



PIGMENT'S DIGITALISATION

Case study: Pigment, a chemical producer.

For a modern chemical company, the use of new technologies plays a great part in achieving success. The industry calls for constant improvement of production, R&D and commercial processes. Pigment, a chemical company in Tambov, is adopting digital technology throughout all its operations.

In 2018, the company started taking active steps towards digitalisation. Its early efforts were centred around ad-hoc solutions. Having joined Russia's Digital Economy national programme, Pigment embarked on a systemic transformation.



КРАТА

ПУБЛИЧНОЕ АКЦИОНЕРНОЕ ОБЩЕСТВО "ПИГМЕНТ"

Pigment is one of the leaders in Russia's chemical industry. It manufactures and sells 350 SKUs of chemical products under the KRATA brand established back in 1993 to construction, paints, textile, paper & pulp, printing, oil production and refining, leather and other industries.

The priority areas included resource consumption accounting and management, access control and time reporting, electronic document management and expanded supplier and customer communication based on digital technology. Going forward, the company is planning to fully digitalise its production process control. It intends to invest in digitalisation about RUB 50 million annually.



General view of the facility.

CHEMICAL INDUSTRY CALLS FOR CONSTANT IMPROVEMENT OF PRODUCTION, R&D AND COMMERCIAL PROCESSES.

Electronic document management

The electronic document management (both internal and external) was rolled out as part of the company's digital transformation. In 2019, Pigment digitised its internal documents. Today, almost 70,000 of its tasks and assignments are processed digitally.

About 40% of the company's external documents (including legally significant documents exchanged with government authorities, key loyal customers and goods and services suppliers) have been migrated to the digital platform. At present, over 160 of Pigment's counterparties offer to sign agreements to exchange electronic documents. As electronic workflow is much faster, it helps reduce receivables and delayed VAT payments, cut costs and mitigate risks.

In 2020, Pigment plans to launch and upgrade electronic workflow systems. These include subsystems for Customer Relationship Management (CRM), maintenance and repairs control and automated health and safety management.



The company's office.

GOING FORWARD, THE COMPANY IS PLANNING TO FULLY DIGITALISE ITS PRODUCTION PROCESS CONTROL. IT INTENDS TO INVEST IN DIGITALISATION ABOUT RUB 50 MILLION ANNUALLY.

Time reporting and staff training

Time reporting fits with the company's aim to enable automated data collection and analysis and move to paperless workflow. This can be achieved through the implementation of an electronic access control system. Access control, on-site security, time reporting and payroll are the functions to be digitalised in the near future.

The company's priorities include the development of the employees' digital competencies and skills. In 2020, it is planning to train up to 200 employees in digital technology, modern methods of production management, computer systems and applied software.

Automated energy accounting

The production efficiency largely depends on the energy efficiency. Pigment has over ten years' track record of implementing various projects to reduce the share of energy costs in the product cost. One of the recently completed projects is the launch of its own power plant. Automated energy data accounting helps gain better control over energy generation, purchase and consumption, detect losses, analyse data and choose the most efficient ways of using energy.



Acrylic dispersions production. New line launched in 2016.

IN 2019, PIGMENT DIGITISED ITS INTERNAL DOCUMENTS. TODAY, ALMOST 70,000 OF ITS TASKS AND ASSIGNMENTS ARE PROCESSED DIGITALLY.

Pigment's real-time energy accounting project is aimed at providing fully automated accounting and control of energy generation, purchase, consumption and loss calculation for each energy resource. In 2019, the system was implemented for gas and electricity, and currently it is being extended to steam, heat, artesian water, nitrogen and compressed air.

The company's next goal is to build a smart monitoring system to manage energy consumption, equipment operation and fire safety systems. The project is to be implemented in cooperation with a Russian telecom company.

Real-time inventory accounting

The company pays particular attention to real-time barcode-based inventory tracking and automated product identification in logistics. It is currently piloting new warehouse formats. The system has been successfully implemented at the paint and coating facility. In 2020, Pigment is planning to introduce barcoding across all of its warehouse assets and develop new documents for loading and unloading operations based on the use of data terminals.



End product warehouse.

IN 2020, THE COMPANY IS PLANNING TO TRAIN UP TO 200 EMPLOYEES IN DIGITAL TECHNOLOGY, MODERN METHODS OF PRODUCTION MANAGEMENT, COMPUTER SYSTEMS AND APPLIED SOFTWARE.

Digital modelling

Another area the company focuses on is digital modelling. It uses modern software to develop modernisation solutions. Having introduced 3D-modelling, Pigment is planning to advance this technology going forward. Digital modelling helps find optimal technological solutions, eliminate potential errors at an early development stage, accelerate project implementation, producing tangible economic effect as it can reduce project costs by 1–10%.

Online communication

The company makes use of different communication channels, videoconferencing being one of them. Apart from speeding up decision-making processes, it reduces the need for business trips.

Pigment is currently upgrading its website to stay in touch with its customers and suppliers. In addition to accessing relevant information, the company's counterparties will be able to use the website for online communication with technical and commercial support experts and real-time problem solving.



Central control unit, acrylic dispersions production.

THE COMPANY IS PLANNING TO IMPLEMENT BARCODING ACROSS ALL OF ITS WAREHOUSE ASSETS AND DEVELOP NEW DOCUMENTS FOR LOADING AND UNLOADING OPERATIONS BASED ON THE USE OF DATA TERMINALS.

Automated production

Being the core element of production digitalisation, full production automation is the most challenging and costly part of the company's digital transformation. The main objectives are to improve quality, increase output and reduce manufacturing costs of end products, cut energy expenses and boost labour productivity.

Over the past four years, Pigment has invested over RUB 2 billion in this initiative. As part of its production upgrade programme, the company is implementing instrumentation and supervisory control and data acquisition (SCADA) systems across its facilities. The production of acrylic emulsions, pigments, formalin, and oil additives is now fully automated. This year, Pigment is planning to extend automation to its other production lines, primarily to concrete admixtures, sulphamic acid and optical brighteners production.

Information and Exhibition Centre

Pigment's Information and Exhibition Centre is a perfect example of successful digitalisation, a revolutionary museum with digital exhibitions equipped with everything needed for educational projects. The Centre is a platform for digital testing of production upgrade projects and new working schemes. It is planning to develop simulators to train staff in equipment repair skills, handling emergencies, etc.