Business Intelligence System for Monitoring, Analysis and Forecasting of Socioeconomic Development of Russian Territories
The Ministry of Economic Development of the Russian Federation is responsible for developing government policy and regulating activities related to the macroeconomy, financial markets and international financial centers, strategic planning, federal target programs, federal targeted investment programs, departmental target programs, support and development of small and medium-sized businesses, foreign economic activity, investment policy, anti-corruption policy, special economic zones, government guarantees, real estate, regulatory reform, regulatory impact assessment, E-government, corporate governance, state procurement regulation, energy efficiency, innovations, environmental management, restructuring natural monopolies, privatization of federal property, efficient state property management, the social economy, training of senior executives, regional economic development, competition promotion, land surveying and mapping, and establishment of a common economic space.

economy.gov.ru

BACKGROUND

To ensure efficient implementation of socioeconomic development policy, the Ministry of Economic Development needs to accumulate, process, and store immense amounts of data from various data sources. The Business Intelligence System for Monitoring, Analysis and Forecasting of Socioeconomic Development of Russian Territories is designed to automate the collection and processing of a wide range of multifaceted data on territory-specific socioeconomic processes. The system also helps the ministry monitor, analyze, and forecast various indicators and situations. Powerful system functionality replaces the manual processing of input data and reduces the risk of errors and the impact of the human factor in data processing and generation of analytical reports.

OBJECTIVE

The purpose of the system is first to provide a common information and analysis space for monitoring, analyzing, scheduling, modeling, and forecasting socioeconomic processes in the Russian Federation’s territories; and second to enable the ministry to visualize relevant indicators and generate detailed reports.
PROJECT DESCRIPTION

The Business Intelligence System for Monitoring, Analysis and Forecasting of Socioeconomic Development of Russian Territories consists of the following modules:

- Central Data Warehouse
- Visualization
- Business Intelligence System, including the following modules:
  - Monitoring
  - Analysis
  - Modeling and Forecasting
- Software and Hardware
- Administration

THE CENTRAL DATA WAREHOUSE is designed to store historical data concerning regional and industry-specific socioeconomic development indicators collected from various sources. The module enables users to:

- Collect and store data concerning national and regional socioeconomic indicators
- Streamline data handling with ROLAP technology
- Transform data, including aggregation, filtering, sorting, and other functions
- Display physical data storage structures in multidimensional views, using relevant classifiers, dictionaries, and stored indicators
- Extract structured dynamic data and build multidimensional data views in accordance with indicator groups; correct extracted data
- Support various data arrangement models, including relational tables and multidimensional cubes, and support linear, recursive, and parametric dimensions
- Generate multidimensional queries and SQL queries

The socioeconomic development indicators are grouped by the following industry-specific subjects:

- Demography
- Industry
- Agriculture
- Transport and Communications
- Small Businesses
- Investment
- Science and Innovations
- Finance
- Labor Market
- Money Income and Expenditure of the Population
- Consumer Market
- Social Issues
- Foreign Economic Activity
- Prices and Tariffs
- Environmental Protection
- Tax Statistical Indicators
**THE VISUALIZATION MODULE** is designed to present data in the form of text, spreadsheets, charts, and maps. The module provides capabilities for displaying analysis results and calculated values through business graphics, exporting report data to Microsoft Excel and other formats, and printing report data.

**THE BUSINESS INTELLIGENCE SYSTEM** is designed to perform a wide range of monitoring and analysis tasks, including:

- Performing comparative, dynamic, structural, and other analysis of socioeconomic and financial indicators in terms of specific territories and industries
- Creating regional profiles, containing reference data on:
  - Socioeconomic, industrial, and financial processes, and the administrative structure of all territories
  - The socioeconomic development of individual territories over the selected period
• Generating analytical notes on regional socioeconomic development over the selected period

• Creating other report forms for analysis of the socioeconomic and financial situation and its dynamics across regions, federal districts, and Russia as a whole, using such parameters as reporting period, indicator, territory, and so on

• Analyzing the exchange of products between territories in value and physical terms

• Calculating integral indices according to the user-defined and established methods, such as:
  – Comprehensive assessment of the territory’s socioeconomic development
  – Territory-specific assessment of quality of life
  – Assessment of the territory’s investment attractiveness
  – Monitoring the method of reform implementation
  – Evaluation of the territory’s financial situation

• Representing calculation results in graphs and charts

• Building the ratings of Russian territories

**THE MODELING AND FORECASTING MODULE** is designed to create models and perform multivariate calculations using key socioeconomic and financial indicators on the national and regional level. Multivariate calculations are made, taking into account a given set of control parameters. The module comes with advanced tools for assessing resources needed to achieve a specific target and creating forecasts for individual territories or groups of territories with subsequent comparison of forecast variants. The module enables users to enter and save historical data and scenario conditions. Calculation results can be presented in various views, including via business graphics.

**THE ADMINISTRATION MODULE** provides system administration and delimitation of user access rights. With the tools of this module, system administrators can identify and authenticate users; and create, edit, or delete individual users or user groups. User access permissions to system data and objects are delimited depending on the user’s official duties. The module also logs all user actions for administrative review.

**KEY FEATURES**

• The system supports ongoing data imports and updates.

• The system’s underlying principles, such as data and reporting forms, are used as the basis for many other solutions.

• All reports and data are grouped in user-friendly logical sections.
POWERSFUL CAPABILITIES

- An extensive database with current data on various socioeconomic and financial indicators by territories and industries, with automatic generation of analytical reports by the relevant subdivisions of the ministry.

- A variety of scheduled reports that ensure efficient monitoring, analysis and forecasting of key development indicators.

- Improved quality of managerial decisions due to cutting-edge analysis and forecasting capabilities that speed up decision-making.
BI System for Monitoring, Analysis and Forecasting of Socioeconomic Development of Russian Territories

- Comprehensive software, hardware, and information support of examination and analysis activities for the ministry’s executives and specialists
- Visually compelling data representation through business graphics and mapping tools
- Assured security, confidentiality, and integrity of information resources