Together We Can Change the World

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Do you ever think about helping to solve the biggest challenges our world faces?
What are the World’s biggest challenges?

- Energy
- Water
- Food
- Environment
- Health
- Chemicals & Minerals
- Material goods
A career in industrial automation will be a career designed to help meet and solve these daunting challenges!
History of The Value of People in Industry

1. Era 1 - Early manufacturing
2. Era 2 - Industrialization
3. Era 3 - Automation
4. Era 4 - Technology
5. Era 5 - Empowerment
The Earliest Industries

People were the heart of the business
Manager
Miller
Buyer
Sales
Marketing
Maintenance
Role and Value of People

1. Era 1 - Early manufacturing
2. Era 2 - Industrialization
3. Era 3 - Automation
4. Era 4 - Technology
5. Era 5 - Empowerment
Exponential Increase in Complexity
Specialization

Management

Accounting

Sales

Buyer

Engineering

Shipping

Operations

Maintenance

Schneider Electric - Division - Name – Date
People were in Control!

Mission – Safely increase efficiency
Role and Value of People

1. Era 1 - Early manufacturing
2. Era 2 - Industrialization
3. Era 3 - Automation
4. Era 4 - Technology
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Fewer Operators – Broader View

Becoming Information Craftsmen
“They replaced me with a controller”
Solution Perspective

<table>
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<tr>
<th>Challenge</th>
<th>Solution</th>
<th>Technology enabler</th>
<th>Talent</th>
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Foxboro Manometer Type Flow Meters at Texas Oil Co. c1950

Edgar Bristol & Greg Shinskey Discuss Control Strategy c1981
Role and Value of People

1. Era 1 - Early manufacturing
2. Era 2 - Industrialization
3. Era 3 - Automation
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5. Era 5 - Empowerment
A Change in Perspective Occurred

From

Challenge  What Is the Solution?  Technology enabler

To

Find a Problem  New Technology
DON'T WORRY. TECHNOLOGY WILL SAVE YOU.
Throw Technology at It!

Technology has great value – only if applied to solve a problem!!!
Role and Value of People

1. Era 1 - Early manufacturing
2. Era 2 - Industrialization
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Executive Concerns

- Experience drain – Graying of workforce
- Difficult to attract/retain high performing staff
- Engaging the employees in the business
- Helping employees understand their value
- Attracting new employees
Real-time is the final frontier

**STRATEGY**
- Quarters
- Months
- Weeks
- Hours
- Minutes
- Seconds

**Business Control**
- Right Markets
- Right Customers
- Right Suppliers
- Right Profits

**Production Control**
- Right Quality
- Right Location
- Right Quantity
- Right Cost
- Right Product Mix

**Process Control**
- Right Temperature
- Right Chemistry
- Right Energy Cost, Etc.
Why Empowerment – a time problem!

When You Can Control – Do
When You Cannot Control - Manage

Management (Transactional)

Control (Real Time)

1990
Profit
Quality
Asset
Environmental

Safety
Efficiency

2015
Profit
Asset
Quality
Environmental
Safety
Efficiency
“Give me the information, and I’ll tell you what to do.”

“\textit{I can create more value... -- if you empower me.}”

Decision Rights – who makes the call?

- C- Level
- VP
- Director
- Manager
- Supervisor
- Front-line Worker
Enterprise Control principles

- **Strategy**
  - Business control
  - Operations control
  - Process control

- **Execution**
Optimizing Profitability and Efficiency

Enterprise

Business

Business Empowerment

Business Measurement

Business Control

Process Empowerment

Process Measurement

Process Control

Plant

Production Volume

Energy Consumption

Materials Consumption
Cascade of Operational Performance “Loops”

- Industrial Plant
- Process Control
- Advanced Control
- Plant Business Control
- Enterprise Business Control

Schneider Electric - Division - Name – Date
“Workplace Departures”

- Retirements increasing as Baby Boomer retire
  - 10,000 per day for next 20 years
  - 400,000 years of experience being lost per day
  - Huge amount of experience leaving workforce
  - Hiring was suppressed through the last 15 years
  - Lack experienced workers to fill the gap
Characteristics of Millennials

• Meaningful careers
• Tech-Savvy
• Multitasking
• Connected
• Collaborative – part of team
• Training – want to know job
• Instant gratification/recognition
• Career advancement

Millennia's have the characteristics for success!
Millennial’s are ideal - Instant gratification/rewards

Measuring the real value of every person in the operation
Millennial’s are ideal – Team-based, collaborative,
Millennials are ideal – Tech-savvy, multitasking, training
Millennials are ideal – Tech-savvy, collaborative, connected, multitasking

Not Your Father’s Automation Industry!
Millenniels Want a Career with Meaning

- Help solve world energy
- Help provide clean water
- Help solve world hunger
- Help clean and sustain the environment
- Help meet chemical & mineral needs
- Help provide material goods

It would be difficult to find a career with greater impact
Industrial Automation: let’s make a great future

Millennials are Ideal!

Because of what has already been done!

The Exact Right Generation

At Exactly the Right Time

Isn’t it time WE solved world hunger!
Thank You