Siemens Solutions for the Food & Beverage Industry

Investors and Analysts Site Tour | September 29, 2015
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Due to rounding, numbers presented throughout this and other documents may not add up precisely to the totals provided and percentages may not precisely reflect the absolute figures.
Customer centricity in dedicated markets on a global scale

- More than 1200 Key Account Manager serving our largest customers worldwide
- Providing sustainable market specific solutions from one source
Stable growth maintained in F&B industry investments

Source: IHS Global Insight, DF ST MI
*continuous rates (calculated by regression model)
Key Drivers in the Food and Beverage Industry

**Productivity**
- Reduce Total Cost of Ownership
- Increase Overall Equipment Efficiency

**Brand image**
- Process safety
- Tracking & tracing

**Flexibility**
- Greater variety of products
- Faster time-to-market
- Shelf availability

**Sustainability**
- Energy consumption
- Water consumption
- CO₂ footprint
Siemens has a portfolio to create unique customer value in the Food & Beverage Industry
Efficient interoperability of all automation components lower costs, faster time to market, greater flexibility
Value-added Solutions
for specific Food and Beverage Segments

- Bakery & Confectionary
- Edible Oils
- Sugar
- Consumer Goods
- Dairy & Juice
- Brewery
- Softdrink
- Tobacco

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Creating productivity and faster time-to-market with standardized concepts

Without standardization

- Diversity
- Complexity
- Difficult System-integration
- Difficult Diagnostics
- Asset Costs

The benefit of standardization & integration

Module Line integration
- Line Overview
- Diagnostics
- Providing Production Data
- Networks

Module Software Toolbox
- Data Interface
- Application

Module Machine Architecture
- Hardware & Software
- Machine Topology
Using Plant Simulation, Paulaner was able to get a grasp on a number of key issues

Use Case – Plant Simulation: *Paulaner*

**Initial situation**

**Paulaner**
- German brewery with headquarters in Munich
- Exports more than 2 million hectoliters in over 70 countries
- New plant in Munich under construction

**Challenges**
- Right dimensions of components
- Invest in right equipment
- Develop feasible and robust production plans

**Value Proposition**
- Secure product quality with stable and harmonized production flow
- Compare alternative maintenance strategies
- Identify and fix bottlenecks

**Improved through plant simulation**

**Plant Simulation** to effectively manage interdependencies in complex system of beer production

→ Paulaner considers *Plant Simulation* to be an *essential planning tool* for its current and future success
Sitrans LR250 HEA fulfills all expectations in SABMiller comparison test

Use Case – Process Instrumentation – SABMiller Chamdor in South Africa

Initial situation

SABMiller

- Operating in more than 80 countries
- More than 200 local beers and nurtured a range of special regional and global brands
- Chamdor is one of SAB’s medium-sized breweries with 2.2 million hectoliters

Challenges

- Provide a hygienic, reliable and low-cost system
- Provide an accurate measurement of the tank fill levels through layers of foam

Value Proposition

- Little to no maintenance needed
- Easy Access to the electronics
- Minimizes losses of time or product with synchronizing the tank emptying with the bottle feed to the filling machine

SITRANS LR250

- With a range of industry-standard process connections, SITRANS LR250 is suitable for a broad variety of hygienic applications.
KTIS – Allied Tek Integrated Drive System for biggest sugar plant of the world

Use Case – SINAMICS – KTIS Thailand Allied Tek

Initial situation

KTIS
- Third biggest sugar producer in Thailand
- 3 sugar factories in Thailand
- This factory is the biggest sugar plant in the world

Allied Tek
- Thailand's largest Original Equipment Manufacturer (OEM)

Challenges
- Increase Capacity
- Reduce energy demand
- Reduce Mill shutdown time

Value Proposition
- Reduction in power consumption by 40%
- Diagnostic information to minimize downtime
- Reduced Maintenance

Integrated Drive Systems

Consisting of:
- 2 Set of Sinamics S150 Drive unit
- Compact Motor 1 MW & 2 MW
- Siemens Flender Gear Box
Paulaner beer pipeline
Controlled by Siemens software

In three festival tents (Winzerer Fähndl, Bräurosl, Hacker), the Munich brewery Paulaner uses Siemens technology to pump the beer from the tanks to the taps - controlling sales and throughput at all times.

Every 3 seconds up to 1 “Mass” per tap

Altogether 3 tents are supplied

Mass-O-Meter
“Mass-O-Meter” (a “Mass” is a liter) indicates the exact rate of flow of the beer. The system sends data on quantities of beer sold to the brewery and host via web browser, tablet PC or smartphone.

Bier- Pipeline

Up to 2,400 seats in the “beer garden”

Up to 6,900 seats in one tent

The vital ingredients for modern breweries:
MALT
HOPS
WATER
YEAST

Consistent automation through the entire production process with Siemens’ Braumat process control system

Automation and digitalization make production more efficient, flexible and reliable and help to avoid or eliminate production errors.

+ PRODUCTION DATA

Temperature
Pressure
Tank Farm Management
Energy Management
Ingredients
Condition Monitoring
Identification
Level and Flow
Control Center

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