

# PEERFactory®

High-performance toolkit of standard components used in tailored solutions to meet exact customer needs

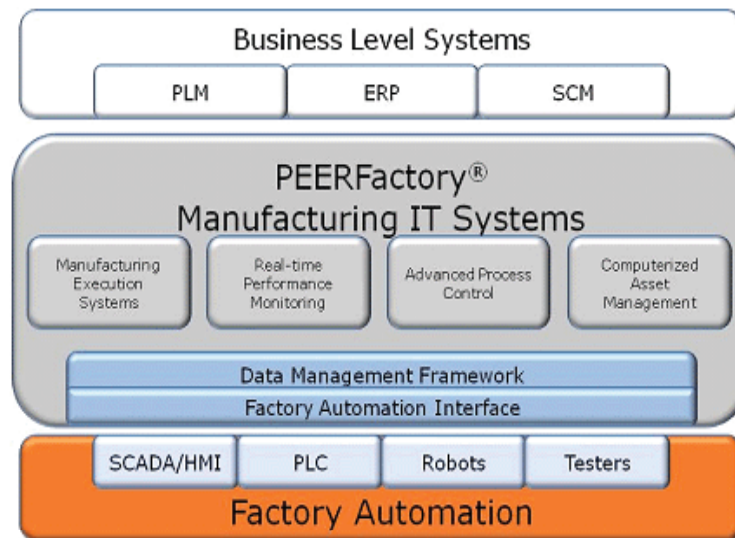
## The Challenge

World-class manufacturers must determine which path to follow when deciding on a factory IT solution that will provide an edge in an ever more competitive manufacturing environment. On one side, there are enterprise solutions that promise a wide array of functionality and market leadership. On the other side, there are SCADA/HMI products that claim wide install bases and ease of deployment. In both cases, there are no dominant players or out-of-the-box solutions with a one size fits all approach. Solutions must reflect unique customer needs while balancing ease of use against reliability in the harsh environments that manufacturing presents to IT solutions.

Enterprise applications lack the ability to connect to equipment. Their large code bases and intricately interdependent modules do not readily adapt to the wide variety of data sources often found in manufacturing operations. This often results in situations where the investment of the enterprise system is not fully realized due to additional manual operations that are required to collect and disperse data. SCADA/HMI toolkits work well in small deployments, but lack the ability to scale and facilitate complicated business functions, such as routing, WIP tracking and recipe management. The result is the creation of large amounts of custom code being implemented via proprietary scripting languages that are not up to the task of complex business functions and 24x7 manufacturing operations.

## The Solution

PEERFactory combines the strengths of both enterprise and SCADA/HMI MES products while minimizing associated risks and costs. Our proven, field-ready modules are deployed as required instead of being bundled with unwanted modules within a larger IT system. Building upon the core foundation of data collection and data management, functional modules are implemented easily and robustly. Configuration drives the data collection and distribution and the standard PEERFactory modules perform specific business functions to monitor or run your facility.



# PEERFactory Highlights

## FEATURES

## BENEFITS

### High-performance storage and retrieval

- ▶ Relational databases (Microsoft SQL Server and Oracle)
- ▶ Hybrid storage system (database and binary files) to boost performance
- ▶ Open and accessible data model for external reference

### Data collection

- ▶ Equipment data merged with context data
- ▶ Configurable data collection plans
- ▶ Allows for varied data sources (SECS/GEM, OPC, flat file)
- ▶ Provides fast, easy deployments of reliable and secure data management

### Interoperability

- ▶ Shares data streams across applications
- ▶ Allows for seamless integration of PEERFactory® models
- ▶ Web services transport for firewall friendly connectivity

### Flexible deployment models

- ▶ Simple data collection
- ▶ MES/ERP interface to equipment
- ▶ MES functional modules

### Scalable deployment

- ▶ Can run on low-cost servers and PCs
- ▶ Distribute components over a factory network
- ▶ Scales from single point to line to factory to enterprise data collection and consolidation

### Visualization tools

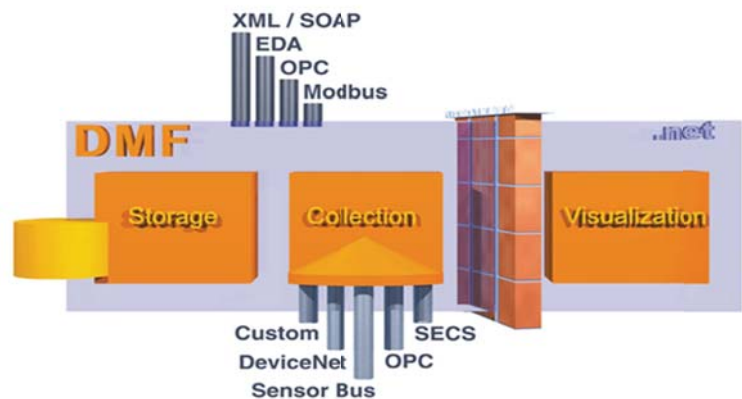
- ▶ Real-time data viewer
- ▶ Off-the-shelf reports (OEE, genealogy, defect pareto charts)
- ▶ Report management infrastructure

## PEERFactory Deployment Options

### Data Management Framework (DMF™)

PEERFactory DMF consists of a flexible data collection engine and a high-performance data store. This core is the foundation for the entire suite of PEERFactory modules. PEERFactory DMF is a data collection powerhouse that is able to connect to a wide variety of data sources, such as SECS/GEM, OPC, RS232 and flat files. The open-ended architecture allows for ease of integration with custom interfaces and ensures fast, robust and secure data collection. DMF can sustain data collection rates in excess of 150,000 points per second with a multitude of deployment models to grow in scale as your data collection needs expand.

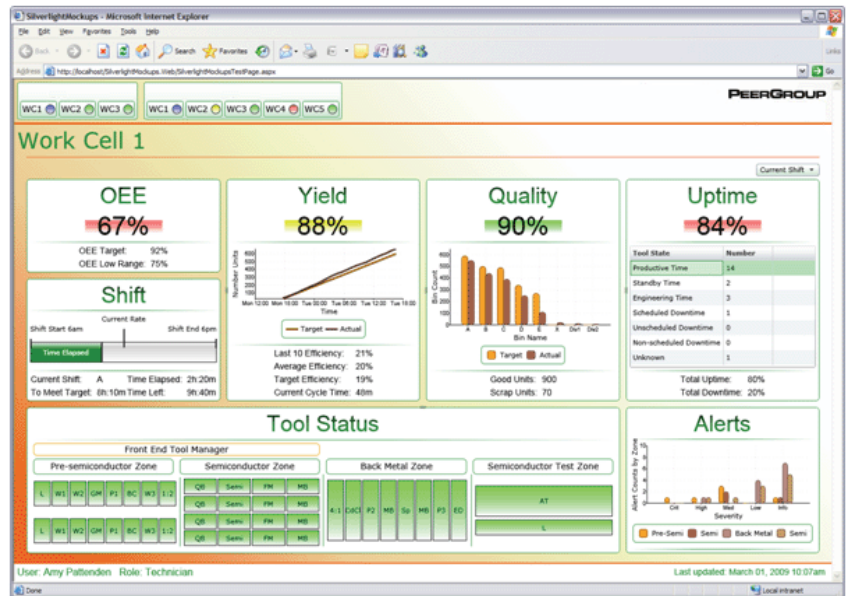
Married to the data collection engine is a one of a kind, high-performance data model that can be articulated to enhance performance or enable flexibility for customers who have frequently changing data collection needs. If high performance is your niche, then the PEERFactory data model can be easily deployed as a hybrid, utilizing both a database and flat files to optimize speed. The PEERFactory data model is compatible with both Microsoft® SQL Server® and Oracle®.



PEERFactory Data Management Framework (DMF)

## Real-time Performance Monitoring (RPM)

PEERFactory RPM is a toolkit built upon the Data Management Framework (DMF) to connect and collect data from factory automation systems. RPM takes this data and transforms it into valuable information, such as Overall Equipment Effectiveness (OEE). The performance data is accessible through a series of powerful and intuitive reports and dashboards that allow managers to see the 'big picture' and drill down into the details for analysis and corrective action.

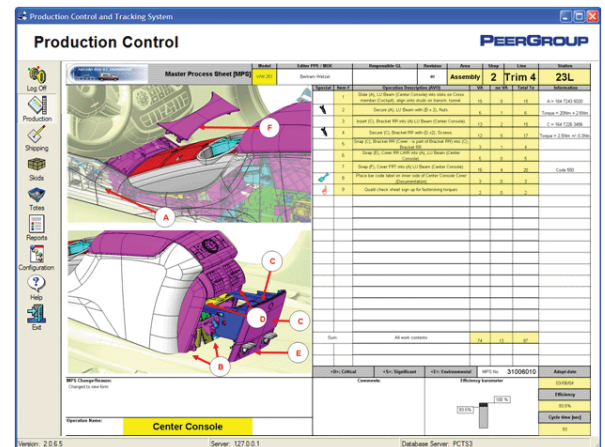


PEERFactory RPM

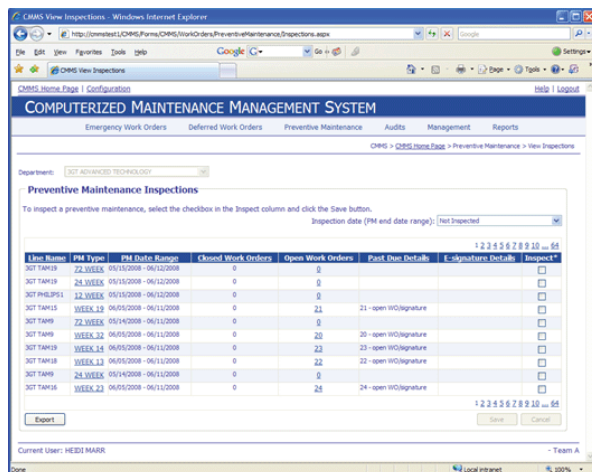
## Manufacturing Execution Systems (MES)

PEERFactory MES is implemented using the combination of PEERFactory DMF with stable, reusable manufacturing-focused modules. These modules span the entire spectrum of manufacturing needs from planning and scheduling manufacturing operations to process engineering and quality management.

- ▶ **Scheduling:** Enable push and pull scheduling modules, shipment planning, EDI and ERP integration
- ▶ **WIP Tracking:** Real-time tracking of all in-process and completed units
- ▶ **Defect Tracking:** Real-time tracking of product status, quality metrics, and pareto charts
- ▶ **Recipe Control:** Track recipe to unit, push product-specific recipes to the tools
- ▶ **Genealogy Management:** Track all operations and all consumed materials
- ▶ **Alert Manager:** Tool state, process variables, buffer queues
- ▶ **Business System Adapter:** Connect seamlessly to other systems, such as ERP, SCM, MES
- ▶ **Reporting & Visualization:** Historical and real-time reports, dashboards



PEERFactory MES



PEERFactory Asset Management

## PEER Factory Asset Management

PEERFactory Asset Management allows for the planning and scheduling of maintenance activities for manufacturing assets. Asset Management allows users to standardize maintenance practises and maximize uptime and utilization, resulting in improved OEE performance. Asset Management also provides visibility into asset performance, streamlines spare parts replenishment and enforces maintenance best practises. Combined with PEERFactory DMF, downtime incidents and downtime tracking can be collected automatically into Asset Management to improve metrics and response times. Asset Management is available as a Software as a Service (SaaS) model to reduce your IT support costs and ease deployment.

## About PEERFactory

PEER Group's PEERFactory is a toolkit of comprehensive integrated software modules that provides tailored, high-performance manufacturing operation solutions proven to meet specific customer needs for plant visibility, data collection, and line monitoring and control. PEERFactory combines the strengths of both enterprise and SCADA/HMI MES products while minimizing associated risks and costs. PEERFactory's Data Collection, MES, Asset Management, and APC modules feature high-performance storage and retrieval, flexible and scalable deployment, interoperability, and visualization.

## About PEER Group

PEER Group provides innovative factory automation software solutions and consulting services to the semiconductor, photovoltaic, and electronics industries. The world's best manufacturing companies turn to PEER Group to solve their most challenging equipment automation, data management, and process control problems. With more than 100,000 licenses shipped, we are the world's leading supplier of equipment connectivity and testing products to automated factories around the globe. Our innovative and reliable products and services help lower the cost of automation for high-volume manufacturers and their equipment suppliers.

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