

The Concept of Digital Sovereignty in the Oil and Gas Industry

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In the context of a gradual transition to the fifth (developing countries) and sixth (USA) technological paradigms, automation and digitalization (active use of industrial data in production and management) are becoming the most important elements of industrial competitiveness in the global market [1,2].

The main and largest suppliers of industrial digitalization solutions are solution providers from the USA (General Electric), Japan (Yokogawa), France (Schneider Electric) and Germany (Siemens). All solutions are proprietary, their architecture is closed to consumers.

Thus, in the case of the oil industry, which is a budget-forming industry ***for many developing countries, competitiveness of the oil industry requires the transfer of control over industrial data to foreign solutions developed in consumer countries - drivers of the energy transition.***

Russia has significant competence in the field of information technology, and it is also a country - one of the world's key suppliers of energy resources. Therefore, it invites energy supplier countries to join the concept of digital sovereignty in the oil and gas industry [3]. The concept involves the joint development of technologies and management of industrial data in critical industries based on open platforms, the source code of which is fully available to participants in the initiative and is controlled by industrial enterprises, and not by suppliers of software solutions. It is proposed to organize consortiums, joint ventures and projects that can jointly develop and implement solutions on such platforms, ensuring the economic feasibility of developing their own digital technologies for working with industrial data due to the effect of scale. The open platform of the industrial Internet of Things Zyfra Industrial Internet of Things Platform Oil&Gas, developed by a joint venture of PJSC Gazprom Neft and the international group of companies Zyfra LLC to solve industrial digitalization problems in the oil and gas industry and already implemented at Gazprom Neft enterprises, and the launch of joint projects based on this platform are proposed as the starting point for the initiative.

Digital Industrial Platform LLC is a developer and supplier of software products for industrial digitalization in enterprises of the oil and gas, oil and gas refining, petrochemical and chemical industries. The main activity of the Organization is the development of industrial digitalization solutions based on the enterprises of the Gazprom Neft group and their offering to the external market.

The main product of the Organization is the platform of the industrial Internet of Things of the oil and gas industry Zyfra Industrial Internet of Things Platform Oil&Gas (ZIIoT O&G), which is a flexible customizable toolkit for creating a wide range of business applications using industrial data (information flows created and collected by industrial equipment), such as automated operational dispatch control systems, material and energy balances, production planning and shipment planning, a wide range of analytical solutions.

The ZIIoT O&G platform is a solution that competes with global players and industrial digitalization platforms: Yokogawa, AVEVA Wonderware, Honeywell, General Electric, OSISoft PI System. At the same time, the platform is developing on the basis of the use of open source technologies within the framework of an ecosystem with a wide range of partners creating

and promoting their own business solutions based on the platform, which allows the platform to already replace foreign industrial products in the Russian oil and gas industry and create partnerships in other countries.

From Theory to Practice

During the period 2020-2024, DIP conquered a significant part of the Russian oil, gas and petrochemical market, successfully entering the CIS market and a number of friendly countries.

The prospects for implementing the concept include scaling up the accumulated successful experience in the global market, as there is a steady demand for this, which only increases over time.

Источники и литература

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