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Driving Productivity, Efficiency and Growth in the New Industrial Age

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Full speaker notes available at
http://ishare.siemens.com/sii/ia/IndProd/default.aspx

Industry Has Led the US Economic Recovery -
Continues to be a cornerstone of the US economy

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While economic recovery somewhat slowing, industry has driven the economic recovery

- US manufacturing sector is in 28nd consecutive month of expansion
- 8 of 18 industries are expanding
- Manufacturing is a key pillar of the US economy.
- US Business -- $2 trillion in cash

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Siemens is Seeing Strong Growth Globally and in the United States

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Siemens Growth

- Globally, ended year with record operating results
- Thousands of new jobs added in United States in 2011 including 520 Veterans
- Nearly 2000 job openings right now in the US alone
- $17 mill. investment in Iowa - wind turbine blade plant
- $200 mill. investment in Charlotte – gas turbines
- $2 mill. investment in W. Chicago – inverters for solar

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The Number 1 Concern Among US Industrial Executives is How to Increase Productivity

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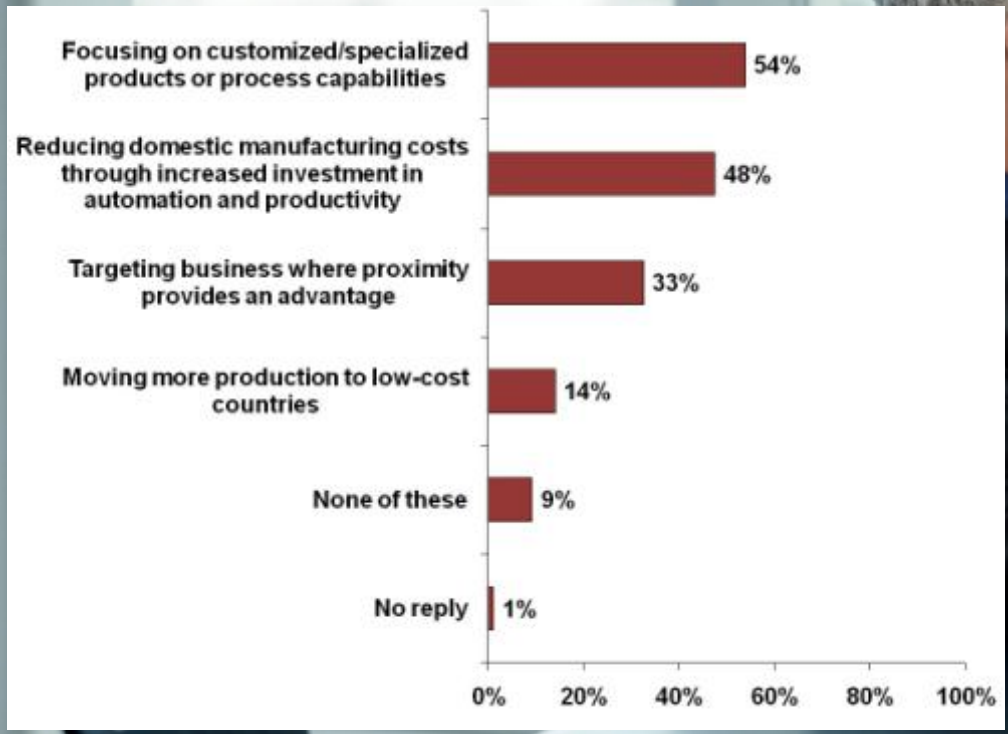
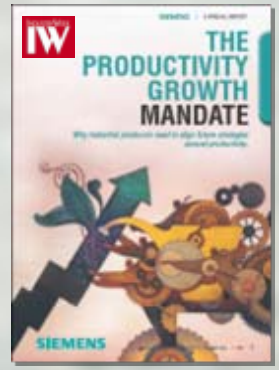
Which two strategies is your company taking to increase its global competitiveness and compete with low-cost countries? (Select up to two)



Survey *What are the biggest challenges your company must overcome to meet growth and profitability goals in the next 5-10 years?*

#1 Response: *Increasing productivity of operations*



There Are Mounting Pressures to Increase Productivity

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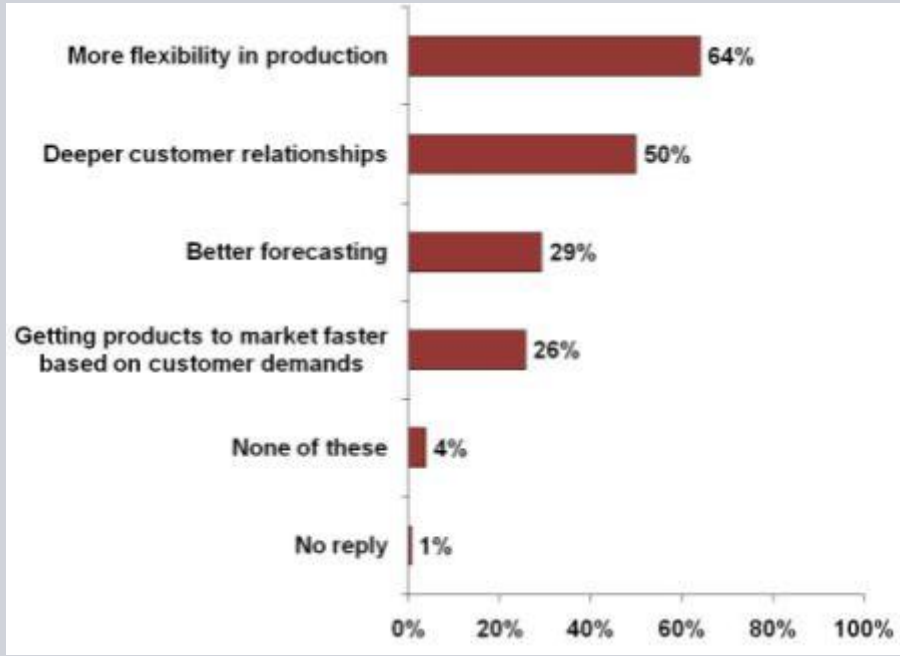
Steady Demand is a Thing of the Past

- Great Recession 2008-09
  - Consumer spending: first 2-year slump since 1930s
  - Overall economy shrank for 6 straight quarters
- US auto fleet age is record high
- Gas-free shopping? Ecommerce
- Forecasting remains difficult

As customer demand expands and contracts, what steps is your company taking to address this volatility? (Select up to two.)



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Supply Chain Complexity Makes Demand Volatility Even Worse

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Strategic Imperative:
Getting plants and suppliers to communicate in real time based on customer demand.

- Example: Japan's natural disaster
  - 72% of world's silicon
  - 32% of world's cars
  - 74% of all auto navigation systems
- Weather, political unrest, insolvency and too much complexity
- Example Siemens: 90,000 suppliers in 172 countries.

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Commodity Price Volatility – a Challenge for Anyone who Makes or Moves a Product

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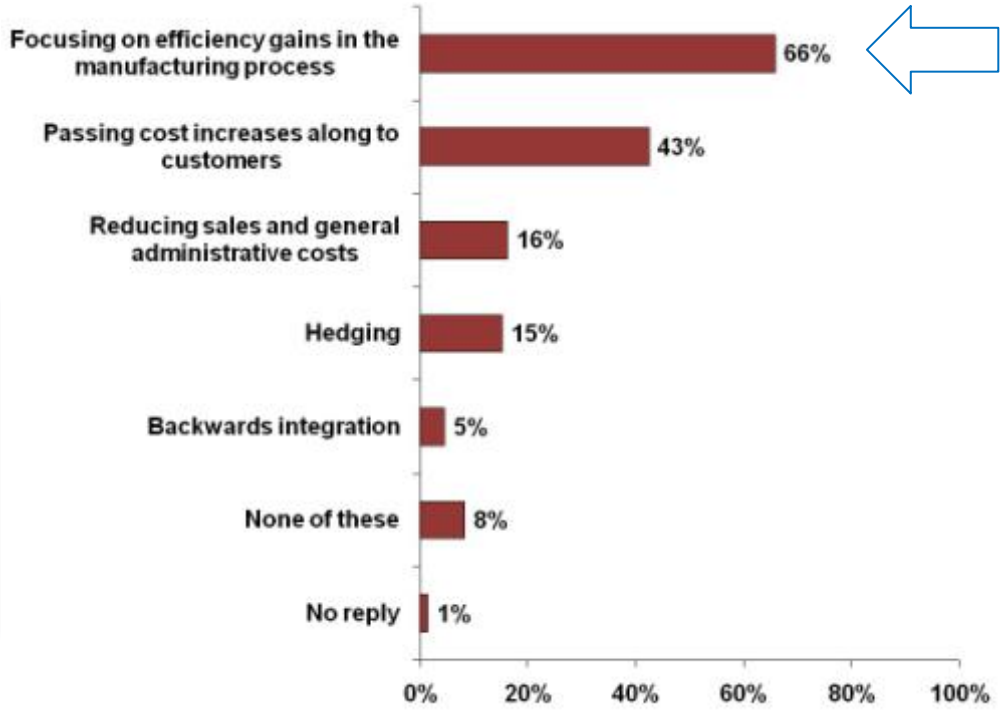
Challenges:

- Fuel prices
- Rare-earth metals
- Food

To cope with commodity price volatility, which steps is your company taking? (Select up to two)



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The Era of Big Data and New Sustainability Requirements – Can Your Operations Keep Up?

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Data at your fingertips

- Wal-Mart: 1 mill. customer transactions per hour.
  - 2.5 petabytes of information
  - Library of Congress x 167
- Turning data into information
- Customers – the new R&D idea pipeline

Siemens and *Harvard Business Review* – 55% of companies are using IT tools to channel information into product lifecycle decisions.

Increasing sustainability in your operations

- Government regulations
- Requirements from customers, suppliers, end-consumers
- Siemens – sustainability is in our DNA

Energy and water efficiency – simple fixes, rapid ROI

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Global Competition and the War for Talent

- Key success factor – being close to the customer
- “Outside in” manufacturing approach
- Customer inputs for higher value products
- Web 2.0 companies increase market share

- China – Also impacted by shortage of engineers
- US – 25% of all manufacturing employees 55+
- US – 5% of all bachelor’s degrees in engineering
- Promoting STEM education, mentoring

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We Are Entering A New Age of Industrial Productivity

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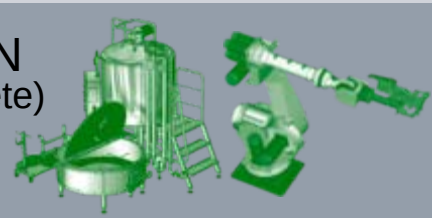
PRODUCT

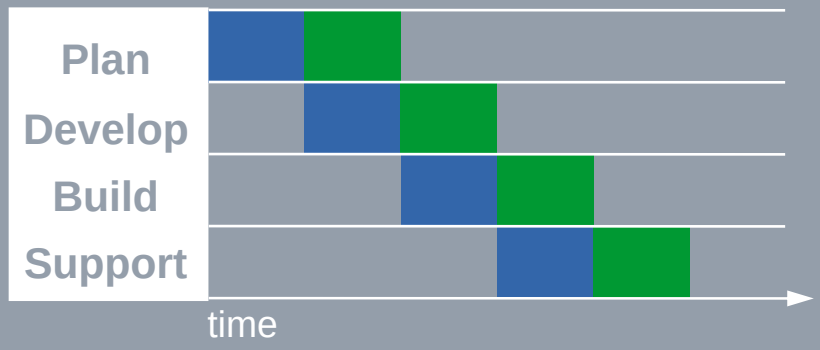
PRODUCTION
(process and discrete)



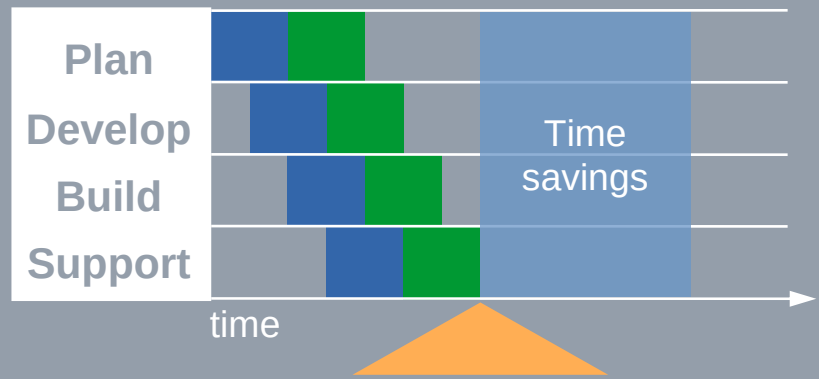
yesterday

today

Serial and separate lifecycles,
software for isolated functions



Software speeds lifecycles,
but processes still mainly serial



Further optimization of
individual processes yields
diminishing marginal returns

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Unifying the Product and Production Lifecycle Processes

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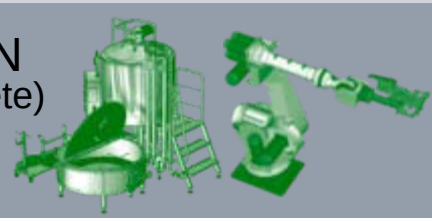
PRODUCT

PRODUCTION
(process and discrete)



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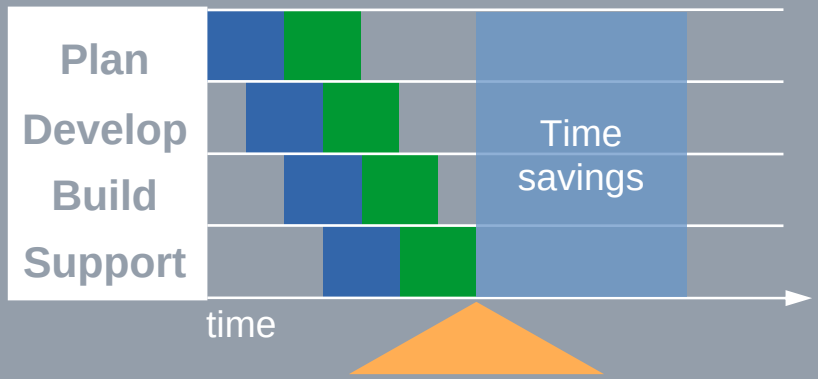
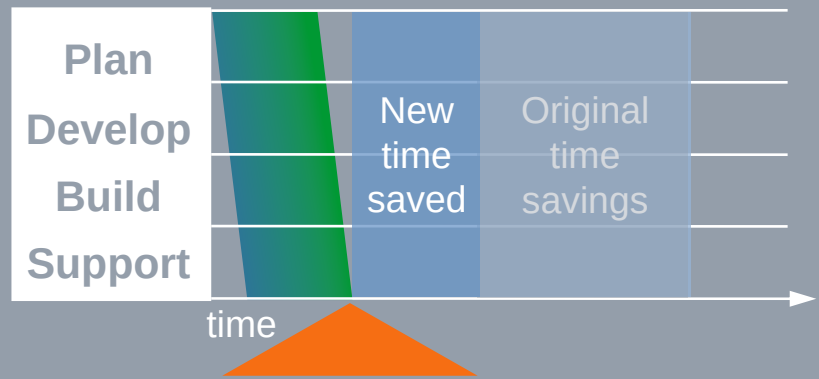


Further optimization of individual processes yielding diminishing marginal returns

tomorrow

Concurrent processes,
lifecycles unified



Achieving continued time savings of 50% depends on unifying processes

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Productivity-Driving Technologies – From Design to Delivery to Disposal

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Game-Changing Technologies

- Industrial Automation
- Industrial Software
- Efficient Drive Systems
- Industrial Security

These technologies increase productivity and competitiveness by bringing higher quality products to market faster.

Industrial Automation Opens Up Untapped Opportunities for Productivity

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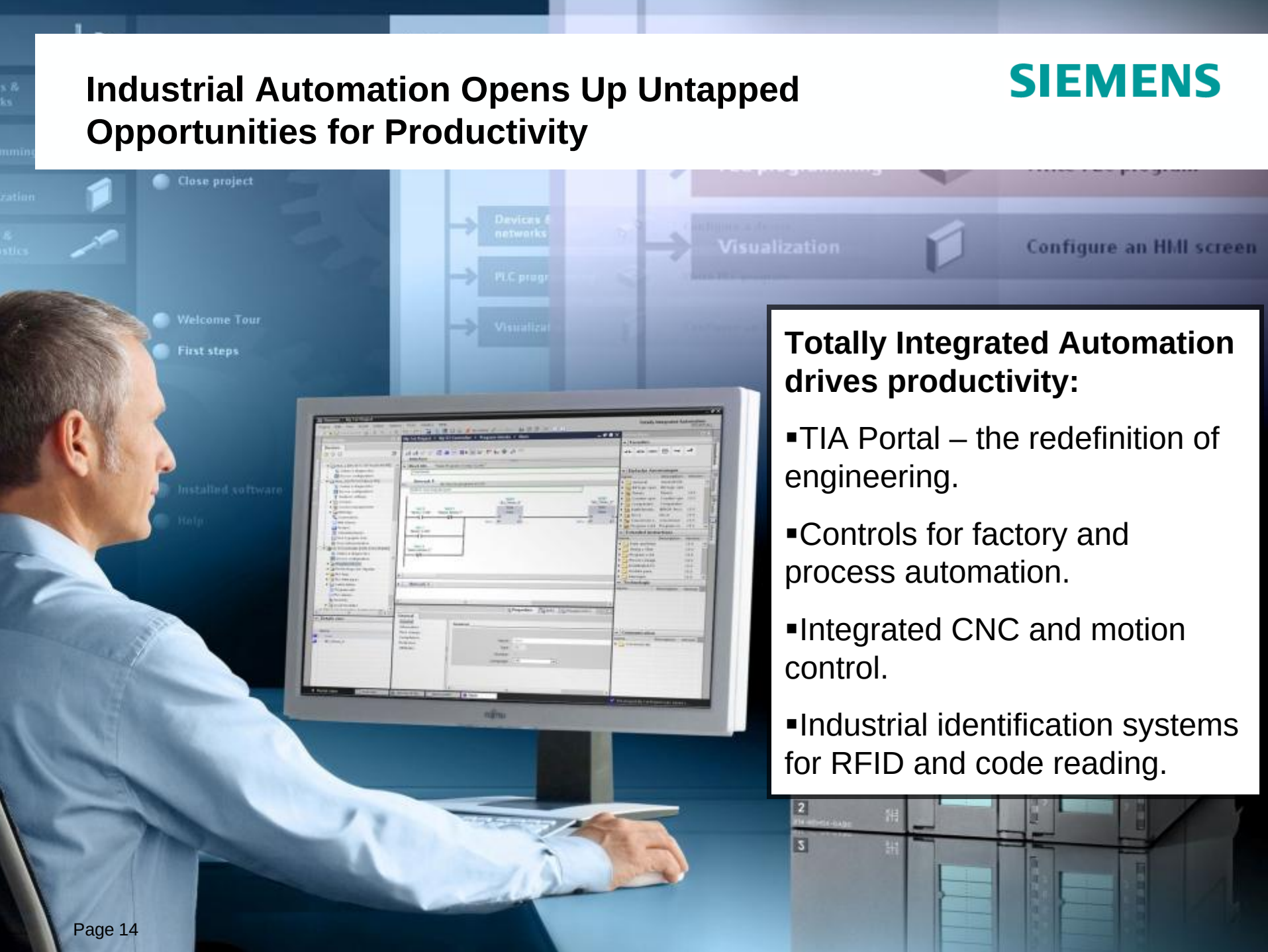

Totally Integrated Automation drives productivity:

- TIA Portal – the redefinition of engineering.
- Controls for factory and process automation.
- Integrated CNC and motion control.
- Industrial identification systems for RFID and code reading.

Industrial Software Offers Seamless Processes From Product Design Through Production

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The digital factory comes to life:

- Gets products to market faster.
- Improves product quality.
- Ensures “outside in” innovation through rapid incorporation of customer requirements.
- Simulation of processes.
- Optimization of workflows.
- Data management across geographies and time zones.

Energy Efficient Drives and Motors Ensure Maximum Productivity

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Up to 70% of all energy used in industrial facilities is consumed by motors and drives.

- New motors coupled with drives can reduce energy consumption by 40-50%.
- Payback period 6-24 months.
- SinaSave energy efficiency software predicts payback period based on specific plant data.
- 60% of energy savings accomplished through intelligent combination of components.

Totally Integrated Automation approach drives savings.

CNC Systems for Every Requirement

SINUMERIK – Modular and scalable

- Incorporates multiple products for machine tools
- Standardized turning and milling machines
- As a powerful drive-based CNC controller system
- A PC-based solution

SINUMERIK increases productivity by making operations more innovative and competitive.

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Industrial Cyber Security and Defense in Depth For Availability and Productivity

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The Core Elements of Siemens Industrial Cyber Security Approach

- Implementation of practical overall security management.
- Clear regulations governing the interfaces to office IT.
- Integrated security mechanisms for PC-based systems.
- Protection of control level against manipulation.
- Strict observance of communication.

Siemens offers expertise for finding balance between open communication and plant security.

Siemens Drives Productivity in the Solar Industry

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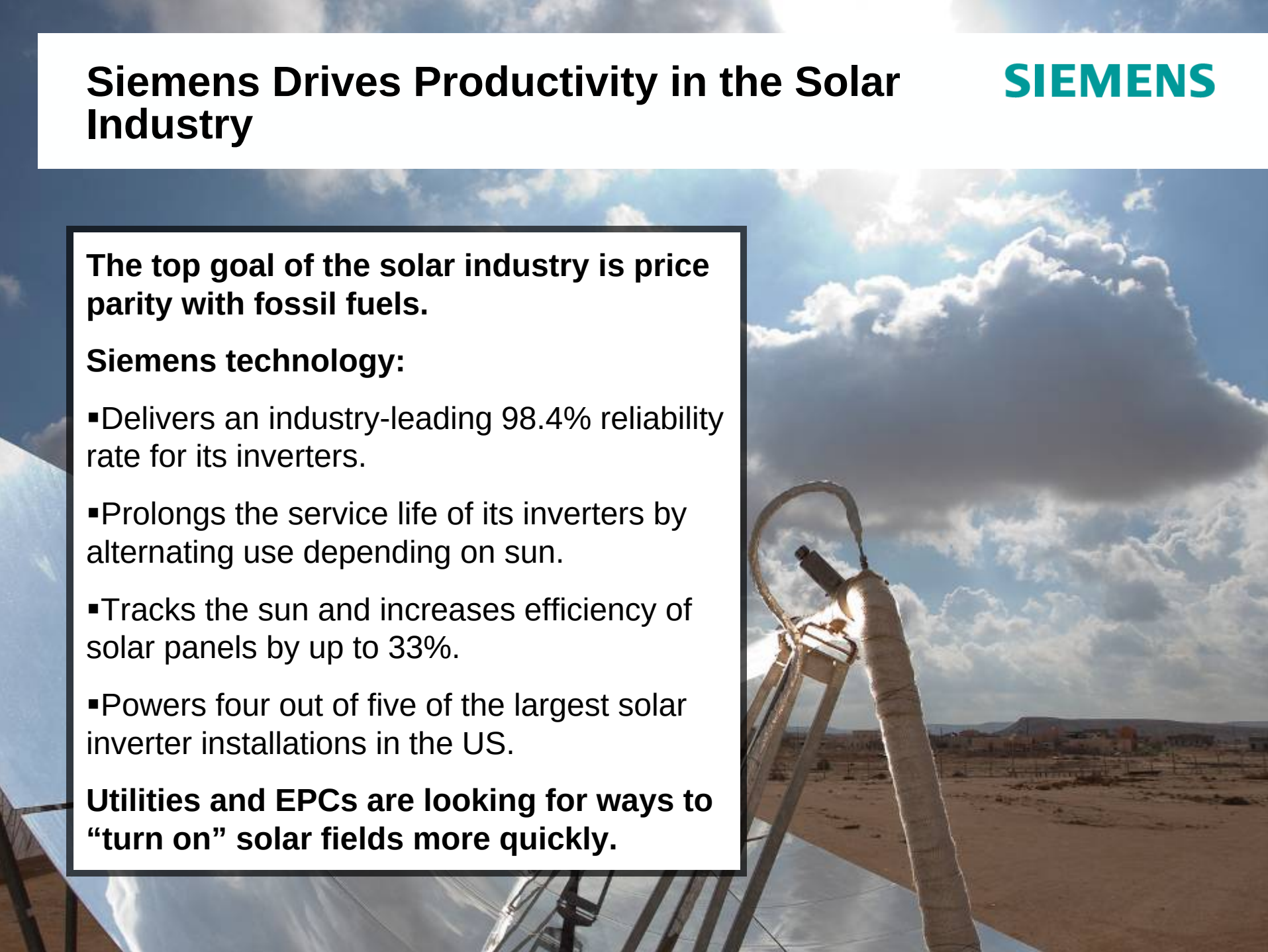

The top goal of the solar industry is price parity with fossil fuels.

Siemens technology:

- Delivers an industry-leading 98.4% reliability rate for its inverters.
- Prolongs the service life of its inverters by alternating use depending on sun.
- Tracks the sun and increases efficiency of solar panels by up to 33%.
- Powers four out of five of the largest solar inverter installations in the US.

Utilities and EPCs are looking for ways to "turn on" solar fields more quickly.

Siemens Drives Productivity in the Automotive Industry

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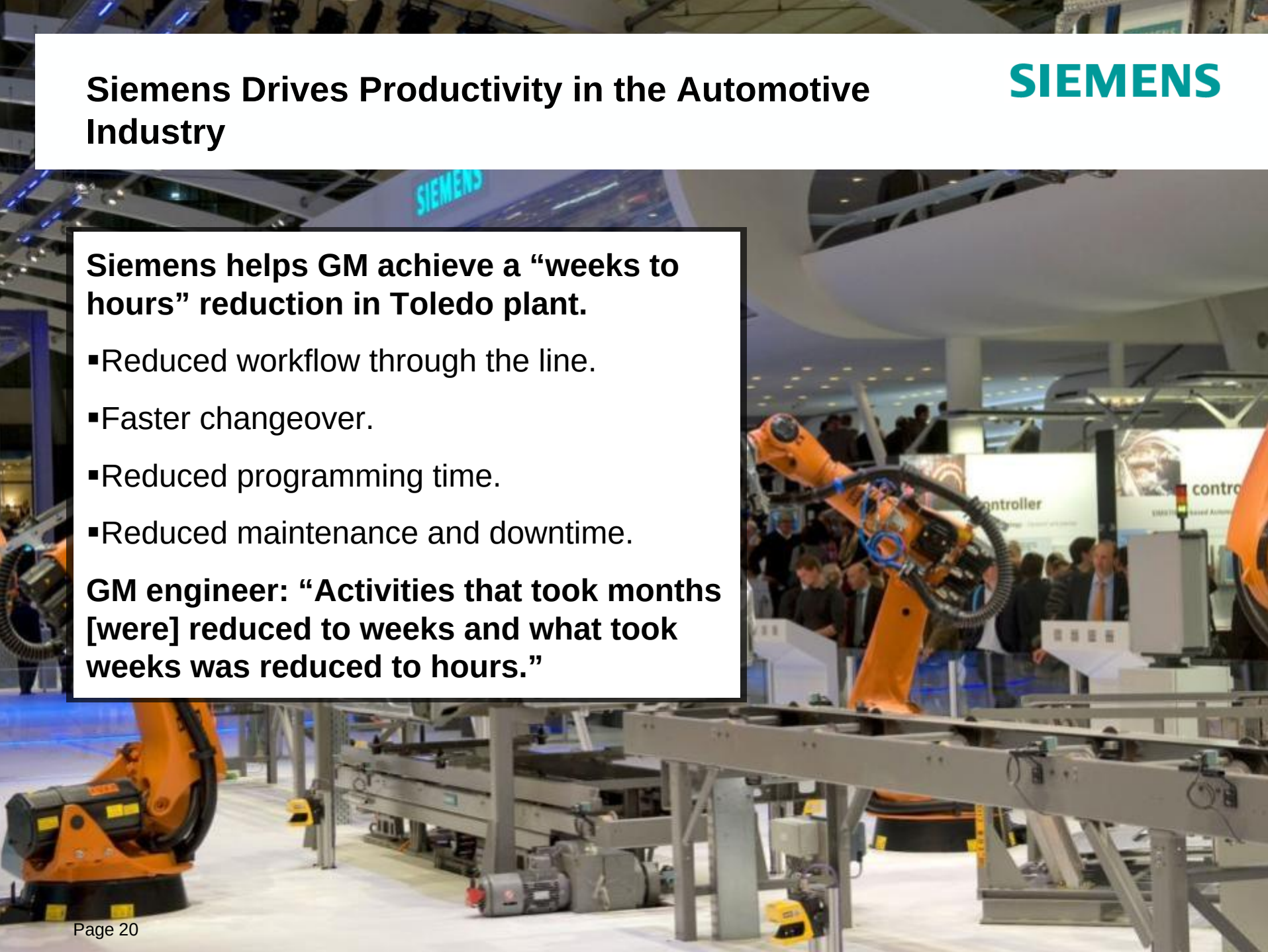

Siemens helps GM achieve a "weeks to hours" reduction in Toledo plant.

- Reduced workflow through the line.
- Faster changeover.
- Reduced programming time.
- Reduced maintenance and downtime.

GM engineer: "Activities that took months [were] reduced to weeks and what took weeks was reduced to hours."

Siemens Drives Productivity in the Aerospace Industry

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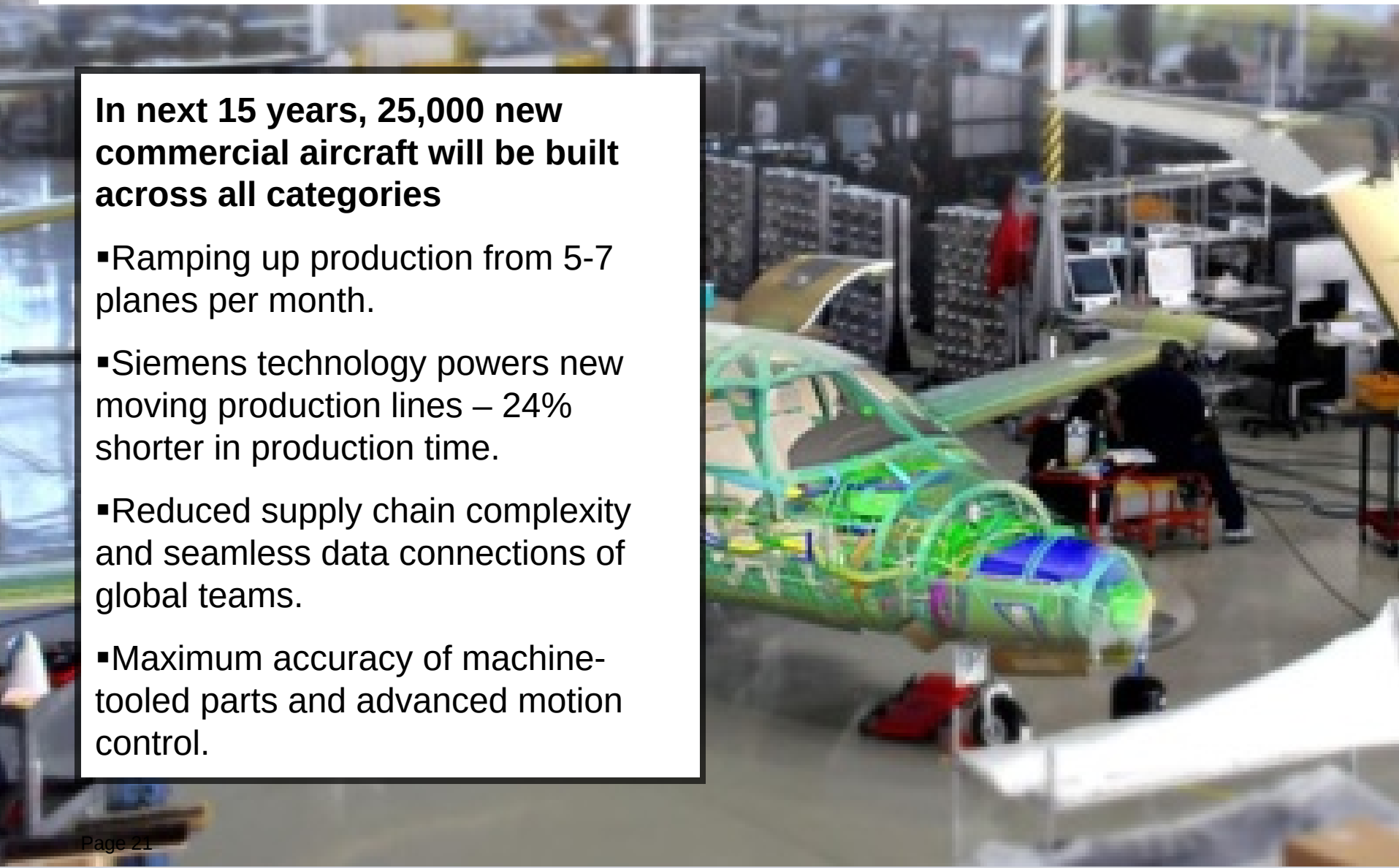

In next 15 years, 25,000 new commercial aircraft will be built across all categories

- Ramping up production from 5-7 planes per month.
- Siemens technology powers new moving production lines – 24% shorter in production time.
- Reduced supply chain complexity and seamless data connections of global teams.
- Maximum accuracy of machine-tooled parts and advanced motion control.

Siemens Drives Productivity in Product Development at Xerox

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Siemens PLM Software solutions help Xerox achieve

- Faster time to market without sacrificing quality.
- Resource optimization.
- Reduced PLM costs.
- Global collaboration.

Predicted savings of $5 million in product development costs in UK alone.

"Our competitive strategy for the future relies on the integrated system from Siemens PLM Software."

– Korhan Sevenler, Director Product Lifecycle Management, Xerox Corp

Siemens Drives Productivity in the Water/Wastewater Industry

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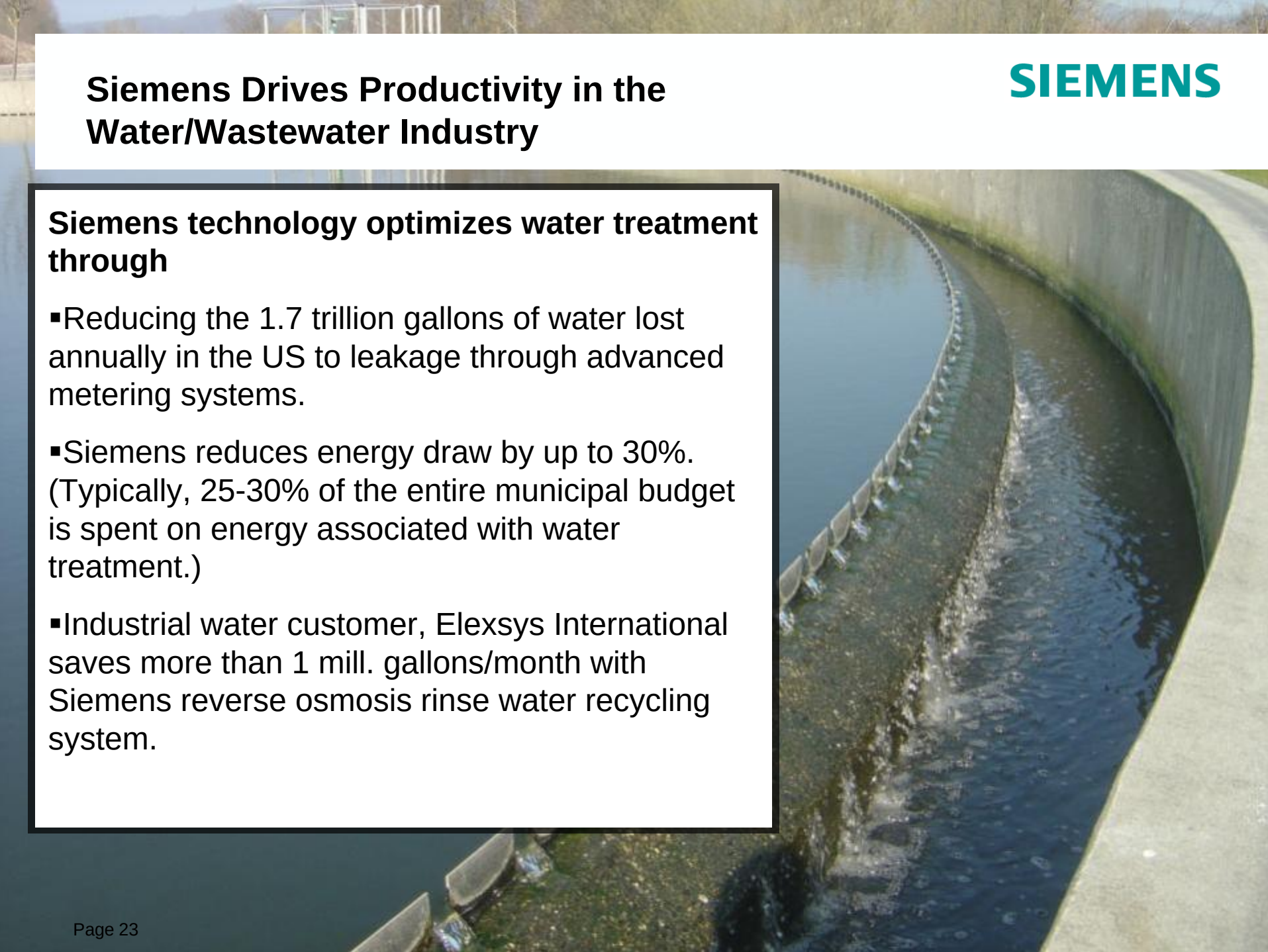

Siemens technology optimizes water treatment through

- Reducing the 1.7 trillion gallons of water lost annually in the US to leakage through advanced metering systems.
- Siemens reduces energy draw by up to 30%. (Typically, 25-30% of the entire municipal budget is spent on energy associated with water treatment.)
- Industrial water customer, Elexsys International saves more than 1 mill. gallons/month with Siemens reverse osmosis rinse water recycling system.

Siemens Drives Productivity in the Food & Beverage Industry

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Siemens technology helps Coca Cola Vietnam increase production by 20%

- Increase production by 20%
- Increase predictability of production
- Reduce downtime for unplanned maintenance
- Leverage its legacy equipment for spares

Siemens Drives Productivity in Oil and Gas Industry

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Finding the right balance between the growing demand for clean-burning natural gas and protecting natural resources.

- Ultrasonic flow meters offer
  - faster installation
  - high precision and reliability
  - low maintenance
  - low cost of installation and ownership
  - valuable application diagnostics

Siemens Technology is Designed With Productivity in Mind

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Across all industries and geographies, Siemens technology is

- Reducing engineering time.
- Increasing efficiency of inputs.
- Improving flexibility.
- Increasing sustainability.

Improved Productivity Is an Imperative for the Developed World

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Productivity is the top issue for industry, lawmakers and societies:

The debate about the US as a manufacturing location.

Growth in a world where populations are flat.

1970s – labor force growth generated 80 cents of every dollar in GDP growth.

Next decade – labor force growth will generate only 30 cents on every dollar in GDP growth.

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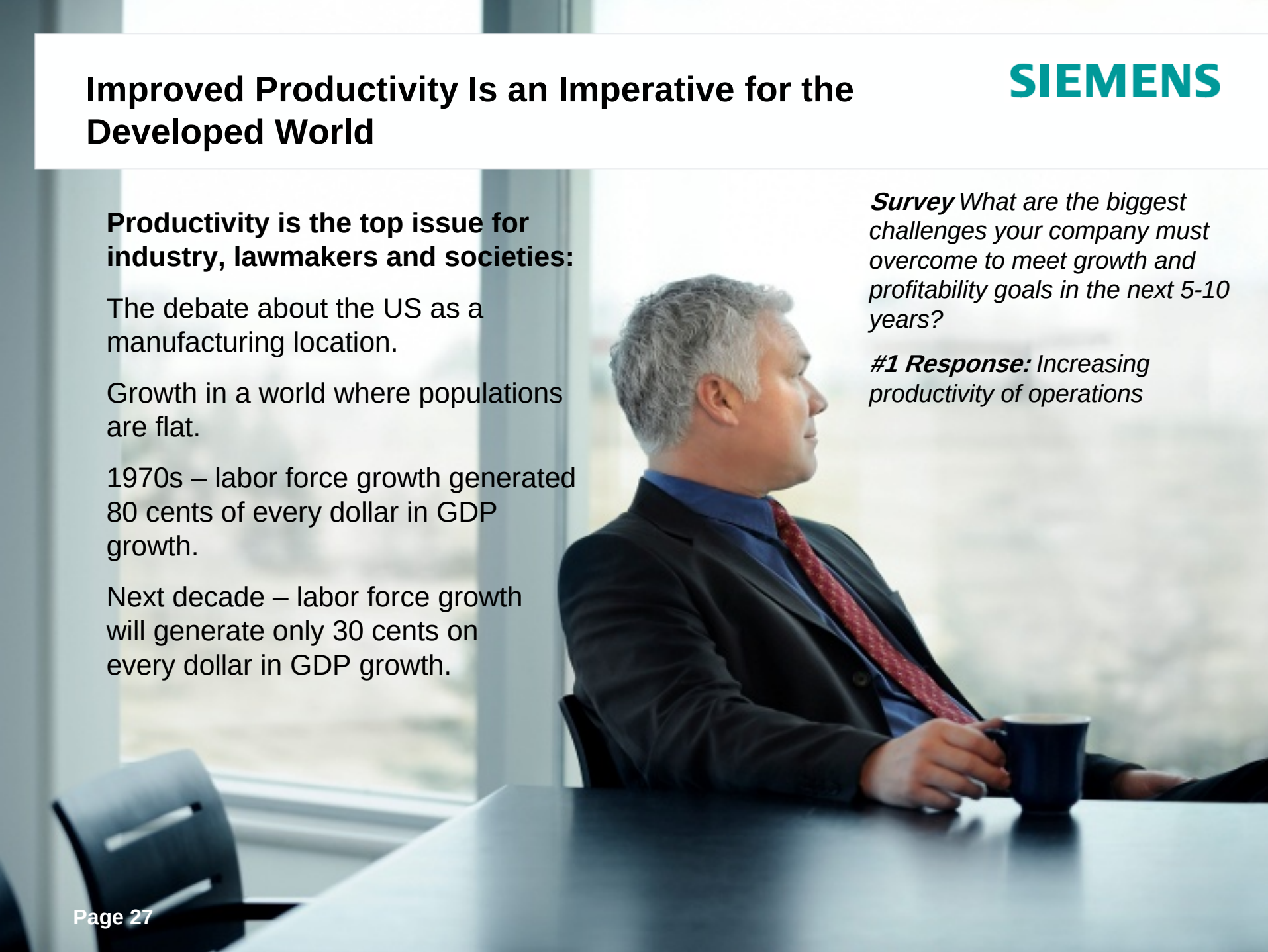


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Tell us your productivity story:
www.usa.siemens.com/productivity
Thank you!