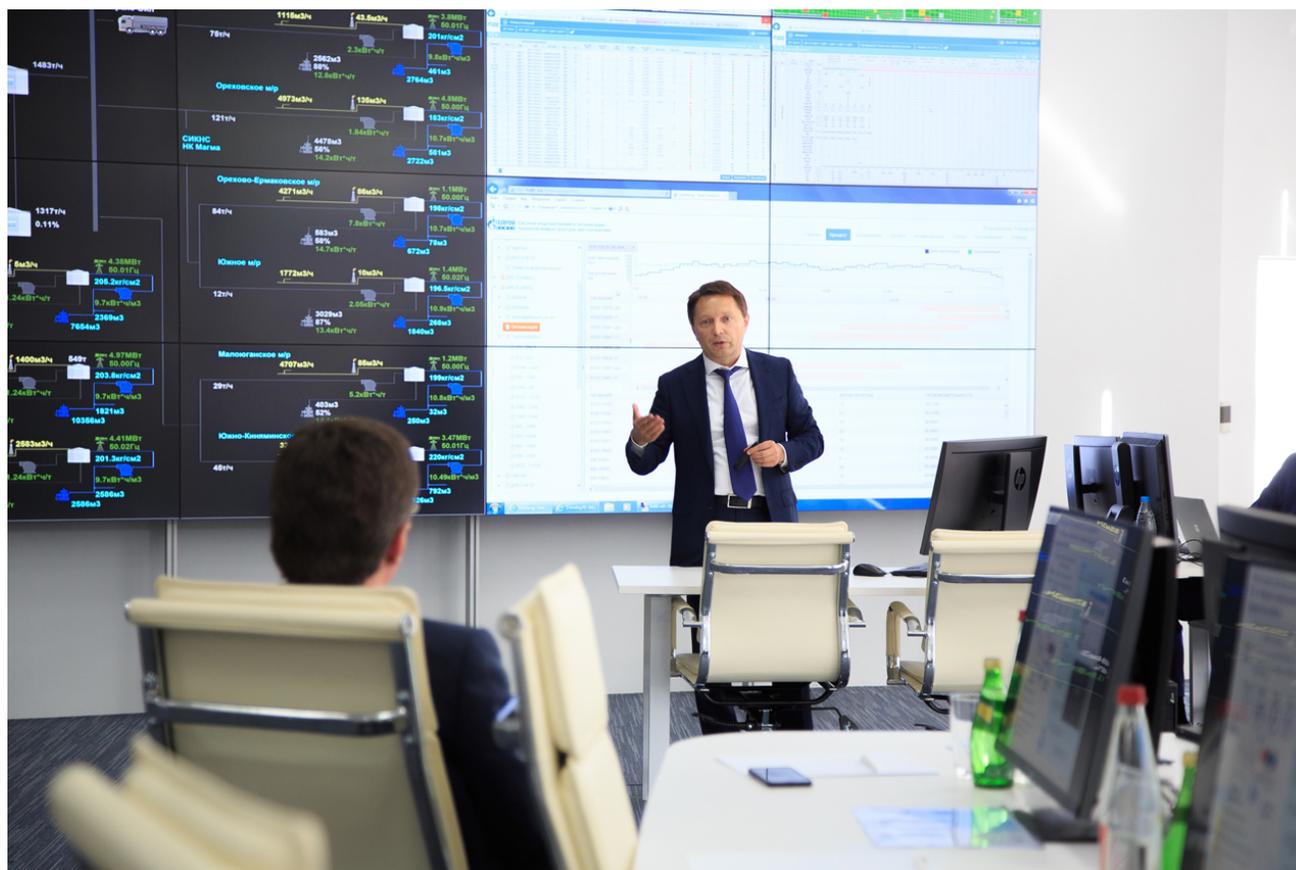


## GAZPROMNEFT-KHANTOS ESTABLISHES UPSTREAM CONTROL CENTRE USING “DIGITAL TWIN” TECHNOLOGY

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Gazprom Neft subsidiary [Gazpromneft-Khantc](#) has launched an Upstream Control Centre as part of its “Digital Field” programme. The Centre takes solutions previously developed within the company, directed at improving the efficiency of individual upstream production processes, and brings these together in a single, integrated environment, with the creation of the Gazpromneft-Khantos Upstream Management Centre making possible the integrated and holistic management of the entire enterprise.



Information collated are accumulated at the Upstream Control Centre and can be visualised either at specialists' work stations, or on video display

One of the key systems at the Upstream Management Centre is the “Digital Twin” process for mechanical fluid lifting, involving a range of hybrid digital models, from submerged well pumps to the point of commercial oil delivery. A key feature of these models concerns their facility for “self learning” — their ability to self-calibrate on the basis of rapidly changing information, sourced from automated controls. The “Digital Twin” makes possible the automatic selection of optimum operational modes for various elements throughout the entire complex: to identify abnormal situations, in advance, or undertake a preventative assessment in the event of any changes to system configuration (the addition of a new well cluster to the system, for example, or a booster pump being switched off).

Assignments involving geological-technical well interventions derived from the Digital Twin feed into another key system — “ERA.Repair”, an automated process for managing ongoing and capital well repairs. In addition to scheduling squad movements, and detailed online planning of technological operations and control thereof, the ERA.Remonti system allows automatic optimum task prioritisation, taking into account the changing condition of well stock and the latest target metrics, including, for example, maximising oil production or minimising the movement of equipment, depending on what is the greater priority for the enterprise.

Information collated by the Digital Twin, ERA.Repair and other Gazpromneft-Khantos systems are accumulated at the Upstream Control Centre and can be visualised either at specialists' work stations, or on video display, allowing multifunctional teams to take timely and well informed decisions, taking

every possibility and all limitations into account, and monitoring the full effectiveness thereof.

The functionality of the Gazpromneft-Khantos Upstream Control Centre will be significantly expanded, in the future, with the company currently completing testing of “Digital Twins” for formation-pressure maintenance systems, energy supply systems, and the treatment and utilisation of associated petroleum gas (APG). Gazprom Neft plans to open similar systems at other subsidiaries.

Gazprom Neft CEO [Alexander Dyukov](#) commented: “Information technologies are making significant changes to modern production, and digital transformation is, already, giving Gazprom Neft [objective advantages](#). Digitisation, for us, is an instrument for improving production and financial performance. In investing in high-technology production management solutions our company is setting new standards in workplace and environmental safety that will drive the development of Russia’s oil industry.”

## NOTES FOR EDITORS

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“[Electronic Asset Development \(EAD\)](#)” is Gazprom Neft’s strategy for developing upstream IT projects, covering all major functions including geological exploration, geology, drilling, production and in-field facilities construction. Implementation of the programme was initiated in 2012 and later integrated into Gazprom Neft’s Technological Strategy in 2014 as one of its key areas of focus.

**Tags:** [technology](#), [innovation](#), [production technology](#)