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BONAIR®

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review

implementation

> Smaller risk

Banks' co-operation with the Polish credit reference agency (Biuro Informacji Kredytowej – BIK) consists in the feeding of BIK with own data and – on the other hand - using of BIK's reports, which are based on data from the majority of banks in Poland. The SI-BIK system by Bonair automates that communication, considerably speeding up credit application processing. [page 3]

Giving you heartfelt thanks for your co-operation, we want to wish you a happy Christmas, full of magic and charm. May your goals for the coming year, both professional and personal, come true.

Bonair SA Management Board and Employees

implementation

> To produce with full might

MES (Manufacturing Execution System) is a software class which supports ongoing supervision over production lines efficiency. According to research, within the 3 years to come, a rapid increase in demand for such systems will take place. Bonair is already prepared for that – it made Proficy Plant Applications part of its offer and is implementing one of the modules in a Polish brewery. [page 6]

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Ladies and Gentlemen

A third year is passing since we have been with you. We are trying to keep you informed on what we are doing, what projects we pursue, and what projects we can boast of together.

In this issue of our quarterly you will find, among other things, a description of our system for communication with the Polish credit reference agency (Biuro Informacji Kredytowej), which we have successfully implemented in several banks. We also describe a new solution our company offers for the industry sector – MES (Manufacturing Execution System). Improving every area of production so as to produce faster and cheaper requires knowledge, which allows one to take the right decisions. The solution are MES systems – information on time so as to prevent problems, and not „deal with the consequences", gain, and not lose. We decided to supplement our offer with that class of systems, we struck cooperation with a technology provider – GE Fanuc – and we have already acquired the first customers for such solutions.

Autumn is also a period of numerous fairs and conferences. It is worth mentioning that our representatives took part in Microsoft's global technological conferences: SOA & Business Process in Redmont and in the Dev Connections conference in Las Vegas. We also took part in the second European conference Convergence 2007, fully devoted to Dynamics applications, which was held in Kopenhagen.

Jan Szymanowski
Vice-President
of the Management
Board of Bonair SA

We are inviting you to read our quarterly. As it is a Christmas issue, on behalf of the editors, the Management Board and employees of our company, thanking for a good year of co-operation, I wish you every success and more of fine projects completed with our company.

Conferences, presentations 2007

Systems for Enterprises GigaCon 2007
6-7 December, 2007 r, Hotel Marriott
Al. Jerozolimskie 65/79, Warszawa
Presentation by Bonair during the session "Data Processing, Data Warehouses – Platforms and Applications" on **"Business Intelligence and Corporate Performance Management - Different or Equivalent Solution Classes?"**

INFO-FESTIWAL'07 for administration and corporations
5 December 2007 r., IBiIB PAN
ul. Trojdena 4, Warszawa
Thematic block: **GOOD EXAMPLES OF e-ADMINISTRATION – Creation of Conditions for the Development of Information Civilization in Small Towns and Rural Communes.**
Presentation by Bonair on: Central projects which support development of information civilization in the field, as exemplified by systems implemented in the Agency for Agriculture Restructuring and Modernization (ARiMR) and MPIPS. Two implementations in the public administration will be discussed:

- National system for labour market monitoring complete with a central data base of job offers – HOP-SYRIUSZ system
- System for the monitoring of loans with ARiMR subsidies

Conferences, presentations 2008

Systems for Enterprises GigaCon
31 January, 2008 r.
Pl. Dominikański 1, Wrocław
Thematic scope of the conference includes information and communication technologies currently used in everyday activity of Polish companies and institutions. Bonair will hold a presentation on Microsoft Dynamics AX.

Conference: MES – modern methods of production management
February 2008, Warszawa
Presentation by Bonair on **"Manufacturing Intelligence – MES as a System for Decision-Making Support in Production Process".**

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SI-BIK – System for handling communication: bank – credit reference agency

> Smaller Risk

Bank's co-operation with the Credit Reference Agency (Biuro Informacji Kredytowej – BIK) consists in providing own data to BIK on one hand, and on the other – on the use of BIK's reports which are based on data from the majority of banks in Poland. The SI-BIK system by Bonair automates that communication.

The granting of credit by a bank involves risk. Co-operation with BIK reduces that risk, as it helps to determine if the given customer who applies for a credit will be able to repay it in a solid way. One proof that such co-operation pays off is the number of reports sent by BIK to banks annually – a total of several dozen millions. One bank sends to BIK even several thousand queries a day. Banks can use BIK's data only if they themselves provide BIK with data on the credits they granted and how they are paid off. The SI-BIK can support both those processes.

Kredyt Bank SA

Ewa Sidor
Retail Credit Department,
Bureau for the Management
of Private Customers' Credits

In Kredyt Bank, the SI-BIK*AK module of the SI-BIK system has been active since October 2002. We use it so send queries to the credit reference agency (BIK) about customers who apply for a given credit product, and in return we receive BIK's credit reports. The SI-BIK*AK is used by branch employees who review credit applications filed by private customers.

System's usefulness. The system considerably sped up and improved the process of BIK's credit report downloading. It thus contributed to a faster reviewing of credit applications and lower operating costs. Unlike when BIK reports are obtained through a Web connection, the SI-BIK*AK module allows to:

- generate data for BIK straight from the already registered credit application, without the need to re-enter the data required to file an enquiry about a customer with BIK and download the report;
- save the downloaded credit report (with the Web connection, it is available only in the printout form). Moreover, we avoid the complicated procedure of authorizations granting for individual BIK system users.

Implementation and maintenance. Implementation of the SI-BIK system, just like other Bonair products used in Kredyt Bank, ran without disturbances. The task to be performed by Kredyt Bank was to prepare project's assumptions and participate in tests. Bonair's job, on the other hand, is to meet requirements related to the implementation or making changes in the system and provide active support to the bank during functional tests as well as maintenance. Of course, as in every system, in that one, too modifications are necessary. They are mainly a consequence of changes introduced on BIK's side.

The SI-BIK system consists of two modules: SI-BIK* WSAD and SI-BIK*AK. SI-BIK*WSAD serves to create and verify the contents of information batches (credits and borrowers details) for Biuro Informacji Kredytowej. SI-BIK*AK, on the other hand, supports making of queries on specific credit applications and reception of reports from BIK. Those modules operate independently, so the bank depending on its requirements – can implement just one of them and quickly adjust it so that it co-operates with its bank systems. SI-BIK* WSAD functions in Fortis Bank, whereas the SI-BIK*AK module is used by many banks, including the biggest ones, e.g. PKO BP, BRE Bank, Kredyt Bank, Bank Pocztowy or Fiat Bank.

>> SI-BIK*WSAD – how BIK collects data

Information batches for BIK are prepared and transferred via SI-BIK*WSAD every month. They contain details of credits granted and repayments made. The structure of the batches and the way they are transferred to BIK must be compatible with the Credit Data Exchange Format (Format Wymiany Danych Kredytowych – FWDK) as defined by BIK. The whole process looks as follows.

Details of credit accounts, borrowers, credit terms and settlements are sent from the bank system to the batches' data base. The SI-BIK*WSAD system, with the help of Bonair's proprietary software, verifies information contained in the data base. It assesses if its structure and contents comply with requirements specified by BIK. It checks e.g. relationships between fields, and also compatibility with historic data, previously transferred to the SI-BIK data base. When it discovers errors, it generates their list and does not allow transfer of the incorrect data to BIK. The mistakes pointed out to are corrected in the source bank system and transferred to the batches data base again. The verified data is saved in a text file whose structure has been defined by BIK. Such a file is then sent, according to the relevant procedure, to BIK creates a feedback report on errors. It is imported to the SI-BIK*WSAD system, which interprets it and generates its report for the entity which removes irregularities.

>> SI-BIK*WSAD – how to implement it

The key issue is to ensure the quality of data transferred to BIK. The bank that implements SI-BIK*WSAD must first

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determine which data from its bank system corresponds to the data expected by BIK, and also which information – other than that required on a standard basis – will be sent to BIK.

Export should also be ensured of that information from one's own central data base to the batch data base which is used by SI-BIK*WSAD.

Implementation of the SI-BIK*WSAD system takes not more than three months. In Fortis Bank, programming work took a month, and two months were needed to test information batch quality and functioning of the system and all its procedures: export, import, reporting.

Tests must be performed not just in the bank, but also in communication with BIK. Test information batches are checked for compliance with the Agency's requirements. Verification takes place off-line, i.e. BIK verifies one specific batch. BIK does not allow for online tests, i.e. test of compatibility of a given batch with the batches previously transferred by the Bank.

PKO BP SA

Dawid Jusis
Retail Customer's
Risk Department

In PKO BP SA, the SI-BIK*AK*R application is used for CPU-CPU communication between the Bank and BIK SA. The SI-BIK application is responsible for building of a query, transferring it to the BIK system and for the reception of reply that contains a credit report, and its saving in the data base. That system has been functioning in the bank since 2001.

Who takes advantage of the system. SI-BIK is used by the scoring application with the help of which reports are generated for practically all applications for credit risk-charged products. That gives several hundred thousand of downloaded reports per month.

System usefulness. Thanks to the use of CPU-CPU connection, it is possible to transfer big amounts of data between IT systems of the Bank and BIK in a fast and safe way. Given the scale of operation of PKO BP SA, other solutions for BIK reports acquisition would not be efficient enough. As a result of the CPU-CPU connection, reports – even with very big numbers of simultaneous queries – are received by us really fast. That translates into the possibility to provide smooth, quick customer service in the branch.

Implementation and maintenance. We do not have problems with the SI-BIK*AK*R application. Maintenance work – if it is necessary – runs, in my opinion, very smoothly.

Currently we are in the process of implementing software's new version. During that implementation, on the bank's side it is necessary to conduct application's acceptance tests and ensure the right testing environment. As for all installations and application parametrization, they are performed by the supplier. Bonair's representatives will also ensure assistance with the diagnosing of reasons for errors in communication with BIK that are due to the functioning of other applications.

In everyday work, if there are some problems when using the application, they are caused by changes in IT systems of the Bank or BIK. In such situations, we can count on the assistance of Bonair representatives. I cannot recall any failure of the connection with BIK caused by an error in the functioning of the SI-BIK application.

BRE Bank SA

Piotr Tukaj
Specialist, Department
of Infrastructure Development

The SI-BIK*AK system has been used in the bank on a mass scale since the beginning of 2005. It serves to send queries and receive credit reports from BIK via the CPU-CPU channel. We receive BIK's credit reports in an electronic, and not paper form (for printout only) – as is the case with BIK's system being accessed via the Web.

Benefits of system's use. The SI-BIK*AK system is used mainly for automatic data exchange between the bank system and the data base in BIK. It is especially helpful in the processes which require customers' verification in external registers and a fast taking of the credit decision.

The CPU-CPU format is definitely a better solution than the Web, as it allows to:

- fully automate data exchange (no logging to Web page, no manual entering of query content, replies received in a form which allows further processing, etc.), and thus – verify customers fast,
- optimize costs of co-operation with BIK through elimination of repeated queries – that is possible thanks to the storage of queries and replies in the data base,
- integrate with bank systems at the level of data exchange (e.g. system for credit applications processing, scoring system) and at the level of user interface,
- compile analyses and reports.

Implementation and maintenance. Implementation and maintenance of the system is at a level expected by our bank from an external supplier. Implementation of every new module involves just the carrying out of the installation instruction provided by Bonair. Obviously, before the system began functioning in the production version, it underwent a number of internal tests with the participation of departments that use that solution. For the average of several times a year, changes need to be introduced in the system, which is due to BIK's establishing new standards, and also to new functions being added as ordered from Bonair by our bank. In the case of new orders, there were no delays on the supplier's part.

>> SI-BIK*AK – querying of BIK

The SI-BIK*AK system operates in real time, in a manner that is totally unnoticeable for bank's employees. It uses a data base which is fed from the bank system. When new data (i.e. new queries) appears in the data base, the *AK module automatically verifies if the data transferred is correct, it generates a query based on it, and sends it to BIK in the form of a text file. Within several seconds, a report from BIK arrives.

It can be a credit report, related to some credit application and solidity of the person who submitted the application (what credits he/she took in other banks and how he/she repaid them – current and historical data), or a monitoring or managing report, which shows how a given customer who has an active obligation towards the bank has been discharging it. The report type depends on the query. Reports, besides the history of customer's credit account's handling, contain – on an optional basis – scorings or data from the Business Intelligence Bureau (Biuro Informacji Gospodarczej). SI-BIK*AK

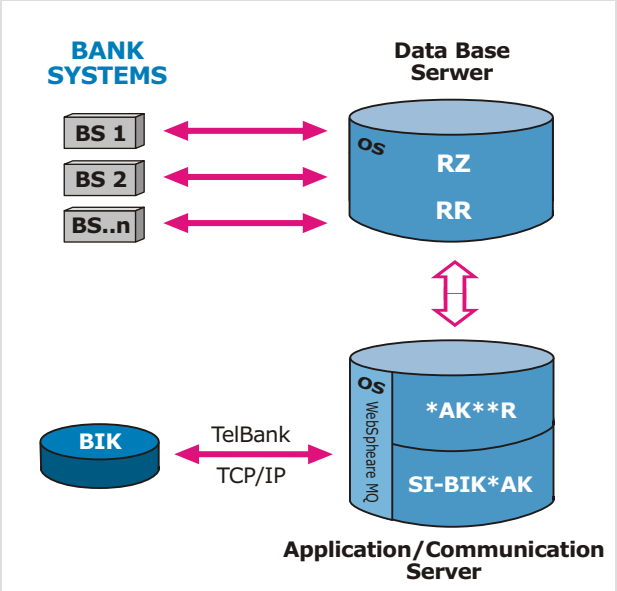
receives reports, reads them, verifies theircorrectness, assigns them to queries and saves to its data base, from where they are available for the bank system.

The bank – BIK communication takes place according to principles written in the document called CPU-CPU. It defines what the query file is to look like, what data is to be sent in it, as well as what feedback reports will look like and what they will contain. Conditions for communication include also the use of the platform IBM WebSphere MQ, which takes care of a safe and reliable data transfer, e.g. by guaranteeing that no query or report will be lost on the way. For example, when a temporary break in the operation of BIK's system occurs, WebSphere will make sure that the query will wait in a queue until the system is started. The uninterrupted flow of communication – after all, banks send even several thousand queries a day – is ensured by the properly configured connection between the bank and BIK.

>> SI-BIK*AK – integration with bank systems

As reports from BIK cost money, the bank does not query it regarding all applications or customers. Which application should go to BIK is sometimes decided by an employee, and sometimes the application processing system or the scoring system does that automatically. It is that system that usually feeds the data base used by the *AK module. When reports from BIK are saved in the data base by SI-BIK*AK, on the other hand, it extracts them and presents them in a way established for itself.

SI-BIK*AK system – principle of operation



Bank systems, e.g. the application processing system or the scoring system, transfer selected credit applications or inquiries about bank's customers to the SI-BIK *AK system. On that basis, the SI-BIK*AK software generates a query and via the platform IBM WebSphere MQ sends it to BIK. It saves the query sent in its data base in the queries register RZ*. The report sent back from BIK is properly formatted and saved by SI-BIK*AK in its data base in the reports register RR. From there it is sucked by the bank system.

The possibilities to integrate SI-BIK*AK with bank systems are not limited to the application processing systems by Bonair or Bonair's scoring system (the former is used in Kredyt Bank, the latter e.g. in Bank Pocztowy). The *AK module can co-operate with any bank system. And the mode of that cooperation depends on the bank's needs and organization.

Bank Pocztowy SA

Tadeusz Pytlos
Independent position for scoring development, Risk Management Department

Since March 2007, Bank Pocztowy SA has been using the SI-BIK*AK module – if forms part of the Decision Support System purchased from Bonair, which we colloquially call the Scoring System. That module allows us to automatically query Biuro Informacji Kredytowej about credit reports of customers who apply for credit in our bank. That functionality replaced the painstaking filling out of the Web BIK form for cash credits.
Who uses SI-BIK and how. The SI-BIK system supports verification of customers' credit applications. Data collected in paper credit applications is registered by account managers in the bank's application processing system. At the same time, the SI-BIK system uses it to obtain BIK's reports in a way that is "transparent" for the credit analyst (who verifies data and takes the final credit decision). The analyst no longer has to manually enter data in the SI-BIK data base, it is enough that he will press the proper button and several minutes later he will receive BIK's reports for all customers who participate in a given transaction. The credit reports obtained are saved in the XML format in the Scoring System's data base.
Thanks to that, when the analyst presses the above-mentioned button again, BIK will not be queried one more time (which would expose the bank to additional costs), but a report from the "cache" will be used (in the "cache's" parameters, the validity period of the report obtained is to be set).
System's usefulness. BIK's report forms part of the Scoring System's Credit Recommendation, which is the Scoring System's reply to the inquiry about the proposed transaction and its participants. The Scoring System does not only "passively" acquire BIK reports, which are then single-handedly analyzed by the analyst. It also "reviews" those reports for information which will allow to correctly determine customer's credit burden, required to define his/her borrowing power, and for information that adversely affects customer's creditworthiness.

It is too early to assess the financial effects of the Scoring System's implementation, especially that work is still in progress in the bank to mutually adjust banking procedures and the IT tool. Nevertheless, it seems that the technological change will bring about positive results in the longer term.
Implementation and maintenance. Implementation of the Scoring System required commitment on the part of Bank Pocztowy, Bonair, and the hitherto provider of the applications processing system. While testing the SI-BIK module, we used a test connection with BIK. The whole project, especially at the systems' integration stage, required participation of people with various qualifications. In spite of problems occurring in-between IT systems, the implementation project's schedule was complied with.

Bonair is open to the expanding of SI-BIK's functionalities, at present the Bank is planning on the system's migration to the new format BIK – release 3.3.

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MES class software now provided by Bonair

> Producing with full might

According to surveys, the next three years will see a rapid increase in the demand for MES class systems. Bonair is already prepared for that – in its offer, it has included the Proficy Plant Applications and it is implementing one of the modules in a Polish brewery.

MES (Manufacturing Execution System) is a software class which supports ongoing supervision over how the production process runs. MES provides information in real time, allowing to quickly react to the status and parameters of production. In enterprises' structure, MES is located between industrial automation systems and the ERP class software – which are used to manage the whole enterprise. That is a very vague definition. Some MES solutions enter partially the realm of ERP, others – are intertwined with automaton in different ways.

>> First Polish implementation

In its offer, Bonair has included the Proficy Plant Applications software by GE Fanuc Automation. It consists of four modules for the management of efficiency, quality, production and batch processes (for more information, see the frame). Depending on their needs, enterprises can implement all or just selected modules. That software is equally geared towards integration with automation as well as ERP systems.

At present, Bonair is in the process of implementing the Efficiency module on the bottling line in a brewery. It is the first Polish implementation of that software. True, Proficy Plant Applications works in Poland, but in most cases it is a system which functions as part of corporate solutions. It thus cannot be treated a Polish reference. Bonair expects to find consecutive customers both in breweries and e.g. in the food, cosmetic, pharmaceutical, or chemical sector.

Scope of a typical implementation

- Delivery and installation of communication modules.
- Delivery and installation of servers.
- Delivery and fitting of scanners.
- Delivery and fitting of touch screens.
- Delivery and fitting of information displays.
- Fitting of facility cabling.
- Delivery and configuration of OPC software.
- Delivery and configuration of Historian data base.
- Delivery and configuration of Proficy Plant Applications software.
- Execution of production line modelling.
- Reporting system configuration.
- Implementation, performance of tests.
- Passing of documentation that takes account of the work done.

>> What Proficy Efficiency can do

The Efficiency module serves to measure and analyze the efficiency, parameters and degree of utilization of production resources. Relevant measures include the Overall Performance Indicator (OPI) and the Overall Equipment Efficiency (OEE) ratio. For example, if a production line should bottle 60 thou. containers per hour, that means that within 8 hours, 480 thou. bottles should find themselves in the warehouse. When there are fewer of them, the Efficiency software is to provide an analytical response to the question of what made machinery fail to work with maximum efficiency in certain periods – stoppages, repairs, or faulty caps. Analyses and graphs gene-rated by the programme will allow to state that e.g. one shift on the same machinery provides better output, the other one – worse, as the staff handles the assembly line with greater dexterity, responds to machine's getting switched off or jammed in a faster way. It will also be possible to state that labels from one manufacturer cause frequent jamming of label-sticking machines so that they need to be stopped and cleaned several times a day.

The task of the Efficiency module is to analyze micro-stoppages and breakdowns on production lines. To do that, it must monitor on an ongoing basis if the line works properly, if its efficiency complies with the parameters assumed. That allows one to see at any time of the day if a given shift is likely to carry out the plan, which parameters are threatened. Also, the module performs analyses for broader time bands, e.g. in mid-month it allows to refer the current state of production to monthly plans and reply to the question if, given the present rate of work, results will be lower or higher than assumed.

The conditions to be met by any production line, such as what plan it is supposed to carry out, change often and the Efficiency programme should take account of those changes on an ongoing basis. In MES systems, integration with ERP systems has been envisaged, and more and more companies will pay attention to that functionality component.

>> What implementation consists in

The main task in implementing the Proficy Efficiency system or other MES solution is the modelling of real production line in the system. Contrary to what may seem, automatic packing is a very complicated procedure – on a typical packing line made up of a dozen or so machines, e.g. a bottling line, takes place bottle washing, checking if they are well-cleaned,

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pasteurization, pouring, checking if the amount poured is right, capping, label sticking,crater unpacking and packing, pallet packing. It is necessary to enter to the system knowledge about all machines on the production line (in the location where the first implementation is taking place, there are a dozen or so of them), describe – for each of them – the condition in which it can find itself (machine has been stopped, it reports discards, etc.), that is create the software's concept base. It is collected in the system's SQL base. Those descriptions are assigned to electrical signals taken by sensors on the machines and saved in another, industrial data base. That data base has special parameters which allow for very quick registration of occurrences in real time. One can say that it is a "black box" which registers occurrences, parameters of the whole production, and also includes a history which goes back for many months.

For the registration of signals in the data base to be possible, it is necessary to mount interfaces for automation controllers on production lines, that is to plug in the necessary devices for data collection – that is the first stage in implementation works. When we connect the MES system and its data base to controllers on the line, we see the beginning of collection of electrical data about e.g. the conveyor's getting turned on, conveyor's getting turned off, the elevator's going down, elevator's going up, etc. From those signals, the software extracts information necessary to state that at a given moment the machine is standing still, that it has released a faulty product, or performed its operation correctly, or that it moved a given number of products to another machine.

>> Important additions

In the industrial data base of the Efficiency system, most data from production lines is saved automatically, but certain situations have to be commented on by operators, e.g. what was the reason for the machine having ceased to work for half an hour – whether that was a breakfast break, breakdown, or maybe production change. There are additional terminals on production lines which allow operators to enter such information. When the machine takes note of a stoppage, the operator should select from the list displayed on the terminal the right reason for stoppage. Besides readers and touch screens in the production halls, bar code scanners can be used as wel, which serve to enter packaging-related codes to the system. When e.g. a pack of caps enters production, the scanned code will inform which lot that was, from which manufacturer, of what type. If the capping machine jams, it will be possible to check which lot of caps it used then and eliminate the elements which cause problems and reduce efficiency.

>> Reports, reports

At the modelling stage, it should also be defined what reports the system will generate based on the data collected and what they will refer to. Customers can choose ready-made reports from the pool of several dozen pre-defined ones in the programme; those reports can be modified or new ones can be prepared. Customers must also decide in what form the report will be displayed, what columns it is to have, what it will show, what period it is to be related to (the last week, the last shift). Any reports taken account of in the model are then available without the need to enter numerous parameters. It is enough to find the report's title, click and the report is ready.

Reports can be viewed in the enterprise's internal network, and selected person have access to them. Foremen, for example, will check in statistics, after every shift, how efficient it was, which machine stood still, for how long. Comprehensive statistics, weekly and monthly ones, will be viewed by higher-level superiors.

Additionally, the basic percentage parameters, e.g. the assumed plan for a given shift and the current status of the plan's performance, can be displayed on a big screen which is in the hall. The role of that solution is obviously to motivate employees.

It should be emphasised that in the Proficy Plant Applications there is a specialized tool of the Manufacturing Intelligence type, which delivers reports in real time. Unlike in the Business Intelligence class tools used for that purpose in the competitor MES systems, in that product there is a homogenous reporting environment with a ready-made package of over 20 reports of an out-of-the box kind - which diminishes the costs of implementation, maintenance and development of the MES system.

Modules of the Proficy Plant Applications system

Besides the Efficiency module – described in more detail in the article – the Proficy Plant Applications system contains three modules for the management of: quality (Quality), production (Production), and the batch process (Batch).

> **Quality Module** defines products' specifications and the technological process descriptions required to improve production quality, it allows to point to reasons for the occurrence of conditions which exceed the specifications defined.

> **Production Module** serves to track the product in the whole production process; it allows making changes to schedules so as to make better use of machinery resources.

> **Batch Module** compares production cycle times, parameters and variables for individual batches and specifies the reasons for the occurrence of differences between end products.

Benefits from the use of the Proficy Plant Applications system

> Makes it easier to point to and analyze the areas with the greatest bearing on the efficiency and effectiveness of production.

> Allows to make better use of enterprises' capital (people, tools, machinery), thanks to comparative analyses and determining of the overall efficiency of equipment (Overall Equipment Efficiency indicator).

> Allows to improve production quality indicators, reduce losses and eliminate manufacturing waste.

> Allows to modify the production process as a result of the analysis of the flow of materials in the working production line.

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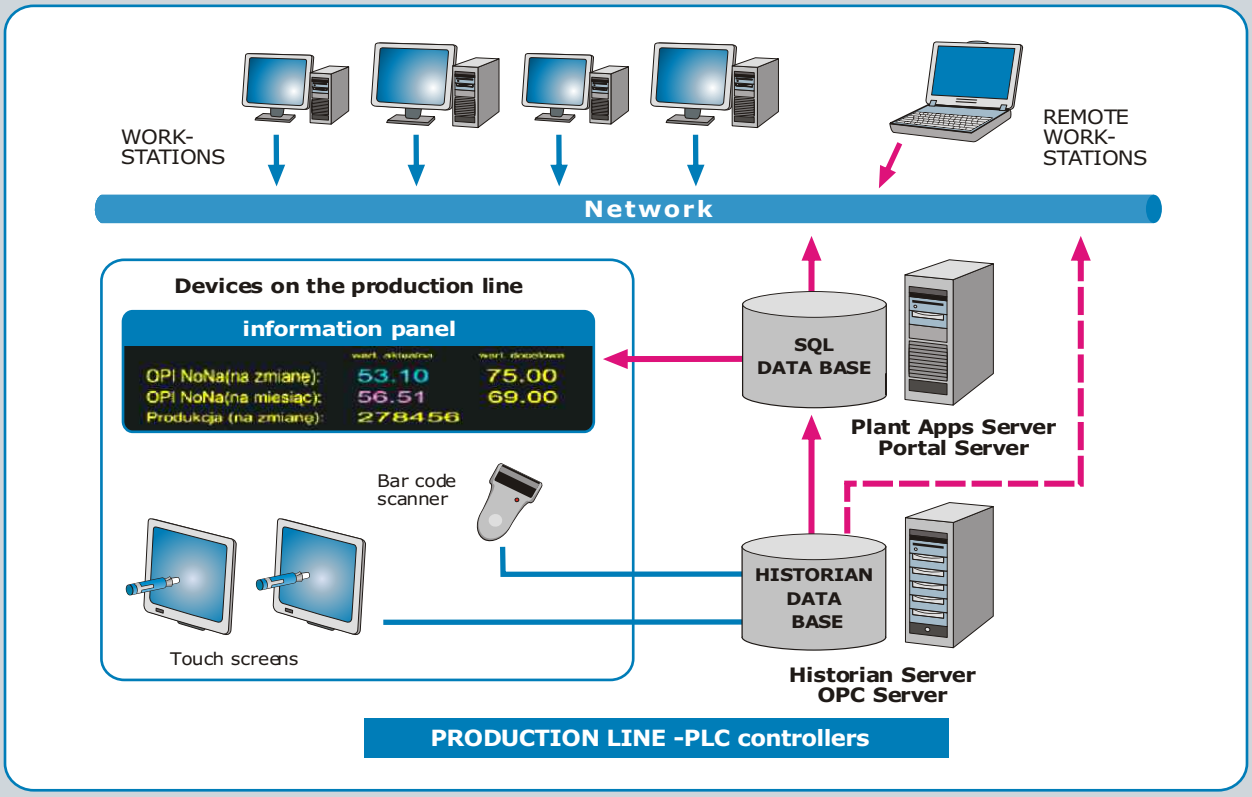
Architecture of the Proficy Plant Applications solution



The solution is based on two servers. On one, there is the industrial base (Historian), which works around the clock and operates in real time. It collects information about electrical signals transferred by industrial automation controllers on the production line. Those signals testify to how the machine behaves in a given moment (e.g. it stops, begins to operate, moves the product, etc.). Additionally, when the signal does not state unequivocally what is going on with the machine, that information is passed via the touch screen by the operator. The second server contains the proper application software and the SQL data base. Reports generated by the system are made available to authorized persons in the enterprise's internal network..

When implementing the MES system, it is not possible to simulate production and check how the system works. Practical tests, however, do take place in the hall with the help of people filling out questionnaires.In the brewery where Bonair is implementing the Efficiency, several employees, using stop-watches, would write down all the stoppages of the machine and other important occurrences on the line. After that one could compare if the system has registered those occurrences in the same way. The first test showed certain divergences, after a week, when adjustments have been introduced, two consecutive tests were held, until full conformity was achieved.

Reports testing boils down to the comparing of current reports with those created before, as a rule based on handwritten notes (if those specific reports happened to have been created). In that case, however, incompatibility of reports does not have to mean any error in the system – it can just turn out that the enterprise would not register or notice certain data before.

>> What enterprises MES is for

The Proficy Plant Applications system is universal enough to be fit for implementing in any enterprise; that can be done by selecting modules so as to match special features of production. In practice, the system's use makes sense in all enterprises where there is a scale effect based on which the improvement of OEE or OPI by 30% can considerably contribute to an increase in the margin or producer's price elasticity, where it is not possible to get an overview of everything by making hand-written notes and looking at summary reports. When efficiency is lower than assumed, how to state if the reason was an hour-long machine breakdown, or the fact that it jammed 30 times for 2 minutes because of production elements which did not fit? Without a registered history of events, such a question is difficult to answer.

Machines in such an enterprise should be provided with electronic control, so that they deliver the necessary signals to the MES system. Theoretically, it would be possible to install registering sensors, but that would considerably increase the costs and would complicate the way of obtaining information.

In summary, the customers for MES solutions are the companies which are looking for ways to use the production process in a more efficient way. The reference descriptions of Proficy Efficiency implementations show that that system, based on the analysis of what is going on on the production line, allows to introduce changes after several months and obtain an efficiency of production lines that is higher by even 10 per cent.

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