

# Proficiency Workflow

## Reduce Costs with Work Process Management

### Features

- Streamline production processes—from work instructions to corrective action
- Solve operations problems immediately without demands on IT
- Capture manual and automated processes with one tool – without custom code
- “Manage by Exception” to achieve fast response based on real-time events
- Connect to any OPC data source
- Build composite applications to leverage existing production systems
- Comply with industry standards, including ISA 95

### Benefits

- Decrease costs by reducing errors and waste
- Increase quality and first-time throughput
- Boost compliance by enforcing Standard Operating Procedures (SOPs)
- Reduce training time through electronic instruction

Built on a Service Oriented Architecture, Proficiency® Workflow is a dynamic decision-making engine that integrates automated and manual work processes across system and departmental boundaries—ensuring reliable, repeatable process execution. This powerful industrial Business Process Management (BPM) software takes a production “flowchart” and digitizes it, connecting the people, materials, equipment and systems involved in the work process.

With Proficiency Workflow, you can improve, eliminate and automate steps in production to lean your organization. Additionally, you can capture process, traceability and quality data, and drive optimization initiatives based on factual information. This powerful work process management system can touch almost all production personnel, including quality managers and quality technicians, maintenance, operations supervisors, operators and industrial engineers.

By digitizing processes with Proficiency Workflow, you can decrease time to value on materials, speed response, lower total cost of ownership and ensure sustainability.

### Use Proficiency Workflow to:

- Benchmark, improve and control work processes
- Orchestrate high-level processes and manage the data between systems
- Standardize processes and metrics across production assets
- Digitize SOPs, GMP tasks and work instructions
- Implement HACCP monitoring procedures and corrective action
- Manage alarm / event response
- Replicate processes across your business using libraries and templates
- Reduce WIP inventory
- Achieve Right-First-Time - reducing rework
- Comply with many industry regulations
- Perform tasks only when statistically required
- Integrate maintenance and operating procedures
- Implement S95 without being constrained by S95 or forced into unnecessary re-engineering



# Proficy Workflow

## Proficy Workflow – Connecting to Your Existing Systems

### Adding Value to Any HMI System

- Alarm Corrective Action – Fix production faster and gain greater visibility
  - Workflows automatically send tasks to people or other systems to correct for alarms
- Rapid development of Digitized Work Instructions with Validated Entry
  - Ensure production complies with defined processes
- Eliminate Scripting for Defining Processes, Using Proficy Workflow instead
  - Approximately 30-50% faster than HMI scripting, and easier to maintain

### Adding Value to Any MES System

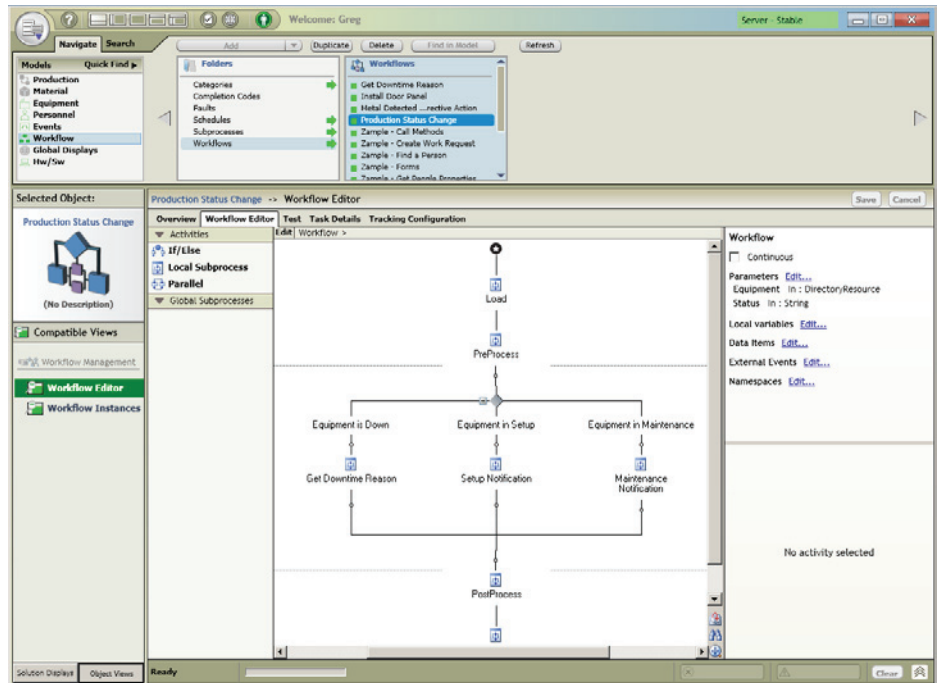
- Automate the process of Engineering Spec Changes
  - Changes are routed for approval and ensures everyone knows about critical changes
- Exception Management / Event Triggered Corrective Action Workflow
  - Take action only as needed, improve response time and record corrective actions
- Event Triggered QA Sampling Request
  - Digitize your QA plan, distribute sampling tasks across the plant and ensure compliance
- Enhance maintenance systems with work order workflows and EAM integration
- Eliminate scripting languages; achieve faster, broader development with workflows

### Adding Value to Any ERP System

- Deliver information and functionality based on business processes and workforce roles
- Unify your disparate plant and business systems
- Synchronize sequences and business processes
- Drive process visibility – know where orders are at in the plant – right now

### Adding Value as a Tool to Create and Manage Processes

- Digitized Work Instruction with Manual Data Entry
- Station-Level Control
- Data Conditioning from other systems, Middleware
- Build-To-Order Systems
- Material Staging
- Engineering Change Order
- Waste Stream Monitoring



Workflow Authoring Environment. Proficy Workflow typically does not require IT resources, and power users can make changes to the work process management system to immediately improve production.

## Meeting Industry Standards

### Complete ISA-95 Resource Models

1. Equipment Model
2. Material Model
3. Personnel Model

### Complete ISA-95 Work (Production) Model

1. Work Process Segments
2. Work Definition Segments
3. Work Schedules
4. Work Responses

### Streamlined ISA-95 B2MML

Because the facility is already modeled, communication can be implemented with ERP systems via B2MML faster than ever before, without the communication interface breaking when process control changes are made.

### Proven Business Execution Technology for the Process Industry (Workflow)

The value of workflow has been proven in business systems. GE has brought this proven technology to the industrial environment, marrying it with ISA-95 models for data context with a real-time execution engine required for process control.

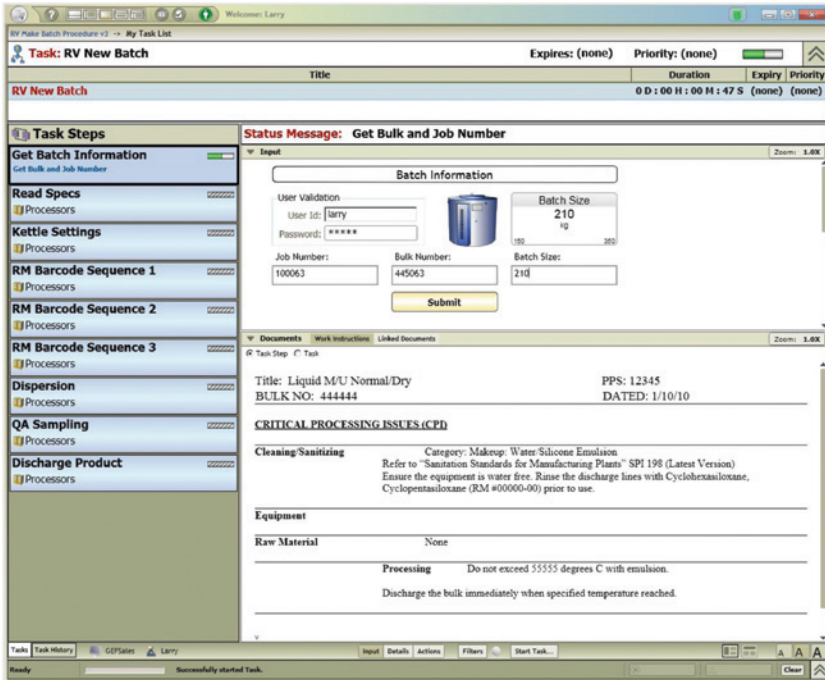
“As barriers to exchanging information between automation systems, operations management and enterprise systems come down, manufacturers, processors, and OEMs are seeking tools that maximize the impact that this information will have on productivity, business opportunities, and lifecycle costs.

A key tool that will enable today's plants and factories to realize this strategy for operational excellence is the ability to define the process or workflow steps required to achieve a logical execution path. Proficy Workflow appears to meet this criteria of a tool that will help move manufacturers, processors, and OEMs to a single environment where the existing systems are connected and interacting with each other to maximize the information value of each asset, which will positively impact plant and factory productivity and profitability.”

Craig Resnick  
Research Director  
ARC Advisory Group



# Proficy Workflow



Workflow Task Client. Workflows can involve basic tasks such as asking an operator to check tank levels every hour, to managing an entire production process, to orchestrating data transformations between ERP and MES.

## Example Use Cases

### Use Case #1

#### Lean Your Processes

Document and execute processes – digitizing workflows – to improve, eliminate and automate steps. Workflow records date/time and who performed the work, closing the loop for process improvement with factual data.

### Use Case #2

#### Manage Production Specifications

Changes to specifications can trigger a workflow that will route the changes through a number of approvers, such as the Quality Manager and then to the Production Manager for final approval and notification.

### Use Case #3

#### Sample Requests

When a certain condition arises – such as a combination of variables outside a limit, or a time window lapses – Proficy Workflow can send a request to QA to perform tests or take samples. Likewise, you can trigger a workflow through any alarming capabilities of connected plant applications or systems.

### Use Case #4

#### Corrective Action

A “Proof of Effectiveness” loop in ISO-900x can be digitized with Proficy Workflow to respond to problems and events, and all

the execution data and data entry will be captured and stored for later analysis.

### Use Case #5

#### Downtime Reasons – On-the-fly

As your plant systems generate downtime events, Proficy Workflow can evaluate conditions at that moment in time and infer downtime reason codes and write the downtime reasons back to those systems.

### Use Case #6

#### Plant Task Management, Decision Wizard

In addition to extensive plant task management, industrial workflow also offers a basis for decision wizards. These decision wizards can act as troubleshooting trees, which can help organizations with retiring or high-turnover workforces. These troubleshooting trees capture the knowledge of experienced workers and help to protect your organization from employee attrition. Industrial workflow digitizes troubleshooting trees into decision wizards that walk newer employees through processes. The digitized decision trees help guide the newer workers on what corrective actions to take under certain circumstances. The system may ask the operator for input or may require input from many people. Proficy Workflow helps to manage the process, connecting operators with knowledge and appropriate action.

### Use Case #7

#### Line, Workcell, Machine Setup

To reduce time to production, industrial workflow facilitates machine setup. The system walks users through the setup of a machine, provides machine documentation and records the time it takes for operators to move through each step.

### Use Case #8

#### Validated System Support / eSignature

Prove that you have control of your process and ease compliance. Track what occurred, when it occurred and who was responsible for the occurrence. Use automatic e-signature configuration for auditable data and workflow methods for creating audit trail information.

### Use Case #9

#### Manage Inventory

Use the comprehensive material model with lots and sub-lots – which allows creating, incrementing, decrementing, querying, reading, changing the status or location of, deleting, and closing lots and sub-lots.

### Use Case #10

#### Security

Don't just acknowledge security alarms through your HMI – make sure your operators take action on them appropriately. Proficy Workflow can ensure your team handles every security alarm in the proper manner, connect to security video systems to streamline information access and provide check access to important product quality data to ensure no production tampering has occurred.

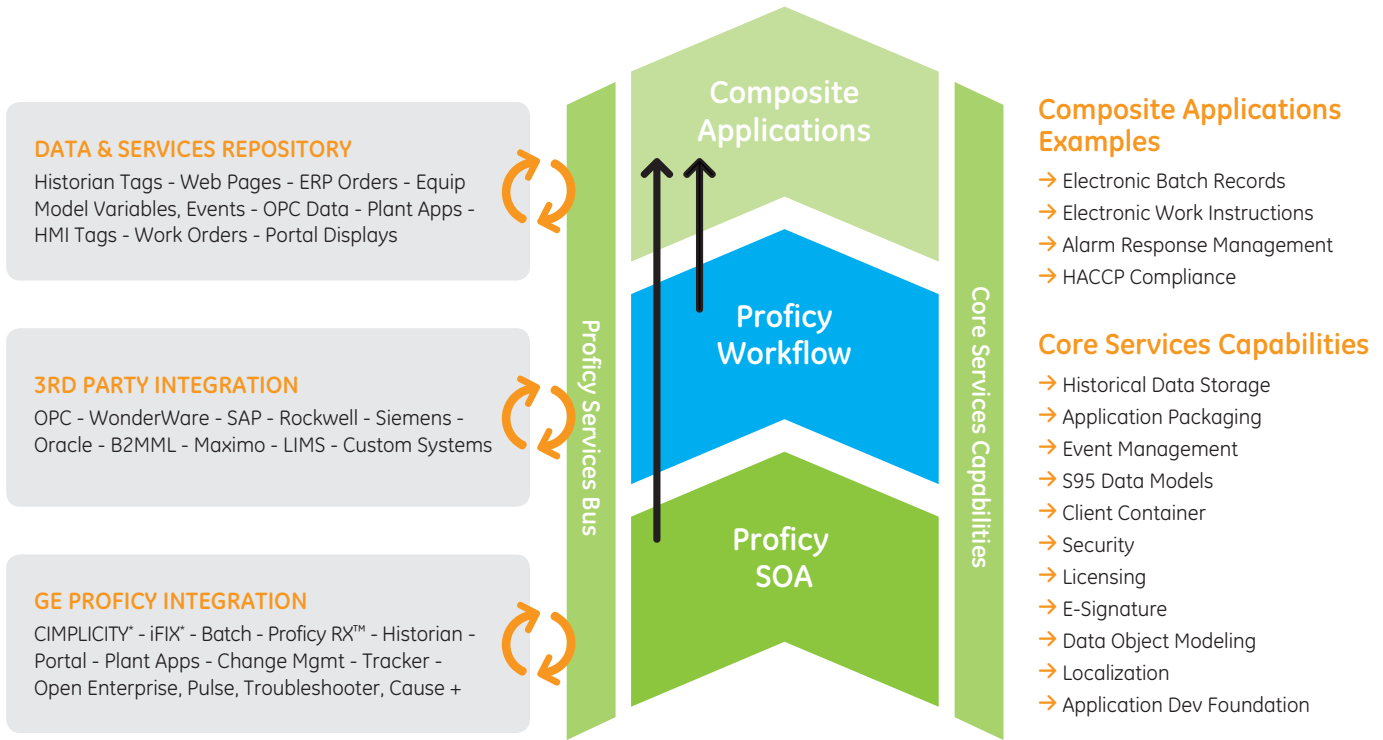
### Use Case #11

#### Weighing Operations

Manage the challenges in your weighing operations – such as variability and risk of human error, inefficient and inaccurate recordkeeping, and complex and changing recipe formulations. Automate weigh order creation and dispatching, select appropriate weighing equipment, guide operators during weighing operations of materials, register material lot code and verification of correct material usage, and more.

# Proficy Workflow

Proficy SOA Enables Composite Applications



As an industrial Service Oriented Architecture, Proficy SOA enables composite applications and improves interoperability. You can drive a holistic production infrastructure—bringing together data and functional capabilities of your existing systems.

## Powered by Proficy SOA

### An Industrial Service Oriented Architecture

- Centralized Configuration and anagement Environment
- Diverse Client and 3rd Party Hosting Container
- Real-Time Services Bus

- Service Provider Interface for 3rd Party and Legacy System Integration
- Global Data and Services Repository
- Role-Based Security
- Event Services
- Diagnostic Services
- Object-Relational Persistence Engine
- S88/S95 Data Models
- Application Development Foundation

### About GE Intelligent Platforms

GE Intelligent Platforms is a division of GE that offers software, control systems, services, and expertise in automation and embedded computing. We offer a unique foundation of agile and reliable technology providing customers a sustainable competitive advantage in the industries they serve, including energy, water, consumer packaged goods, oil and gas, government and defense, and telecommunications. GE Intelligent Platforms is headquartered in Charlottesville, VA. For more information, visit [www.ge-ip.com](http://www.ge-ip.com).

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