Abstract: The cost price and viability of plants grown by agricultural enterprises depend not only on their biological characteristics, but also on the environment, which provides them with water, air and nutrients in addition to light and heat. Moreover, water is the most important factor in the yield of cultivated crops, which determines all vital and technological processes in plants, the quantity and quality of the crop etc. The increase of the viability and quality of plants can be ensured by monitoring and controlling both the growing process of a plant and the environment, fertilizers and irrigation water applied into the soil. Designing an informative solution for an agricultural enterprise within the framework of an architectural approach is based on the architectures of databases, applications and communications subordinate to the architecture of the business and is supported by modern IT: data processing centers, transmission channels and application systems. Such solutions will allow monitoring the acidity, temperature and moisture content of the soil, which, for example, can be increased with the help of technological innovation - polymer-mineral material (PMM) introduced into the soil. PMM accumulates water, improves productivity and plant vitality and saves resources.
The quantity and quality of cultivated plants essentially depends on fertilizers, water, physical and chemical properties of the soil and climatic conditions. Therefore, it is necessary to regularly monitor the characteristics of the soil, the environment, the cultivated plants and the work done with them, which can be carried out automatically using ICT on the basis of IT architecture, which is subordinate to the business architecture. In particular, various sensors, counters and controllers can collect and digitize signals from the objects under study and transfer them to application and data servers for processing and making timely management decisions for creating favorable conditions for growing plants.

The introduction of ICT solutions will enable us to use the surrounding nature more efficiently, to reduce its pollution, to reduce cost price of growing plants and their processing, as well as the costs of various resources and to increase their viability and productivity in various climatic conditions.

Let us note that plants grow and develop normally in cultivated structural soils containing the required amount of water, fertilizer and air. Various ameliorants and IT are used in agriculture to improve the physical properties of the soil.
The architecture of an agricultural enterprise consists of a business architecture that can be described using a business pyramid (built on the basis of the vision of the future market and the place of the company place in it) at the top of which its mission and strategic goals are situated and at the bottom products, material and technical base are situated for their creation including IT architecture.

The IT architecture ensures the meet of applications to business needs and technical infrastructure to application needs. IT strategy is a process of controlled changes in the IT architecture to meet the future needs of the enterprise. IT architecture and IT strategy are interconnected thus subordinating to the business architecture and the business strategy subordinating to the enterprise, respectively.

Automation of the activity of an agricultural enterprise is the introduction and use of hardware and software tools and methods for effective management of the process of growing plants, its resources, departments and project teams by marketing strategy.

ACS is a complex of technical, software, informational and organizational solutions for automating the activities of enterprises the development of which involves the creation of seven interrelated types of support: technical, informational, mathematical, methodological, software, linguistic and organizational.

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CIS management of an agricultural enterprise is an “expensive pleasure” that requires a lot of time and resources for their investment and maintenance including infrastructure, software, system design, process automation, application configuration and refinement of their functionality as well as implementation, experimental -industrial and industrial operation and staff training. The process of implementation and operation of CIS is accompanied by risks that must be foreseen and measures must be taken to eliminate the reasons causing them.

A clear definition of the goals of introducing CIS and the interest in this project of the top management of the enterprise as well is the starting point in assessing the expediency of cost on automating its management activities. In particular, the CIS, being established by using the methodology of IT architecture, can improve the quality and efficiency of enterprise management, each structural unit and project, the productivity of products and labor, company revenues as well as reduce costs. An architectural insight of CIS is especially relevant in the modern era of universal automation of business processes. The solution of tasks set forward will allow to provide food security of the country and to create competitive technologies and products for market.

Thank you for your attention!