

# Efficiency Improvement Tool (EIT™)

Manufacturing Information System

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**GEBO**

# More than data, actionable intelligence

IN PRODUCTION, TIME IS OF THE ESSENCE. EIT™ ENABLES YOU TO BE INSTANTANEOUSLY AND REMOTELY CONNECTED TO YOUR PLANT FLOOR, ALLOWING YOU TO RESPOND QUICKLY TO EVOLVING SITUATIONS AND TO DRIVE OPERATIONAL PLANS FORWARD.

## BUILT ON GEBO'S LINE INTEGRATOR AND OEM EXPERTISE

Developed by Gebo in 1996, the EIT™ – Efficiency Improvement Tool – automated data acquisition and information system delivers value-added software solutions and analysis capabilities to the packaging industry.

Consisting of a unique set of flexible modules, EIT™ has been designed by and for packaging professionals. By totally driving the software development, Gebo has the latitude to ensure that its manufacturing intelligence solution embraces the latest technology, that it is aligned with industry standards and tailored to multiple operational needs.

EIT™ is integrator independent, therefore, can be implemented on any vendor line and on new or existing production lines. Alternative solutions are even available for low technology lines.

## SHARING THE BEST WITH OUR CUSTOMERS

### EIT™'S DUAL MISSION

#### At Gebo

To empower Gebo engineers with accurate and relevant data in their quest for optimizing line start-up and commissioning and delivering productivity and maintenance services.

#### Commitment to our customers

To empower plant personnel and decision-makers with actionable intelligence and production insight in their quest for measuring performance, discovering issues, reducing losses and for increasing the line's output.

## INTUITIVE SYSTEM

When a disruption happens it may incur efficiency losses, higher rate of rejects, quality issues and even impact your responsiveness to market demand. In order to resolve line issues as efficiently as possible, a real-time, on site or remote access to production data is a must.

With EIT™, the production data gathering burden is substantially simplified:

- Automated collection of raw data at the most reliable source, the PLC
- Raw data turned into contextual information through key running parameters, performance indicators and operational metrics
- Standardized implementation and data consistency
- Flexible reporting features
- Interface with third-party applications and ERP systems (ex: SAP).

The system is very intuitive. It significantly helps its users to detect recurrent patterns and control issue impacts. Cost due to machine disruption or to an out-of-specification can easily be evaluated.

“This is the first piece of software that we've seen that makes a truly unique difference”  
Larry Trunek, SABMiller Brewing Co (now MillerCoors), Packaging World.



## CONTEXTUAL INFORMATION

From a Line integrator standpoint, to improve and/or maintain the line performance, several key running parameters (KRP) and key performance indicators (KPI) should be closely monitored and analyzed.

A production line is an interdependent system where the performance of a machine might affect the whole line. Therefore, for increasing productivity and maximizing the line's output, a global approach is mandatory. Consequently, a data acquisition system (DAS) must have a machine, a production and a line focus so its users can do in-depth analyses and look at a problem from every angle, as detailed as needed. Users should be able not only to compare production results but to effectively target efficiency loss sources and quick wins. To reach these objectives, Gebo is proposing its EIT™ system, a modular suite composed of various MES (Manufacturing Execution System) functions and empowered by a root-cause analysis (RCA) feature based on line design principles. EIT™ is all about granularity, quality, relevancy and contextual information.

Collecting data 24/7, tracking production events, detailing unplanned downtime, displaying root-cause analysis and calculating multiple operational and performance KPIs, the power of the system resides in its native intelligence and analysis methodology based on packaging line design principles. Once high-priority issues and inefficient sources are identified, EIT™ measures machine downtime impact, even to the fault level, on the line's efficiency loss. The results enable plant personnel to target quick wins, implement curative actions, and develop proactive measures. Such in-depth analysis of detecting efficiency loss sources, which requires time and skill from productivity engineers, is now available to plant personnel in real time and in a very visual format. This integrated actionable intelligence differentiates Gebo's EIT™ from other systems.

## FIELDS OF APPLICATION

Whatever the industry, improving productivity and reducing costs are fundamentals for getting a competitive edge. Implemented in hundreds of plants and in almost 40 countries, EIT™ is a tailored solution for various industrial sectors, such as:

- Food & Beverages
- Dairy & Sensitive products
- Consumer Product Goods (CPG)
- Household & Personal Care/Cosmetics
- Pharmaceutical
- Converter
- Original Equipment Manufacturer (OEM)
- Automotive
- Chemicals
- Electronics.

## GLOBAL SUPPORT

No matter your location or your time zone, an EIT™ specialist, a productivity engineer or a certified system integrator\* will assist you in a timely manner. No matter your language, the EIT™ system is already provided in multiple languages and could be customized to be displayed in your own language.

“Gebo's knowledge in line design and packaging made a strong impression on us and their expertise was even reflected in their line monitoring application”  
Labatt Breweries, part of AB InBev.

\* Please contact EIT-sales@geboinc.com. to get further information on the EIT™ System Integrator Program certification.



# Manufacturing information system

To put your plant output on the fast track

More than a decade ago, Gebo decided to go ahead and developed its own line monitoring system aligned with industry standards and packaging line design principles. Totally driving the software development, gives Gebo all the latitude to embrace the latest technology and to tailor the application to its customers' needs and specifications.

No matter if it is an existing line, a Gebo or non-Gebo line, we can offer you a solution to get a real-time insight into your plant floor process and performance, and even, link the production data to your business system.

The EIT™ modular suite focuses on the following key topics:

- Continuous improvement
- Manufacturing intelligence
- Maintenance
- Standard Operating Procedures
- Downtime tracking
- Product traceability
- Root cause analysis
- Energy & utilities consumption.

## ALIGNED WITH INDUSTRY STANDARDS AND GUIDELINES

Built on the industry standards and guidelines, the EIT™ Web-based system ensures accuracy, relevancy, optimal usability, interoperability, scalability and visibility.

- DIN 8782
- AFNOR NF E60-182
- OMAC/Pack-ML
- B2MML
- Weihenstephan.

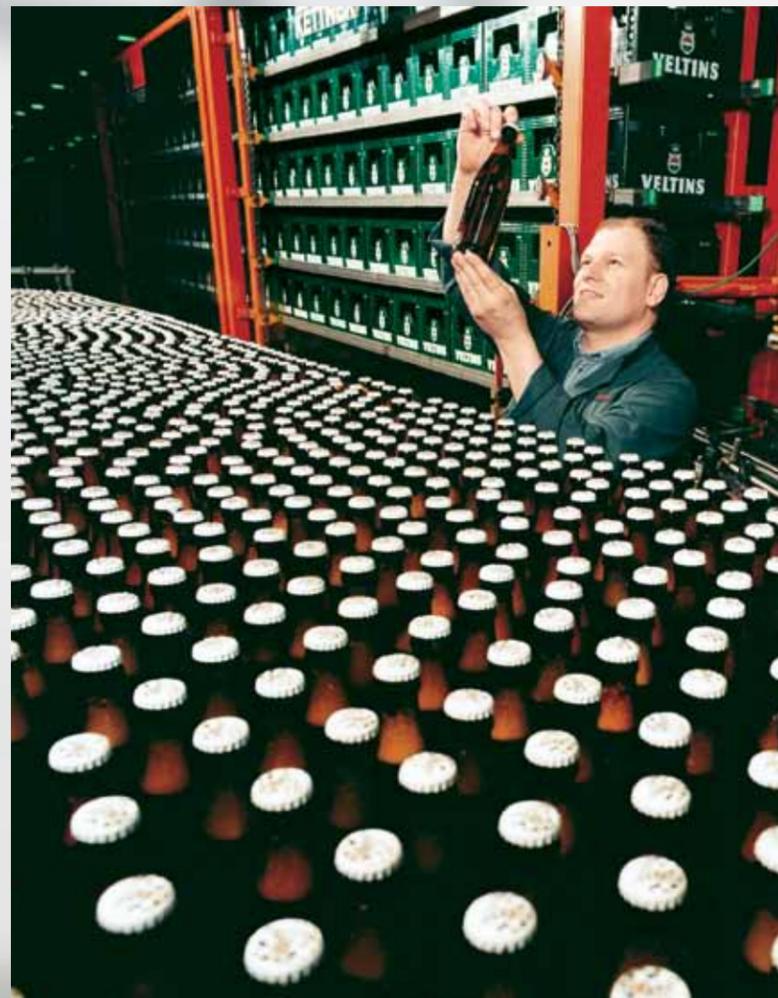
## EIT WRITER MODULE

### Powerful & reliable data collection procedure

The EIT WRITER is the powerful core engine of the whole system. Rather than being based on an HMI software, to maximize performance and accuracy, it was developed as an independent data acquisition system. It reads raw data directly from PLCs. First fault latching ensures data accuracy regardless of line network communication speeds. Data are then registered into a database for further use by other EIT™ modules.

- 24/7 automated data collection
- No manual input necessary, but comments can be added to further detail events
- PLC logic-based
- Powerful enough to gather data coming from multiple lines.

"...quality and relevancy of data have helped our people to become more knowledgeable in packaging, which has had a positive impact over the years" Labatt Breweries, part of AB InBev.



## EIT READER MODULE

### Plant floor visibility and contextual data at its best

Located on the Web server, the EIT READER connects to the database, calculates metrics and provides analytics and decision support tools to quickly highlight problematic areas. Designed to help users perform a comprehensive analysis and assessment of production and to discover efficiency loss areas, the module uses state-of-the-art graphics and dashboards to display information. More than a means to simply compare results, it is empowered with manufacturing intelligence and root cause analysis functions.

- Downtime details at the machine and conveying system levels
- Changeover, SKU components and CIP tracking
- Product traceability
- Up-to-the-minute visualization of the machines status and line flow
- Accumulation analysis tool
- Correlation and multi-dimensional data link
- Complete set of metrics and key running parameters
- Extensive reports: contextual and graphical, trends, dashboards and role-based features
- KPIs Metrics and KPIs customization.

## EIT MANAGER MODULE

### To easily manage changes, to quickly access reference sources

The EIT Manager is the database configuration tool. With this user-friendly application, one can easily configure, add, modify or update components of the EIT™ installation.

- Listing of machine references
- Quick access to line equipment specifications and product information
- Summary of used communication protocols for getting machine data.

## EIT LOSS REDUCTION MODULE

### Making loss reduction a priority

Using the EIT LOSS REDUCTION module is an effective means to discover where losses are coming from. Gathering data at the PLC and inspector levels, this unique module generates in-depth analyses on reject causes per machine/line/inspector/shift/SKU. Users can even drill down to rejects due to underfill, first-minute run, etc. Data can be analyzed against reject limits, average parameters and SPC threshold.

By using this module, users get enough contextual information to reduce losses and costs due to waste and scrap and eliminate problems that impact profitability. It is a sure asset to help drive up the line's output and to optimize profit.



The EIT Reader module offers built-in filters to ensure report optimal customization.

# Manufacturing information system

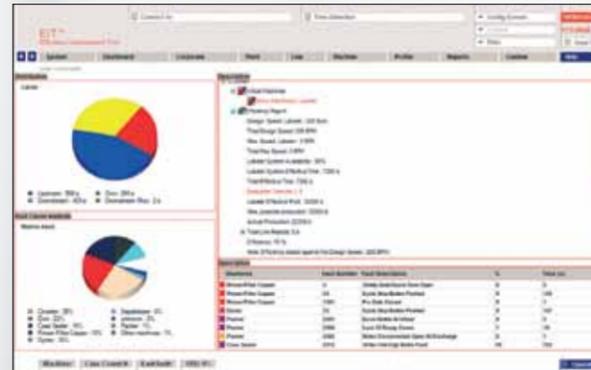
To put your plant output on the fast track

## EIT QUALITY CONTROL MODULE

### To ensure product quality, safety and conformity

This module is dedicated to the tracking and trending of analog values. It can be installed as a stand-alone application or as an integrated component of the EIT™ system.

- In-depth analysis and follow up of the quality parameters
- Identification of deviations against target values
- Trends and charts on measured or calculated data
- Correlation of quality issues with downtime, line status, SKU or production events.



Through the root cause analysis provided by the EIT Audit report, the user can effectively target where efficiency losses are coming from and focus on quick wins.

## mEIT™ MODULE

### To meet OEM's needs or to strictly focus on the line critical machine

While the EIT READER module focuses on the entire production line, the mEIT™ center of attention is single equipment. Completely tailored to meet OEMs' expectations or the single tracking of the critical machine, this module is particularly helpful to assess an equipment performance, through OEE, and key running parameters, such as Mean Time To Repair, Mean Time Between Failures, Availability, Speed, etc.

Among the benefits gained when implementing the mEIT™ Module on an equipment:

- Permanent data tracking
- Fine-tuning optimization
- Strategic tool to address guarantee claim
- Support preventive maintenance and continuous improvement
- Aligned with the TPM managing concepts.

## EIT AUDIT KIT MODULE

### When chrono-analysis is becoming a burden

The EIT AUDIT KIT module is an alternative solution for gathering production data on lines not suited for automated data acquisition systems. Even though manual data acquisition is not an optimal solution and should be considered as a temporary one, still the EIT AUDIT KIT module enables users to effectively and quickly perform this task. With the EIT AUDIT KIT, the burden of writing on log sheets is replaced by entering data on an electronic device, such as a PDA (Personal Digital Assistant), a PC or the machine work station.

The EIT AUDIT KIT favors report standardization in an organization when there is a mix of automated EIT™ installations on several lines and manual data acquisition pro-cedures on others.

- Can be installed on multiple stations
- Utilization of Microsoft Windows®
- EIT™-type reports.

## EIT ALARM MANAGER MODULE

### To timely address critical situations

Through a real-time connection to OPC data sources, the EIT ALARM MANAGER is configured to send alarm notifications in order to closely monitor specific elements, events or deviations of the production para-meters. Alarms can be event-triggered or manually sent. Using this module is an effective way to validate parameters against defined limits and conditions.

- Alarms to multiple communication media and devices – E-mail, cellular, alphanumeric pager via SMS technology
- Alert and event status visualization in real-time
- Can be applied to multiple functions: quality issues, productivity focus, maintenance purposes.

## EIT REPORT CUSTOMIZER MODULE

### See your data, your way

Mostly intended to the IT Department, this Web report server application enables users to go a step further with available EIT™ data and to combine them in new ways in order to generate further reports. Create, edit and save new reports and just make them available to your colleagues. The module even allows the inclusion and combination of data coming from other sources to EIT™'s.

By using the EIT REPORT CUSTO-MIZER, you can craft a report the way you want it or integrate the EIT™ data in other systems by using Web services.

- State-of-the-art graphics
- Selection and cross-interaction of multiple parameters
- Pre-defined reports available.

## EIT DATA BOX MODULE

### A solution when dealing with older technology

The EIT DATA BOX Module is a stand- alone system specifically developed for low technology lines in order to automatically track machines' status and gather their downtime reasons and key running parameters. Although the information gathered remains general, it is an interesting way of automatically gathering the line's data with minimal investment. In opposition to the conventional EIT system, data is not directly gathered from machines' PLCs but rather from dedicated sensor devices and a Micro PLC.

This solution is optimal to monitor equipment without PLCs or with which no communication is possible.

- Suitable to various types of equipment
- Downtime reasons displayed in general categories
- Up to 12 downtime causes can be detailed and displayed by machine
- EIT-type reports
- Automatic 24/7 data recording.

## EIT RECIPE MANAGER MODULE

### A basic means to manage recipe handling

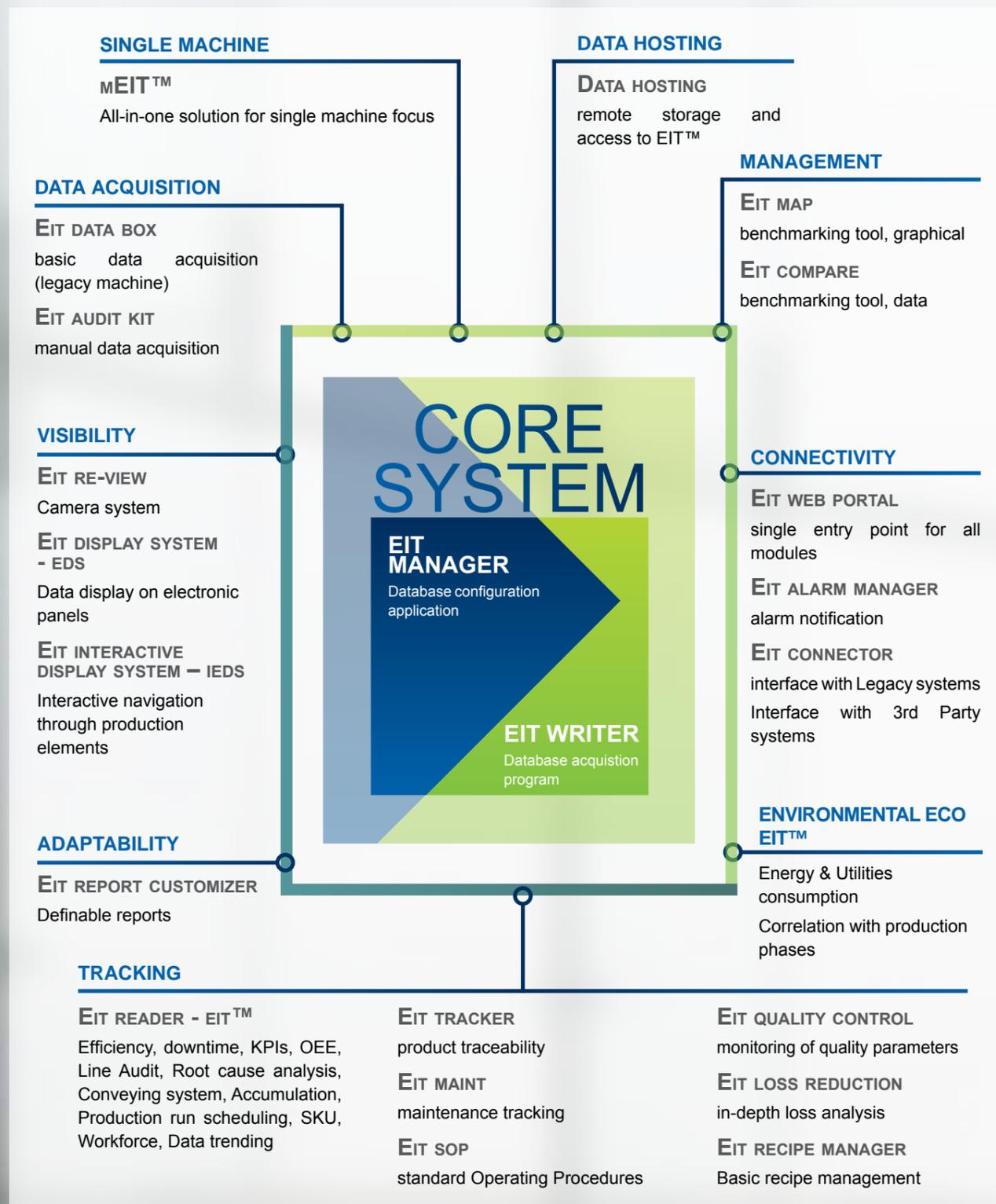
The EIT RECIPE MANAGER enables you to create, edit and manage recipes on the plant floor.

With the EIT RECIPE MANAGER, users can:

- Create, modify and manage recipes from a single point
- Access recipe parameters (ingredients, quantity, PLC values and addresses)
- Define recipes from single to multi PLCs
- Correlate performance indicators or quality parameters with recipes
- Handle recipe instructions for individual process stations or the whole line
- Measure energy & utilities consumption per recipe
- Generate performance indicators for recipes.



# EIT™ system



## EIT MAP MODULE

### To quickly analyze the plant performance

The EIT MAP module stands as a powerful means to perform assessments and comparisons at the plant level. This application has been designed to provide a quick overview and a meaningful understanding of the lines' parameters in a given location.

When launched, the EIT MAP runs through all the lines already monitored by the EIT™ system in a given plant and displays the selected data on a one-shot view.

- Machines' parameters (MTBF, MTTR, availability, speed, quality, fault incidence)
- Review of the most frequent unplanned downtime
- Efficiency reports
- Lines status in real-time.

## EIT COMPARE MODULE

### To do multi-plant wide benchmark

This module provides extensive information on all the equipment tracked down by the EIT™ system. Its mission is to ease and swiftly enable the comparison and analysis of production data and equipment key running parameters throughout the organization.

The EIT COMPARE connects to each plant and locally gathers data on machines and lines, which can be viewed on any Internet Browser. This application is considered to be an outstanding benchmarking tool for optimizing vendor selection and supporting machine replacement and budget planning.

## EIT DISPLAY SYSTEM MODULE

### To ensure operational visibility and data sharing

The EIT DISPLAY SYSTEM is a plant wide visualization system that indicates any production information, such as KPI, count, speed, downtime, machine actual status, OEE, etc..., on giant panel displays or projection screens. In addition to integrating text and alert-type messages under banner formats, the system automatically displays the line layout allowing the real-time monitoring of each equipment status by a color coding system.

- Production data displayed on banners
- Easily self-configurable
- Real-time visualization of line element status
- Alternative display of multiple lines.

By adding drill down and animation capabilities to EIT DISPLAY SYSTEM, it becomes the EIT INTERACTIVE DISPLAY SYSTEM. Through Vector-based graphics, it enables HMI-like views of any type of elements, such as machine or process details, tank level, conveyor, sensor and motor states, etc. With the EIT INTERACTIVE DISPLAY SYSTEM, users can dynamically navigate through all these screens.

# EIT™ system

## EIT RE-VIEW MODULE

**To witness production events without even being there**

The EIT RE-VIEW is an outstanding add-on to the EIT™ system. By installing a Network Camera which points at particular line equipment, production staff can visualize in real-time video clips of an equipment stoppage and circumstances via a Web browser.

This module interacts with the powerful trio, EIT Writer, EIT Reader and EIT Manager. Video clips are displayed through the Line Status View report.

With the EIT Re-View, users can go back to any time sequence to review the event leading up to and resolution of the fault.

- Effective troubleshooting
- Enhancement of operational procedures and working methods
- Quick understanding of critical situations
- Reduce costs associated with recurrent problems
- Optimize fine-tune adjustments.



The EIT Re-View module is an effective way to go back in time and to witness what happened during a specific machine stoppage.

## ECO EIT™ MODULE

**To reduce costs and meet your environmental responsibility**

The principle of the ECO EIT™ module is to measure utility/energy/ fluids consumption, thus helping you to:

- Examine consumption values and their variations
- Evaluate consumption and costs per produced item
- Identify the greatest energy consumers
- Control and reduce costs.

By monitoring and measuring utility consumption, users can control and reduce waste and raise people's awareness on excessive consumption and spoiled usage.

The ECO EIT™ module is definitely a line sustainability optimization tool and is a strategic asset to drive up profit and to partially address environmental concerns and related responsibilities.

## EIT SOP MODULE

**To quickly find out what you are looking for**

The EIT SOP Module is a useful application that displays at one's fingertip the machine Standard Operating Procedures. All documents and instructions provided by the manufacturer become accessible through EIT™ reports.

It is a time-saver aid for time critical matters or to learn more on a machine functioning, repair and spare parts. Operators and maintenance department will sure appreciate to get an instant on-line access to machines' specifications and instructions.

## EIT TRACKER MODULE

**To quickly track back your products and components**

The mission of the EIT TRACKER is not only to enable the manufacturer to trace a product through its processing procedures, but also to re-trace it when a problem or recall occurs.

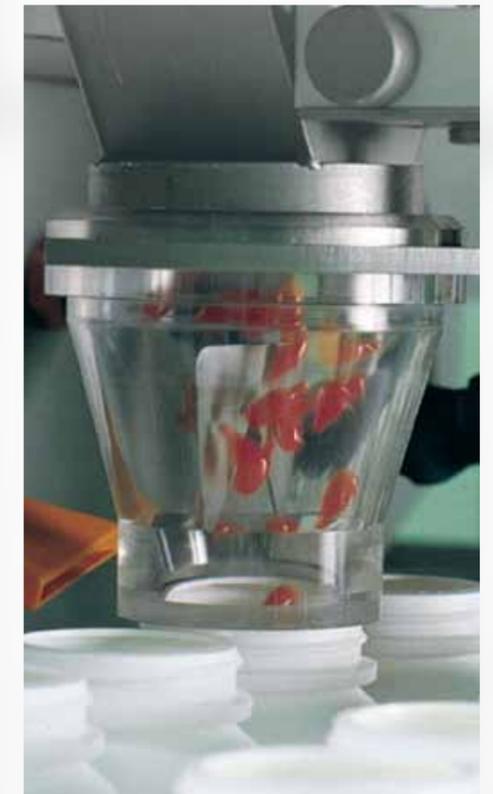
The module records product move-ment through equipment during the packaging process. It handles auto-matic, semi-automatic and manual identification of materials, time, resources and locations.

**Among its applications:**

- To timely identify out-of-specs products
- To extend recalls to products with a high defect risk (even if no problem has occurred yet)
- To reduce costs due to recalls
- To increase product quality and customer's satisfaction
- To track down defects and prevent them from occurring once again
- Bar code scanners, HMI touch screens, RFID
- Traceability tree
- Identification by lot number, product code or type
- Identification of components and finished products.

## SYSTEM HIGHLIGHTS

- 24/7 automated data gathering
- PLC logic-based
- Adapted to old & new technology equipment
- Aligned with industry standards and guidelines
- Web-based, ASP.NET
- Portal/Dashboards
- Pre-built & Ad-hoc reports
- Scalability to meet customers specifications
- Highly flexible to integrate further calculations and metrics
- Production schedule, Utility consumption and Labor tracking
- Standard Operating Procedures
- Role-based features
- Manual comments capability
- Data trending
- Alarm-triggered
- Benchmark tools
- Root-cause analysis
- In-depth analysis of downtime
- Extensive range of metrics and reports
- O.E.E. focus
- User-friendly
- ERP/MES/legacy systems compliant
- Remote access
- Multilingual application
- Wireless technology
- Wide range of services: productivity, maintenance, coaching, data hosting, etc.



# Architecture

Optimal usability, interoperability, flexibility, scalability and visibility.

THE WEB-BASED EIT™ SYSTEM IS BASED ON THE BEST PRACTICES AND USES MICROSOFT® VISUAL STUDIO. NET. BUILT UNDER A 3-TIER CLIENT/SERVER ARCHITECTURE, EIT™ USES AN OBJECT ORIENTED APPROACH WITH PROVEN DESIGN PATTERNS. MAINLY BASED ON MODEL-VIEW-CONTROLLER (MVC) MODEL, THE SOFTWARE ARCHITECTURES SEPARATES THE APPLICATION'S DATA MODEL, USER INTERFACE AND CONTROL LOGIC INTO DISTINCT COMPONENTS. THE BENEFIT OF HAVING SUCH ARCHITECTURE IS THAT MODIFICATIONS DONE TO ONE COMPONENT DOES NOT SUBSTANTIALLY IMPACT THE OTHERS, THUS ENSURING OPTIMAL FLEXIBILITY.

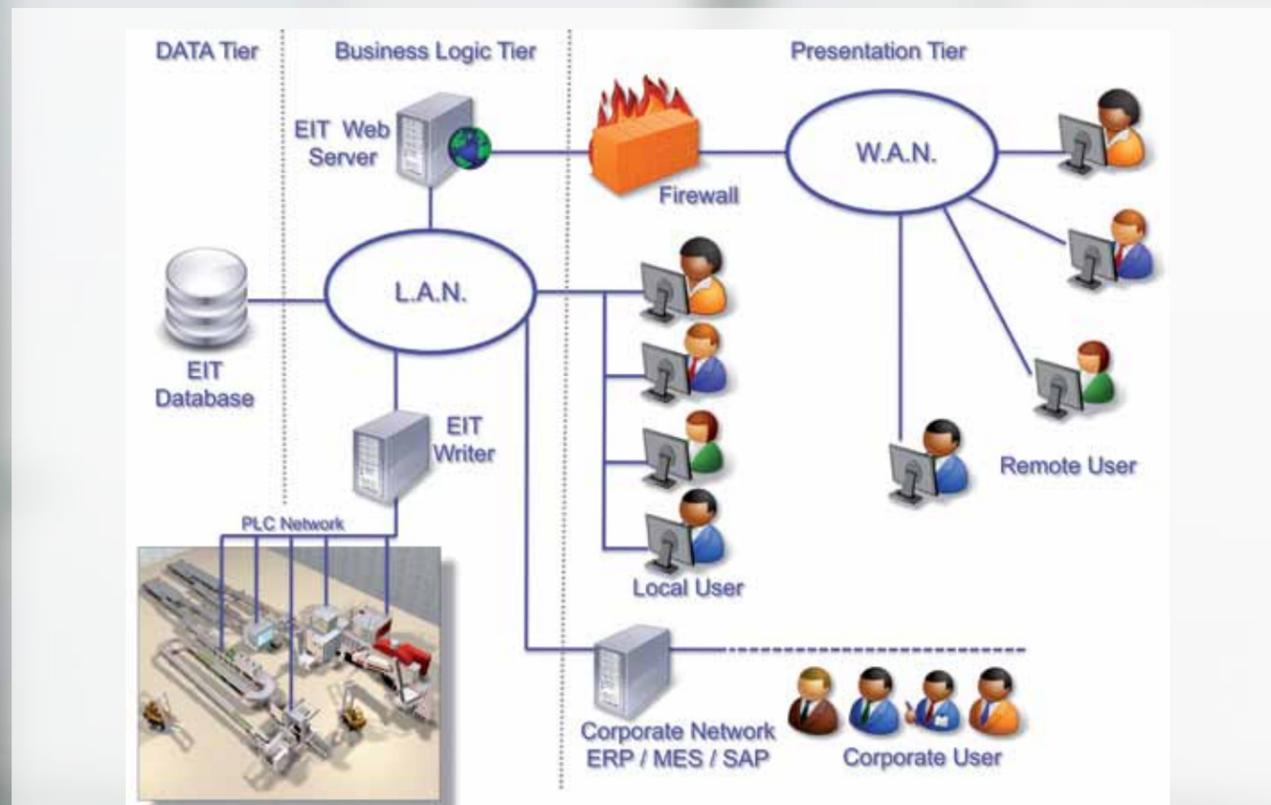
## SPECIFICATIONS

- Compatible Operating Systems: Microsoft Windows XP, 2003 and 2008 Servers, Std edition
- Minimum Hardware: 3.0 GHz processor, with 1GB of memory and 100 GB of HD space
- Database servers: SQL, Oracle
- Ethernet TCP/IP network connectivity
- Microsoft's Internet Explorer, Version 7 or higher.

## INSTALLATION

As opposed to many systems on the market that require the customer IT and engineering groups involvement for months, EIT™ can be entirely implemented by Gebo specialists thus entailing substantial benefits:

- Installations done according to industry standards (ISA, DIN, etc.) and guidelines (Pack-ML)
- Fast set up & learning curve
- Consistent & standardized installations across plants
- Low TCO.



# Benefits

BY DIGITIZING PRODUCTION DATA, EIT™ ENABLES USERS TO HAVE ACCESS TO A VIRTUAL DATA CENTER EMPOWERING THEM TO DISCOVER WHY THEY ARE NOT MEETING THEIR BUDGETED PRODUCTION, HOW TO DELIVER BOTTOM LINE RESULTS AND WHERE TO SET THEIR PRIORITIES. FROM OPERATIONS TO MAINTENANCE AND FROM ENGINEERING TO MANAGEMENT, EIT™ DELIVERS MANUFACTURING INTELLIGENCE TO REACH BUSINESS GOALS.

## OPERATIONAL BENEFITS

<b>Operator</b>	Accurate tracking of machine issues	Better observation of specifications	Enhancement of working methods	Improved awareness of machine impact on the line flow	Increased ability to comment machine stops & specific events
<b>OEM</b>	Reduction of machine wear and tear	Effective analysis of machine operation	Close monitoring of machine KPIs	Effective validation of results when fine-tuning equipment	Strategic means to increase customers satisfaction (remote services & support)
<b>Maintenance Mgr</b>	Better follow up of guarantees	Maintenance cost reduction	Leverage of preventive maintenance practices	Machine parameters comparisons	TPM support & incentive tool
<b>Quality Control Supervisor</b>	Decrease of quality issues	Effective detection of flaws and of out-of-spec values	Improved quality consistency	Lower costs by reducing waste	Supporting tool for continuous improvement programs
<b>Line Supervisor</b>	Elimination of guesswork & discovery of true downtime reasons	Effective responsiveness to critical issues	Broader insight into problem sources	Instantaneous access to production status & data	Remote monitoring of line conditions
<b>Production Mgr</b>	Line fine-tuning effectiveness	Implementation of best practices	Reduction of waste	Effective data sharing	Resolution of plant floor issues before affecting/impacting the supply chain
<b>Productivity Eng. &amp; Consultants</b>	Solving of recurrent problems	Start-up improvement & reliable tool for commissioning	Accurate assessment of performance & comparisons among machines	Identification of control issues & bottlenecks	Identification of means to streamline operations
<b>Plant Mgr</b>	Optimization of budget planning, justification of capital replacement	Empowers decision-making	Asset utilization optimization of assets utilization	Line output increase	Enhanced profitability
<b>Corporate Eng.</b>	Identification of cross Organizational trends	Optimization of the equipment vendors selection	Reporting consistency across plants	Benchmark of best practices and performance	Increased R.O.I. and R.O.A.

## HARD BENEFITS

- 9% increased efficiency within 9 months, Water industry
- Reduction of the critical machine's unplanned stops by 50%, Beverage industry
- 27% increased productivity in the 1st hour following a changeover, Water industry
- Average saving cost from 5 to 9% during commissioning, Food industry
- Lowered quality issues by 15%, Water industry
- Decrease waste by 40%, Beer industry.
- "Plant output increased by more than 4%, shortened the line start-up time by 20%", SABMiller Brewing Co. (now MillerCoors), Packaging World
- Financial savings so substantial that could justify the investment for a roll out on 57 lines, Beer industry
- Payback in 8 months, Beverage industry
- 6% increase in asset utilization, Water industry
- Reduce manual data collection processes and paperwork by 95%, Beer industry

# Dedicated productivity teams: EIT™, EIC, EIS

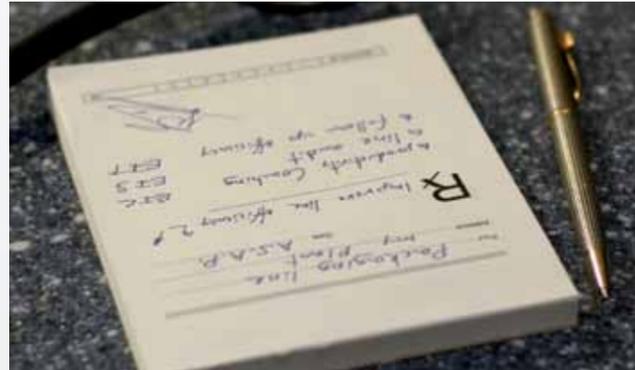
To help you turn data into manufacturing information

## PRODUCTIVITY RIENTED

Assisting customers in their quest to reach their productivity goals is Gebo's goal as well. To do so, Gebo has set up a dedicated Productivity division which encompasses the EIT™ products and the EIS and the EIC services. Monitoring, consulting, coaching, auditing, analyzing, simulating, optimizing and implementing productivity solutions are the Productivity Division's goals.

### EIT SERVICES

- Implementation
- Installation update
- Software upgrade
- Database fine-tuning
- Report & metrics customization.



## Efficiency Improvement Coaching (EIC)

Gebo PMMI Certified Trainers offer a complete line of trainings tailored to companies' needs. Sessions are available online, at Gebo locations or at your facility.

### ADVANTAGES OF TRAINING AT A GEBO LOCATION

- Multiple trainers providing a complete and diversified experience for each topic
- Distraction free environment for participants (no interruption from daily work routine)
- Access to Gebo test loops and related materials for practical examples of conveyors, drives and other devices.

### ADVANTAGES OF TRAINING AT YOUR FACILITY

- Lower travel & lodging costs
- Access to your facility for monitoring, sampling or auditing various equipments within your plant.

### BENEFITS FOR YOUR COMPANY

- World Class Manufacturing methodology approach
- Improve your organization's performance at low cost
- Be aware of what's new in the business, new technologies.

### BENEFITS FOR YOU

- Upgrade your skills
- Learn from a leader in the industry
- Better understand the intricacies of packaging
- Refresh your thinking and approach.

### CUSTOMIZED TRAINING

- Productivity improvement
- Line Flow, Line Design
- Data acquisition and analysis
- Line control and automation
- Conveyor maintenance
- Line monitoring
- Close coupled machines (control & design parameters)
- Changeover optimization
- Available continuous support after training.

### OFF THE SHELF PRODUCTS

- Line Design introduction training
- Line Design advanced workshop
- Better line performance with Productivity in mind
- EIT™ Productivity training.

## Efficiency Improvement Services (EIS)

Most production lines today are running below designed efficiency. Gebo offers a complete range of productivity services available as a stand-alone service or in combination with an EIT™ installation.

### THE VALUE OF GEBO'S LINE AUDIT

- A quick and affordable way to recover from efficiency loss
- A complete range of auditing services
- Analysis of running parameters by operator cell or machine areas, and its effect on the rest of the production line
- Identification of root causes for line efficiency loss
- A prioritized action plan to solve line issues
- Achieved results.

### LINE SIMULATION

Looking to change equipment or conveyors on your production line?

Need to know the effect that this change will have on overall line efficiency?

Designing a new line, and want to make sure that you will meet your production goals?

A Gebo Line Simulation is the answer to all of these questions. By creating a computerized model of the production line, the interaction of the machines can be simulated and determined using machine data (availability, MTTR, MTBF and accumulation between machines). Different scenarios of line design can be compared, in order to maximize your investment.

### CHANGEOVER

- Quick change process program uses generic continuous improvement tools and procedures that can be readily adapted to most packaging processes
- Repeatable changeover process and efficient process mapping (tool less, index parts, coding, etc)
- Step-by-step changeover procedure and documents, including mapping
- Evaluate training needs (changeover, troubleshooting, easy maintenance)
- Help with equipment specification definitions.

### OPERATIONAL ISSUES

- Training
- Quick change process
- Preventive and curative maintenance program (TPM optimization)
- Kaizen\* approach to focus on waste reduction and to minimize/eliminate stoppages on critical machine due to methods
- Engineering design & control issues.



The using of a pocket PC is an effective way to perform audits.

# First in line

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In a complex industry where know-how is everything, Gebo Cermex is formed from the union of two strong brands: Gebo & Cermex, gathering packaging line engineering experience across a range of market segments from beverages and food to pharmaceuticals, via home and personal care.

For over half a century, our experts have improved the performance of production and packaging lines in some of the most demanding industries.

Today **more than 37,000 equipment & systems installations bear our signature**. We add value to our customers' business in four dimensions, from equipment design and manufacturing to line engineering, services and line improvement.

Gebo Cermex, headquartered in France is a people-centric organization with **1800 employees and over 20 commercial & manufacturing sites** in all major regions around the world.

**No-one knows packaging lines like we do. We are first in line.**

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