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Ecosystem of the Ukrainian Aviation Industry

Ukraine is one of ten countries that have a full cycle of development, serial production, operation, maintenance of aviation equipment, as well as an extensive system of training and retraining of aviation specialists. Therefore, the development of the domestic aircraft industry is a strategic priority for the country's development.

Ukrainian Aviation Industry Ecosystem

The national aviation industry system is exposed to hundreds of threats of varying nature and intensity in the course of its activities. It should be noted that it includes various enterprises, design bureaus and organizations [1].

As a rule its development directly depends on international relations: for example, the Airbus consortium combines the capacities of a number of enterprises from different EU countries. And even the pride of the American aviation industry, the Boeing consortium, involves more than twenty external subcontractors in production. Under such conditions, it is considered appropriate to consider the its structure from the standpoint of the ecosystem approach.

The goal of the ecosystem approach

The goal of the ecosystem approach is to mobilize a large number of independent participants in order to organize joint activities, achieving common goals. At the heart of ecosystem activity is the formulation of an idea that will be supported by all system participants.

Ways of the Ukrainian Aviation Industry Ecosystem development

The ecosystem approach is based on the consolidation of various participants in order to achieve common corporate goals. At the same time, the scale and contribution of each of the organizations and enterprises will, of course, be different.

There are key players in the ecosystem - hubs. They define both the ideas and the rules of the game. There are niche players. Working in ecosystems, they multiply their capabilities and strengthen the key player.

In order to remain strong, the key players must also provide strength to niche participants. Sometimes they care about them even more than they care about themselves.

A small system player may not even know what the system architect's idea was. But if his interests are balanced in this system, if it is profitable for him to work in it, he will automatically work for the idea. In ecosystems, everything is interconnected and interdependent. All participants know their Airbus roles and agree to fulfil them [2].

Players of the Ukrainian Aviation Industry Ecosystem.

The hubs of the ecosystem are enterprises and organizations that provide the main activities of the aviation industry of Ukraine, namely design bureaus, developers and serial manufacturers of airplanes, helicopters, unmanned aerial systems (UAS) and unmanned aerial vehicles (UAVs), aircraft engines, avionics. The activities of the hubs require system integration, as a guarantee of the coherence of actions.

The first group is a group of customers, which in the ecosystem of the aviation industry of Ukraine consists of civil aviation enterprises, state aviation, aviation and multimodal logistics enterprises, organizations and individual customers of aviation and transport services.

- Civil aviation enterprises of Ukraine and other countries of the world are:
 - Airlines (passenger, passenger-cargo, cargo, regular, charter, state, non-state, mixed capital, etc.) and
 - Aviation companies that ensure the use of aviation in the national economy: agriculture, environmental monitoring of pipelines, forest areas, reservoirs, aerial photography, etc.
- The State Aviation of Ukraine includes:
 - Air Force,
 - Army aviation,
 - Naval aviation,
 - National Guard aviation,
 - Police aviation,
 - Aviation of the State Emergency Service,
 - Aviation of the State Border Service,
 - Other State Aviation.
- Aviation and multimodal logistics enterprises,.
- Potential customers of services provided with the use of aviation equipment.

The second group is a group for ensuring the production of aviation equipment, which includes:

- Suppliers of units, systems and spare parts
- Organizations responsible for certification of aviation equipment
- Organizations responsible for energy supply
- Nature protection organizations
- Organizations of fuel and lubricant (PMM) support
- System of airports and airfields

The third group includes:

- Scientific – research institutes of the National Academy of Sciences of Ukraine and institutions of other ministries and agencies.
- Research universities.
- Experts and scientists of the aviation industry [3].

Unfortunately, during the war, the ecosystem of the aircraft industry suffered and continues to suffer significant losses.

Consolidation of the activities of all participants in the national aviation industry ecosystem is especially important in wartime, when extremely complex tasks of serial production and repair of aviation equipment must be solved in a short time [4].

An example of this is the development of an ecosystem for the production of unmanned aircraft, which requires the unification of efforts, experience and significant material resources [5].

On the other hand, the experience of integrating and applying ecosystem experience in wartime can become the basis for the post-war revival of the industry and bring a positive synergistic effect for the sustainable development of the national economy.

Conclusions

Ukraine is an aviation state and its future is directly related to the development of high-tech technologies.

The ecosystem approach to aviation industry development is based on the main players in the system, the formulation of concepts and tasks, and as a result, a positive synergistic effect is achieved, both at the industry level and at the level of the sustainable development of the national economy.

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