

Gunther Walden, Head of Market Development Board Food & Beverage

# Siemens Solutions for the Food & Beverage Industry

Investors and Analysts Site Tour | September 29, 2015

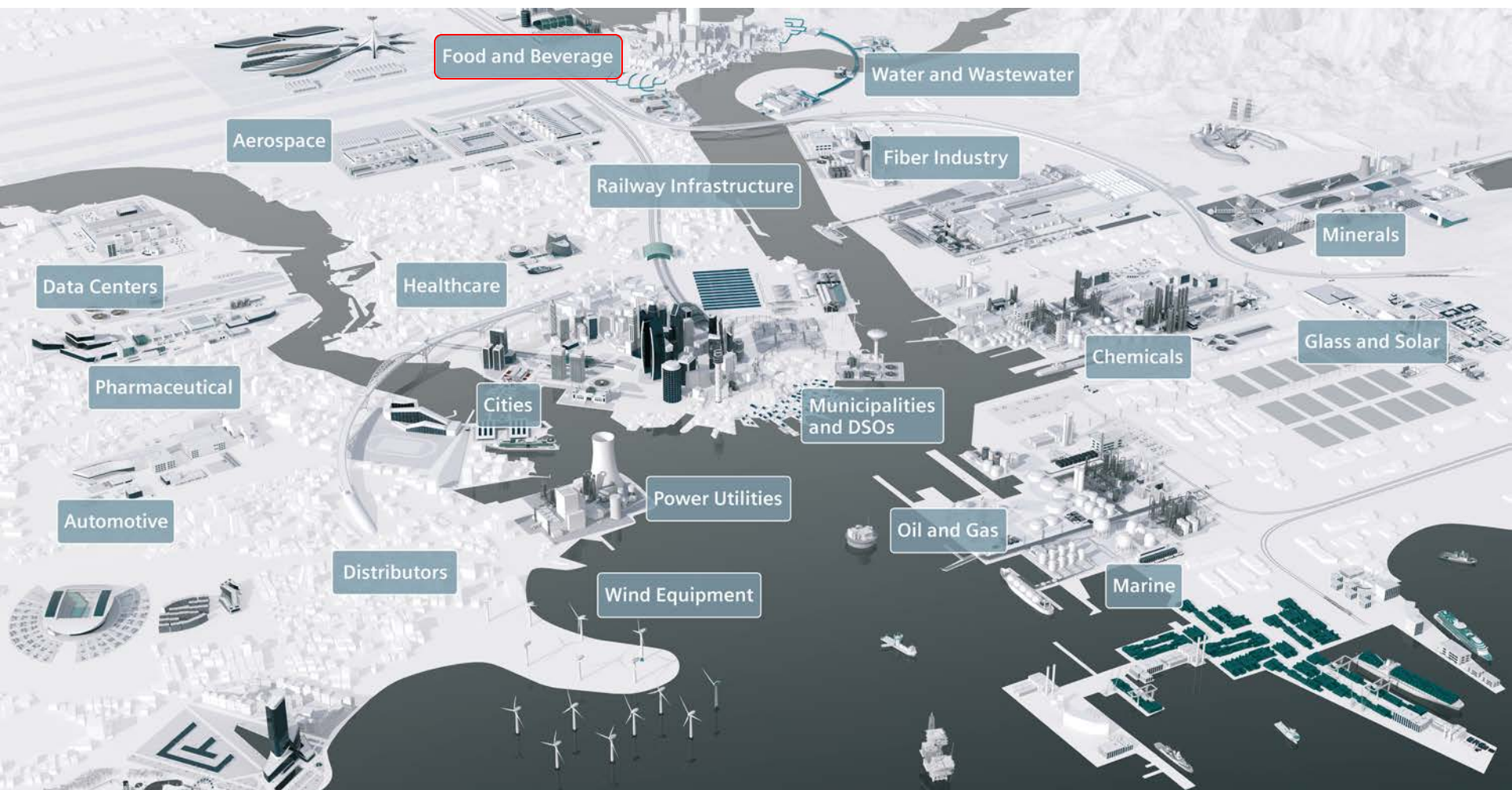
# Notes and forward-looking statements

This document contains statements related to our future business and financial performance and future events or developments involving Siemens that may constitute forward-looking statements. These statements may be identified by words such as “expect,” “look forward to,” “anticipate” “intend,” “plan,” “believe,” “seek,” “estimate,” “will,” “project” or words of similar meaning. We may also make forward-looking statements in other reports, in presentations, in material delivered to shareholders and in press releases. In addition, our representatives may from time to time make oral forward-looking statements. Such statements are based on the current expectations and certain assumptions of Siemens’ management, of which many are beyond Siemens’ control. These are subject to a number of risks, uncertainties and factors, including, but not limited to those described in disclosures, in particular in the chapter Risks in the Annual Report. Should one or more of these risks or uncertainties materialize, or should underlying expectations not occur or assumptions prove incorrect, actual results, performance or achievements of Siemens may (negatively or positively) vary materially from those described explicitly or implicitly in the relevant forward-looking statement. Siemens neither intends, nor assumes any obligation, to update or revise these forward-looking statements in light of developments which differ from those anticipated.

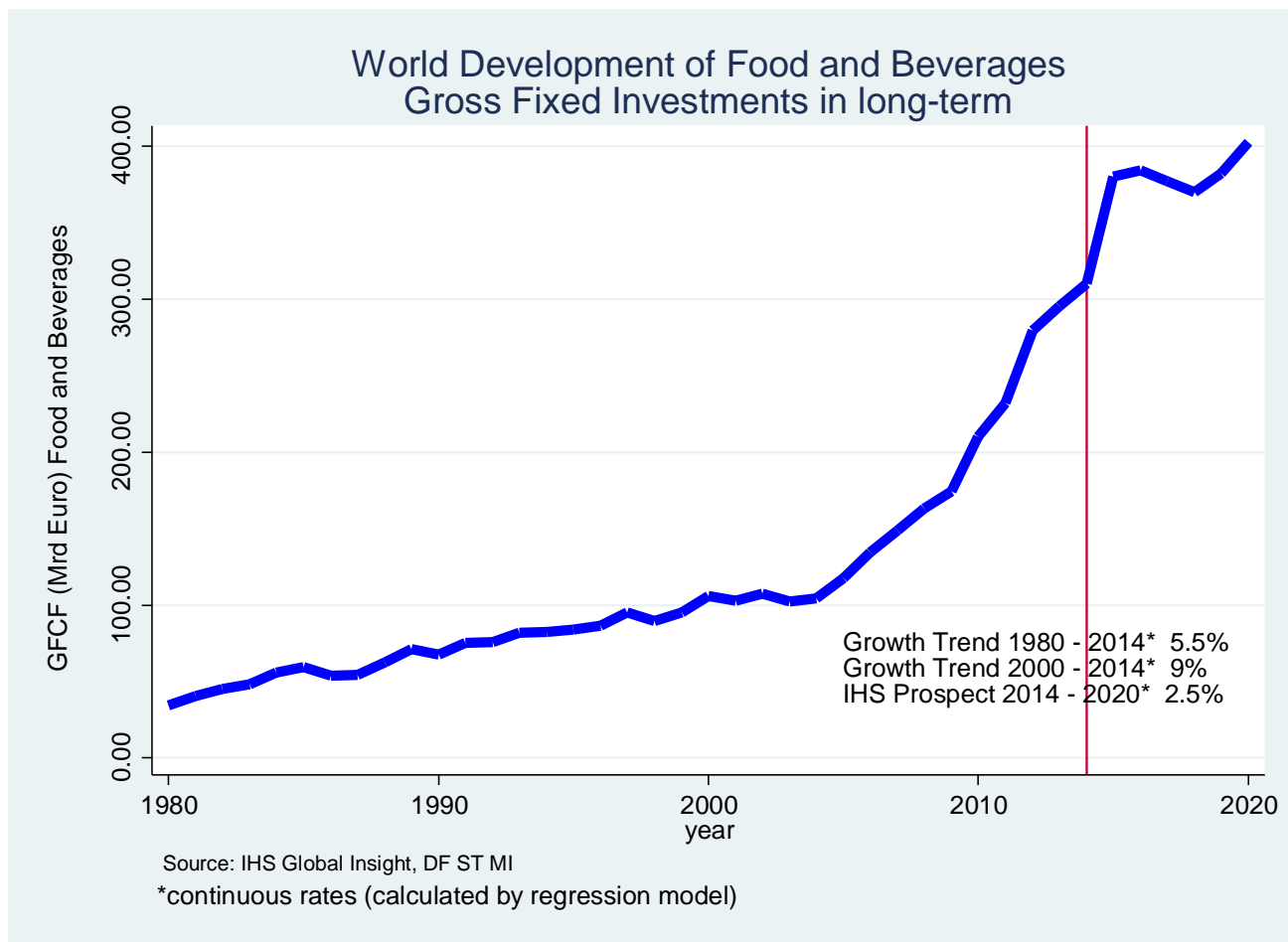
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Due to rounding, numbers presented throughout this and other documents may not add up precisely to the totals provided and percentages may not precisely reflect the absolute figures.

# Customer centricity in dedicated markets on a global scale



# Stable growth maintained in F&B industry investments



# Key Drivers in the Food and Beverage Industry

## Productivity

- Reduce Total Cost of Ownership
- Increase Overall Equipment Efficiency

## Brand image

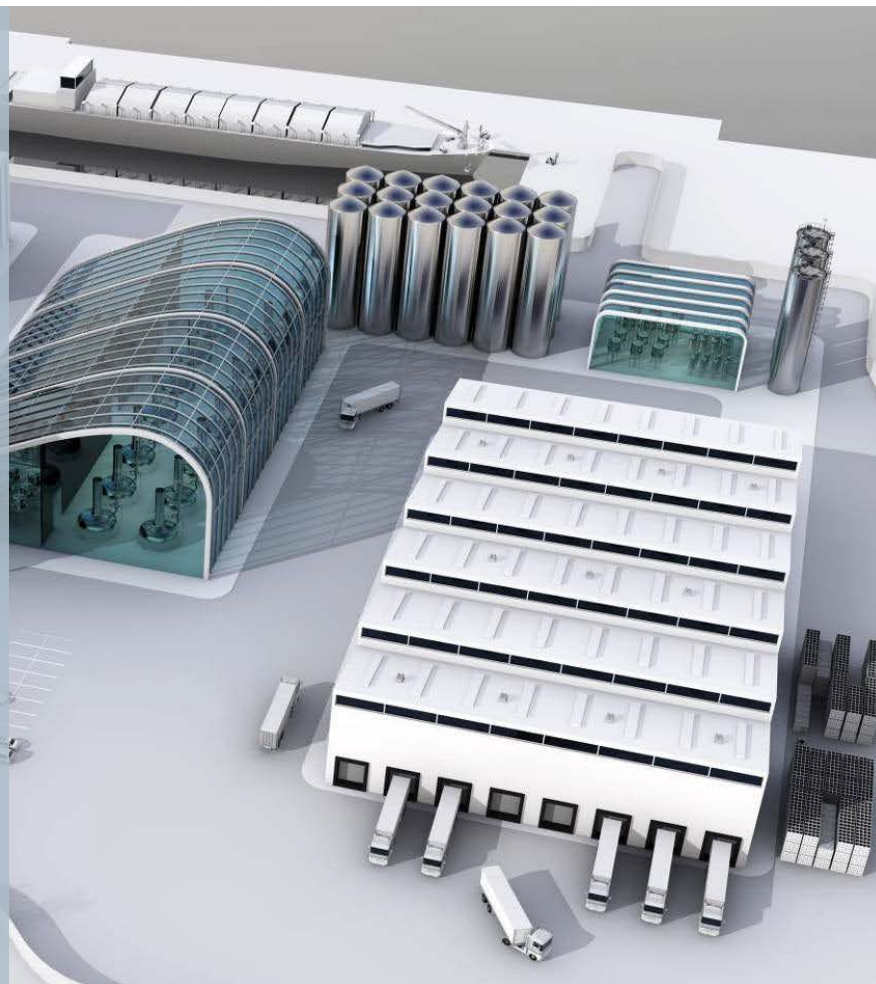
- Process safety
- Tracking & tracing

## Flexibility

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

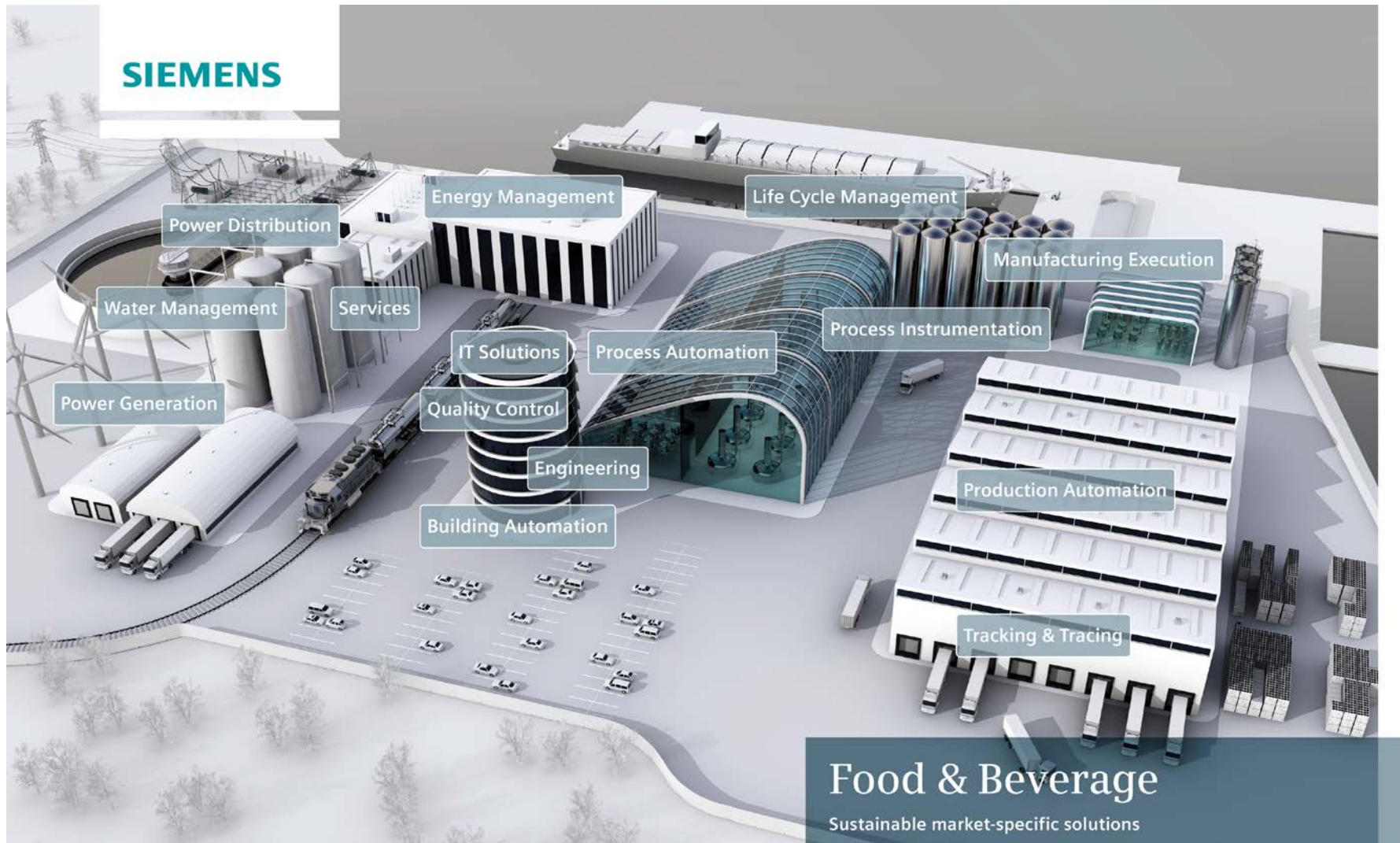
## Sustainability

- Energy consumption
- Water consumption
- CO<sub>2</sub> footprint

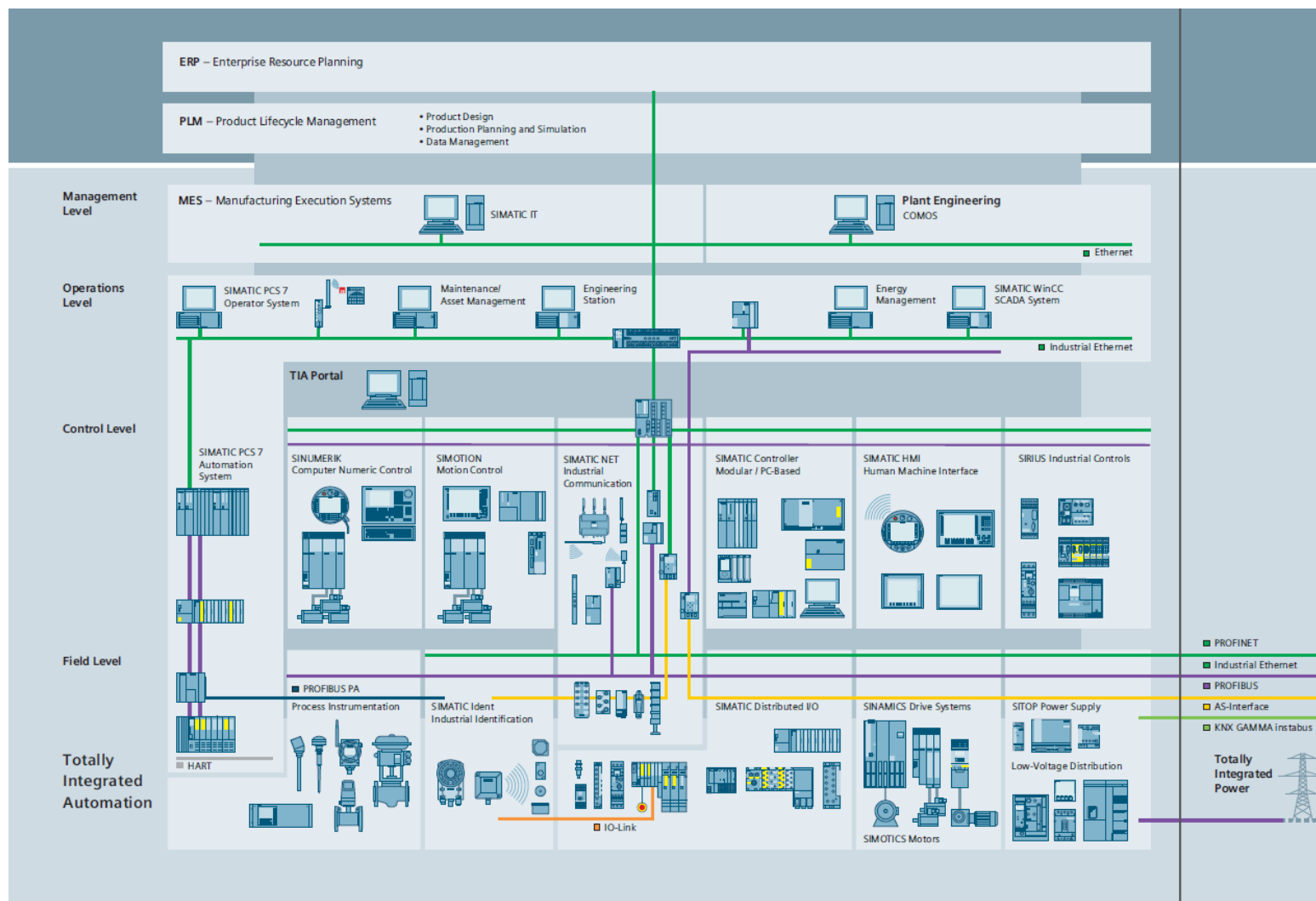




# Siemens has a portfolio to create unique customer value in the Food & Beverage Industry



# 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



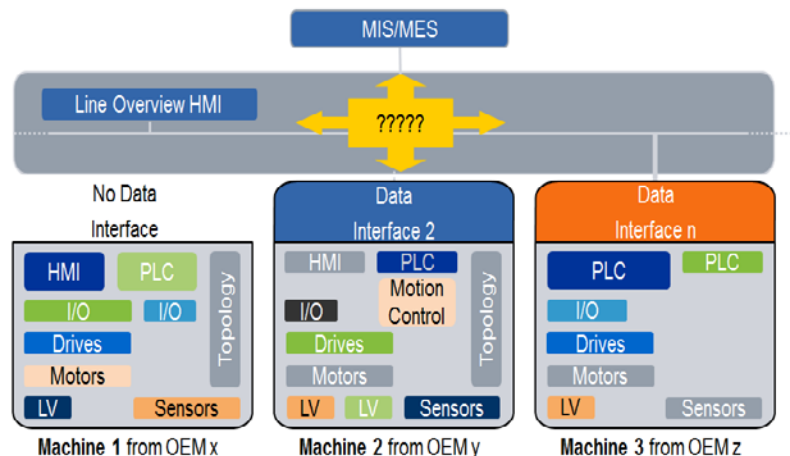
Tobacco





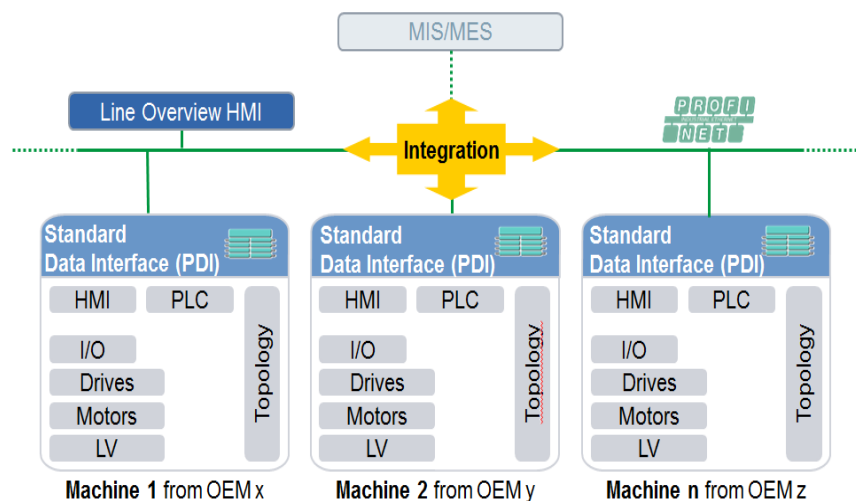
# Creating productivity and faster time-to-market with standardized concepts

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 ful“fills” 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

### Certified in accordance with EHEDG Type EL Aseptic



#### 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



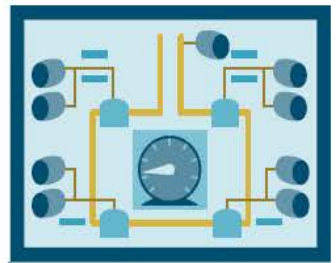
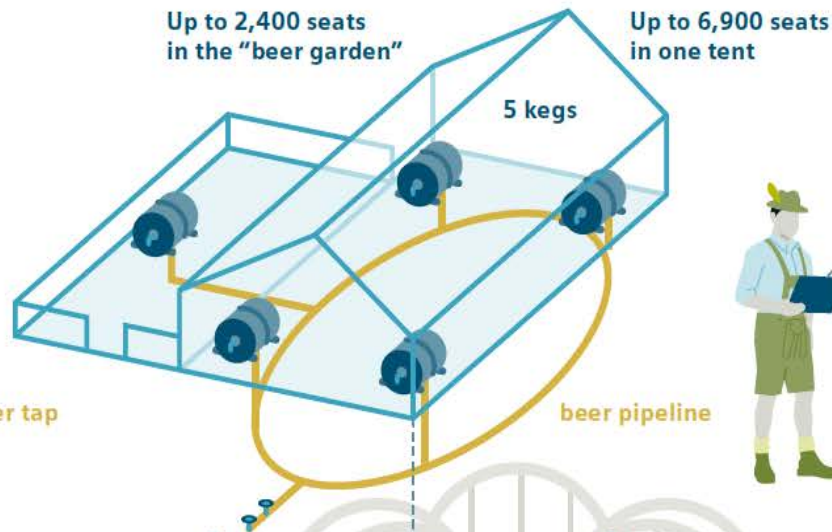
# Paulaner beer pipeline

## 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



### 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.



Altogether 3 tents are supplied

tanks

beer pipeline

The vital ingredients for modern breweries:

MALT  
HOPS  
WATER  
YEAST



Brewhouse



Fermentation cellar



Storage



Filtration



Filling

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**

