



## Introducing EIS and InfoPanels at Bekaert Slovakia and Bekaert Hlohovec



### Situation

Bekaert is a leading multinational company in the field of steel wire processing that employs over twenty-seven thousand people. Bekaert Slovakia with its factories in Hlohovec and Sládkovičovo specializes in the production of wire materials for the building industry and tyre cords.

The current highly competitive situation on the market poses great demands on production efficiency and thus the Company focused on minimizing the downtime of the individual machines. The pursuit of positive employee motivation by the production plant management, for instance by their financial interest in the performance, ran into the lack of information from the operation. The Company lacked a tool that would monitor the operating condition of the individual machines in detail and thus allowed unambiguously distinguishing between efficient and responsible workers and those who pull the production efficiency downwards.

### Solution

The Client internally calls the combination of the EIS System (ELVAC Industry Signage) and InfoPanels the VAS System (Visualization Automation System). It is designed as an extension and addition of the Database Automation System (internal Bekaert solution) that obtains information about the machines in real time using PLC controllers. Subsequently, VAS collects, processes, sorts out and retroactively provides acquired information in the form of a graphic presentation of the production data from the individual branches of Bekaert Slovakia s.r.o. and Bekaert Hlohovec a.s. The core of the VAS System lies in the central database that stores production data, configurations of the individual system parts such as machines, machine groups, reports and so on. The system interface is realized through the ASP.NET website that runs on the IIS platform (Internet Information Services). The proposed solution with the use of the website provides for an easy

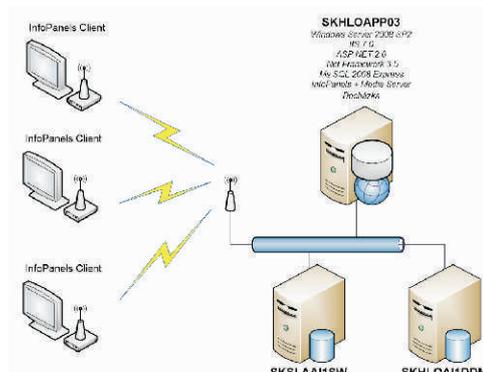
### Business Objectives

The objective of the inquiry was to find a solution that would accurately monitor machine utilization, record and categorize downtimes and also provide employees at various corporate hierarchy levels with corresponding information, all of which without increasing the overhead costs.

Machine operators need to know basic production data in real time so that they can respond to incurred difficulties timely and efficiently. Operating managers basically require the same data but they also need tools for comparing current data with historic values, forecasting trends, monitoring factors that have the greatest influence of the production efficiency and creating other advanced analyses.

consolidation into one "portal" and its subsequent use by production managers.

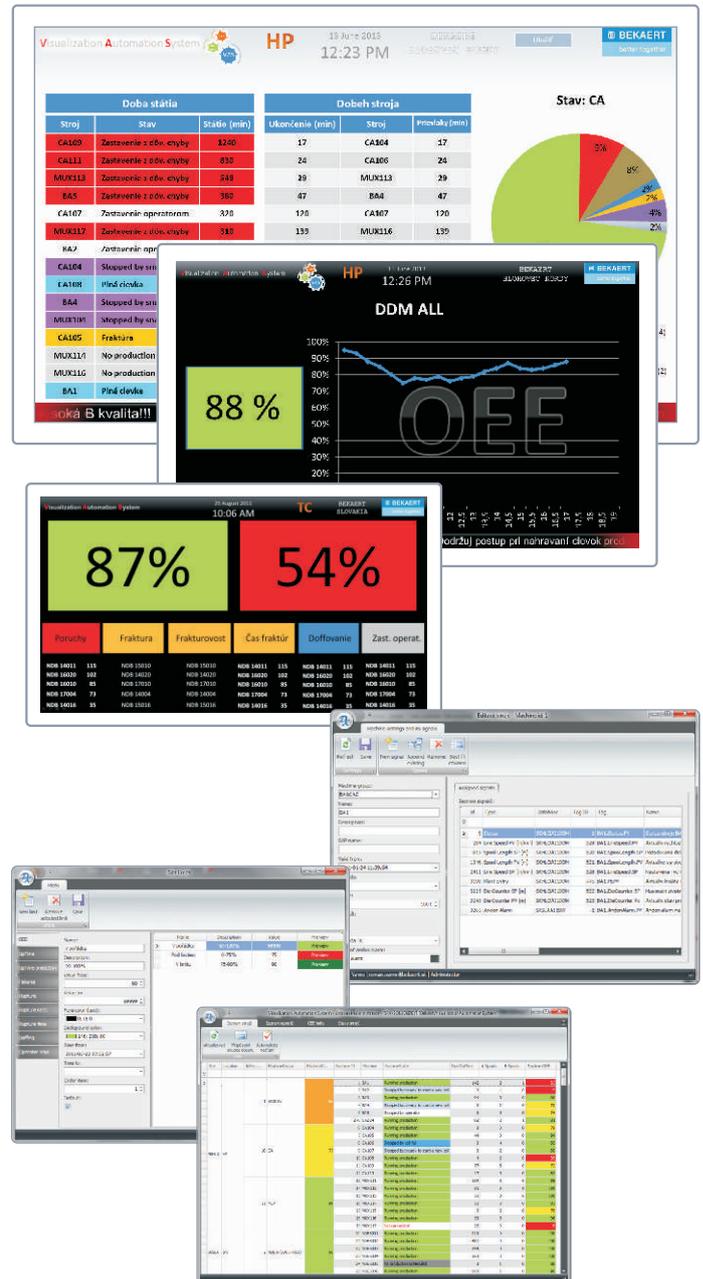
They can monitor current production data, overall equipment efficiency (OEE) and so on directly from their computers using an internet browser.



the reports are used both for displaying in the InfoPanels System (panels in the production, canteens etc.) and for displaying separately on the web for the needs of the managing employees. The individual reports support display in Slovak and English and they include:

- Overview of Machine Groups
- OEE – Overall Efficiency of Equipment in All Groups
- Production (Constructions) Summary
- Single Machine Group Overview
- Machine Rundown
- OEE – Overall Efficiency of Equipment in Single Group
- Machine Rundown and Downtime (Hlohovec)
- Detailed OEE Machine Group Report
- Uptime and Rupture Ratio

The VAS System also includes a desktop application – VAS Database Administrator, used for administration and setting the entire system. The operators can easily define new machines, move them into groups, create new and configure current reports, set limits and so on.



**Benefits**

The system collects, sorts out and retroactively provides acquired information. It is designed to be used as an information system for the employees and support for operating managers, for whom the system fulfils four basic tasks:

- Displaying current production data on the panels
- Displaying current production data in the browser
- Saving historic OEE and uptime data
- Displaying alarms and warnings from the Andon System

**Products and Technology**

- InfoPanels Software
- Microsoft Windows Server 2008 SP2 Express
- Microsoft Internet Information Services 7.0
- ASP.NET 2.0
- Microsoft SQL Server 2008 R2
- Microsoft .NET Framework 3.5 Sp3
- DevExpress .NET Development Tools
- Quartz Scheduler