

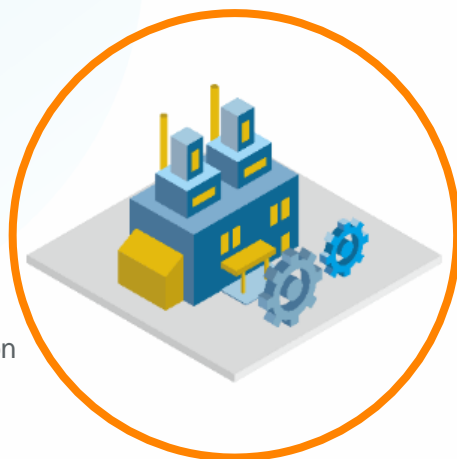
A complex MES system for production management at oil plants



Migration of the enterprise from the “actual” basis operation (evaluation of the produced result followed by making a decision) to the “plan” basis operation (result forecast followed by making an informed decision)

FUNCTIONALITY

- Time planning
- Dispatch control
- Production modeling
- Production data collection
- Material balances reconciliation
- Plan / actual analysis



SPECIFIC FEATURE

The subsystem heart is a **mathematical model (solver) of production process flows** developed in conjunction with scientists of the Faculty of Computational Mathematics and Cybernetics of Moscow State University:

- ✓ is used as part of an integrated MES-system and as a standalone software application
- ✓ is a multi-industry solution
- ✓ superior to the existing solutions in terms of the convergence rate and balance reconciliation accuracy (**minimal** deviation of the verified values from the measured analogues)

EFFECTS OF IMPLEMENTATION

- The processes of collection, processing, accumulation, storage and display of information on the actual operation of production facilities of the enterprise are automated
- The management of the enterprise has sufficient operational information for making managerial decisions
- The enterprise operation results are predictable due to production management simulation
- The business process of the material balance calculation is automated, balance reconciliation time is reduced to minimum
- The processes of issuing and monitoring production jobs are automated
- Record-keeping of the material flows movement (raw materials, semi-finished products, finished products) is in place
- There was completed the operational plan-fact analysis of the information on record-keeping of raw materials and petroleum products movement for individual facilities and the enterprise in general
- Optimization of production facilities functioning due to obtaining reliable information on their operation
- Increased accuracy of identifying places and causes of losses
- Production reporting documents are produced promptly and within the established period

