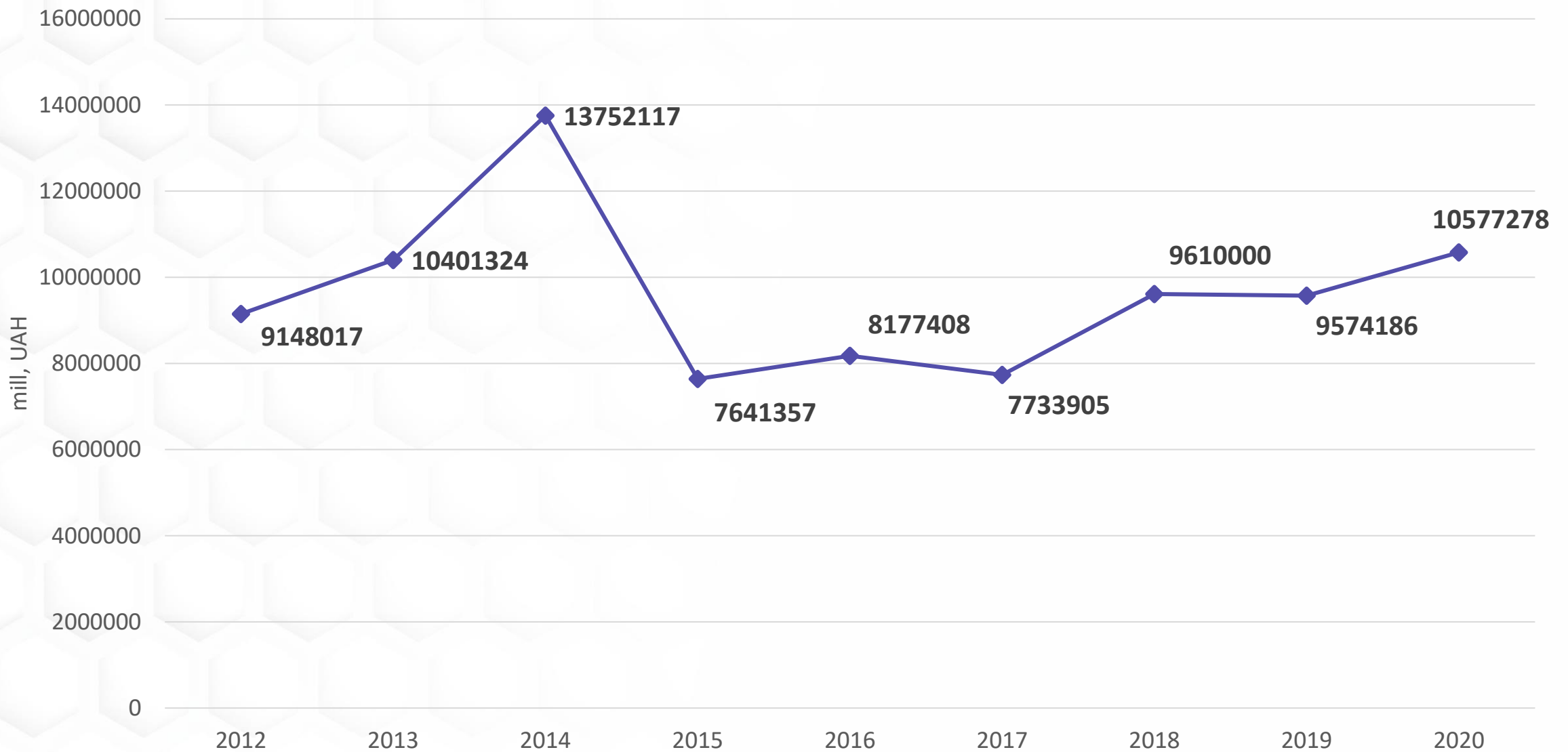
Dynamics of profitability of operating and all activities enterprises of Ukraine for 2010–2020, %



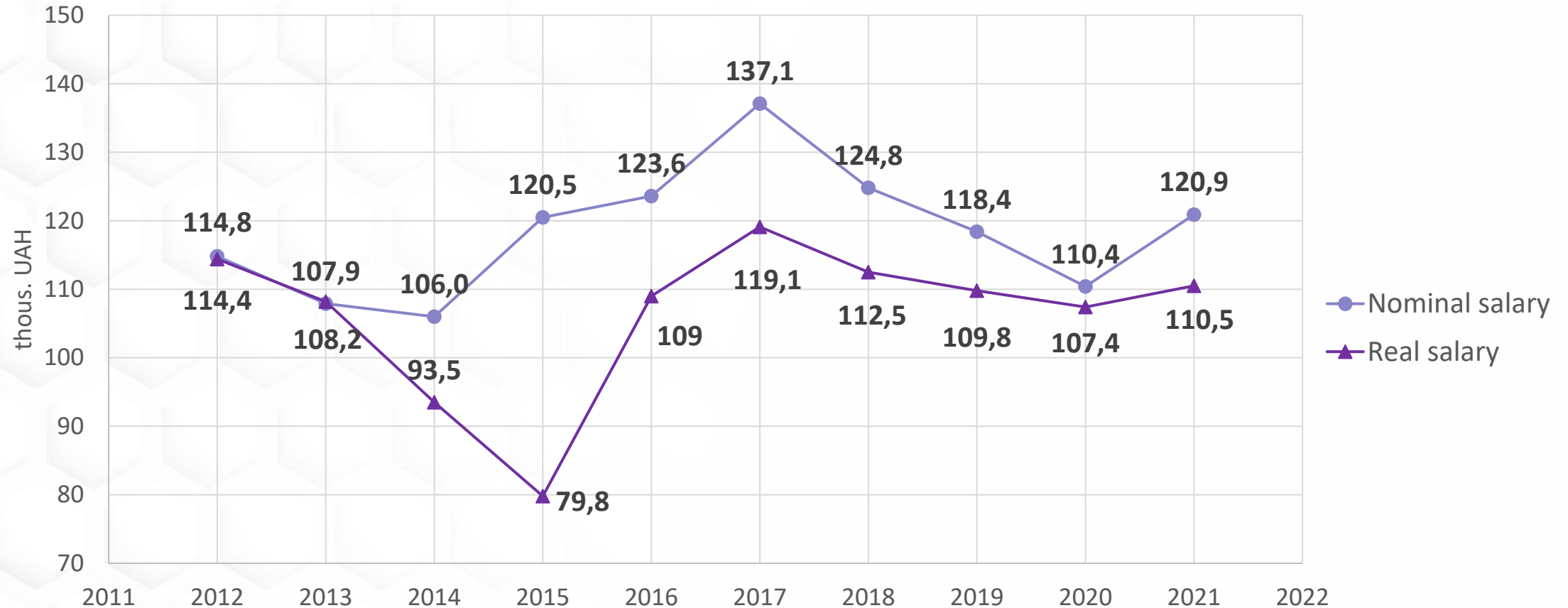
Dynamics of indices of industrial products and producer prices in 2012–2021,%



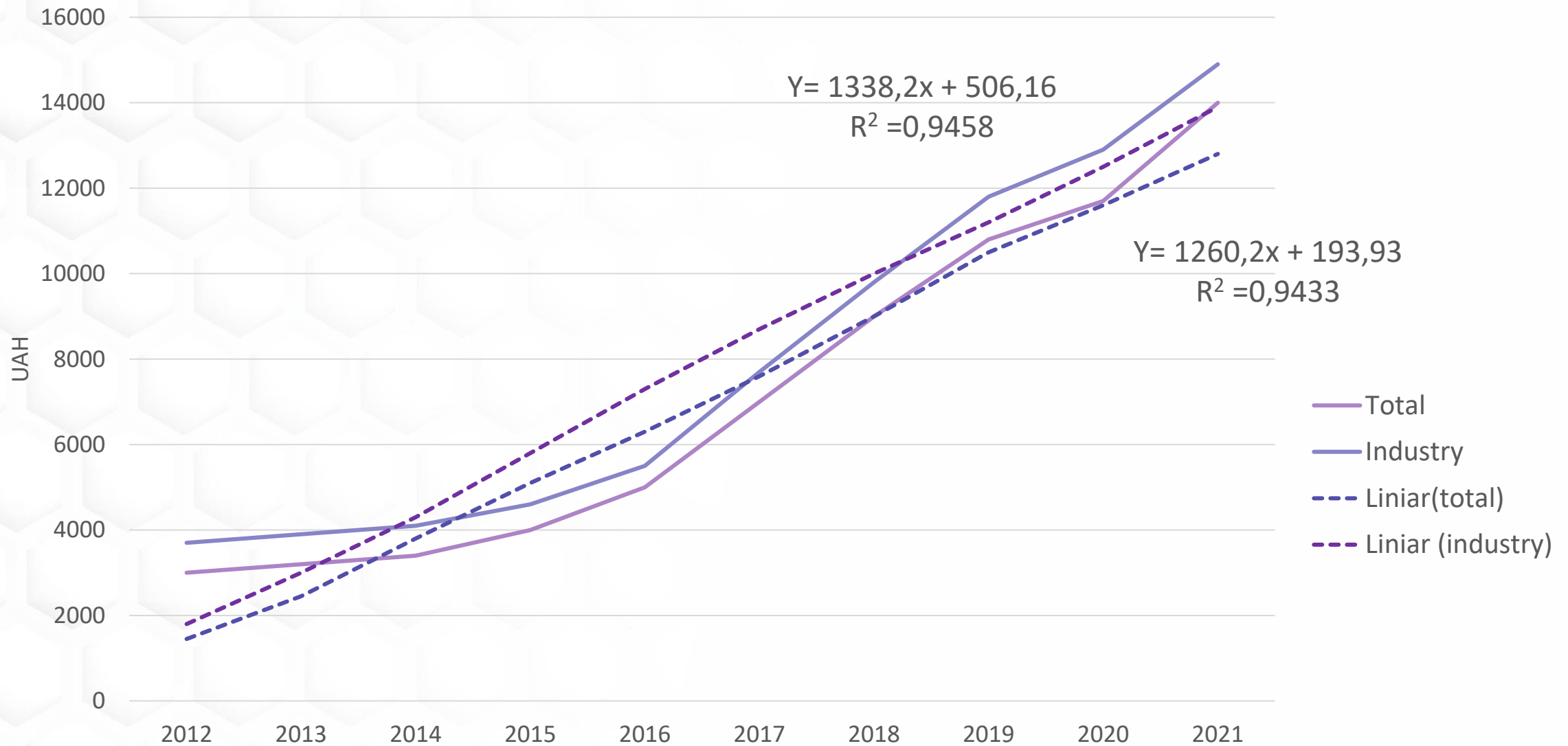
The cost of fixed assets for 2012–2020, UAH million



Changes in indexes of average monthly nominal and real wages of employees for 2012–2021



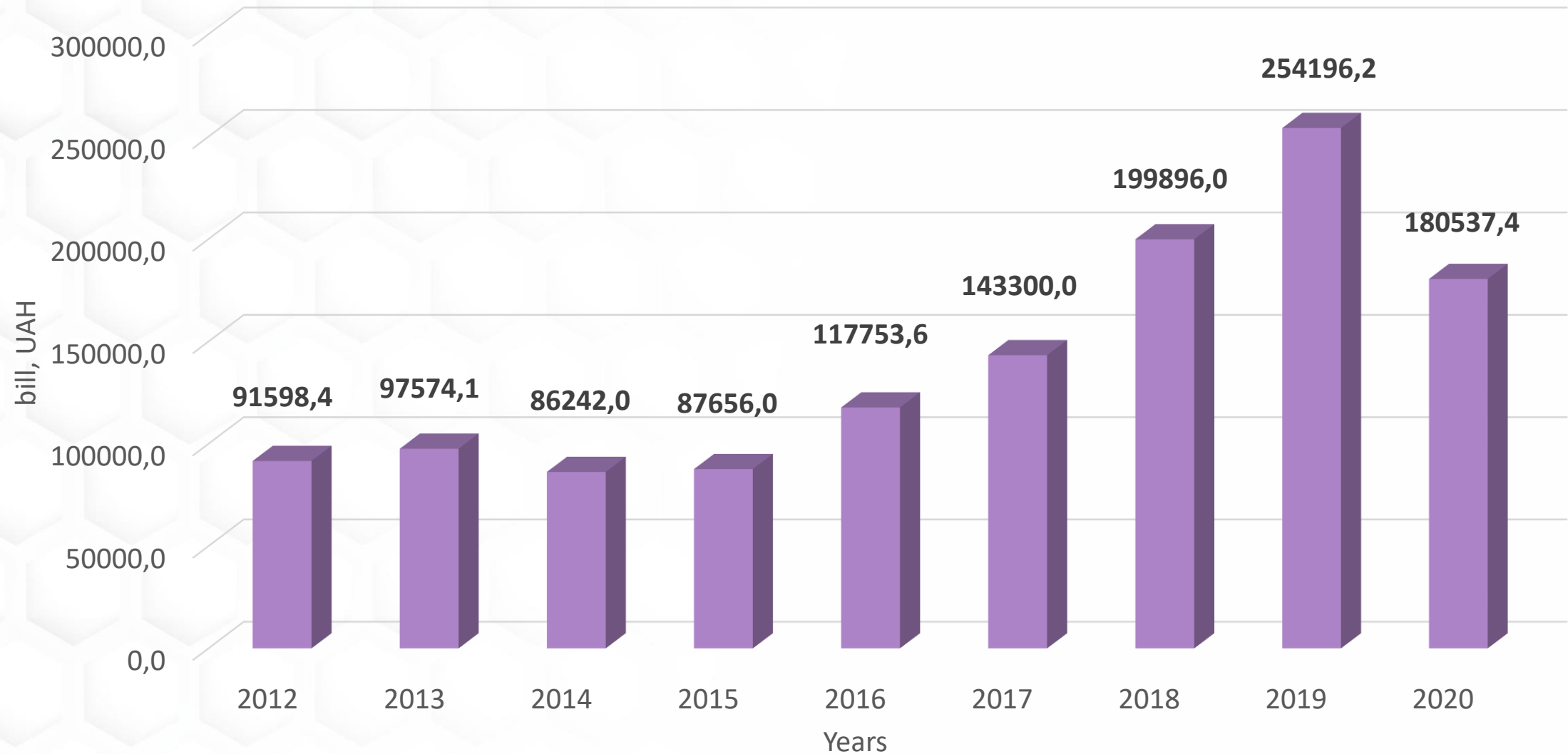
Dynamics of the average monthly nominal salary employees in the economy and industry for 2012–2021.



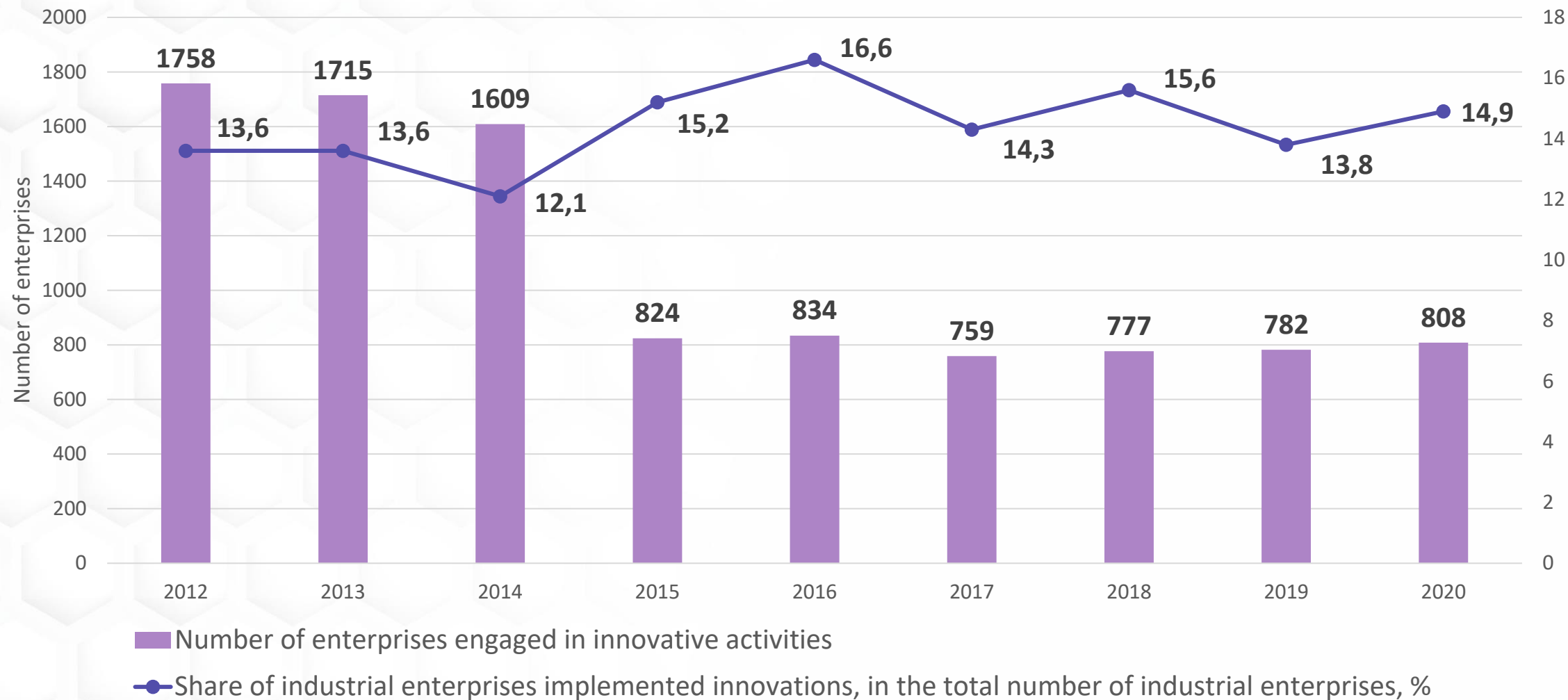
Dynamics of the ratio of industrial enterprises in Ukraine by the result of financial activity for 2010–2020, %



Volume of capital investments in the industry of Ukraine for 2012–2020



Changes in innovatively active people from industrial enterprises and their shares in the total number of industrial enterprises 2012–2020



Models of net income dynamics of industrial enterprises in the western region of Ukraine



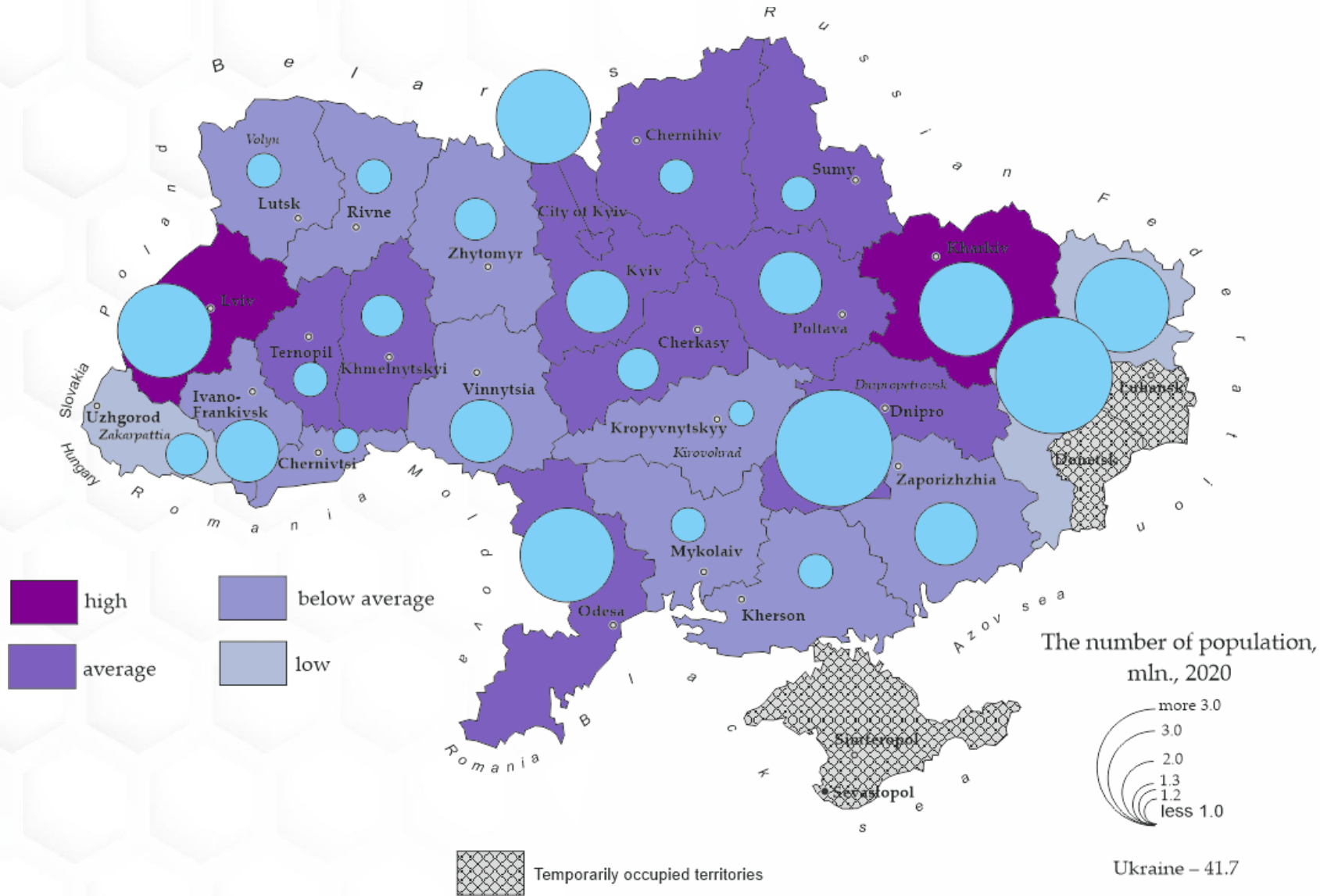
Enterprise	Regression model	Coefficient of determination R^2	Communication assessment
1. Boryslavsky PJSC factory of radioelectronics medical equipment"	$y_t = -5,0545 + 3,9321t + \varepsilon_t$	0,85	Straight, very dense
2. PJSC "Equator"	$y_t = 8,8971 + 0,5019t + \varepsilon_t$	0,59	Straight, dense
3. JSC "Zakhidenergo-avtomatika"	$y_t = 44,9708 - 9,2064t + \varepsilon_t$	0,94	Reverse, very dense
4. PJSC "Lviv locomotive repairplant"	$y_t = 40,3672 + 44,9175t + \varepsilon_t$	0,64	Straight, dense
5. PJSC "Ivano-Frankivsk Locomotive Repair Plant"	$y_t = 7,4598 + 9,447t + \varepsilon_t$	0,55	Straight, dense
6. PJSC "Ivano-Frankivsk Plant "Promriad"	$y_t = 7,4211 + 1,1445t + \varepsilon_t$	0,90	Straight, very dense
7. JSC "Zmina"	$y_t = 3,2134 + 7,1976t + \varepsilon_t$	0,74	Straight, dense
8. PJSC "Sambirsky instrument manufacturing plant "Omega""	$y_t = 1,8561 - 0,2439t + \varepsilon_t$	0,60	Reverse, very dense
9. Sambirsky PJSC research and experimental engineering factory"	$y_t = 4,3892 + 0,167t + \varepsilon_t$	0,32	Direct, tangible

Peculiarities of using the discriminant and cluster analyses in the study of EICHP in the regions of Ukraine



Characteristic	Discriminant analyses	Cluster analyses
Ordering degree of the array of input data	A preliminary recognition procedure should precede the application of discriminant analysis - classification based on cluster analysis, scaling, and empirical recognition of objects. The input array of data is pre-classified objects. In the process of discrimination of groups, the classification can be refined.	The input dataset is a standardized matrix of observations that are not grouped by any of the attributes.
Presence of a grouping variable and its presentation	The grouping independent variable can be measured on a nominal or ordinal scale.	No grouping variable.
The possibility of forming a given number of classification groups	The number of groups is already known, formed according to a specific rule (classification with training).	The number of groups is unknown in advance.
Content of classification groups	Classification groups have a content load.	Classification groups have numbers, but do not have a content load, cannot characterize the level of classification features.
Peculiarities of the obtained results	Built-in discriminative functions make it possible to assign new objects to particular groups, as well as features that discriminate groups, in specific numerical measures.	The result of the analysis is the formed clusters and measures of similarity between them.

Regional features of the development of EICHP in the regions of Ukraine



Opportunities and risks arising in labor markets as a result of digitalization of the economy



Opportunities	Risks
<p>Mastering the skills necessary for the digital economy leads to higher productivity, increased wages (income), expands opportunities for employment and well-being and increases creativity.</p>	<p>Polarization of the labor market due to rapid changes in the content of jobs and skills. The slower workers adapt to these requirements, the more they lag behind the demands of the labor market, and this lag is proliferating, especially in highly developed countries.</p>
<p>Increasing the flexibility of employment allows to arrange working hours, employment, and its forms harmoniously, following life situations and personal preferences, and achieve higher job satisfaction.</p>	<p>Increasing the flexibility and stability of work leads to higher requirements for the employee's competitiveness and his ability to adapt to such requirements, reduces his social security and guarantees.</p>
<p>The possibility of employment in areas that do not require high qualifications, in particular in the areas of services, human interaction, as well as in the areas of self-employment and entrepreneurship.</p>	<p>Increasing competition in the low-skilled labor market. Differentiation of wages. Medium-skilled jobs will be at risk, as the requirements for workers in this segment will increase significantly.</p>