The right ingredient
Process Instrumentation and Analytics from Siemens –
for the food and beverage industry

For additional information, visit:
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Your challenge is our passion

Changing demographics, new consumer tastes, quality expectations, evolving regulation and price constraints pressure on profit margins. The food and beverage sector faces a range of challenges. The demands of big retailers are increasing. Concerns about food safety are always present. The need for faster and more flexible supply lines is intensifying. Product tracking and tracing are becoming increasingly important.

In this environment, competitive advantage is the number one priority: minimizing the total cost of ownership while maintaining flexible offers. With the right automation in place, companies can turn competition and pressure to their advantage.

Gaining control with measurements is right at the heart of food and beverage manufacturing. It is key to unlocking value, enhancing quality, leveraging flexibility, boosting profitability and maintaining reliability. Whether it is the technology to break through bottlenecks, improve quality or to provide early warning of failure, we have the knowledge of industry processes and the applications to keep customers on the road to success.

Siemens delivers world-class capabilities to meet the challenges faced by the food and beverage industry. Siemens is able to address the full range of process instrumentation and analytics requirements. Our global reach and extensive product portfolio enables Siemens to meet your development needs and requirements.

When you partner with Siemens, you have the right ingredients for success:
- A perfectly coordinated and harmonized portfolio of products and solutions for every process step in the value chain
- A single concept for seamless integration of the entire company to master productivity, quality and supply challenges
- Fewer different components – simplifying the inventory of spare parts and ensuring highly efficient maintenance
- The assurance of a world-class brand delivering leading-edge automation technology
- People who understand your industry needs and can configure solutions to match your operating conditions
The right ingredients for success

Food is the energy of life. That is why trust and confidence play an important part in the food and beverage market. Yet the issue of trust and confidence is not confined to questions about quality and safety. Product availability is also crucial in winning the battle for shelf space.

Whatever your sector of the market is – whether you are a food and beverage company or an original equipment manufacturer (OEM) – you can be assured that Siemens quality and results will help you meet your business and customer goals.

The Siemens approach:

- An emphasis on user-friendly products – for safer, faultless operation
- A high degree of product safety – through maximum process transparency
- Optimal resource efficiency – through innovative platform concepts
- More flexibility – for faster and safer production changeover
- Increased productivity – with optimal solutions for the operating phase

Customer benefits:

- Fast commissioning, short ramp-up times
- Low total cost-of-ownership
- Quick return on investment
- Continuous process through innovative service and support concepts
- Traceability to ensure manufacturing quality through completely integrated production
- Maximum compatibility and innovation providing you with confidence in the future
Sugar

A wide range of competitive and manufacturing challenges faces the sugar industry. Demand for sugar is steadily increasing but shifting from home use to its application in terms of raw materials in processed food and beverages. This has increased the importance of supply chain logistics. Higher energy, water and utility costs have also added pressure to the cost base, intensifying the need for manufacturing efficiency.

Companies need to be able to manage high energy and utility demands. Buildings automation and manufacturing controls are becoming more important. Continuous 24/7 plant operation is critical for sugar plants with zero scheduled downtime. The size and colour of the micro-crystal in the sugar solution are vital qualitative factors. Successful sugar manufacturing demands a high level of automation and precise control over process parameters, saving time and increasing output.
The importance of dairy products in daily nutritional requirements means that continuous availability and high quality are paramount considerations for manufacturers. Hygiene is critical, given that milk is an ideal culture in which micro-organisms can grow. Dairy production is subject to close government regulation and consumer scrutiny. Measurement and control of temperature and of fat and protein content are vitally important to the dairy manufacturing process.

Milk, cheese and fermented products, such as yoghurt, all require precise production control parameters. The cultures used in cheese and fermented products make temperature control exceedingly important. Pure cultures must be produced very carefully according to hygienic principles. A poor or mismatched culture can lead to substantial product deficits. Tight control over storage times for cheese is essential. Cheese can last from several weeks to many months depending on temperature and humidity, both of which must be monitored precisely and adapted to each brand.
Brewing

Brewers operate in intensely competitive product markets. Reputation, quality, customer loyalty and trust are everything. Price is king in key sectors of the marketplace. Companies operate in a highly dynamic customer-driven environment. In addition, seasonality heightens the importance of being able to utilize the brewery in a fast and flexible way but, always, with a focus on quality.

Whatever the marketplace, the ability to arrive at a finished, consistent beer quality is paramount. From milling and mashing, boiling and fermentation, filtration and conditioning, right through to the keg or the bottle, accurate measurement in terms of volume, weight, temperature and turbidity is vital to the brewing process. Breweries also require access to an integrated view of the production and supply chain, enabling them to incorporate manufacturing controls and automation into their overall management systems.
Soft drinks

Whether sports or energy beverages, the more traditional and well-established carbonated drinks or the new tea and coffee-based cold beverages, the soft drinks market is experiencing significant growth. Product innovation and diversification are key drivers in this expansion, putting more pressure on the use of production plant.

In common with other sectors of the food and beverage market, hygiene is critical. Most soft drinks are very susceptible to microbiological spoilage due to their high sugar content. Water quality must be consistent with the need to prevent the interaction of elements in the water with flavourings. Accurate flow measurement and precise dosing of the ingredients are vital to a consistent and high-end quality product.
**Level applications**

The quality of food and beverage products relies on precise and accurate level measurements that ensure exactitude in process controls, overflow prevention and protection against dry-running pumps. Such criteria are also used to balance and check stocks of raw materials, semi-finished products and finished goods. Inventory management must be implemented with the utmost precision to allow for the adequate demarcation and retracing of individual batches. The entire production planning process and supporting logistics depend upon ready availability of the correct stock.

**Ice cream**

Glucose is a central ingredient in ice cream production. It has a very high specific gravity and must be maintained at a temperature of 50°C (122°F) to ensure consistent flow. The supply of glucose must be ready to meet typical 16-hour and five-week plant production schedules. Effective storage and inventory control is therefore a priority. Ultrasonic technology provides for an ideal solution because it is non-invasive, and thus non-contaminating.

**Echomax transducer with MultiRanger transceiver**

- An ultrasonic level measurement system. The MultiRanger transceiver processes the signals from the Echomax sensor, providing a continuous read-out of data relating to the tank level.
- High-performance instrumentation provides continuous level measurement for virtually any short or medium range application up to 15 m (50 ft).
- Built-in process intelligence prevents interference from agitators and other obstructions commonly found in tanks.
- Easy installation, set-up and operability.

**Grain silos**

Beer is made from malt, water, hops and yeast. The key to efficiency and quality in beer production lies in the quality, purity and continuous availability of these raw materials. Malt is produced in malt houses, whence it is delivered to the breweries and stored in silos. Dust can accumulate once the barley or other grains are transferred to the silo. The problem this creates for level measurement can be compounded by the shape and design of the grain silo.

**SITRANS radar technology**

- The SITRANS LR 400, with a 24 GHz high-power continuous microwave transmitter allows for measurement through the dust and vapour within an enclosed silo.
- An exceptionally narrow beam angle can cope with access diameters as small as 150 mm.

**Carrot juice and other foaming liquids**

The capture of all operational data relating to fill quantity, level and pressure is necessary to secure consistent product quality and to monitor production efficiency. Carrot juice, when added to other liquids, tends to foam excessively during storage tank filling. High process temperatures make it difficult to reliably monitor the filling level and product volume using conventional level measuring principles.

**SITRANS LR300 radar technology**

- Radar is virtually unaffected by process conditions such as foam, steam, temperature and dust.
- High pulse intensity, strong signal-to-noise ratio and advanced patented signal processing technology.
- A compact and easy-to-install device offering high performance at reasonable prices.

**Raw milk tank**

Raw milk delivery and quality-controlled handling is significant for every dairy. Raw milk is delivered by tanker, so the milk has to be stored to guarantee continuous running of the plant. Accurate level measurement is crucial in ensuring proper processing and the prevention of overspill. The filling process creates turbulence and foam. The shape of the tank, the use of agitators and the presence of Clean-In-Place (CIP) equipment makes measurement difficult. Earlier measurement technologies were unreliable and tended to break down completely during cleaning cycles that made use of caustic soda and nitric acid at very high temperatures.

**Echomax XCT-8 transducer with a MultiRanger 200 controller**

- This combination provides accurate and reliable tank measurement.
- The transducer has a PTFE-coated sensor to resist build-up and withstand the clean-in-place process.
- The controller is connected to the main PLC using the PROFIBUS DP protocol to display readings on the SIMATIC PCS 7 plant control system interface.
- Process intelligence differentiates between true echoes emanating from the target material and false echoes stemming from obstructions or caused by electrical noise.

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Juice
Non-concentrate orange juice is growing in popularity, creating a need for worldwide shipping of fresh orange juice. This presents technical challenges. Ships are fitted with high-grade steel tanks. The juice must be kept at a defined low temperature and the tank must be germ-free and air-tight. This is achieved by vectoring nitrogen. Both the temperature and the nitrogen pressure must be measured precisely, monitored continuously and regulated.

**SITRANS LR radar level transmitter**
- Uses Frequency Modulated Continuous Wave (FMCW) technology to provide high accuracy
- Easy installation and commissioning, low maintenance
- Self-calibration with internal reference
- Built-in diagnostics
- Auto False Echo Suppression and advanced echo processing
- Communications using HART® or PROFIBUS PA

Whisky distilling
Quality ingredients and careful process monitoring are vital to the art and science of whisky production. Prior to distillation, a mix of barley and water is cooled and pumped into pear-shaped fermenting vessels (wash stills). Operators then add yeast and the mixture produces wash (weak spirit). Foam is produced which can result in boiling high levels of froth mixing with the ‘low wines’ from the first stages of distillation. To control the foam, the burners must be turned off and restarted as the foam dissipates. It is desirable to automate the wash still operation to control the foam. However, because foam is neither liquid nor air, it is impossible to detect with traditional level measurement devices such as floats or vibrating forks.

**Pointek CLS200**
- Enables foam detection as well as automatic burner turn-off and restart
- Accurate, reliable and repeatable level detection
- Uses a unique inverse-frequency approach to capacitance technology, unlike traditional capacitance devices. Pointek switches monitor the effect of capacitance by frequency change rather than voltage drop or current flow
- The result is better accuracy and resolution because even small level changes create large shifts in frequency
- Contains a high-frequency oscillator with the sensor encapsulated in the probe tip. The probe is unaffected by the build-up of material, humidity or moisture

Product purity
Many food and beverage products are created from highly bio-dynamic ingredients and processes. Quality and purity is essential. Irrespective of the type of ingredients used, food safety is a paramount consideration for food producers and Siemens alike.

**SITRANS LR technology**
- Tested and certified by the Institute of Food Process Engineering at the University of Karlsruhe
- The microwave emissions have been shown to have no general thermal or physical influences on liquid or dry solid foodstuffs
- A maximum transmitting power of 0.32 W/cm² ensures no effect on organisms in liquids such as beer and milk
Flow applications

Yeast
Yeast is a very important ingredient in various segments of the food and beverage industry. The quality of the yeast has a direct influence on the quality of the product. Yeast production requires very exact dosing of the defined ingredients, placing high demands on the accurate measurement of flow. As always, hygiene factors are critical.

SITRANS FC MASSFLO
- Allows the measurement of mass, density, volume and temperature
- High performance mass flow meter (Coriolis) with SENSORPROM technology and flexible communication (HART®, PROFIBUS, MODBUS)
- Range: 0 – 500,000 kg/h (0 – 492 LT/h)

Soft drinks
The production of soft drinks revolves around mixing. Typically, four to five components are mixed. Measuring quantity on its own is not accurate enough. The measurement must also be performed inline. The process demands a momentary accuracy of 0.1%.

SITRANS FC MASSFLO
- Accuracy better than of mass flow rate
- Large dynamic turn-down ratio better than 500:1
- Densitometer performance typically better than 0.00005 g/cm³ with repeatability better than 0.0001 g/cm³
- Brix measurement

Dressing
Dressings may contain very salty and spicy ingredients with significant corrosive properties. As a non-sour product, dressings also provide an ideal culture medium for germs. Flow meters have direct contact with the product and it is therefore critical that coating and inline materials are resistant to corrosion and comply with the most stringent hygiene standards.

SITRANS FM MAGFLO 1100 food
- Magnetic-inductive flow technology and flexible communication (HART®, PROFIBUS, MODBUS)
- Ceramic (Al₂O₃) or PFA liners
- Maximum measuring error 0.25% of rate
- Degree of protection (enclosure) IP67 (IP68)

Milk
Many dairy plants pour the treated milk in tin containers. These containers must be coated to prevent the milk from interacting with the tin. Health and safety considerations govern how much coating is used. The SITRANS FC MASSFLO is able to measure and control the coating process so that the exact quantity and thickness is applied.

SITRANS FC MASSFLO
- Digital input for batch control, remote zero adjust or forced output mode
- Fronted resolution better than 0.35 nS improves zero point stability and enhances dynamic turn-down ratio on flow and density
- Plug and play installation of the transmitter to the sensor via the sensor pedestal
- Fully stainless steel enclosure

Hygiene
Cleaning-In-Place (CIP) and Sanitization-In-Place (SIP) are central to milk processing. The flow meters must ensure that the cleaning agents are accurately dosed, the circulating velocity is correct and the system is completely empty. The process conditions – temperature, velocity and used cleaning agents – fluctuate quickly, making long-term stability and high measurement accuracy essential.

SITRANS FM MAGFLO
- Sanitary design for SIP/CIP cleaning
- Hygienic connections
- 3A-approved and EHEDG-tested construction
- Stainless steel enclosure

Storage, pumping, and dosing. All three activities lie at the heart of food and beverage production and require highly accurate flow measurement. Whether it is a strawberry ingredient added to yoghurt or the syrup, or carbon dioxide injected into water for a soft drink, flow measurement is vital to quality assurance and product consistency. It is also essential to ensure compliance with environmental regulations, food safety and, in the case of alcohol, fiscal regulatory requirements.
Pressure, temperature and valve positioning

Pressure measurement plays a vital role in food production plants. Besides measuring pressure for process control purposes or for safety reasons, pressure measuring instruments can be used to measure flow (orifice plate), levels (hydrostatics), and differential pressure (filtration and heating processes) to determine parameters such as the extract content. Temperature is one of the most important parameters of all in the food manufacturing process – both from a safety viewpoint and for process control and quality. Food safety methodologies, such as Hazard Analysis Critical Control Points (HACCP), highlight the importance not just of accurate temperature measurement but also its data capture. Valve positioners play an important role in the storage, pumping and mixing of liquids for food and beverage production. A valve positioner enables the precise control of a valve, providing the added benefit of a diagnostic capability.

Brewery
In the fermentation process wort becomes beer, but a lot heat is produced with temperatures of up to 70 °C (158 °F). Before the beer is poured into bottles, cans or kegs it must be stabilized. Both stabilization and fermentation are achieved in a number of large tanks. Level measurement is important and the most common approach is hydrostatic measurement with an accuracy of up to 6 mm in 12 m (36 ft) tanks.

Sugar
The extraction of sugar from cane or beet is a key stage in sugar production. The extraction is performed in two steps. First, the beet or cane is cut so that the sucrose can be removed in an extraction tower. Temperature control is critical. There is an optimal relationship between temperature and the energy needed to obtain the best yield of extracted sugar.

SITRANS T resistance thermometer
- Communication and maintenance functions enable optimization of the maintenance circle
- Local display and programming
- Hygienic design complies with EHEDG recommendations

Milk
Hygiene is a top priority in dairies. Measurement devices must satisfy high standards and be compatible with SIP and CIP processes.

SITRANS P Compact
- A pressure transmitter that has been specially designed to suit the requirements of the food and beverage industry
- Offers an optimal relationship between price and performance
- Stainless steel housing and measuring cell is flush with the front panel, making it easy to clean and sterilize
- Suitable for process temperatures of up to 200 °C (392 °F)
- Available with the full range of hygiene connections

Fermentation
Valves control the filling and draining of fermentation vessels in breweries. The fermentation process can last several days. The Siemens SIPART positioner provides precise valve monitoring and diagnosis of events whenever problems arise.

SIPART PS2 valve positioner
- Compatible with both rotary and linear actuators, enabling standardization on one device, saving costs on training and spare parts
- Requires very little system energy, providing a rapid return on investment
- Considerable time-savings and control optimization thanks to air consumption, advanced diagnostics that pinpoint sediment in pipes and abrasion of valve seat/cones, and automated commissioning
- Accepted by the food and beverage industry for many years and standard in a large number of fields
Weighing and process protection

Weighing, blending and dosing are of significant importance to the food and beverage industry. The filling process and the packaging of food products require highly accurate and automated systems to ensure compliance with the strict quality and hygiene regulations of a very competitive market.

Crisp bread production
Rye and wholemeal are mixed with water and salt to produce a dough that is rolled out thinly on a conveyor belt. Embossing rollers give the crisp bread its distinctive pattern, while special ingredients such as sesame or caraway are added. Precise flour feed rates and accurate weighing are essential to ensure the right proportion of recipe ingredients.

Malt dosing
The demands in a process such as malt dosing are immense, particularly where continuous dosage is the norm. For example, for 50kg (110 lb) of malt at a daily capacity of 200 tons (197 LT) and 450 batches per hour, metering precision needs to be less than 10g (0.3 oz) and batch error below 20g (0.6 oz).

SIWAREX weighing system
- Ideal for integrating into automation solutions because no additional interfacing modules are required and the same engineering tools can be used
- The module response (e.g. diagnostic messages) is system compatible
- An event recorder with time stamp records the course and status of weighing, a crucial tool for plant optimization
- Load cells and cables are permanently monitored for predictive maintenance to prevent downtime
- Snap-on methodologies make installation very easy
- Can be totally integrated into the SIMATIC PCS 7 control system, thus providing a complete automation solution

ULTRAMAT 23 continuous gas analyzer
- A cost-effective method of monitoring CO, NO, SO₂, O₂, HF, H₂ and THC with just one analyzer
- Extractive measurement principles to suit application needs
- Autocal with ambient air
- Can be seamlessly integrated into automation systems and have communications on board

Gas analytics

Gas analysis plays an important role in certain types of food and beverage production as well as in the fulfillment of environmental standards relating to energy supply and emissions. Carbonated drinks, for example, require a precise quantity of carbon dioxide. Nitrogen management is central to much food production and, like CO₂, emissions must be controlled carefully.

ULTRAMAT 6 gas analyzer
- Up to four active infrared components in a single unit
- Can be used in all applications, from emission measurement to process control, even in the presence of highly corrosive gases

Brewery
The carbonation level is important for many types of beer. Carbon dioxide is either created during fermentation or injected later. Brewers need to be able to measure with complete confidence the purity and level of carbon dioxide in the brewing process.

Milltronics weighfeeder 600 series
- High accuracy weighfeeders that control the adjustable flow rate for the blending of flour, water and additives
- Milltronics BW500 integrators with PID control are used to calculate rate and speed of the control belt
- Flexible design for easy installation into an existing environment with minimal retrofit requirements

Monitoring quality
Gas monitoring is necessary for process optimization and regulatory compliance in many food and beverage plants. Defined quality parameters must be measured for process optimization, and a range of local, national and international compliance requirements means that companies may need to analyze many different substances. Whenever dust or gases, such as CO, NO, SO₂, O₂, HCl, HF, H₂ and THC, are present, the ULTRAMAT 23 provides an ideal solution.
Our process instrumentation and analytics product range

Siemens offers the most comprehensive product range for the food and beverage industry and has a solution for even the most difficult measurements.

Level measurement devices

SITRANS LR 200 – 2-wire radar level measurement
Ideal for measurement in bulk storage and process vessels and for monitoring waste solvents. Performs well in high temperatures.

SITRANS LR 300 – pulse radar level measurement
Ideal for standard applications such as liquid bulk storage tanks and agitated process vessels. It provides for reliable measurement in environments with steam, turbulence or agitation. Operating at a low frequency and high signal transmission speed, it is virtually unaffected by atmospheric or temperature conditions.

SITRANS LR 400 – high performance long range FMCW radar level measurement
Used successfully in thousands of applications. Ideal for more difficult solids and liquid level measurement situations, such as those involving high dust levels. It is very effective with grain or flour.

SITRANS LU 10 – ultrasonic level monitoring
A cost-effective level monitoring system with a range of models offering up to 10 ultrasonic measuring points. Coupled with appropriate Echotrons transducers, SITRANS LU is ideal for measuring multiple bins or silos with heights of up to 60m (200ft) using a single ultrasonic controller that provides a reliable yet economic solution.

SITRANS Probe LU – 2-wire loop powered compact ultrasonic level transmitter
For non-contact level/volume monitoring of liquids. Ideal as a cost-effective solution for level measurement applications involving, for example, milk, vegetables or by-products such as wastewater.

Flow measurement devices

SITRANS FM MAGFLO – magnetic-inductive flow meter
A full series of electromagnetic flow meters especially designed for the food and beverage industry. Unique design with a wide range of customer-specified process connections and the option of compact or remote mounting. Based on a full range of Fieldbus systems (e.g. PROFIBUS, MODBUS, HART®), ensuring flexible communication and easy integration.

SITRANS FC MASSFLO
A complete range of highly accurate, Coriolis mass flow and density meters. Fine accuracy – typically with accuracy < ± 0.1% of flow rate – delivers precise information about fluid densities or gas passing through a pipe. Ideal for dosing, leveling and quality control.

Miltronics solids flow meters
Accurate measurement and control of flow rates of product so that quality and plant efficiency are consistently maintained. A totally enclosed design eliminates product waste or contamination and reduces plant maintenance. The units are dust tight, ensuring a healthier work environment, especially during the monitoring of hazardous substances.

Weighing technology

Miltronics belt scales and weighfeeders with Miltronics BWS500 integrator
High accuracy single and dual-roller belt scales and weighfeeders. Ideal for use in tracking daily production and the management of grinding mill feed rates of sugar beets or canes. The BWS500 integrator offers the optimal link into the process, and provides information about rate, totalized weight, PID, belt loading, speed and batching.

SIWAREX weighing systems
Provide optimum integration into the automation structure of the process. Ideal for users familiar with the SIMATIC PCS 7 process control system and components.

Pressure and temperature measurement

SITRANS P Compact – pressure transmitter
Designed particularly for the food and beverage industry and to satisfy EHDEG and FDA hygiene recommendations. The stainless steel housing, the IP67 degree of protection, and the signal output of 4 to 20 mA provide the perfect baseline product.

SITRANS P300 – digital pressure transmitter
For measuring gauge or absolute pressure with front-flush membrane and a single-chamber measuring house. With its small long-term drift and high measuring accuracy, it is ideal for level measurement in open or closed containers.

SITRANS T – temperature transmitters
A range of devices enabling temperature measurement in even the most rugged industrial environments. Signal conversion from resistance thermometers, resistance-type sensors, thermocouples and voltage sensors into direct current signals means that the electronics are isolated – avoiding possible sources of vibration.

Valve positioning

SIPART PS2 – electro-pneumatic valve positioner
Number One in its field by a long margin. Offers easy integration, onboard diagnostic functions and minimum loss of process air by means of using air only when required. Enables operators to secure cost-effective and accurate control over typical applications such as flotation cell filling.

Process protection

Acoustic sensors and motion sensors
Siemens AS100 acoustic sensors help operators detect blockages in pneumatic conveying systems, while our motion sensor range ensures that mechanical conveying systems maintain their set speed – informing operators in case of breakdown or failure and helping to increase availability.

Gas analytics

ULTRAMAT/OXYMAT series 6 – continuous gas analyzer
A practical combination of the ULTRAMAT and OXYMAT 6 analyzers in a single enclosure. The ULTRAMAT channel measures CO, CO2, NO, SO2 and NH3, as well as CH4 and other hydrocarbons. The OXYMAT channel measures the oxygen content of gas. Cleanable sample cells and optional corrosion resistant materials in the gas path make measurement of highly corrosive sample gases possible.

MicroSam – process gas chromatograph
The MicroSam is a miniaturized process chromatograph. Through consistent use of micro system technology (silicon wafer technology), all analytical components are concentrated in the smallest possible area. The design particularly enables a distributed installation close to the process. Ideal for the analysis of O2, N2, CO2 and water in fermenting processes or essences in nitrogen for vacuum drying plants.

MAXUM – process gas chromatograph
The MAXUM edition II is a universal process gas chromatograph for flexible process applications with a wide variety of analytical options. The MAXUM edition II combines various functional modules with a flexible oven concept and can therefore, in addition, optimally solve complex applications. Ideal for the determination of halogenated hydrocarbons, simultaneous determination of chlorinated hydrocarbons, aromatics and alcohols in water and wastewater monitoring with PGC and stripper.
Integrated solutions

Siemens has the most comprehensive product range for the food and beverage industry on the market. Ranging from drives, motors and switchgear, process instrumentation and analytics, the product range also includes power management systems, industrial communications networks and building management technologies.

Innovations for more productivity

With Totally Integrated Automation (TIA), we offer you an automation platform for process and manufacturing automation that is still unique in the world. As in the flow of information, each step in production can be integrated system-wide, from the field level right up to the corporate management level. This promises more cost-effective engineering and efficiency as well as increased profitability across all processes.

Totally Integrated Automation:
- Reduces the number of interfaces
- Ensures maximum data transparency
- Covers all levels of your operations – from the field and control levels right up to the management level.

Services and support

Siemens offers field-proven concepts for process instrumentation and analytics from a single source, providing you with development continuity and a high level of security.

Our services range from consulting and engineering, connection to the control system and comprehensive after-sales services:
- System and schedule planning
- Complete design planning and engineering of the field devices
- Consultation on the selection of process instruments and analytics
- System documentation
- Installation, testing and commissioning
- Comprehensive after-sales service

Service around the world

Plants must function reliably around the clock. Efficient and effective process instrumentation and analytics are an indispensable prerequisite to this end. You also need to be certain of fast and competent service from your supplier. Siemens is a global company that reacts locally. Whether you require consulting, quick delivery or installation of new devices, the Siemens network of specialists is available to you around the world, whatever your location.

Service around the clock

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