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THE STRATEGY OF DEVELOPMENT

Of the National Technical University of Ukraine

“Igor Sikorsky Kyiv Polytechnic Institute”

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CHAPTER 1. CONCEPTUAL PRINCIPLES OF STRATEGY OF DEVELOPMENT OF IGOR SIKORSKY KYIV POLYTECHNIC INSTITUTE IN 2020-2025

Strategy of development of Igor Sikorsky Kyiv Polytechnic Institute in 2020-2025 shall be based on solutions officially approved by Conference of labour collective of university and on Vision and Mission of Igor Sikorsky Kyiv Polytechnic Institute. These are:

1.1. VISION OF IGOR SIKORSKY KYIV POLYTECHNIC INSTITUTE

To be the technical university of research type of world level, providing the preparation of highly skilled (perfect) professionals able to produce modern scientific knowledge and innovative technologies for the good of humanity and to provide the deserving place for Ukraine in world cooperation.

1.2. MISSION OF IGOR SIKORSKY KYIV POLYTECHNIC INSTITUTE

To assist in the formation of the society's future on principles of conception of steady development by internationalization and integration of education, newest scientific researches and innovative developments. To create conditions for all-round professional, intellectual, social and creative development of personality on the greatest levels of perfection in an educationally-scientific environment.

1.3. THE FUNDAMENTAL PRINCIPLES of DEVELOPMENT OF IGOR SIKORSKY KYIV POLYTECHNIC INSTITUTE FOR THE TIMES OF INDEPENDENCE OF UKRAINE

Further development of Igor Sikorsky Kyiv Polytechnic Institute in the near future shall also be based on platform made by the university collective of many thousands for times of independence of Ukraine taking into account new realities and calls of present time. The main thing that was achieved by now:

The transformation of Igor Sikorsky Kyiv Polytechnic Institute is carried out in accordance with the model of large polytechnic institute functioning in scopes of the centralized economy of the European standard. In accordance with the necessities of new country 11 new faculties and institutes, over 50 new departments, are created, over 150 new education programs are opened, important transformations are implemented on a way to integration in European educationally-scientific space.

All these year there was an inherent role of leader of university in development and embodiment of scale plans and tasks. The university was an initiator and the direct developer of legislative base of higher education and science of independent Ukraine. The institutes of national scale, one of the first State polytechnic museum, Scientific park "Kyivska polytechnica" and the innovative ecosystem "Sikorsky Challenge", that became the first small island of hi-tech innovations in the country, ramifying on 12 regions of Ukraine. Achievements of scientists of Igor Sikorsky Kyiv Polytechnic Institute are in scientifically-innovative activity, in particular in scientific accompaniment of defensive-industrial complex of the state, in the space researches, in creation of unmanned aviation, in the field of cyber-security and other critical directions of high-

tech. They are well known in a country and in the world and have won 110 State awards of Ukraine in area of science and many state awards during the years of independence.

In terms of fight for the independence of Ukraine Kyiv polytechnicians were among those conducting their activity with the view to increase scientific and educational contribution of university in the defensive capacity of country. In particular, the university has commenced the creation of over 40 state of the art technologies of the double and special setting, six from which were introduced into our state's armament. The university also became the main methodical center of country in terms of training of staff in such programs as "Organization of cybernetic safety", "Management of a defensive-industrial complex in the field", "Management and repair of unmanned secret service airplanes-agents". For the last seven years Institute 719 officers and over 4836 reserve officers have been prepared by military educational subdivisions of Igor Sikorsky Kyiv Polytechnic.

Carrying out decentralization of management, democratization of university life, providing transparency of work of all links in Igor Sikorsky Kyiv Polytechnic Institute and the atmosphere of mutual trust and respect are created by teachers and scientists; conflicts and contradictions are deemed to be impossible in a collective, motivation to active work of all students and employees of the university is increased.

One of the best systems of self-government of a huge labour collective of many thousands on all levels of management the university in the country. Through the mechanism of collective agreements, democratic system of elections of leaders of subdivisions and student leaders of Igor Sikorsky Kyiv Polytechnic Institute put to beginning to control of work and acceptance of important decisions, control after their implementation that provide unrestrained and permanent advancement of university in accordance with the accepted strategy.

And finally, the special spirit of academic manner and belonging returned to glorious history of 120-years-old Igor Sikorsky Kyiv Polytechnic Institute. Building, equipment, laboratories – it is still not the university as it is. A polytechnic museum, monuments and avenue of stars, art galleries, memorial plaques, hall of scientific advice, pendulum of Foucault, university church, chimes on a main buildings, other signs of honour of history surround students and employees of Igor Sikorsky Kyiv Polytechnic Institute today along with the special university spirit of academic achieveing, feeling of belonging to glorious history and large businesses of our ancestry.

At the same time both the global world and Ukrainian society pass through the stage of development during last years. National interests of the world countries don't prevail anymore above advantages of globalization, as the fourth industrial revolution changes character and structure of labour; there are new requirements for the young to meet in terms of career which can be achieved through proper education and professionalization. The key role of civil society grows in terms of management of all levels of state institutions.

All these factors do not allow transferring the patterns of past years on the future development of university. Taking into account modern realities and having regard to the created base, the next stage of the evolution of Sikorsky Kyiv Polytechnic Institute shall be carried out in accordance with new calls and requirements of society, shall transform maintenance and forms of work, paying special attention to quality descriptions in order to continue integration in European and world educational-scientific space, meeting the standards and criteria of universities of world-class.

1.4. THE IMPROVEMENT OF MODEL OF RESEARCH UNIVERSITY

The improvement is based on the best world experience, and first of all countries of Europe, North America, Japan, China, along with the maintenance of our own traditions. Main concept of this model lies in gradual reduction of the gap between the educational, scientific and innovative components of activity of Igor Sikorsky Kyiv Polytechnic Institute. It is required to form such general educational-scientific environments so that those involved in science, work and education may pass the latest achievements to departments, faculties, institutes, determining the course of their maintenance. The educational component would at the same time fill a scientific sphere and hi-tech labour-market with talented young people, future scientists and leaders of industry and business which will be nurtured on the basis of the university. A gap between studies, research and diploma or course work, between a teacher and scientist disappears in these conditions.

Certainly, Igor Sikorsky Kyiv Polytechnic Institute as a research university must prioritize its academic component as the constituent one, but it shall also work simultaneously in three directions: studies, scientific researches, innovative introduction of new inventions jointly with the hi-tech companies and consequently launching them on market.

Igor Sikorsky Kyiv Polytechnic Institute must constantly improve cooperation between the base level of preparation (bachelor) and higher levels (master's degree, Ph.D., doctor of sciences) on behalf of higher levels, gradually approaching the model of the best technical universities of the world (Massachusetts technological institute (the USA), Paris Ecole Polytechnic (France), Rhine-Westphalia technical university of Aachen (Germany)). To provide such preparation, it is necessary to inculcate progressive technologies of innovative studies, deepen integration with a hi-tech labour-market after the model of dual education, to improve financial, logistical and methodical support of Igor Sikorsky Kyiv Polytechnic Institute, to constantly carry out self-examination of quality of preparation of workers.

Igor Sikorsky Kyiv Polytechnic Institute shall not only range but also support permanent international connections with leading world educational and research establishments on all levels of management and adapt the best practices of development of all constituents of research of university.

1.5. THE DEVELOPMENT OF INNOVATIVE ECOSYSTEM “SIKORSKY CHALLENGE” AS THE MODELS OF FUTURE HI-TECH ECONOMY OF UKRAINE

Innovative ecosystem “Sikorsky Challenge” that was founded in 2004 and 2006 on a basis of Igor Sikorsky Kyiv Polytechnic Institute functions effectively for over 14 years.

The ecosystem “Sikorsky Challenge” organizes co-operation of four groups of participants: first are scientific schools of university, that create new inventions, second are faculties and departments that prepare a quality human capital for hi-tech business, third are hi-tech companies that need to present and sell new inventions and need quality personnel, and fourth are investment and venture funds that are interested in investments into startups.

During the years of its functioning the ecosystem “Sikorsky Challenge” was sponsored by 120 hi-tech companies from Ukraine, USA, EU, Israel, China, Japan, Australia along with 7 hi-tech enterprises of Kyiv and 28 investment and venture funds. Over 150 hi-tech foods and services demonstrate considerable social and economic effect on the markets of Ukraine and other countries of the world.

Being based on the organic combination of science, front-rank education and business, on the next stage of development of university it is necessary to continue the creation of platform of innovative representation in a country in hi-tech directions (including defensive industry), where Igor Sikorsky Kyiv Polytechnic Institute has powerful works and leader positions. Implementing this task, the university already began to open the network of the startups schools in the different regions of Ukraine.

On the next stage of development of innovative ecosystem “Sikorsky Challenge” representative offices in the regions of local innovative clusters, startups school of "Sikorsky Challenge", regional universities, representatives of local business, local administrations and bodies of self-government shall enter the ecosystem.

Due to its new innovative culture and new system of economic relations it shall created in different corners of country; the new generation of engineers-innovators that must successfully present the startups to the national and international market, as they will become basis of development of hi-tech economy of Ukraine.

The separate aspect of development of functioning of innovative ecosystem “Sikorsky Challenge” is incessant expansion of its international activity, namely: engaging of international experts and teaching in start-up school, bringing in of international investments for providing of permanent functioning of innovative ecosystem “Sikorsky Challenge”, focusing on the start-up projects aimed at international markets, implementation of marketing strategy of activity of innovative ecosystem “Sikorsky Challenge”, providing of participation of startups groups in international events, search of ways for incubation and acceleration projects in leading world business-incubators and accelerators, focusing on work with venture investor from country, where economy grow etc.

1.6. SOLIDITY OF PREPARATION

Igor Sikorsky Kyiv Polytechnic Institute should strengthen the role of fundamental education. It is impossible to fathom the nature of the ambient processes and phenomena without fundamental knowledge. A person, having received a profound fundamental education, is able to define complex problems, manage processes, comprehensively, systematically evaluate all the consequences of certain managerial decisions, and only this person is able to create conditions for sustained society development.

Training fundamentalization of the professionals should be implemented by the university under a physical and technical model, which involves the synthesis of deep general academic and natural knowledge and engineering.

1.7. MULTILATERALITY OF NURTURING OF A NEW GENERATION OF PROFESSIONALS

Having socio-humanitarian disciplines departments and faculties, the Center of Culture and Arts, which has the permanently working art gallery, 16 amateur artistic clubs, six of which are folk, a powerful sports infrastructure, Military Educational Subdivisions, Igor Sikorsky Kyiv Polytechnic Institute should strengthen the multilaterality of nurturing of students as bright individuals able to reach their highest achievements in professional and common to all mankind activities, nurturing real patriots of Ukraine.

The university’s philosophy should main the thought, that the success in the creation of the new can be reached only by a person who has extensive training - not only in the field of the

sciences, but also in the humanities, literature, music, fine arts, in the human values sphere, which develop the aesthetic perception of engineering and sciences. In accordance with this philosophy, university graduates should confidently and creatively think with large-scale, imaginative categories, operate the accurate knowledge of nature and engineering tools, skillfully combining a humanitarian and natural sciences approach in their own creative outlook.

1.8. COMPREHENSIVE SYSTEM OF PRE-UNIVERSITY PREPARATION

Being in conditions of the country demographic crisis increase, decrease of quality of natural sciences preparation of high-school students, aggravation of competitive struggle between universities for “their” applicants, the system of pre-university preparation should be significantly improved. Every year, relying on partnerships with more than 200 comprehensive schools in different parts of Ukraine, on competitions system, festivals, Doors open days, other events, the university has to find a talented school youth in Ukraine, who has a desire to get an engineering education.

With these young people should be organized a complex work on the basis of the department of pre-university preparation, profile departments, start-up school “Sikorsky Challenge”, Junior Academy of Sciences for their encouragement to study in Igor Sikorsky Kyiv Polytechnic Institute. A special information platform should be created for interactive cooperation with Ukrainian school youth during pre-university training programs.

Pre-university preparation system complex should also include interaction with foreign students who are going to enter Igor Sikorsky Kyiv Polytechnic Institute. This should be carried out in two simultaneous ways – through greater involvement of foreigners into studying in pre-university preparation departments in Ukraine, as well as through the establishment of remote (including distance forms) preparation departments (jointly with foreign educational partners) abroad.

1.9. PROVISION OF INTERDISCIPLINARITY, SYSTEMATICITY AND COMPLEX PREPARATION

Provision of interdisciplinarity, systematicity, complex preparation and expanding of the Igor Sikorsky Kyiv Polytechnic Institute operations with the high-tech labor market should become the basis of the university's development strategy in the next stage.

The penetration of engineering in medicine, biology, environmental protection, economy, in the social sphere will require the Igor Sikorsky Kyiv Polytechnic Institute to strengthen inter-departmental and inter-facultative relations, reconfigure programs, flexibility of educational trajectories, creation of new directions of science and education in Ukraine, taking into account the experience of the most developed countries.

A striking example of the implementation of this strategy today is the experience of organization a comprehensive “Human Health” program which combined the efforts of more than 30 engineering departments of the Igor Sikorsky Kyiv Polytechnic Institute.

Over the past 7 years, experts from six other faculties and institutes of Igor Sikorsky Kyiv Polytechnic Institute in such fields as mechanics, material science, mathematics, physics, ecology, IT-sphere, microelectronics, telecommunication, system analysis have joined the university's space program, coordinated by the Institute of Aerospace Technologies - representatives of 20 branches of study.

The aviation branch has combined the activities of 16 departments of two educational and scientific institutes (Mechanical Engineering and Aerospace Technologies) and five faculties of Igor Sikorsky Kyiv Polytechnic Institute.

Most of the defense projects implemented by the Igor Sikorsky Kyiv Polytechnic Institute today are interdisciplinary. Specialists from various scientific schools of the University are involved in their implementation.

Thus, problem-oriented approaches are becoming more demanding by the economics and society, both in nurturing the next generation of specialists on an interdisciplinary basis and in the ability of Igor Sikorsky Kyiv Polytechnic Institute to perform complex tasks on the government and large companies requests.

1.10. QUICK RESPONSE TO CHANGES IN THE LABOR MARKET STRUCTURE IN THE CONDITIONS OF THE FOURTH INDUSTRIAL REVOLUTION

According to the vision, created by the Davos Economic Summits 2015–2016, the global economy (and Ukraine depends entirely on it) will face large-scale transformations in the fields of automation, “digitalization”, robotization, and artificial intelligence coverage in the next 10 years.

According to the International Labor Organization at the UN, the amounts of human knowledge will double every two years because of global “digitization”. The latest technical knowledge that engineer students are getting now will become obsolete in 2-3 years, today the pupil of a comprehensive school will change 10-14 jobs until he reaches 38 years, every 5th worker will lose his job in less than a year, every 2-nd will not be able to maintain a permanent job for more than 5 years. What does it mean for Igor Sikorsky Kyiv Polytechnic Institute? Of course, the “digital” economy in Ukraine will lead to the release of a huge number of traditional vacancies and a significant reduction of the not qualified ones, and, first of all, reduction of "trite" human labor. Demand for fundamental knowledge and high specialist competencies will rapidly grow. The main factor that will influence the applicants’ “where to study” choice, will be the opportunity to get a promising and demanded by the labor market job. Automatically, every year there may be a loss of applicants to some traditional fields of studies, which may lead up to the shutdowns of the relevant scientific and pedagogical schools.

If the Igor Sikorsky Kyiv Polytechnic Institute does not respond to the new challenge ahead, in a number of specialties, there will be a real threat to prepare a great number of specialists for jobs that will not exist in the future. The University can only respond to this challenge by enhancing its analytical, forecast work concerning the prospects of the development of each sector of industry in the new "digital" economy and by making rapid changes in the structure, quantity, content and quality of specialist training in relevant engineering majors.

1.11. INTENSIFICATION OF THE DIRECT INTERACTION OF IGOR SIKORSKY KYIV POLYTECHNIC INSTITUTE WITH HIGH-TECH LABOR MARKET

Constantly supporting the partnership with the high-tech labor market and taking into consideration the global trends in the sciences and technologies development, Igor Sikorsky Kyiv Polytechnic Institute should promptly formulate new criteria requirements for modern specialists, develop programs for their training under the model of dual education, expand the base of students' practices, obtain vacancies for graduates, upgrade educational laboratory base of the university.

Nowadays, Igor Sikorsky Kyiv Polytechnic Institute has signed agreements with more than 2000 Ukrainian enterprises. On the next stage, the university should significantly expand the list of strategic partners (including foreign ones), focusing primarily on large system-creating enterprises, negotiate with them specific curricula, research and innovations programs according to the requirements of basic industries. The Alumni Association of Igor Sikorsky Kyiv Polytechnic Institute, which has united many leaders of today's high-tech enterprises, statesmen, politicians and businessmen, may play such an important role in this case. It becomes more important to expand the cooperation with vocational associations and to involve them in solving current and strategic higher education problems, certification and employment of university graduates. The problem of research and educational laboratory base updating worth a special attention through close cooperation with Ukrainian and other world countries high-tech enterprises. Nowadays, the list of retrofitting of scientific and laboratory equipment of Igor Sikorsky Kyiv Polytechnic Institute has more than 110 vast positions. Positive examples are demonstrated by the Institute of Mechanical Engineering and the Faculty of Physical Engineering. Thanks to the cooperation with major national and foreign companies, they have already reached the European level of equipment quality of their training and research laboratories. The Igor Sikorsky Kyiv Polytechnic Institute should extend this experience to all leading academic units of the University.

1.12. SCIENTIFIC AND INNOVATIVE ACTIVITIES

Scientific and innovative activities should take on a fundamentally new meaning for the development of the university. Responding to the current challenges of the economy and society with science, it should be not only an essential part of the nurturing of specialists, but also a locomotive and a milestone for shaping their education content and form. An important direction of university's education process should remain the enhancement of the national defensive capability. Even today, the technologies created by Igor Sikorsky Kyiv Polytechnic Institute scientists function to protect Ukraine's sovereignty and territorial integrity.

Igor Sikorsky Kyiv Polytechnic Institute have to preserve Ukraine's leadership in university research and development of space technology, continuing to create and launch the following nano satellite "PolyITAN" spacecrafts and become a member of the world micro-space spacecraft developers.

Igor Sikorsky Kyiv Polytechnic Institute has to continue the development of the target mechanism of the science organization. The preservation and development of the university's scientific schools should be based on the expansion of funding through successful participation in the Ministry of Education and Science of Ukraine competitions, the National Research Fund of Ukraine, and international grants. We should pay a great attention to the direct interaction with potential customers of scientific and technical products and scientific and technical services through "the Office of Innovation and Technology Transfer", material and technical base updates in cooperation with the Ministry of Education and Science of Ukraine, enterprises and organizations, through international grants and programs.

Moving towards trilateral system of professionals training, integrating research and innovations into the curricula of the second and third tier of training, the Igor Sikorsky Kyiv Polytechnic Institute should focus on a range of genuine European research universities.

Igor Sikorsky Kyiv Polytechnic Institute should follow the steps of a cohort of the best research universities, based on the European model, moving on to a trilateral staff training system,

integrating scientific research and innovations into the curricula and educational programs of the second and the third levels of the training.

Transforming the training of highly qualified scientific staff in PhD programs, the university should increase the number of students in fundamental natural and engineering fields. Today Igor Sikorsky Kyiv Polytechnic Institute prepares annually 10-15 doctors and 70-90 PhDs as a part of restoration of the natural losses of scientific schools. For significant development of university's own scientific schools these numbers must be doubled at the very least.

Igor Sikorsky Kyiv Polytechnic Institute should significantly expand not only the presence of scientific publications of the university in the world scientometric bases, but also increase the citation rates of scientific publications of its scientists.

The protection and management of intellectual property, the commercialization of new critical knowledge should become a new important task for Igor Sikorsky Kyiv Polytechnic Institute. It is necessary to improve legal relationship with authors in field of intellectual and creative activity. Igor Sikorsky Kyiv Polytechnic Institute should significantly improve its economy by introducing intangible assets into the financial balance of the university and by its commercialization. The indicators of university's economy should gradually meet the corresponding indicators of the leading research universities in the world, for which the management of intangible assets makes a significant contribution to their budget.

1.13. ACTIVITY OF THE UNIVERSITY IN THE FIELD OF INTERNATIONAL RELATIONS

In the field of international relations Igor Sikorsky Kyiv Polytechnic Institute should deepen the internationalization of the university, strengthen the international component of its activity, direct research and educational technologies (including technologies of dual education) in order to prepare competitive professionals to work in the global markets of education, science and innovations, continue reforming according to the model of research university of leadership-type by internationally recognised criteria.

It is necessary to adapt the best experience of universities of the world and put it into practice in all areas of activity of Igor Sikorsky Kyiv Polytechnic Institute.

The lack of knowledge of business English, European culture, history and mentality by a large proportion of students and teachers of the university, as well as the low activity of almost 20% of departments in international field are the hindering factors in the development of international activity of Igor Sikorsky Kyiv Polytechnic Institute.

As the international mobility of students, young teachers and scientists is expanding, the training of a new generation of teachers, scientists and managerial staff, educated on the principles of global European thinking and European integration activity, with knowledge of English should be intensified.

Due to this, Igor Sikorsky Kyiv Polytechnic Institute should increase the number of students enrolled in dual degree programs and academic mobility with universities of developed countries.

Now, Igor Sikorsky Kyiv Polytechnic Institute is expanding the participation of university's youth in international leadership education programs for the future of Ukraine – people of a new European mentality, new ambitions.

International scientific mobility must be tapped into, especially for post-graduate students and masters, young teachers and scientists. This is the way to increase the participation of Igor

Sikorsky Kyiv Polytechnic Institute in international consortia that submit project proposals to international grant programs and, as a result, to increase the awarded international science grants.

In the field of international scientific cooperation, the university should increase the efficiency of participation of its departments in international grant programs (launching at each department) 3-5 times, including those under the programs of European Union: “Horizon 2020”, “ERASMUS+”, “EURASIA”, NATO programs “Science for Peace and Security” and others.

Due to this and introduction of other types of foreign economic activity the university should increase the amount of annual budget income to 20-25%.

It is necessary to include new mechanisms for activating the work of primary departments in international field:

- remove psychological barriers, fears of the international field, misunderstanding that the development of departments today is possible due to international sources;
- rely on young teachers and young scientists in this matter;
- introduce new elements of motivation and reporting;
- introduce rating of departments (departments, faculties, institutes) by the direction of international activity on the basis of the analysis of parameters used by the universities of the world.

It is necessary to add parameters in scientific-educating staff rating metrics that reflect the activity of each scientific-education staff member in international activity, and add the section “International activity” in the individual plans of the teachers. It should be done in order to enhance the motivation for participation in the international activity of each teacher and scientist.

It is also necessary to develop and introduce economic motivators to support those staff, post-graduate students and students of the university who organize and develop international activities; to introduce the practice of formation at the level of the university and departments of funds for the support and development of international activity at the expense of incomes from foreign economic component.

On the basis of the analysis of the ratings of the departments the work with the heads of those departments that do not currently carry out international activity should be started. The young staff of such departments should be involved.

To strengthen the participation of scientific schools in international programs of the European Union we need to introduce monitoring of project-grant activity at the level of faculties, departments, and with those who have the lowest indicators of activity in this field, to start working immediately.

We have to provide training for scientific schools through the National Contact Point of the EU Horizon 2020 program, to identify “crystallization centres” at every faculty and institute – groups of young teachers and scientists who have already proved themselves in international project-grant activity and have a penchant for this field. We have to pay special attention to them, to provide trainings of increased complexity for this category and provide all kinds of methodological and organizational help.

In order to intensify this work, consolidate the management team of the Department of International Cooperation in the divisions for the purpose of personal work in the departments, to provide methodological and organizational assistance for young teams of scientists.

It is necessary to continue work on the implementation of the provisions of the Law of Ukraine on Equal Rights and Opportunities for Women and Men and adapt international experience in this field as an important factor in democratizing the entire university life system.

Igor Sikorsky Kyiv Polytechnic Institute should improve the university's regulatory framework for international and foreign economic cooperation and introduce it into everyday management practice.

1.14 INFORMATIZATION OF THE UNIVERSITY MANAGEMENT

Igor Sikorsky Kyiv Polytechnic Institute has to develop information infrastructure in all fields of activity of the university: in management, in the education and scientific progress, in the social environment, in advertising and information work. The university is developing a multi-service centralized Wi-Fi access network for this purpose.

The portal of Igor Sikorsky Kyiv Polytechnic Institute is the only among all universities of Ukraine which is in the TOP-500 international ranking of the most popular internet resources. The university traditionally holds the 1st place in Ukraine according to the citation rating Google Scholar. For the last three years Igor Sikorsky Kyiv Polytechnic Institute has been the sole leader among the institutions of higher education of Ukraine according to the international ranking UniRank which assesses the popularity of official websites.

In the next stage Igor Sikorsky Kyiv Polytechnic Institute has to:

- significantly develop the automation of the university's management functions, increase efficiency and expand the possibilities of using the automated information system "E-Campus" ;
- create a new platform of information services and dialogue between students, staff and administration to promptly address ongoing feedback problems at all levels of Igor Sikorsky Kyiv Polytechnic Institute management;
- create new information registers with analytical functions;
- modernize the university's electronic documentation management system and enable the creation of documents in a Single Window mode;
- improve staff accounting systems in order to simplify the procedures of staff changing support;
- improve information support of the university's financial resources management processes by updating the existing accounting and reporting systems;
- increase efficiency of use of computer hardware, office equipment and software, as well as the level of data protection in information systems of Igor Sikorsky Kyiv Polytechnic Institute.

The university has to increase its presence in various information resources of Ukraine and the world significantly.

1.15. MANAGEMENT AND DEVELOPMENT OF THE UNIVERSITY MATERIAL BASE

Igor Sikorsky Kyiv Polytechnic Institute has to develop its material base comprehensively, carrying out repair work in educational buildings, dormitories and on the territory of the university. The constant attention must be paid to the management of 34 educational buildings with a total area of 460 thousand m², 20 dormitories with an area of 153 thousand m², the Scientific and Technical Library, the Centre of Culture and Arts, the Student Nutrition Center, the State Polytechnic Museum, 4 recreation centers, 6 residential buildings – altogether more than 80 complex infrastructure objects.

The part of repair work, carried out by outsources organizations, should be steadily reduced by the transfer of these works to the university's household services in order to provide substantial saving. In recent years, savings from these measures have reached 118 %.

It is important to promote and position Igor Sikorsky Kyiv Polytechnic Institute as an ecological (green) university which involves environmental educational, scientific and economic activities, measures of ecological production and consumption, including implementation of energy modernization and recycling.

As the utility rates are constantly growing, it is necessary to continue the implementation of a set of energy-saving measures. We have to install systems of automation of energy consumption, replace the windows with energy-saving ones and insulate the walls in the educational buildings and dormitories as a part of a separate program. Energy rate grow each year by an average of 20%. So a set of energy-saving works should ensure an annual reduction of the total cost of consumed energy resources by 5-10%.

The campus of Igor Sikorsky Kyiv Polytechnic Institute is a complex socio-economic organism with 20 student dormitories, student's polyclinic, a pedestrian zone on the Polytechnic str., two student squares and small sport core. About 13,000 students live there.

The household services of the campus have to carry out necessary repair works, improve the territory and squares for students. All dormitories shall have work rooms and sport rooms, connect to computer network through optical communication channels to improve student organization of work and leisure. An automated pass system and video surveillance system shall work clearly in all dormitories in order to improve student safety.

In conditions of the economic instability of the society, the social protection of the members of the university staff becomes especially important. It should have a clearer, more targeted appointment, become more efficient and effective, an aim at maintaining an atmosphere of creativity, collaboration and mutual assistance among all members of Igor Sikorsky Kyiv Polytechnic Institute team.

The motivation of the officer-innovators who ensure the accelerated development of the university should be enhanced; the principles of "no subjectivity" in staff management, mechanisms of protection of dignity and academic freedoms of higher education students, teachers, scientists, staff members, freedom of their expression should be improved.

It is necessary to continue programs of improving the living conditions of the University staff through investment projects, constantly assist the socially disadvantaged members of the team: persons with disabilities, patients, veterans, large families, single parents. Thus, over the last 7 years, 80% of the university staff has been covered by social payments for a total amount of 266.5 million UAH.

Igor Sikorsky Kyiv Polytechnic Institute should maintain a stable financial and economic position, which has been constantly ensured by effective financial management, regular monitoring of budget implementation, timely implementation of all types of payments – salaries, scholarships, material assistance, utility bills, taxes and fees to the budgets of all levels.

During 2012–2018, the university budget increased 2-fold, the average salary of employees – 2.5 times, in particular, the associate professor – in 2.84 times, of lead engineer – in 2.7 times. Igor Sikorsky Kyiv Polytechnic Institute should continue ensuring the guided dynamics of social security of the team members.

It is necessary to continue the implementation of the rehabilitation program of students of Igor Sikorsky Kyiv Polytechnic Institute. It is important to implement the new system of medical care for students and staff of Igor Sikorsky Kyiv Polytechnic Institute quickly and without

bureaucratic delay. Besides, we need to continue promoting a healthy lifestyle among members of the university community, which should include a range of activities for their involvement in sports, healthy eating, abandoning bad habits, conducting appropriate educational, teaching and scientific activities.

The university should constantly improve student and staff health programs. Every year there are almost 3.5 thousand people at Igor Sikorsky Kyiv Polytechnic Institute recreation centers, including all those students and staff who want to relax. During the year more than 2.5 thousand members of our staff have a rest in the “base of the weekend” mode. Together, the average number of vacationers reaches 6,000 people each year. In all previous years the cost of rehabilitation at Igor Sikorsky Kyiv Polytechnic Institute was one of the lowest among Ukrainian universities.

1.16. SOCIAL PROTECTION OF MEMBERS OF THE UNIVERSITY STAFF

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1.17. DEMOCRATIZATION OF UNIVERSITY LIFE, DECENTRALIZATION OF GOVERNANCE AND WIDE IMPLEMENTATION OF SELF-GOVERNANCE

Democratization, self-government and decentralization are important principles in the further development of Igor Sikorsky Kyiv Polytechnic Institute. According to the university decentralization system, which was introduced at the beginning of the independence of Ukraine, the educational and research units of Igor Sikorsky Kyiv Polytechnic Institute were granted broad autonomy rights in all areas of activity. Currently, there are 54 units. The university itself has become for them a unifying system that is responsible for the development strategy, standards of quality of training and research, staff policy and other important areas of activity of the units.

In this system, the creation of a free atmosphere when a person feels comfortable at the university, when relationships between members of the team are based on respect for human work, tolerance of different opinions, freedom of expression and prevention of any persecution for it, is a significant factor.

Such decentralization of governance has yielded positive results over time. There has been a significant revitalization of scientific schools, autonomous units, individual scientists and students, which has produced a significant number of unique breakthroughs, especially in the field of innovation.

At the same time, the weak links of this system were revealed. It is effective under the high responsibility and consciousness of leaders of all levels, from the rector to the head of the department, the head of the laboratory, and the head of the academic group. The poor performance of their duties at a certain level of government leads to a significant weakening and even discrediting of this system.

Thus, the manifestations of bureaucracy and red tape at the level of the Rectorate and the central services of Igor Sikorsky Kyiv Polytechnic Institute cause deep disappointment and distrust of the system of decentralization of management in the university team.

The poor performance of their duties at the level of deans of faculties and directors of institutes leads to the decline of certain areas of work of individual units. For example, in some of them, managers for years are not interested in the status of their allocated material base and, having the means and staff, do not perform the relevant managerial functions in a timely manner. Consequently, the working conditions of higher education students and teaching staff are deteriorating, and their just indignation and frustration with the university are increasing.

The lack of necessary work with students at the departmental level leads to the fact that some of them often fall under the influence and management of external, sometimes destructive, forces through various social networks.

Thus, being aware of the alternative to the system of decentralized, democratic management, the task the university is to improve it through constant introspection and elimination of weak links and mistakes in the work.

According to the Code of Honor of Igor Sikorsky Kyiv Polytechnic Institute, approved in 2015, all members of its staff must adhere to key moral and ethical principles of the university community, and continue fostering a culture of academic virtue.

Igor Sikorsky Kyiv Polytechnic Institute should strengthen the moral encouragement of scientific and teaching staff at the state level and improve the system of protection of the rights of

students and the University staff. It is based on close cooperation between trade union organizations, the Labor Disputes Commission and the Law Department. All regulations and orders for work, promotion and imposition of penalties on employees and students, determination of their functional responsibilities should be adopted in accordance with the law and agreed with trade unions and student self-government bodies.

It is important to continue improving the program-targeted system of collective bargaining at all levels of university management, which has ensured the continuous development of Igor Sikorsky Kyiv Polytechnic Institute, the stability of the collective and the absence of conflicts and contradictions in it throughout the independence of Ukraine.

In 2023, Igor Sikorsky Kyiv Polytechnic Institute will commemorate the anniversary date - 125 years from the date of its foundation. Such anniversary will be an opportunity for an intermediate summing up of the development of Igor Sikorsky Kyiv Polytechnic Institute both in the whole history of its existence and in the context of the achievements of the present stage. The leaders of Igor Sikorsky Kyiv Polytechnic Institute must prepare and submit for approval of the Conference of the Labor Collective a special Program of the preparation and commemoration of this anniversary date. The indicated Program should include a wide range of activities of proper preparation for the commemorative anniversary of the University at the state level in order to demonstrate its achievements in science, education and innovation and to honour the traditions and achievements of renowned students and teachers of Igor Sikorsky Kyiv Polytechnic Institute.

**CHAPTER 2. ACTION PLAN FOR IMPLEMENTATION OF
DEVELOPMENT STRATEGY OF IGOR SIKORSKY KYIV POLYTECHNIC
INSTITUTE FOR THE PERIOD 2020-2025**

SYSTEM OF EDUCATION QUALITY ASSURANCE

No.	Tasks	Expected results and Indicators	Execution terms
1	To improve and develop the quality assurance system of education	The effective functioning of the system in all university departments	Permanent
2	To provide for the collection and analysis of employment information and career trajectories for graduates, based on which the list and content of educational programs are optimized to meet labour market requirements	Reconciling the content of educational programs and labour market requirements. Increasing the number of graduates working in the speciality	Annually
3	To conduct foresight-research of the development of the labour market and high-tech business in the context of perspective and demand of specialities and educational programs of the University	Ensuring the competitiveness of graduates, taking into account changes in the labour market	Permanent
4	To continue cooperation with partner companies to update the material base, create joint educational and research-production complexes, centres, laboratories	Identification of at least one strategic partner company in each university department	2020–2025
5	To ensure uninterrupted work and to enhance the functioning of the Electronic Campus, including receiving students' feedback regarding all components of the educational process	Involvement of 100% of higher education students and scientific educational staff in the active use of the system and its services, creation of independent works delivery services (abstracts, Settlement and Graphic works, Home control assignments, etc.) in electronic form with a check for plagiarism	2020–2025

No.	Tasks	Expected results and Indicators	Execution terms
6	To ensure the development of the personnel reserve system at all university departments, taking into account the creation of new specializations, the graduation of masters and graduate students, training of highly qualified staff	System functioning at all university departments	2020–2025
7	To improve the system of staff support of the educational process at the departments, develop and implement programs of professional growth of teachers, draw up plans for the protection of theses and attract graduates of postgraduate and magistracy to teaching work. To develop and ensure implementation of the “Plan for training and certification of the scientific staff of Igor Sikorsky Kyiv Polytechnic Institute for the years 2020-2025”, focusing on doctoral and postgraduate studies	Rejuvenation of scientific educational staff at all university departments while maintaining a high scientific and pedagogical level	2020–2025
8	To ensure constant advanced training and retraining of all teachers throughout the duration of the contract, subject to regulatory requirements assessment for the amount of hours	Annual participation in the qualification upgrading programmes at least 20% of the total number of scientific educational staff	Throughout the reporting period
9	To create an effective system for improving pedagogical skills of university professors, including on-line platform Professional Development Endeavors	Creation and functioning of a system of upgrading the teaching qualifications of the scientific-educational staff	2020–2025
10	To improve the rating system of activity of scientific-educational staff of the university subdivisions, as well as the system of moral and material encouragement of teachers according to the group of basic indicators	Provide university and departmental management with information on the qualitative composition of the departments	2020–2025

No.	Tasks	Expected results and Indicators	Execution terms
11	To provide renewal and expansion of the system of Igor Sikorsky Kyiv Polytechnic Institute pre-university preparation, work on the professional orientation of youth, implementation of the program “Future of Ukraine” aiming at creating conditions for the search of gifted youth and open up the opportunity to receive solid academic background	“No less than 2000 people are involved in the program annually”	2020–2025
12	To improve the selection system for master's degree programs, involve the partner companies in the selection process for target training and increase the number of applicants from other Higher Educational Institutions	Annual increase (up to 10%) in the number of Masters in targeted training	2020–2025
13	To create the integrated quality control system for training of specialists in Igor Sikorsky Kyiv Polytechnic Institute on the basis of close cooperation between the Department of Educational Process Quality, Department of Educational Process Organisation, Institute for Monitoring of Education Quality and Research Establishment for Applied Sociology “Socioplus”	Provide the university leadership and departments with immediate and strategic information regarding the state of the education improvement system	2020–2025
14	To improve the quality of master's thesis (organise the execution of works according to order of enterprises and scientific institutions, to increase the percentage of works recommended for implementation and works protected by patents and release in publications, indexed in international databases and professional publications)	Providing the number of such works at 50% at the end of the reporting period	2020–2025
15	Provide control of the student contingent quality based on the monitoring system, i.e. results of EIT - entrance control - semester attestation - rectorial control	Quality increase of the contingent of higher education students.	Permanent

No.	Tasks	Expected results and Indicators	Execution terms
16	To improve the system of independent monitoring of the retained knowledge of senior students in fundamental, vocationally-oriented and professional subjects, as well as assessing the level of their knowledge of information technologies and foreign language; quality control of diploma projects and dissertation works of graduates; a sociological evaluation of the quality of graduate training by employers	Considering 100% monitoring of full-time students enrolled in bachelor's and master's degree programs	2020–2025
17	Organisation of work at the University to be granted the status of "European Teacher of Engineering University" ING.PAED.IGIP	International recognition of academic staff	2022–2025
18	Passing of accreditation procedures for the university's educational programs in accordance with the National Agency for Higher Education Quality Assurance criteria	Getting accreditation certificates for all educational programs by which preparation at the university is carried out	According to 2025 accreditation plan
19	Completion of international accreditation of university educational programs in accordance with procedures and requirements of foreign accreditation agencies and quality assurance of higher education agencies	Getting certificates for international accreditation of individual educational programs	2020–2025

ACADEMIC ACTIVITIES

No.	Tasks	Expected results and Indicators	Execution terms
1	To modernise Igor Sikorsky Kyiv Polytechnic Institute policy on the educational activity and development of the corporate culture of the university regarding the issues of the provision of quality modern education, the formation of academic integrity culture, competitiveness, creativity, initiative	Creating an atmosphere of creativity, innovation, academic integrity that promotes motivated students to get quality education	2020–2025
2	To provide employers' participation in the development and implementation of educational programs and curricula, target preparation of masters with the transition to the dual education system, training, and retraining of highly qualified academic staff	The current list and content of educational programs that meet the requirements of the labor market. Increase in up to 25% of master's degree programs in dual education system	2020–2025
3	To provide the fundamentalizing of the professionals training from a physical and technical pattern, which involves the synthesis of deep general scientific, natural knowledge and engineering art	A balanced skills mix of university graduates	Permanent
4	To continue creating interdisciplinary educational programs to train professionals of new fields	Implement at least 10 comprehensive, interdisciplinary programs	2020–2025
5	To provide the realization of the right of students to form individual educational course through a system of optional subjects	Functioning of the system of real choice of educational components. Formation of university-wide, inter-departmental, faculty, departmental catalogs of optional subjects	2020–2025
6	To organise interaction of academic staff with knowledge-based and high-tech enterprises, international institutions and governmental organisations in order to improve the scientific and pedagogical skills of teachers. Invitation of foreign experts to teach some courses at the university	The increase in the number of university professors who teach, including those who are abroad, and the increase in the number of foreign visiting teachers	2020–2025

No.	Tasks	Expected results and Indicators	Execution terms
7	To provide improvement of the scientific and methodological and organisational base concerning the organisation of foreign students education	The increase in the number of international students by 15-30%	2020–2025
8	To provide the increase in the number of educational programs in English	The increase the motivation of foreign students to study at the university and increasing their number by 10-15%	2020–2025
9	To continue the practice of creating joint educational and research facilities, shared centres, laboratories with leading scientific institutions and companies	Create at least 20 new high-tech shared hubs	2020–2025
10	To constantly develop its own publishing house (“Polytechnic”), increasing the number of electronic and printed educational editions. To create a complete set of electronic methodological support for all educational programs at the university	Increase the level of information and curricular support of the educational process by modern editions	2020–2025
11	To create digital educational environment, to develop elements of mixed and distance learning of students	Reformation of 100% of the courses according to the requirements of dual and distance learning	2020–2025
12	Creation of the preparation system according to the university certification programs	Increasing the training profiling opportunities,	2020–2025
13	To provide a high level of preparation of students in English and improve the language skills of the university academic staff	Proficiency in English at the level not lower than B1 for bachelors and not lower than B2 for masters; the increase the number of English language courses	2020–2025
14	To increase the number of students enrolled in dual degree programs and academic mobility with leading universities in the world	The increase of at least in three times the number of such higher education students	2020–2025
15	Involvement of students in the discussion of educational programs, conducting surveys and opinion consideration about the quality of the educational process	Taking into account the educational needs of higher education students, forming an atmosphere of partnership between the main subjects of the educational process	Throughout the period

No.	Tasks	Expected results and Indicators	Execution terms
16	To improve the quality of preparation of bachelors' and masters' qualification paper (works by the order of enterprises and scientific institutions, works recommended for implementation, protected by patents and publications in professional publishing houses)	Increase the number of works on the order of enterprises and organisations	2020–2025
17	To provide operative partnerships with high-tech enterprises to organise student internships on their basis with a further job prospects	Significant increase in the number of students doing an internship at modern high-tech enterprises	2020–2025
18	To provide the development of innovative education using interdisciplinary, problem-oriented and project-oriented technologies through the introduction of flexible training programs for specialists, the development of new training courses based on the results of research work and the involvement of students and postgraduates by their scientific priorities	Introduction of new interdisciplinary courses and subjects	2020–2025

SCIENTIFIC WORK

No.	Tasks	Expected results and Indicators	Execution terms
1	To consolidate reputation of Igor Sikorsky Kyiv Polytechnic Institute as a leading innovative research institution	Provide positive dynamics of Igor Sikorsky Kyiv Polytechnic Institute by scientific-research and innovation components in national and world university rankings	2020–2025
2	To introduce innovative mechanisms for ensuring technology transfer, in particular by creating information systems to support them	Increase in revenues to the university fund due to the commercialisation of innovative developments	2020–2025
3	To introduce an innovative approach to the formation and implementation of integrated scientific projects and programs of basic and applied research and development, i. e. “basic research - applied	Annual increase of such projects by 10-15%	2020–2025

No.	Tasks	Expected results and Indicators	Execution terms
	research and development - commercial development”		
4	To increase the activity of scientists on the use of multichannel sources of funding for scientific research, the involvement of scientists in the implementation of national projects (including complex interdisciplinary), government programs, participation in tenders for the award of government contracts, the implementation of projects at the level of tasks of certain fields of the country under contracts with enterprises and companies	The annual increase by 10-12% of the amount of financing of the scientific activity of the university	2020–2025
5	To provide training and implementation of complex, interdisciplinary research and development in priority areas of science and technology and international projects, programs, grants	Increase the number of new received scientific findings of international standard	2020–2025
6	To increase the citation metrics of university staff in global scientometric databases; gain international recognition of university periodicals	Increase in the values of the university's H-index, citation of scientific papers and the number of periodicals of the university, as well as conference materials included in Web of Science and Scopus	2020–2025
7	To develop innovative structures at the university (science park, technology park, business incubator, startup school); expand the activity of Sikorsky Challenge innovation environment and the participation of the university's departments in the implementation of its innovative projects	Implementation of investment and innovation projects in accordance with the Government Program. Annual increase in the number of high-tech companies - partners of the Sikorsky Challenge innovation environment by 5-10%. Involvement of students in mass innovation activity	2020–2025
8	To improve the system of commercialization of intellectual property objects; to stimulate inventive activities of staff and students, as well as promote the	Annual increase of commercialized intellectual property rights of the university's	2020–2025

No.	Tasks	Expected results and Indicators	Execution terms
	<p>carrying technology transfer process. To introduce the system of stimulation of university staff and students for the inventive activity within the competitions of Igor Sikorsky Kyiv Polytechnic Institute for “The best invention of the year” and “The best invention of the year among young people”.</p>	<p>scientific and technical development, including those with the participation of students</p>	
9	<p>To take action to increase the involvement of students in research and to promote the participation of students in implementation of innovative developments</p>	<p>Increase the number of students, who take part in the scientific activities and creation of innovative developments, increasing their publishing activity in professional domestic and international journals</p>	2020–2025
10	<p>To continue automation of library and informatization processes of sci-tech library</p>	<p>The development of new additional services for customers of sci-tech library</p>	2020–2025
11	<p>To develop an electronic archive of educational and scientific materials of Igor Sykorsky Kyiv Polytechnic Institute</p>	<p>To create the supporting system of educational and scientific publications at Igor Sykorsky Kyiv Polytechnic Institute</p>	2020–2025
12	<p>To develop the history and museum complex of the State Polytechnic Museum: - to introduce computer technologies, to create electronic databases on the history of Igor Sykorsky Kyiv Polytechnic Institute, the development of science and technology continue creating an electronic database of prominent personalities related to Igor Sykorsky Kyiv Polytechnic Institute;</p>	<p>Increasing of the number of scientific funds, museum pieces and expositions. The formation of funds and text materials in electronic form. Creation of an electronic catalog of video documents, new</p>	2020–2025

No.	Tasks	Expected results and Indicators	Execution terms
	<p>- to develop the work of the museum as a research, methodological and practical center for the history of museums of higher educational establishments and technical museums of Ukraine</p>	<p>exhibitions involving modern museum technologies, publication of research materials, holding mass events for the general public. Creation of a methodological and practical center for museum affairs together with the Center for the Development of Museum Affairs of Ukraine</p>	
13	<p>Take measures to get included in the List of scientific objects that are national property: - a laboratory that simulates the conditions of space for testing of micro- and nanosatellites; -Data collection of rare books of sci-tech Library; - Historical and Memorial Museum Complex of the State Polytechnic Museum</p>	<p>Obtaining the status of scientific objects that are national property</p>	2020–2025
14	<p>To develop the system of scientific laboratories and centers for the collective use of scientific and technological equipment. Promote their effective use by scientific-pedagogical workers and applicants for higher education</p>	<p>Formation of perspective plan of laboratories and centers for collective use of scientific and technological equipment, registration of relevant competitive bids, ensuring the functioning of such centers and laboratories.</p>	2020–2025

EDUCATIONAL AND SOCIAL ACTIVITIES

No.	Tasks	Expected results and Indicators	Execution terms
1	To liberalize the educational process, taking into account the individual needs of higher education applicants during mastering the professional skills	Providing opportunities for students to realize individual learning paths within the chosen educational program	2020–2025
2	To promote the participation of Igor Sikorsky Kyiv Polytechnic Institute in academic mobility programs	Increasing the number of academic mobility projects and their participants. Development of existing projects by involving more university units in it. Support of cooperation with permanent partners and searching for new partners of the University in the fields of education and science. Creating new additional possibilities for professional preparation of applicants.	2020–2025
3	To internationalize educational process	Deepening the university's integration into the world and European educational and scientific space	2020–2025
4	To stimulate the increasing of number of programs of dual education	Increasing the number of university's graduates, who are provided with the first job in accordance with the specialty obtained. Updating the content of the discipline programs through interaction with employers	2020–2025
5	Establish a three-stage relationship “entrant - student – graduate”	Increasing the interest of applicants in their chosen profession. Improving their learning	2020–2025

No.	Tasks	Expected results and Indicators	Execution terms
		outcomes	
6	To expand cooperation with secondary and secondary special educational institutions, Minor Academy of Sciences	Assisting students in choosing the specialization that best suits their abilities and wishes. Increasing the number of applicants to enter the university. Enrollment of high-level entrants to studying at university	2020–2025
7	To promote the development of creative thinking of applicants, improving of their creative potential	Support activities of clubs, scientific events such as summer schools, engineering competitions, etc. Participation of Applicants in Olympiads and Competitions with the Emphasis on Professional Component of Education.	2020–2025
8	To develop the counselling institution as a structure with mutual complementary system of activities of teaching counsellors and student counsellors. To enhance individual work with applicants	Accelerating of students' adaptation to the educational process at the university. Timely assistance to higher education students in the event of problems with their education. Establishing interaction between applicants and teachers. Improving learning outcomes	2020–2025
9	To develop information and media space at the university	The sensitization of university society concerning events and activities at the university Establishment of communication channels of administration, staff and students at the university	2020–2025.
10	To support the image of the university	Dissemination of up-to-	2020–2025

No.	Tasks	Expected results and Indicators	Execution terms
	through the organization and holding of open events, representation at exhibitions, forums, festivals, etc.	date information about the university. Conducting activities aimed at attracting of talented entrants for studying at the university, successful employees for work, and reliable partners for cooperation.	
11	To increase the number of scholarships and personal scholarships, which are financed by partner-organizations	Increasing the motivation of students to study, improving individual learning outcomes by activating their creative abilities	2020–2025
12	To provide the assistance to the system of financial support for students and control over the respect of the current legislation and timely assignment of scholarships to students, as well as social payments to privileged categories of citizens being students	Financial support for privileged categories of citizens in higher education, stimulating students to improve their learning outcomes.	2020–2025
13	To promote development of student self-government	Constructive interaction with student organizations. Involvement of students to participate in the development of the academic environment at the university, improving of studing conditions and leisure time	2020–2025
14	To support the local initiatives of the students	The extra opportunities for the students considering the providing of leisure activities which are connected with the professional and creative development, the satisfaction with their intellectual and cultural	2020-2025

No.	Tasks	Expected results and Indicators	Execution terms
		needs	
15	To popularize the volunteer action among the students	To encourage the students to participate in useful events for the society. The organization and maintenance of the events at university and beyond it. The harmonization of learning the profession by the formation of a humanistic component of world outlook of future professionals	2020-2025
16	To provide the holding festive events to celebrate 125 years of the university by organizing a concert program, competitions and festivals, topical conferences, quests, etc.	To form the corporate spirit of students' lives	2023

INTERNATIONAL ACTIVITIES

No.	Tasks	Expected results and Indicators	Execution terms
1	To provide the increase of the group of foreign students (students, postgraduates, students of a preparatory department, training courses)	5-6% of the general number of students, postgraduates of Igor Sikorsky Kyiv Polytechnic University)	till 2022
		A further increasing of the group of foreign students	till 2025
2	To organize the participation of Igor Sikorsky Kyiv Polytechnic University in the world universities' rating	To join 450 best world universities in the QS rating, to strengthen the positions of Igor Sikorsky Kyiv Polytechnic University in other world ratings of universities and other rating systems	till 2022
		To continue the positive dynamic of indicators	till 2025
3	To spread the practice of creating educational programs in English for the preparation of bachelors, magisters and PhD-students	To achieve the number of educational programs in English: not less than two ones in every faculty and institute	till 2025
4	To attract foreign lecturers, specialists to work at the university (not less than 3 months of staying)	To reach the number of foreign lecturers who are working with a duration which is not less than 3 months, not less than 10 people for a year	till 2022
		To reach the number of foreign lecturers who are working with a duration which is not less than 3 months, more than 20 people for a year	till 2025
	To introduce the program such as «Double Diploma» («The diploma of two	To provide the work of 20-30 programs	

No.	Tasks	Expected results and Indicators	Execution terms
5	universities partners») with foreign universities		till 2022
		To provide the work of 30-35 programs	till 2025
6	To provide the functions of common international centers, laboratories and other structures	To provide the functions of not less than 60 common structures with foreign partners	till 2022
7	To expand the participation of the subdivisions of university in international projects, programs, including bilateral ones	To achieve the annual participation in not less than 250-300 projects, programs	till 2022
		To achieve the annual participation in not less than 300-350 projects, programs	till 2025
8	To increase the raising funds from all kinds of an international activity	To achieve the level of 20-25% of the general amount of costs in the structure of the university budget got from the activity of a foreign economy from all possible sources	till 2025
9	To provide the participation and the membership of scientists of the university in the editions of foreign magazines	Not less than 30 scientists from not less than 15 editorial boards of foreign magazines	Permanently
10	To provide the complex of international events which are dedicated to the 125 years since the day of the university foundation	To attract the Embassies of foreign countries and international strategic partners to participate in the events	till 2023

INFORMATIZATION OF THE UNIVERSITY

No	Tasks	Expected results and Indicators	Execution terms
1	To create a new platform of informational services, including the platform of distance learning, which is based on the corporative university ID and integrated ones without the basis of groups of students, collaborators, curriculums and disciplines	The opportunity of using new applications. To provide the students and collaborators with new electronic services	2020-2025
2	To improve the systems of personnel accounting in order to simplify the processes of supporting the movement of a personnel	To simplify the processes of hiring collaborators, the automation of forming different kinds of contingent orders	2020-2025
3	To renovate the systems of accounting and the reporting of the university, faculties/institutes, campus	To improve the informational support of management processes of the financial support of the university. To raise the efficiency of the management of financial resources	2020-2025
4	The development of the Complex system of protection of the information of Igor Sikorsky Kyiv Polytechnic University according to the international standards of protection of information	The strengthening of protection level of the informational resources of the university	2020-2025
5	The further implementation of the 10 GE technology on the channels of the optical transport network of the university	The creation of highly productive supporting network for the realization of new multiservice, the systems of distance learning	2020-2025
6	The expansion of the multiservice wireless network with a centralized management	The expansion of the zones of the access coverage of a high-speed multiservice Wi-Fi network, which allows to provide an efficient mobile access to the informational resources of the university and the Internet global	2020-2025

No	Tasks	Expected results and Indicators	Execution terms
		network for students and lecturers	
7	The researches and implementation of the technologies that provide a multiservice	The providing of necessary quality of service parameters while transmitting different data (computer data, voice, video)	2020-2025
8	The implementation of the IP-telephony system in the management of the university	The strengthening of the efficiency of the university management by the realization of new informational services. The solution to the problem of the capacity of trunk telephone cables (2020 – in fact, free telephone lessons in most university buildings ended)	2020-2025
9	The integration of the informational and calculating resources of the university departments based on the Data-center of Igor Sikorsky Kyiv Polytechnic University	The providing of the rational distribution of the informational and calculating resources among the departments of the university	2020-2025
10	The creation of the only register of the informational resources of Igor Sikorsky Kyiv Polytechnic University	The realization of the processes of creation, modification, saving, using informational resources in the directions of the activity of the university	2020-2025
11	The development of the system «Electronic campus»	The providing of electronic communication of all the participants of a learning process, the informational support of the educational process of the departments, the providing of an access to information for all students, lecturers, scientists, curators of academic groups, leader students	2020-2025

No	Tasks	Expected results and Indicators	Execution terms
12	The modernization of the system of an electronic workflow of the university with a qualified electronic signature and the function of the control of a performing discipline	To provide the opportunities of creating electronic documents in the mode of «a single window» with an electronic signature and mobile access	2020-2025
13	To create the system of the monitoring of the using of computer equipment, office equipment and software at the university	The raising of the efficiency of using computer equipment, office equipment and software, and also the level of the protection of the information in informational systems of the university	2020-2025
14	The development of the web portal «Digital Library» with digitized historical, scientific, cultural materials from the funds of the Denisenko National Technical Library	The providing of access for students, lecturers and scientists of the university to scientific and historical materials of the NTL	2020-2025
15	The creation of the scientific and analytical systems of developments of the university to the spheres of science, innovations and technology transfer	The providing of the operative and strategic analysis of a scientific, innovational work and technology transfer at the university	2020-2025
16	The development of the standard «The electronic archive of the university»	The unification of the processes of archiving electronic copies of paper documents of the university	2020-2025
17	The creation of the automatic informational system «The electronic archive of Igor Sikorsky Kyiv Polytechnic Institute»	The providing of an early saving of electronic copies of paper documents of Igor Sikorsky Kyiv Polytechnic University	2020-2025
18	The development of the electronic archive of educational and scientific materials of Igor Sikorsky Kyiv Polytechnic Institute – Ela Igor Sikorsky Kyiv Polytechnic University	The providing of access for students, lecturers and scientists of the university to the electronic funds of the university library in	2020-2025

No	Tasks	Expected results and Indicators	Execution terms
		on-line mode	
19	The creation and keeping records of employers' proposals concerning employment and messages about employment to graduate students	The assistance of employment for graduate students to work on a specialty	2020-2025
20	The modernization and development of the automatic system of testing for the control of quality of an educational process at the university	The providing of access for students, lecturers and administrative workers to the testing system and the results of control	2020-2025
21	The development and support of the bank of web-resources of educational disciplines, including the English-speaking ones	The providing of 95% of educational disciplines by the web-resources (distance learning courses) for educational purposes	2020-2025
22	The update of the version of the web-portal of the university	The raising of the rating of Igor Sikorsky Kiev Polytechnic Institute	2020-2025
23	The development of the network of the Igor Sikorsky Kyiv Polytechnic University websites, including their creation of English versions	The annual 10% increase of the content and the number of websites. The rising of the webometric rating of Igor Sikorsky Kyiv Polytechnic University	2020-2025
24	To provide the presence of the scientists of Igor Sikorsky Kyiv Polytechnic University in scientific and metrical systems, registers of unique ID of scientists in social networks for scientists	The providing of 100% presence. The improving of the reputation of the scientists and the university	2020-2025
25	The support and development of the university counting cluster, its integration in national and international GRID-networks	The provision of services from extralarge calculations of the educational and scientific departments of the university and partners of Igor Sikorsky Kyiv Polytechnic University	2020-2025

SOCIAL WELFARE

No.	Tasks	Expected results and Indicators	Execution terms
1	To provide the implementation of programs connected with the prevention of diseases such as COVID-19, viral hepatitis, tuberculosis, HIV-AIDS, etc.	The increasing of the number of people covered by vaccination and other preventive measures	2020-2025
2	To realize the social and ecological project «Plant a tree»	To plant not less than 400 seedlings of trees twice a year with the further providing care for it	2020-2025
3	To organize the work of a kindergarten for employees' children on the territory of Igor Sikorsky Kyiv Polytechnic Institute	Providing the work of a kindergarten up to 100 places	2022–2025
4	To establish and implement a program «Development of health and wellness units of Igor Sikorsky Kyiv Polytechnic Institute for 2020-2025»	Improving the level of service delivery, expanding the list of services provided, increasing the number of visitors in units	2020–2025
5	To ensure the functioning, maintenance and development of recreation bases	Reconstruction of the recreation base Globus. Overhaul in the sleeping building of the recreation base Mayak	2020–2025
6	To ensure the development of a comprehensive health examination program for the workers and students and establish the wellness program	Medical examinations of workers, implementation of preventive measures	2020–2025
7	To promote greater public awareness and social activity of students by involving them in various social projects, state and public events at various levels	Expansion of students' membership in public organizations of the social dimension. Increasing the social activity of students	2020–2025
8	To develop a public catering system and improve the quality of food service	Providing affordable and high-quality nutrition for workers and students	2020–2025

MAINTENANCE WORK

No.	Tasks	Expected results and Indicators	Execution terms
1	To complete the construction and make the commissioning of the student dormitory for 400 people at Oleksy Tykhoho Street	Finishing the construction and commissioning of the dormitory	2020–2022
2	To carry out repair work in educational buildings and dormitories, repair the roofs and modernize heating systems	Ensuring of favorable conditions for the educational process and students living in dormitories	2020–2025
3	To implement Energy Efficiency Program at Igor Sikorsky Kyiv Polytechnic Institute	Reducing the consumption of energy and water by increasing the energy efficiency of engineering networks and their equipment and improving the thermal protection of enclosing constructions	2020–2025
4	To ensure the implementation of measures for improving the territory of Igor Sikorsky Kyiv Polytechnic Institute	Bettering the land improvement of Igor Sikorsky Kyiv Polytechnic Institute, maintaining the park and university squares in good conditions	2020–2025
5	To organize a separate waste collection system with the allocation of secondary raw materials (glass, metal, plastic, paper)	Reducing the amount of wastes according to the Article 32 of the Law of Ukraine «On Waste»	2020–2025
6	To create an environmental monitoring system and a system for obtaining appropriate permissions of Igor Sikorsky Kyiv Polytechnic Institute	Compliance with university environmental safety according to the legislation of Ukraine on environmental protection	2020–2025
7	To build an auditorium complex on Industrial lane	Completion and commissioning	2020–2025

SECURITY AND PROTECTION OF THE UNIVERSITY

No.	Tasks	Expected results and indicators	Execution terms
1	Development of a monitoring and management system for access to the territory and educational buildings of Igor Sikorsky Kyiv Polytechnic Institute	Ensuring the appropriate level of security in Igor Sikorsky Kyiv Polytechnic Institute, protection and inviolability of property from theft and attackers' unlawful acts	2020–2025
2	Development of a monitoring and management system for access to the territory and educational buildings of Igor Sikorsky Kyiv Polytechnic Institute	Prompt response to the offense. Increase in the percentage of the territory monitored with cameras	During 2020–2024
3	Development of the security alarm system at the University, which provides for the modernization of the existing system from autonomous alarm systems to central monitoring stations	Preservation of material assets in the educational buildings and on the territory of Igor Sikorsky Kyiv Polytechnic Institute	2020–2025
4	Ensuring the maintenance of community policing on the territory of the university, in educational buildings and dormitories at Campus of Igor Sikorsky Kyiv Polytechnic Institute	Maintenance of the rule of law and safety of inventory items. Reducing the number of offenses committed by students of Igor Sikorsky Kyiv Polytechnic Institute. Compliance with the living regulations in student dormitories	2020–2025
5	To ensure the collection and analysis of information from available information resources on the rule of law on the territory of the university	Functioning of the system for the prevention of crimes and offenses on the analysis of information obtained from available information resources	2020–2025
6	To organize a car for patrolling on Campus	Prompt response to offenses committed on the territory of Igor Sikorsky Kyiv Polytechnic Institute	2020–2025

FINANCIAL AND ECONOMIC ACTIVITY

No.	Tasks	Expected results and indicators	Execution terms
1	To complete the transfer of all structural subdivisions to an automated system for planning and recording of personnel and financial performance measures.	Creating a unified network of the whole complex of indicators of accountancy and staff accounting for planning and reporting	2020–2022
2	To constantly improve the structure of the Department of Economics and Finance, based on the appropriateness of maintaining the branches of Central Accounting in separate structural subdivisions in accordance with the volume of revenues to their budgets	Optimization of permanent staff, costs of their maintenance; increasing the level of accounting centralization	Permanent
3	To create a strategic planning sector within the Department of Economics and Finance	Analysis of the university's work according to the indicators suggested by the Ministry of Education and Science of Ukraine for the distribution of the total fund between universities. Development of economic plans for the university in accordance with these indicators	2020–2025
4	To make a Regulation on the principles of distribution of the wage fund between the structural subdivisions of the university based on indicators by the formula of the Ministry of Education and Science of Ukraine	Objective distribution of the wage fund, in particular, scientific and pedagogical and teaching support personnel based on the individual indicators of each unit per semester	2020
5	To analyze the actual use of funds to pay for consumed utilities on an ongoing basis. To accumulate the saved funds on the account of the Energy Conservation Fund and direct them to the goals determined by the Energy Conservation Committee and the Budget	Efficient use and prompt reallocation of funds for payment of utility bills. Partial usage of the saved funds to finance the urgent needs of maintaining and	2020–2025

No.	Tasks	Expected results and indicators	Execution terms
	Committee	developing the material and technical base	
6	To create material review boards in every educational building or property complex under the chairmanship of the workers of the Department of Economics and Finance	Conducting write-offs throughout the year, accelerating the volume minimization of the material assets that should be written off; release of reserved spaces for efficient use in units	2020–2025
7	To make standards for the ratio between the number of teaching support staff and scientific and pedagogical staff for different specialties	A unified approach to determining the teaching support staff for institutes, faculties and departments	2020–2025
8	To analyze the existing workflow schemes for the interaction of units and individual workers with the administration, especially with the Department of Economics and Finance, for the preparation of documents on financial issues (submissions for the establishment of incentive allowances, bonuses, payment applications for goods and services, certificates, powers of attorney, etc.)	Reducing the list of such documents, authorizing signatures; accelerating their passage through departments and services and their receiving by customers	2020 p
9	To ensure continuous improvement in the cost calculation of the main types of paid services	Setting of optimal and competitive prices for paid services; increase in budget revenues	2020–2025
10	To create the University Development Fund by consolidating the financial resources of all structural subdivisions for the subsequent allocation of cost equipment, upgrading the laboratory facilities and ensuring transparent management of funds by the Council for Development	Improving the efficiency of using university funds	2020–2025

ANTI-CORRUPTION POLICY

No.	Tasks	Expected results and indicators	Execution terms
1	<p>The continuing process of reforming the university's management system:</p> <p>a) completion of delimiting the functions of structural subdivisions and the authorities of their leaders;</p> <p>b) the use of innovative technologies that increase objectivity and ensure transparency in decision-making by management bodies, including the acceleration of the introduction of an electronic document management system, personnel records, financial and accounting records, as well as the introduction of electronic seals at all levels of the university management system;</p> <p>c) the introduction of the acquiescence principle in the provision of approvals by the heads of departments</p>	<p>Minimization of the personal influence of heads of departments on management processes at the university and the elimination of possible abuse on their part</p>	2020–2025
2	<p>2. Reducing the administrative workload on workers:</p> <p>a) a significant reduction in the number of approvals during the preparation of documents;</p> <p>b) removal of technical barriers, introduction of a “single window”, maximum computerization of workflow</p>		To 2023
3	<p>Improving access to information about the university work</p>	<p>Ensuring the transparency of the university and maintaining leadership in the Transparency Rating of Universities</p>	To 2023
4	<p>Improving the system of using public property and budgetary funds:</p> <p>a) development of internal audit mechanisms for monitoring the usage of funds;</p> <p>b) transparent implementation of procurement proceedings and strengthening of the auditing system;</p> <p>c) improving the monitoring system of control over the use of public property in</p>	<p>Improving the efficiency of using budget funds and public property</p>	2020–2025

No.	Tasks	Expected results and indicators	Execution terms
	<p>order to prevent the facts of obtaining hidden income by heads of structural subdivisions;</p> <p>d) developing mechanisms for involving the public in the control of legality and effectiveness connected with the usage of public property and budget funds;</p> <p>e) implementation of a transparent system for the formation of estimates and the cost of paid services</p>		
5	Implementation of a system of anti-corruption expertise of regulations and agreements	Elimination of corruption risks and conflicts of interest	2020–2025
6	Conducting anti-corruption educational events, advanced training of scientific educational staff and senior staff on anti-corruption topics	Raising the level of civic consciousness of team members, popularizing of Igor Sikorsky Kyiv Polytechnic Institute as a university without corruption.	2020-2025
7	To build public support in preventing and combating corruption by enhancing the role of media in reporting on university anti-corruption measures	Raising awareness among workers and students in identifying and preventing corruption	2020–2025
8	Intensification of international cooperation in the field of preventing and combating corruption	Gaining international anti-corruption experience	2020–2025