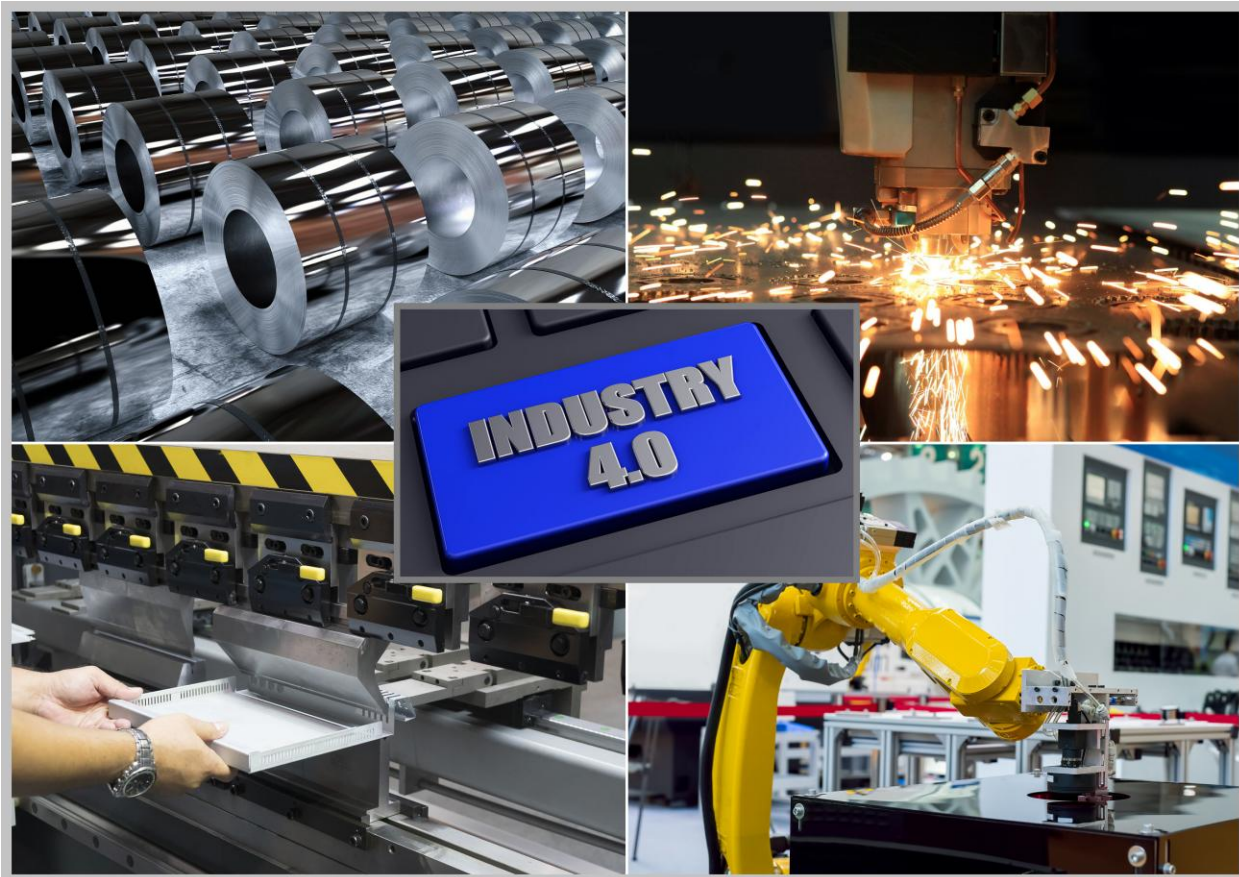




Global Edge® Integrated Manufacturing



Global Edge® Integrated Manufacturing **Demonstration Guide**

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Industry 4.0 Solution

Solutions that address Industry 4.0 includes a wide range of software components and procedures that integrate the shop floor with the enterprise. Logic Design Corporation has developed software tools and procedures that have been successfully implemented to integrate ERP with engineering, manufacturing and the shop floor including the automation of labor-intensive engineering and manufacturing workflow tasks.

Global Edge Integrated Manufacturing is an innovative system that provides the digital foundation for Industry 4.0 integration including automated engineering and manufacturing workflow capabilities to help make better use of people, resources, and technology.

Solution Areas

The solution areas that address Industry 4.0 include the following:

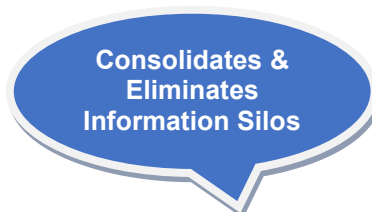
-  **Establishing Digital Framework / Engineering & Manufacturing Data Warehouse**
-  **ERP / MES / Shop Floor Integration**
-  **CAD Integration / Workflow Automation**
-  **Production Scheduling / Execution**
-  **Smart Factory Shop Floor Integration**

Software Components

Global Edge Integrated Manufacturing software components that can help achieve Industry 4.0 integration and workflow automation with the following:



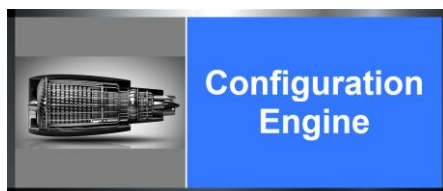
-  ERP / CAD / MES Integration
-  Data Translation Between Systems
-  Real-Time Data Exchange
-  Real-Time / Timed Data Transfers



-  Provides Industry 4.0 Framework
-  Centralized Data Warehouse
-  Integrates ERP with Enterprise
-  Provides Single Version of Truth



-  Automated CAD File Generation
-  Automated BOM Integration with ERP
-  Automated Part Numbering
-  Manufacturability Testing



-  Automated Bill of Materials Generation
-  Automated Routing Generation
-  Automated Time/Material Cost Rollups
-  Automated Sales Quote Generation

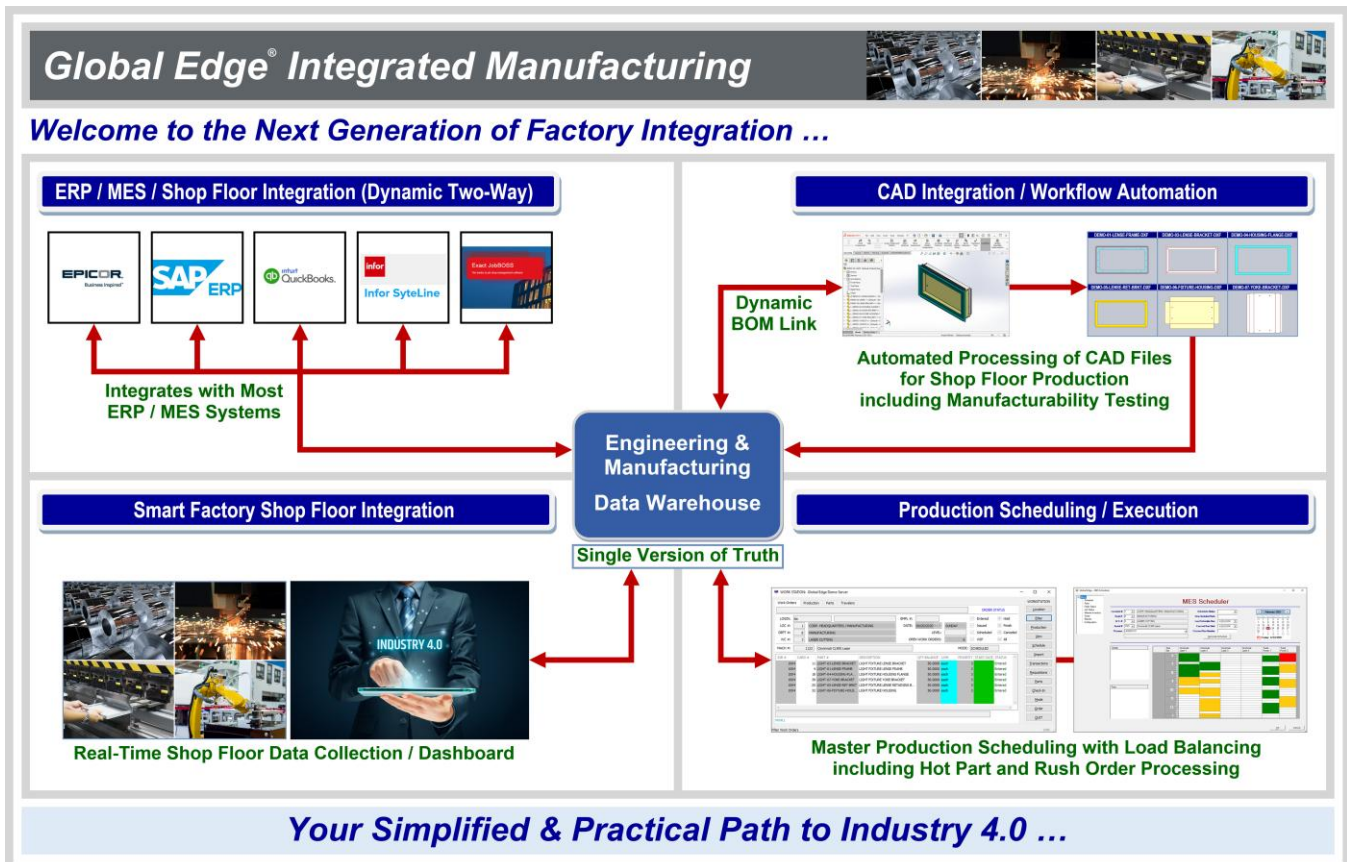


-  Document Check-In / Check-Out
-  Automated Spreadsheet Integration
-  CAD Part File Parameter Importation
-  Automated CAD File Analysis

Industry 4.0 Solution / Demonstration Outline

Demonstration Outline

-  **Demo Section 1: ERP / MES / Shop Floor Integration**
 - Automated ERP Order Download
-  **Demo Section 2: CAD Integration / Workflow Automation**
 - Automated DXF Flat File Generation
 - Automated DXF Import / Routing / Extended Data File Generation
 - Automated Sales Quote Generation
-  **Demo Section 3: Production Scheduling / Execution**
 - Automated Job Build / Scheduling
 - Workstation Screen / Load Balancing / Schedule Export
-  **Demo Section 4: Smart Factory Shop Floor Integration**
 - Production Dashboard
 - Shop Floor Data Collection / IoT (Internet of Things) Connectivity
 - Automated Production ERP Upload



Demo Section 0: Engineering & Manufacturing Data Warehouse

Global Edge Integrated Manufacturing includes the establishment of an innovative “**Engineering & Manufacturing Data Warehouse**” that provides a digital framework to establish a “**Single Version of Truth**” to support the real-time integration of multiple software and hardware technologies, which store, integrate and distribute the following software components / information to reduce and eliminate software patchwork and includes the following:

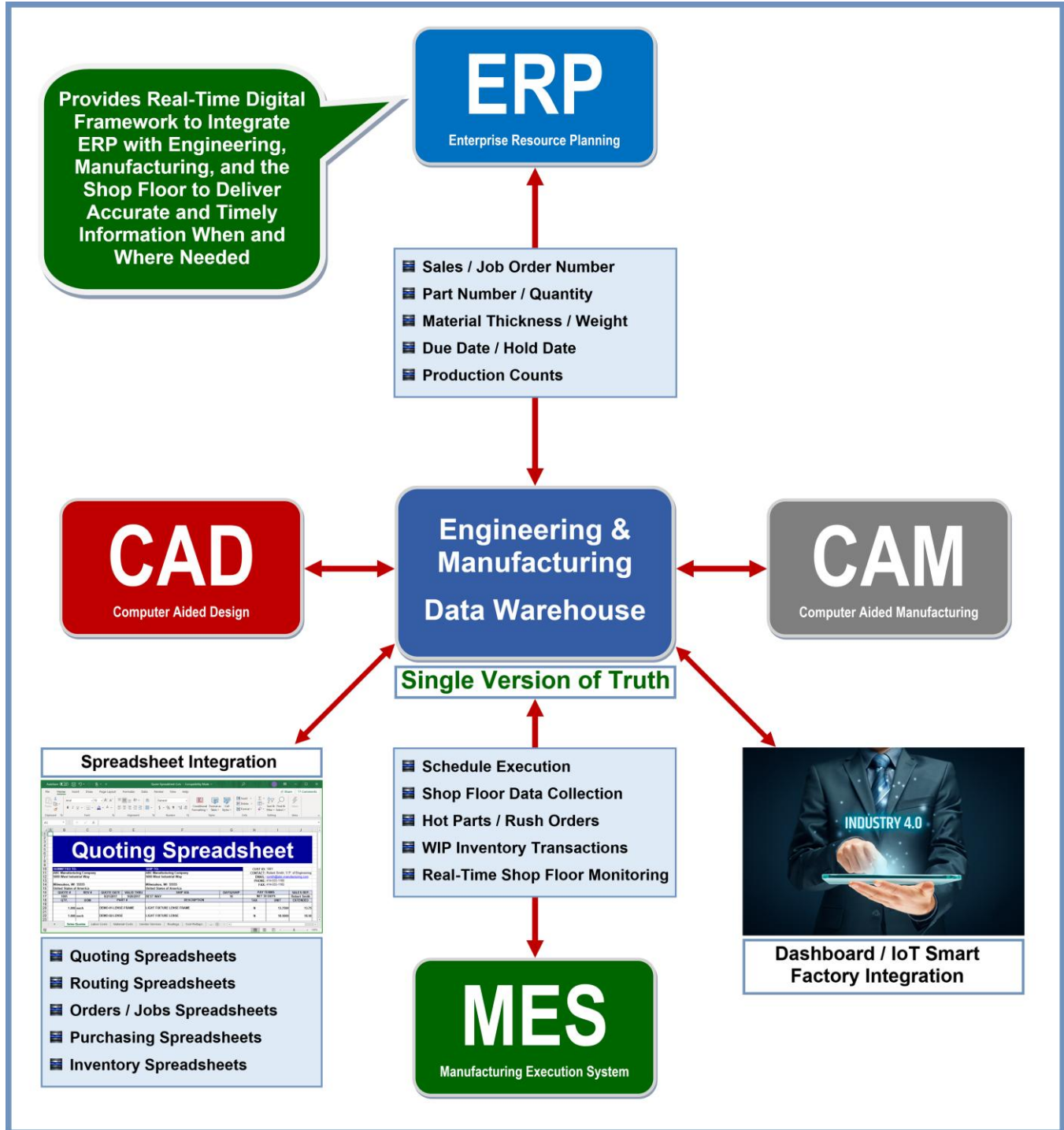
- Real-Time ERP Integration with Manufacturing Enterprise
- Provides Ability to Integrate Multiple Software & Hardware Technologies
- Eliminates Duplication of Information & Effort / Data Entry Errors
- Provides Single Version of Truth

Software Components / Information Generated & Exchanged

- **ERP (Enterprise Resource Planning)**
 - Customer / Vendor Records
 - Part / Assembly Numbers
 - Bill of Materials (Engineering & Manufacturing)
 - Routings / Cost Rollups
 - Sales / Job Orders (includes Hot Parts / Rush Orders)
 - Production Schedule / Results
 - Material / Process / Labor Costs
 - Inventory Transactions
- **MES (Manufacturing Execution System)**
 - Job Orders
 - Bend Programs / Laser Nestings
 - Production Schedule / Results
- **CAD (Computer Aided Design)**
 - Part / Assembly Files
 - Drawing / DXF Flat Files
 - CAD / Engineering Bill of Materials (Excel Files)
 - Revisions
- **CAM (Computer Aided Manufacturing)**
 - NC / Bend Programs
 - Laser Nestings
 - Production Schedules
- **PDM (Product Data Management)**
 - CAD Part / Assembly Files
 - MS Word / Excel / PDF Documents
 - Image / Video Files
- **Excel Spreadsheets**
 - Quoting Spreadsheets
 - Bill of Materials / Routing Spreadsheets
 - Orders / Jobs Spreadsheets
 - Purchasing / Inventory Spreadsheets
- **CRM (Customer Relationship Management)**
 - Customer Records
 - Sales Quotes

Engineering & Manufacturing Data Warehouse Workflow Diagram

Global Edge Integrated Manufacturing provides a real-time digital framework to integrate ERP with engineering, manufacturing, and the shop floor to deliver accurate and time information when and where needed to serve as a foundation for Industry 4.0 integration.



Demo Section 1: ERP / MES / Shop Floor Integration

This section illustrates the **Global Edge** Industry 4.0 integration capabilities with ERP, MES and the shop floor that includes the following:

Automated ERP Order Download

Sample Work Queue Data (ERP Download)

The following is sample data that is downloaded from ERP that populates the **Global Edge** Work Queue with the task of converting 3D Sheet Metal CAD files into DXF flat files:

Task #	Task Date	Part Number	Qty.	UOM	Task Note
1002	2021-05-24 12:00	SLD-000-CAB-CRS-325616-0001	5.0000	EA	Task to Create DXF Files for ASSM #: SLD-000-CAB-CRS-325616-0001
1003	2021-05-24 12:00	LIGHT-00-LIGHT-FIXTURE	10.0000	each	Task to Create DXF Files for ASSM #: LIGHT-00-LIGHT
1004	2021-05-24 12:00	CI-01-4-11759_201A_07	50.0000	EA	Task to Create DXF File for PART #: CI-01-4-11759_201A_07
1005	2021-05-24 12:00	CI-02-4-11811_126_15	125.0000	EA	Task to Create DXF File for PART #: CI-02-4-11811_126_15
1006	2021-05-24 12:00	CI-03-4-11811_126_131	75.0000	EA	Task to Create DXF File for PART #: CI-03-4-11811_126_131
1007	2021-05-24 12:00	CI-04-09-1908-A	50.0000	EA	Task to Create DXF File for PART #: CI-04-09-1908-A
1008	2021-05-24 12:00	CI-05-1000-018-B2-PLG	100.0000	EA	Task to Create DXF File for PART #: CI-05-1000-018-B2-PLG

Sample Sales Order Data (ERP Download)

The following is sample Sales Order data that is downloaded from ERP that populates the **Global Edge “Engineering & Manufacturing Data Warehouse”** for further automated system processing:

Cust #	Order #	Job #	Order Date	Req. Ship Date	Ship Company	Order Note
1001	1010	1008	5/24/2021	6/7/2021	ABC MANUFACTURING	Sales Order for Cabinet Body (ERP Download)
1001	1011	1009	5/25/2021	6/8/2021	ABC MANUFACTURING	Sales Order for Light Fixture (ERP Download)
1001	1012	1010	5/26/2021	6/9/2021	ABC MANUFACTURING	Sales Order for CI - Apron (ERP Download)
1001	1013	1011	5/27/2021	6/10/2021	ABC MANUFACTURING	Sales Order for CI - Load Center Box (ERP Download)
1001	1014	1012	5/28/2021	6/11/2021	ABC MANUFACTURING	Sales Order for CI - Bott. Display Light Housing (ERP Download)
1001	1015	1013	5/29/2021	6/12/2021	ABC MANUFACTURING	Sales Order for CI - Sheet Metal Housing (ERP Download)
1001	1016	1014	5/30/2021	6/13/2021	ABC MANUFACTURING	Sales Order for CI - Sheet Metal Panel (ERP Download)

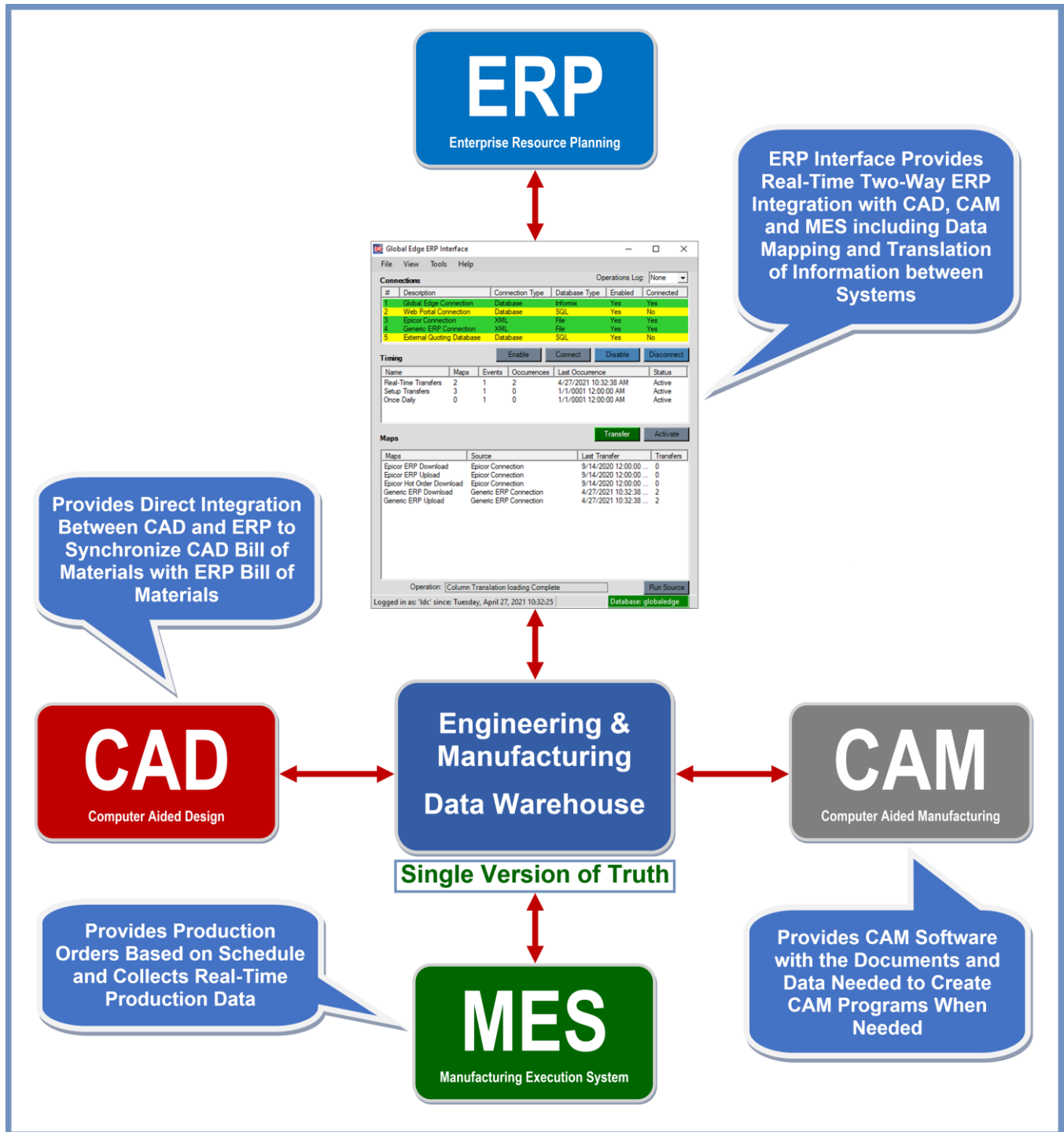
Sample Sales Order Item Data (ERP Download)

The following are the Sales Order Items associated with the above Sales Orders included with the ERP download:

Order #	Line #	Part Number	Description	Req. Ship Date	Order Qty.	UOM
1010	1	SLD-001-BODY-325616-0001	CABINET BODY ASSEMBLY	6/7/2021	5.0000	EA
1011	1	LIGHT-00-LIGHT-FIXTURE	LIGHT FIXTURE ASSEMBLY	6/8/2021	10.0000	EA
1012	1	CI-01-4-11759_201A_07	APRON	6/9/2021	15.0000	EA
1013	1	CI-02-4-11811_126_15	LOAD CENTER BOX	6/10/2021	20.0000	EA
1014	1	CI-03-4-11811_126_131	BOTTOM DISPLAY LIGHT HOUSING	6/11/2021	25.0000	EA
1015	1	CI-04-09-1908-A	SHEET METAL HOUSING	6/12/2021	30.0000	EA
1016	1	CI-05-1000-018-B2-PLG	SHEET METAL PANEL	6/13/2021	35.0000	EA

ERP / MES / Shop Floor Integration Workflow Diagram

Global Edge Integrated Manufacturing includes dynamic two-way integration with most ERP systems to provide an end-to-end integrated factory for real-time information when and where needed throughout the manufacturing enterprise.



ERP / MES / Shop Floor Integration Workflow Demonstration Sequence

Global Edge 2021 – Integrated Manufacturing includes a dynamic ERP interface that provides two-way integration between most ERP system with manufacturing and the shop floor. The sections that illustrate these capabilities include:

▪ 1.1 – Automated ERP Order Download

ERP / MES / Shop Floor Integration Overview

The following is an overview of the steps within this section:

- **1.1 – Automated ERP Order Download:** The steps within this section illustrate how the **Global Edge** software integrates directly with an ERP system and directly exchange information with manufacturing and the shop floor with capabilities that include:
 - **Automated ERP Order Download**

1.1 – ERP Order Download

These steps illustrate the download of order information from an ERP system:

Workflow Steps

1. Launch the **Global Edge ERP Interface** to display the following screen:

Global Edge ERP Interface

File View Tools Help

Operations Log: **None**

Connections

#	Description	Connection Type	Database Type	Enabled	Connected
1	Global Edge Connection	Database	Infomix	Yes	Yes
2	Web Portal Connection	Database	SQL	Yes	No
3	Epicor Connection	XML	File	Yes	Yes
4	Generic ERP Connection	XML	File	Yes	Yes
5	External Quoting Database	Database	SQL	Yes	No

Timing

Name	Maps	Events	Occurrences	Last Occurrence	Status
Real-Time Transfers	2	1	0	1/1/0001 12:00:00 AM	Active
Setup Transfers	3	1	0	1/1/0001 12:00:00 AM	Active
Once Daily	0	1	0	1/1/0001 12:00:00 AM	Active

Maps

Maps	Source	Last Transfer	Transfers
Epicor ERP Download	Epicor Connection	9/14/2020 12:00:00 ...	0
Epicor ERP Upload	Epicor Connection	9/14/2020 12:00:00 ...	0
Epicor Hot Order Download	Epicor Connection	9/14/2020 12:00:00 ...	0
Generic ERP Download	Generic ERP Connection	9/14/2020 12:00:00 ...	0
Generic ERP Upload	Generic ERP Connection	9/14/2020 12:00:00 ...	0

Operation: **Column Translation loading Complete**

Logged in as: 'ldc' since: Tuesday, August 03, 2021 10:37:36

Database: **globaledge**

2. Highlight **“Generic ERP Download”** data map followed by **“Transfer”** option to initiate download of ERP order information.

Sample Orders Table (O-312 "orders")

CUST #	ORDER #	JOB #	DATE	REQ. SHIP	NET CHARGE	TOTAL	NOTE
1001	1010	1005	TODAY	TODAY+14	\$0.00	\$0.00	Sales Order for Cabinet Body (ERP Download)
1001	1011	1006	TODAY+1	TODAY+15	\$0.00	\$0.00	Sales Order for Light Fixture (ERP Download)
1001	1012	1007	TODAY+2	TODAY+16	\$0.00	\$0.00	Sales Order for CI - Apron (ERP Download)
1001	1013	1008	TODAY+3	TODAY+17	\$0.00	\$0.00	Sales Order for CI - Load Center Box (ERP Download)
1001	1014	1009	TODAY+4	TODAY+18	\$0.00	\$0.00	Sales Order for CI - Bott. Display Light Housing (ERP Download)
1001	1015	1010	TODAY+4	TODAY+19	\$0.00	\$0.00	Sales Order for CI - Sheet Metal Housing (ERP Download)
1001	1016	1011	TODAY+6	TODAY+20	\$0.00	\$0.00	Sales Order for CI - Sheet Metal Panel (ERP Download)

Sample Order Items Table (O-302 "ord_item")

ORDER #	LINE #	PART #	DESCRIPTION	REQ. SHIP	QTY.	UOM	UNIT	EXTENDED
1010	1	SLD-001-CABINET-BODY	CABINET BODY	TODAY+14	5.0000	EA	0.0000	0.0000
1011	1	DEMO-00-LIGHT	LIGHT FIXTURE ASSEMBLY	TODAY+15	10.0000	EA	0.0000	0.0000
1012	1	CI-01-4-11759_201A_07	APRON	TODAY+16	15.0000	EA	0.0000	0.0000
1013	1	CI-02-4-11811_126_15	LOAD CENTER BOX	TODAY+17	20.0000	EA	0.0000	0.0000
1014	1	CI-03-4-11811_126_131	BOTTOM DISPLAY LIGHT HOUSING	TODAY+18	25.0000	EA	0.0000	0.0000
1015	1	CI-04-09-1908-A	SHEET METAL HOUSING	TODAY+19	30.0000	EA	0.0000	0.0000
1016	1	CI-05-1000-018-B2-PLG	SHEET METAL PANEL	TODAY+20	35.0000	EA	0.0000	0.0000

Sample Job Orders Table (J-361 "job")

JOB #	JOB DATE	REQ. DATE	SCH. START	SCH. END	DESCRIPTION	QUEUE #
1009	TODAY	TODAY+14	TODAY+2	TODAY+8	CABINET BODY JOB (ERP Download)	
1010	TODAY+1	TODAY+15	TODAY+3	TODAY+9	LIGHT FIXTURE ASSEMBLY (ERP Download)	
1011	TODAY+2	TODAY+16	TODAY+4	TODAY+10	APRON (ERP Download)	
1012	TODAY+3	TODAY+17	TODAY+5	TODAY+11	LOAD CENTER BOX (ERP Download)	
1013	TODAY+4	TODAY+18	TODAY+6	TODAY+12	BOTTOM DISPLAY LIGHT HOUSING (ERP Download)	
1014	TODAY+5	TODAY+19	TODAY+7	TODAY+13	SHEET METAL HOUSING (ERP Download)	
1015	TODAY+6	TODAY+20	TODAY+8	TODAY+14	SHEET METAL PANEL (ERP Download)	

Sample Scheduler Order Import / Export

XML Files

The following is an example XML file with Order data:

```
<Root>
<ORDER NUMBER="12345" DUE="2008-08-31T22:30:00" CUSTOMER="ABC"
HOLD="2008-08-30T00:00:00" NOTES="MISC NOTES FIELD">
<PART NAME="18-08000-12" QTY="100" NOTES="PART NOTES"></PART>
<PART NAME="18-08000-14.PRT" QTY="300" NOTES="PART NOTES"></PART>
<PART NAME="010906" QTY="3"></PART>
</ORDER>
<ORDER NUMBER="12346" DUE="2008-08-31T23:00:00" HOLD="2008-08-30T00:00:00"
NOTES="MISC NOTES FIELD">
<PART NAME="Another Part.prt" QTY="10"></PART>
</ORDER>
</Root>
```

Each XML file can contain one or more ORDER elements. Each ORDER element must contain a NUMBER attribute, but the other attributes (DUE, CUSTOMER, HOLD, and NOTES) are optional. If the DUE attribute is missing the current date is used as the due date. Each ORDER element contains one or more PART child elements. The NAME attribute is required and contains the part name. This name may or may not contain the ".prt" file extension, either will work. The QTY attribute is also required and must be greater than 0.

CSV Files

The following is an example CSV text file:

```
"ORDER"
"12345","2008-08-31T22:30:00","ABC","2008-08-30T00:00:00","MISC NOTES FIELD"
"18-08000-12","100","PART NOTES"
"18-08000-14.PRT","300","PART NOTES"
"010906","3",""
```

```
"ORDER"
"12346","2008-08-31T23:00:00","","2008-08-30T00:00:00","MISC NOTES FIELD"
"Another Part.prt","10",""
```

The quotation marks around each field are optional. The following is an equivalent file:

```
ORDER
12345,2008-08-31T22:30:00,ABC,2008-08-30T00:00:00,MISC NOTES FIELD
18-08000-12,100,PART NOTES
18-08000-14.PRT,300,PART NOTES
010906,3,
ORDER
12346,2008-08-31T23:00:00,,2008-08-30T00:00:00,MISC NOTES FIELD
Another Part.prt,10,
```

The ORDER field must precede each Order. Multiple orders can be in one file as long as each is preceded by the ORDER field. The file layout is as follows:

```
ORDER
Comma separated order information
Comma separated part information (multiple lines if needed)
ORDER
Comma separated order information
Comma separated part information (multiple lines if needed)
```

The order information line must be in the following sequence:

Order Number, Due Date, Customer, Hold Date, and Notes.

The part information line(s) must be in the following sequence:

Part Number, Quantity, Notes

The part number may or may not contain the ".prt" extension, either will work.

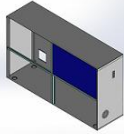
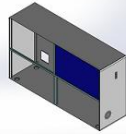
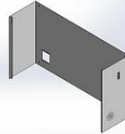
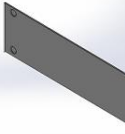
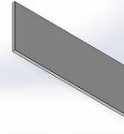
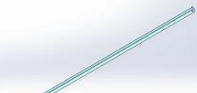
Demo Section 2: CAD Integration / Workflow Automation

This section illustrates the **Global Edge** Industry 4.0 integration with CAD / Engineering and the automated workflow capabilities that include the following:

-  **Automated DXF Flat File Generation**
-  **Automated DXF Import / Routing / Extended Data File Generation**
-  **Automated Sales Quote Generation**

Sample Utility Cabinet 3D CAD Models

The following are sample 3D CAD Models for a sheet metal utility cabinet including sample routings for each of the components that are used to illustrate the “**CAD Integration / Workflow Automation**” capabilities of the **Global Edge** system:

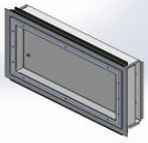
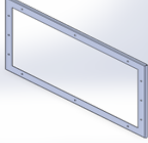
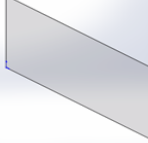
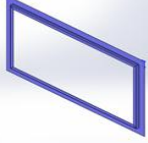
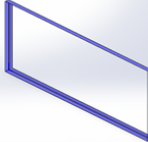
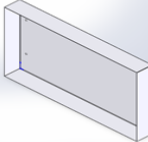
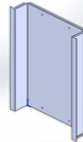
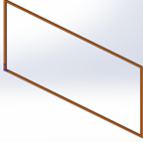
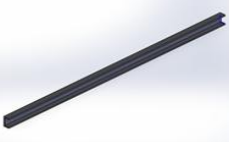
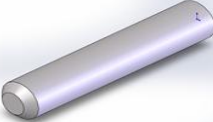
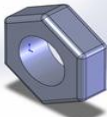
SLD-000-CAB-CRS-325616-0001 	SLD-001-BODY-325616-0001 	SLD-002-WRAP-325616-0001 	SLD-003-CAB-BOT-5616-0001 	SLD-004-CAB-TOP-5616-0001 
SLD-015-FLL-PNL-1627-0001 	SLD-016-HORZ-DIV-55-0001 	SLD-017-SPINE-CT-32-0001 	SLD-018-SPINE-LT-32-0001 	SLD-019-SPINE-RT-32-0001 
SLD-020-VERT-DIV-BOT-15-0001 	SLD-021-VERT-DIV-TOP-16-0001 			

Sample Utility Cabinet Routings

SLD-001-BODY-325616-0001		CABINET BODY						
Seq. #	Process	Description	WC #	Asset #	UOM	Setup Time	Load Time	Process Time
1	WELD-MD	Medium Seam-Tack Welding Operation	9	1020	hours	0.250000	0.000000	0.000000
2	STUD-CD-MD	Med. Capacitive Discharge Studding Oper.	9	1043	hours	0.250000	0.000000	0.030000
3	SAND-PAINT-PREP	Sand / Paint / Preparation Operation	10	1086	hours	0.000000	0.000000	0.020977
4	HANGING	Hanging Operation	10	1077	hours	0.000000	0.000000	0.010000
5	WASHING	Washing Operation	10	1082	hours	0.000000	0.000000	0.010000
6	PAINTING	Painting Operation	10	1084	hours	0.000000	0.000000	0.030000
7	CURING	Curing Operation	10	1089	hours	0.000000	0.000000	0.100000
8	GASKETING	Gasketing Operation	11	1092	hours	0.250000	0.000000	0.050000

Sample Light Fixture 3D CAD Models

The following are sample 3D CAD Models for a sheet metal light fixture including sample routings for each of the components that are used to illustrate the “**CAD Integration / Workflow Automation**” capabilities of the **Global Edge** system:

LIGHT-00-LIGHT-FIXTURE	LIGHT-01-LENSE-FRAME	LIGHT-02-LENSE	LIGHT-03-LENSE-BRACKET	LIGHT-04-HOUSING-FLANGE
				
LIGHT-05-LENSE-RET-BRKT	LIGHT-06-FIXTURE-HOUSING	LIGHT-07-YOKE-BRACKET	LIGHT-08-DOOR-GASKET	LIGHT-09-FRAME-CHANNEL
				
LIGHT-10-BOLT	LIGHT-11-NUT			
				

Sample Light Fixture Routings

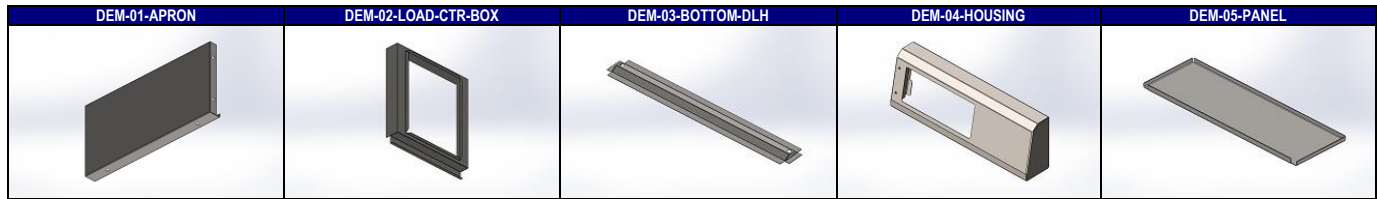
LIGHT-00-LIGHT-FIXTURE		LIGHT FIXTURE ASSEMBLY						
Seq. #	Process	Description	WC #	Asset #	UOM	Setup Time	Load Time	Process Time
1	ASSEMBLY	Assembly Operation	11	1094	hours	0.150000	0.000000	0.100000
2	PACKAGING	Packaging Operation	14	1102	hours	0.000000	0.000000	0.100000

LIGHT-01-LENSE-FRAME		LIGHT FIXTURE LENSE FRAME						
Seq. #	Process	Description	WC #	Asset #	UOM	Setup Time	Load Time	Process Time
1	LASER-CUT	Laser Cut Operation	3	1123	hours	0.100000	0.010000	0.014345
2	PANELBEND	Panel Bender Bending Operation	7	1009	hours	0.100000	0.000000	0.004000
3	SAND-PAINT-PREP	Sand / Paint / Preparation Operation	10	1086	hours	0.000000	0.000000	0.020977
4	HANGING	Hanging Operation	10	1077	hours	0.000000	0.000000	0.020000
5	WASHING	Washing Operation	10	1082	hours	0.000000	0.000000	0.010000
6	PAINTING	Painting Operation	10	1084	hours	0.000000	0.000000	0.041954
7	CURING	Curing Operation	10	1089	hours	0.000000	0.000000	0.100000

LIGHT-03-LENSE-BRACKET		LIGHT FIXTURE LENSE						
Seq. #	Process	Description	WC #	Asset #	UOM	Setup Time	Load Time	Process Time
1	LASER-CUT	Laser Cut Operation	3	1123	hours	0.100000	0.010000	0.013842
2	PANELBEND	Panel Bender Bending Operation	7	1009	hours	0.100000	0.000000	0.004000
3	SAND-PAINT-PREP	Sand / Paint / Preparation Operation	10	1086	hours	0.000000	0.000000	0.017826
4	HANGING	Hanging Operation	10	1077	hours	0.000000	0.000000	0.020000
5	WASHING	Washing Operation	10	1082	hours	0.000000	0.000000	0.010000
6	PAINTING	Painting Operation	10	1084	hours	0.000000	0.000000	0.035651
7	CURING	Curing Operation	10	1089	hours	0.000000	0.000000	0.100000

Sample Sheet Metal 3D CAD Models

The following are sample 3D CAD Model part including sample routings for each of the components that are used to illustrate the **"CAD Integration / Workflow Automation"** capabilities of the **Global Edge** system:

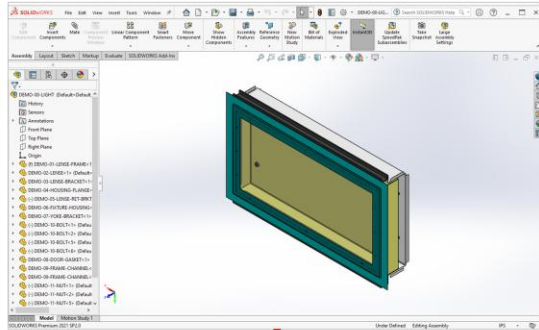
**Sample Sheet Metal Part Routings**

DEM-01-APRON		APRON						
Seq. #	Process	Description	WC #	Asset #	UOM	Setup Time	Load Time	Process Time
1	LASER-CUT	Laser Cut Operation	3	1123	hours	0.100000	0.010000	0.014345
2	BEND	Press Brake Bending Operation	7	1011	hours	0.250000	0.000000	0.020000
3	WELD-MD	Medium Seam-Tack Welding Operation	9	1020	hours	0.250000	0.000000	0.030000
4	GRIND-SM	Small Grinding Operation	8	1059	hours	0.000000	0.000000	0.010000
5	SAND-PAINT-PREP	Sand / Paint / Preparation Operation	10	1086	hours	0.000000	0.000000	0.020977
6	HANGING	Hanging Operation	10	1077	hours	0.000000	0.000000	0.010000
7	WASHING	Washing Operation	10	1082	hours	0.000000	0.000000	0.010000
8	PAINTING	Painting Operation	10	1084	hours	0.000000	0.000000	0.020000
9	CURING	Curing Operation	10	1089	hours	0.000000	0.000000	0.100000
10	FINAL-INSPECT	Final Inspection	12	1099	hours	0.000000	0.000000	0.100000
11	PACKAGING	Packaging Operation	14	1100	hours	0.000000	0.000000	0.200000
12	SHIPPING	Shipping Operation	15	1104	hours	0.000000	0.000000	0.001000

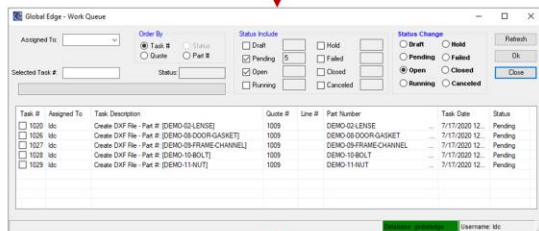
DEM-02-LOAD-CTR-BOX		LOAD CENTER BOX						
Seq. #	Process	Description	WC #	Asset #	UOM	Setup Time	Load Time	Process Time
1	LASER-CUT	Laser Cut Operation	3	1123	hours	0.100000	0.010000	0.014345
2	BEND	Press Brake Bending Operation	7	1011	hours	0.250000	0.000000	0.020000
3	WELD-MD	Medium Seam-Tack Welding Operation	9	1020	hours	0.250000	0.000000	0.030000
4	GRIND-SM	Small Grinding Operation	8	1059	hours	0.000000	0.000000	0.010000
5	SAND-PAINT-PREP	Sand / Paint / Preparation Operation	10	1086	hours	0.000000	0.000000	0.020977
6	HANGING	Hanging Operation	10	1077	hours	0.000000	0.000000	0.010000
7	WASHING	Washing Operation	10	1082	hours	0.000000	0.000000	0.010000
8	PAINTING	Painting Operation	10	1084	hours	0.000000	0.000000	0.015000
9	CURING	Curing Operation	10	1089	hours	0.000000	0.000000	0.100000
10	FINAL-INSPECT	Final Inspection	12	1099	hours	0.000000	0.000000	0.100000
11	PACKAGING	Packaging Operation	14	1100	hours	0.000000	0.000000	0.200000
12	SHIPPING	Shipping Operation	15	1104	hours	0.000000	0.000000	0.001000

CAD Integration / Workflow Automation Workflow Diagram

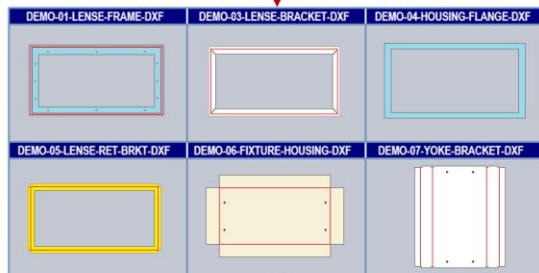
Global Edge Integrated Manufacturing provides automated workflow capabilities that eliminate labor intensive engineering tasks that includes the generation of CAD files to drive quoting and shop floor automation.



Automatic Generation of Multiple File Formats from 3D CAD Models for CAM Programs including Extended Data DXF Flat Files for Laser Nesting & Bend Programs

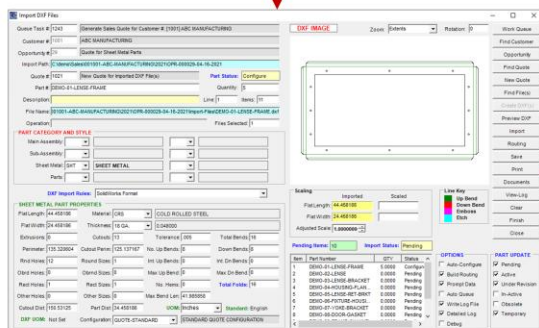


Automated DXF CAD File Part Parameter Analysis for Automated Sales Quote and Routing Generation



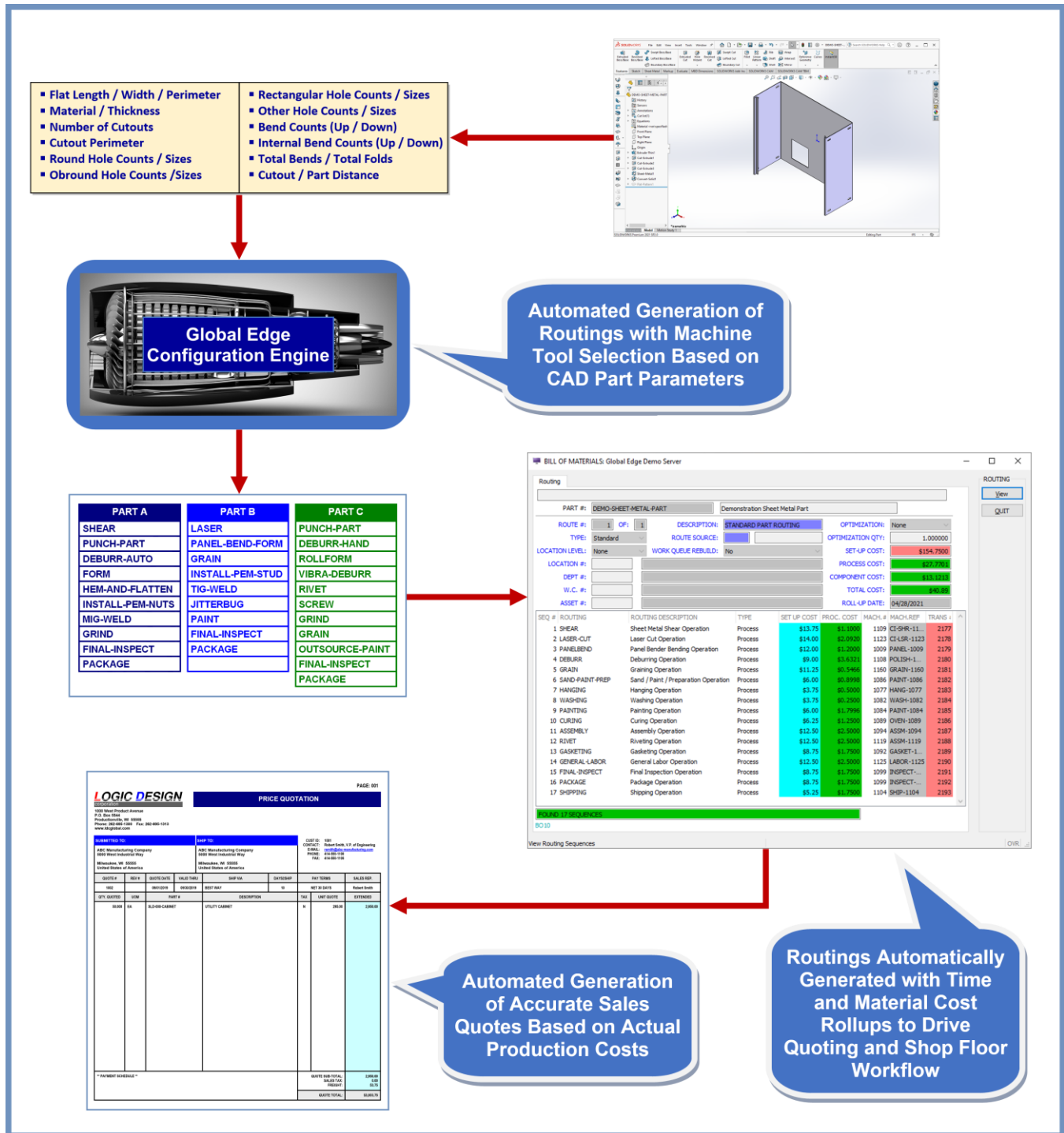
Part Parameters

- Flat Length / Width / Perimeter
- Part Weight / Part Volume
- Material / Thickness
- Number of Cutouts
- Cutout Perimeter
- Round Hole Counts / Sizes
- Obround Hole Counts / Sizes
- Rectangular Hole Counts / Sizes
- Other Hole Counts / Sizes
- Bend Counts (Up / Down)
- Internal Bend Counts (Up / Down)
- Total Bends / Total Folds
- Cutout / Part Distance



Automated Routing / Sales Quote Generation Workflow Diagram

Global Edge Integrated Manufacturing provides the automated generation of optimal routings including complete time and material cost rollups for accurate sales quote generation and shop floor scheduling.



CAD Integration / Workflow Automation Demonstration Sequence

Global Edge 2021 – Integrated Manufacturing includes the preparation of CAD files for both production and quoting. The sections within this stage include:

- **2.1 – Automated DXF Flat File Generation**
- **2.2 – Automated DXF Import / Routing / Extended Data File Generation**
- **2.3 – Automated Sales Quote Generation**

CAD Integration / Workflow Automation Overview

The following is an overview of this section and what is illustrated within each of the steps.

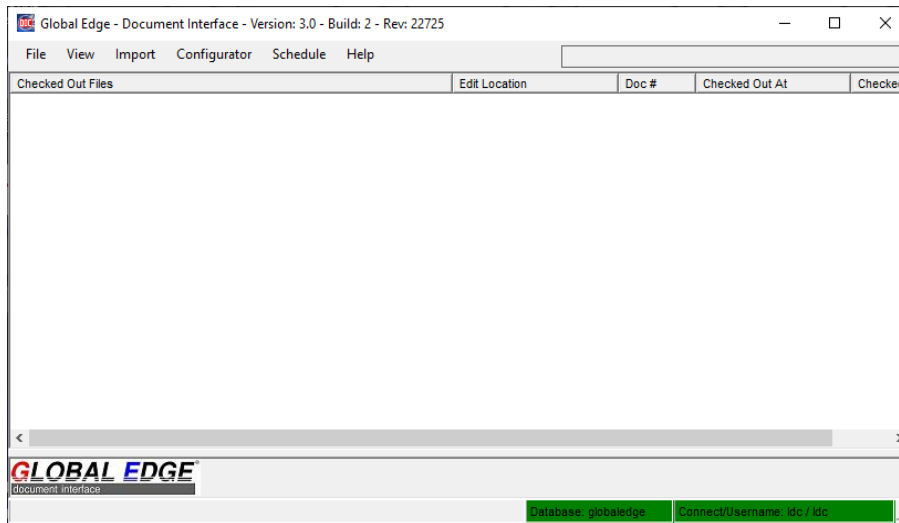
- **2.1 – Automated DXF Flat File Generation:** The steps within this section illustrate how **Global Edge** can automatically prepare, generate, and analyze DXF files from 3D CAD sheet metal parts for production and to drive the Automated Quoting process. Automated tasks illustrated include:
 - **Automated Batch Processing of 3D CAD Sheet Metal Parts**
- **2.2 – Automated DXF Import / Routing / Extended Data File Generation:** The steps within this section illustrate how **Global Edge** automates the importation DXF flat files including the generation of routings and extended data file generation. Automated tasks illustrated include:
 - **Automated Importation and Analysis of Sheet Metal Part Parameters**
 - **Automated Routing Generation**
 - **Automated Extended Data File Generation**
- **2.3 – Automated Sales Quote Generation:** The steps within this section illustrate how the **Global Edge** software can automatically generate routings based on part parameters from imported DXF Files and rolled up time and material costs. Automated tasks illustrated include:
 - **Automated Generation of Sales Quote with Imported Parts Attached**
 - **Automatically Rolls Up Costs for Multiple Quantity Production Runs**

2.1 – Automated DXF Flat File Generation

These steps illustrate how incoming customer CAD files are prepared for production and the automated quoting process.

Workflow Steps

1. The first step is to open the **Global Edge Document Interface** software:



2. Select **“Import > Import DXF Files”** option to display Import DXF Files screen:

3. Select the **“Work Queue”** option to display the Work Queue screen:

Global Edge - Work Queue

Assigned To: ldc

Selected Task #: 1001

Order By: ☒ Task # ☐ Priority ☐ Date ☐ Quote ☐ Required ☐ Status

Status Include: ☐ Draft ☒ WIP ☐ Failed ☐ Pending ☐ Running ☐ Closed ☒ Open ☐ Hold ☐ Canceled

Refresh Ok Cancel

Generate Sales Quote for ABC Manufacturing

Task #	Assigned To	Task Description	Task Date	Required Date	Priority	Quote #	Status
1001	ldc	Generate Sales Quote for ABC Manufacturing	8/4/2021 12:00:00 PM	8/15/2021 12:00:00 PM	3		Open

4. Select **“New Quote > Yes”** option which will create Sales Quote Header in the **Global Edge** database including the generation of a Sales Quote Number:

Import DXF Files

Queue Task #: 1001 | Generate Sales Quote for ABC Manufacturing

Customer #: 1001 | ABC MANUFACTURING

Opportunity #: 3 | Light Fixture & CI Parts

Import Path: C:\demo\Sales\001001-ABC-MANUFACTURING\2021\OPR-000003-06-29-2021

QUOTE ITEM

Quote #: 1021 | New Quote for Imported DXF File(s) | Part Status: EA

Part #: | Qty: 0 | EA

Description: | Line: | Items: |

File Name: |

Operation: | Files Selected: |

PART CATEGORY AND STYLE

Main Assembly: | | | |

Sub-Assembly: | | | |

Sheet Metal: | | | |

Parts: | | | |

DXF Import Rules: SolidWorks Format

SHEET METAL PART PROPERTIES

Flat Length: | Material: |

Flat Width: | Thickness: |

Extrusions: | Cutouts: | Tolerance: .005 | Total Bends: |

Perimeter: | Cutout Perim: | No. Up Bends: | Down Bends: |

Rnd Holes: | Round Sizes: | Int. Up Bends: | Int. Dn Bends: |

Obrd Holes: | Obrnd Sizes: | Max Up Bend: | Max Dn Bend: |

Rect Holes: | Rect Sizes: | No. Hems: | Total Folds: |

Other Holes: | Other Sizes: | Max Bend Len: |

Cutout Dist: | Part Dist: | UOM: Inches | Standard: Not Set

DXF UOM: Not Set | Configuration: |

Scaling

Imported | Scaled

Flat Length: |

Flat Width: |

Adjusted Scale: 1.0000000

Line Key

Up Bend
Down Bend
Emboss
Etch

Pending Items: | **Import Status:** |

Item	Part Number	Qty	Status
------	-------------	-----	--------

OPTIONS

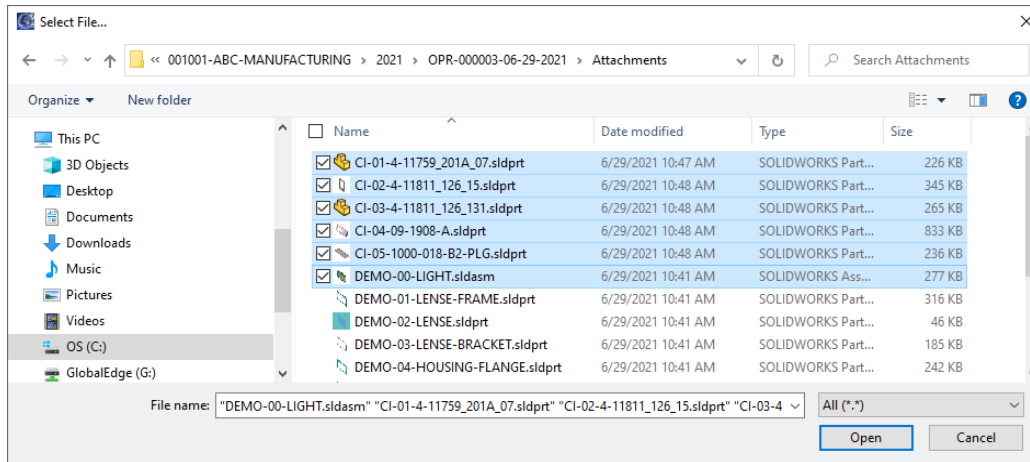
☒ Auto-Configure ☒ Build Routing ☒ Prompt Data ☐ Auto Queue ☒ Write Log File ☒ Detailed Log ☐ Debug

PART UPDATE

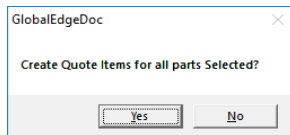
☒ Pending ☒ Active ☒ Under Revision ☐ In-Active ☐ Obsolete ☒ Temporary

Work Queue
Find Customer
Opportunity
Find Quote
New Quote
Find File(s)
Create DXF(s)
Preview DXF
Import
Routing
Save
Print
Documents
View-Log
Clear
Finish
Close

5. Select **“Find File(s)”** option and select the 3D SolidWorks CAD Model files intended to generate DXF Flat Pattern files from:



6. Select **“Open”** option which will display the following prompt:



7. Select **“Yes”** option and the following quote item information is updated on the **Import DXF Files** screen:

Import DXF Files

Queue Task #: 1001 Generate Sales Quote for ABC Manufacturing

Customer #: 1001 ABC MANUFACTURING

Opportunity #: 3 Light Fixture & CI Parts

Import Path: C:\demo\Sales\001001-ABC-MANUFACTURING\2021\OPR-000003-06-29-2021\Attachments\CI-01-4-11759_201A_07

QUOTE ITEM

Quote #: 1021 New Quote for Imported DXF File(s) Part Status: EA

Part #: CI-01-4-11759_201A_07 Qty: 6

Description: Line: 6 Items: 6

File Name: C:\demo\Sales\001001-ABC-MANUFACTURING\2021\OPR-000003-06-29-2021\Attachments\CI-01-4-11759_201A_07

Operation: 6 Items Added / Updated Files Selected: 6

PART CATEGORY AND STYLE

Main Assembly: Sub-Assembly: Sheet Metal: Parts:

DXF Import Rules: SolidWorks Format

SHEET METAL PART PROPERTIES

Flat Length: Material: Flat Width: Thickness: Extrusions: Cutouts: Tolerance: .005 Total Bends: Perimeter: Cutout Perim: No. Up Bends: Down Bends: Rnd Holes: Round Sizes: Int. Up Bends: Int. Dn Bends: Obrd Holes: Obrnd Sizes: Max Up Bend: Max Dn Bend: Rect Holes: Rect Sizes: No. Hems: Total Folds: Other Holes: Other Sizes: Max Bend Len: Cutout Dist: Part Dist: UOM: Inches Standard: Not Set

DXF UOM: Not Set Configuration:

Scaling

Imported Scaled

Flat Length: Flat Width: Adjusted Scale: 1.0000000

Line Key

Up Bend Down Bend Emboss Etch

Pending Items: 6 **Import Status:** Pending

Item	Part Number	Qty	Status
1	CI-01-4-11759_201A_07	50.0000	Pending
2	CI-02-4-11811_126_15	125.0000	Pending
3	CI-03-4-11811_126_131	75.0000	Pending
4	CI-04-09-1908-A	50.0000	Pending
5	CI-05-1000-018-B2-PLG	100.0000	Pending
6	DEMO-00-LIGHT	10.0000	Pending

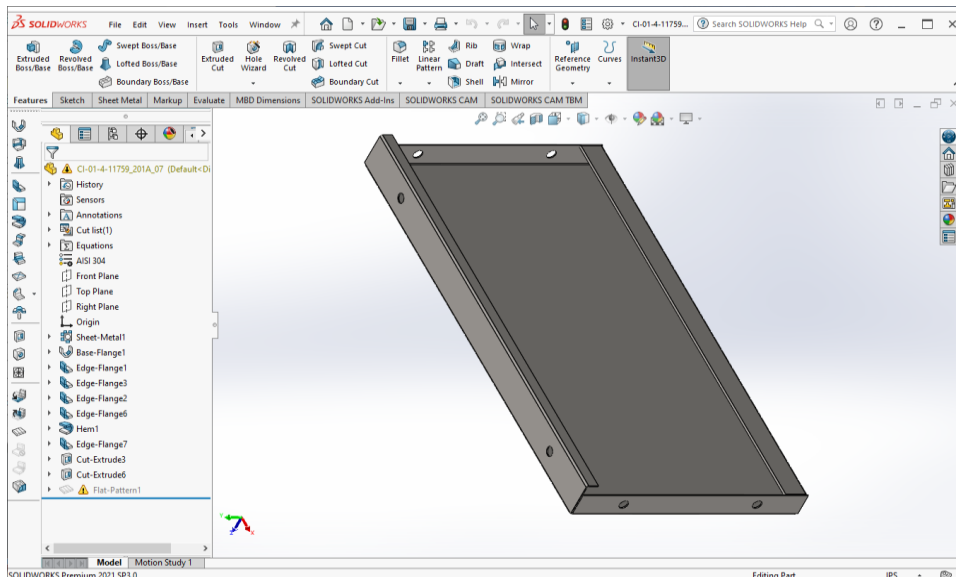
OPTIONS

Auto-Configure Build Routing Prompt Data Auto Queue Write Log File Detailed Log Debug

PART UPDATE

Pending Active Under Revision In-Active Obsolete Temporary

8. Select **“Create DXF(s)”** option to launch SolidWorks where the **Global Edge SolidWorks CAD Interface** software will automatically generate DXF Flat Pattern files. After SolidWorks is launched, the first selected part is displayed:



9. Select ***Tools > Global Edge > Export Files*** option to display File Export screen:

[illegible]

10. Select **“Work Queue Select > All”** option and select the CAD Model Files in the Work Queue screen to be processed into DXF flat files:

Global Edge - Work Queue

Assigned To:

Status Include

☐ Draft
☒ Pending
☒ Open
☒ WIP
☒ Running
☒ Hold
☐ Failed
☐ Closed
☐ Canceled

Status Change

☐ Draft ☒ WIP ☐ Failed
☐ Pending ☐ Running ☐ Closed
☐ Open ☐ Hold ☐ Canceled

Order By:
☒ Task #
☐ Assigned
☐ Quote
☐ Part #
☐ Date
☐ Status

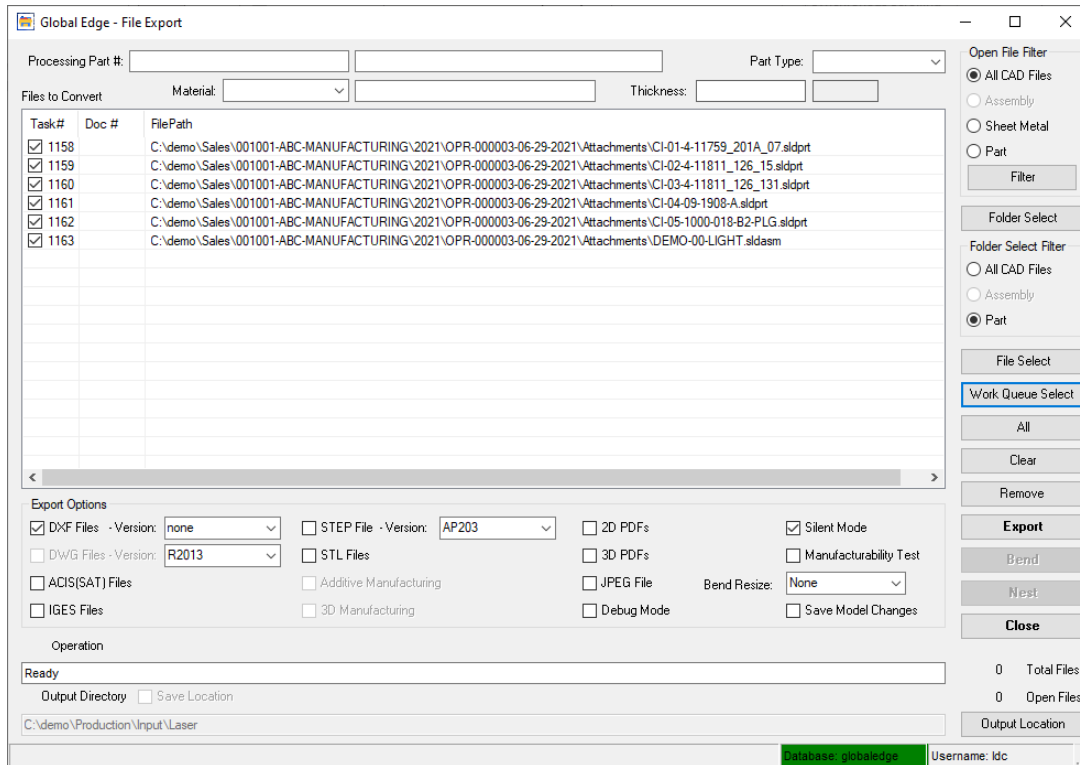
Selected Task #:

Status:

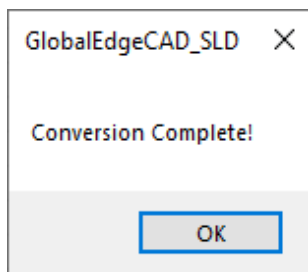
Task #	Assigned To	Task Description	Quote #	Line #	Part Number	Task Date	Status
☒ 1158	ldc	Create DXF File - Part #: [CI-01-4-11759_201A_07.sldprt]	1021		CI-01-4-11759_201A_07	8/3/2021 10:...	Open
☒ 1159	ldc	Create DXF File - Part #: [CI-02-4-11811_126_15.sldprt]	1021		CI-02-4-11811_126_15	8/3/2021 10:...	Open
☒ 1160	ldc	Create DXF File - Part #: [CI-03-4-11811_126_131.sldprt]	1021		CI-03-4-11811_126_131	8/3/2021 10:...	Open
☒ 1161	ldc	Create DXF File - Part #: [CI-04-09-1908-A.sldprt]	1021		CI-04-09-1908-A	8/3/2021 10:...	Open
☒ 1162	ldc	Create DXF File - Part #: [CI-05-1000-018-B2-PLG.sldprt]	1021		CI-05-1000-018-B2-PLG	8/3/2021 10:...	Open
☒ 1163	ldc	Create DXF File - Part #: [DEMO-00-LIGHT.sldasm]	1021		DEMO-00-LIGHT	8/3/2021 10:...	Open

Database: globaledge Username: ldc

11. Select **“OK”** option to display files to be processed:



12. Select **“Export”** option to start file processing. Once the file conversion is complete, the following prompt is displayed:



2.2 – Automated DXF Import / Routing / Extended Data File Generation

These steps illustrate the importation of part parameters from converted DXF CAD files.

Workflow Steps

- Once DXF Flat Pattern file generation process is complete, the software returns to the **Global Edge Document Interface** software Import DXF Files screen, then select **“Refresh”** button:

- Select the **“Find File(s)”** option select the first DXF Flat Pattern file part parameters to import into the **Global Edge** database:

- The Part Number of the file to be imported is displayed. Enter the Import Profile Parameters for the part being imported:

- Select **"Import"** option to execute importation task followed by selecting **"Laser"** as Cutting Method. The **Part Master Update** screen is displayed to update the description of the Part Number being imported into the **Global Edge** database:

5. Select **"OK"** to continue and the **Part Routing** screen is displayed that lists any routing operations that are attached to the current part. In this instance, the **Global Edge** Configurator will generate the routings at the quoting stage after the DXF File parameters have been imported into the **Global Edge** database:

Part Routing

Part Number:

Route

Route #: Description: Set Up:

Type: Optimization: Component:

Loca. Level: Optimization Quantity: Process: Config #

Operation: Total Cost:

Seq #	Routing	Routing Description	Type	Units / Hour	Estimated Cost	Mach #	Mach Ref
1	LASER-CUT	Laser Cut Operation	Process	235.52	0.5944	1123	CI-LSR-1123
2	BEND	Press Brake Bending Operation	Process	100.00	0.7500	1011	CI-PB-1011
3	TIG-WELD	TIG Weld	Process	6.67	6.7500	1112	WELD-1112
4	DEBURR	Deburring Operation	Process	26.83	1.6769	1108	POLISH-1108
5	SAND-PAINT-PREP	Sand / Paint / Preparation Operation	Process	190.55	0.2099	1086	PAINT-1086
6	HANGING	Hanging Operation	Process	50.00	0.5000	1077	HANG-1077
7	WASHING	Washing Operation	Process	100.00	0.2500	1082	WASH-1082
8	PAINTING	Painting Operation	Process	95.27	0.4198	1084	PAINT-1084
9	CURING	Curing Operation	Process	20.00	1.2500	1089	OVEN-1089
10	ASSEMBLY	Assembly Operation	Process	20.00	2.5000	1094	ASSM-1094
11	GENERAL-LABOR	General Labor Operation	Process	20.00	2.5000	1125	LABOR-1125
12	FINAL-INSPECT	Final Inspection Operation	Process	20.00	1.7500	1099	INSPECT-1099
13	PACKAGE	Package Operation	Process	20.00	1.7500	1099	INSPECT-1099
14	SHIPPING	Shipping Operation	Process	20.00	1.7500	1104	SHIP-1104

TRANS #	SEQ. #	PROCESS	DESCRIPTION	WC #	ASSET #	SETUP	SETUP	STD. COST
912	1		Cutting Group					
913	2	SHEAR	Sheet Metal Shear Operation	1	1109	0.250000	\$13.75	\$55.0000
914	3	PUNCH	Turret Punch Operation	4	1007	0.250000	\$18.75	\$75.0000
915	4	EMBOSS	Embossing Operation	4	1007	0.250000	\$18.75	\$75.0000
916	5	LASER-CUT	Laser Cut Operation	3	1123	0.100000	\$14.00	\$140.0000
917	6		End of Operation Group					
918	7		Forming Group					
919	8	BEND	Press Brake Bending Operation	7	1011	0.500000	\$37.50	\$75.0000
920	9	PANELBEND	Panel Bender Bending Operation	7	1009	0.100000	\$12.00	\$120.0000
921	10		End of Operation Group					
922	11		Hardware / Pem Group					
923	12	INSTALL-PEM-NUTS	Install Pem Nuts	11	1110	0.350000	\$17.50	\$50.0000
924	13	INSTALL-PEM-STUDS	Install Pem Studs	11	1110	0.350000	\$17.50	\$50.0000
925	14		End of Operation Group					
926	15		Welding Group					
927	16	TIG-WELD	TIG Weld	9	1112	0.500000	\$22.50	\$45.0000
928	17	MIG-WELD	MIG Weld	9	1111	0.500000	\$22.50	\$45.0000
929	18		End of Operation Group					
930	20	DEBURR	Deburring Operation	8	1108	0.200000	\$9.00	\$45.0000
931	21	GRAIN	Graining Operation	8	1160	0.250000	\$11.25	\$45.0000
932	22	SAND-PAINT-PREP	Sand / Paint / Preparation Operation	10	1086	0.150000	\$6.00	\$40.0000
933	25	HANGING	Hanging Operation	10	1077	0.150000	\$3.75	\$25.0000
934	26	WASHING	Washing Operation	10	1082	0.150000	\$3.75	\$25.0000
935	27	PAINTING	Painting Operation	10	1084	0.150000	\$6.00	\$40.0000
936	28	CURING	Curing Operation	10	1089	0.250000	\$6.25	\$25.0000
937	31	ASSEMBLY	Assembly Operation	11	1094	0.250000	\$12.50	\$50.0000
938	32	RIVET	Riveting Operation	11	1119	0.250000	\$12.50	\$50.0000
939	33	GASKETING	Gasketing Operation	11	1092	0.250000	\$8.75	\$35.0000
940	34	GENERAL-LABOR	General Labor Operation	11	1125	0.250000	\$12.50	\$50.0000
941	37	FINAL-INSPECT	Final Inspection Operation	12	1099	0.250000	\$8.75	\$35.0000
942	38	PACKAGE	Package Operation	12	1099	0.250000	\$8.75	\$35.0000
943	39	SHIPPING	Shipping Operation	15	1104	0.150000	\$5.25	\$35.0000

6. Select **“Close”** option. Once the DXF File has been imported into the database, the status of the part is updated on the lower middle portion of the screen ready for the next DXF File to be imported for the Sales Quote:

Global Edge – Import DXF Files screen provides an easy method to import 2D DXF Sheet Metal Parts. The purpose of this functionality is to import the drawing attribute information into the **Global Edge** Engineering Data Warehouse for the purpose of Automated Routing Generation. Once a sheet metal part is imported, information such as: Part Height, Part Width, Part Perimeter, Number of Folds, Number of Hems, Number of Cutouts, and Cutout Perimeter is then stored in the **Global Edge** system.

7. Repeat process with remaining parts and select **“Finish > Close”** option, the following prompt is displayed listing the generated work queue Quote Task Number assigned to complete the Sales Quote process:

2.3 – Automated Sales Quote Generation

These steps illustrate the automated sales quote generation process.

Workflow Steps

1. The first step is to select **“CRM-Quoting > Prospect / Quote Management”** option to display the following screen:

The screenshot shows the 'PROSPECT QUOTE: Global Edge Demo Server' window with the 'Prospect-Maintenance' tab selected. The form contains various input fields for prospect information, including ID #, REF #, PHONE, EXT, COMPANY, CONTACT, E-MAIL, ALT. CONTACT, ADDRESS 1, ADDRESS 2, CITY/STATE/ZIP, COUNTRY, ACTION, PRODUCT INTEREST, LEAD SOURCE, TYPE, POTENTIAL, PRICE LIST, SALES STAGE, WEBSITE, NAICS CODE, SIC CODE, PRODUCTS, NOTES, DATE ADDED, and DATE MODIFIED. A sidebar on the right contains buttons for Add, Find, Next, Previous, Goto, Tickler, Update, Contact, Edit-Notes, Opportunity, Sales-Quote, More, Delete, Work Queue, and QUIT. The bottom status bar shows 'PR01' and 'Add New Prospect'.

2. Select **“Work Queue > Execute-Task”** option and select work queue task to execute:

The screenshot shows the 'PROSPECT QUOTE: Global Edge Demo Server' window with the 'Work-Queue' tab selected. The form displays a table of tasks to execute, with columns for TASK #, DATE, TYPE, PRIORITY, NOTE, ACTION, REQ. DATE, and STATUS. The table shows one task with ID 1164, dated 2021-08-03 10:55, of type 'Quote', priority 3, and status 'Open'. The task description is 'Generate Sales Quote for ...'. The form also includes checkboxes for PRIORITY (1-HIGHEST, 2-HIGH, 3-NORMAL, 4-LOW, 5-LOWEST), STATUS (DRAFT, PENDING, OPEN, WIP, RUNNING, HOLD, FAILED, CLOSED, CANCELLED), and buttons for OK, Cancel, and F6-Details. The bottom status bar shows 'B076'.

- Select **"OK"** option and select work queue task to execute which access Quote Header screen for specific sales quote specified, then select **"Items > Update"** option and select Quote Item to process:

PROSPECT QUOTE: Global Edge Demo Server

Quote-Header

Select Item to Update to Update, then Press [OK]:

CUST #: 1001 REF #: ABC MANUFACTURING

QUOTE #: 1021 QUOTE REF #: REVISION #: 0 STATUS: Entered

NOTE: New Quote for Imported DXF File(s) ENG. APPROVAL: No

LOCATION #: QUOTE DATE: 08/03/2021

CONTACT #: 1 Robert Smith VALID THRU:

OPPORTUNITY #: 3 Light Fixture & CI Parts APPROVED:

PROJECT #: SUBMITTED:

JOB #: 1017

QUOTE BY: PURGE: PURGE DATE:

SALES REP: RDS Robert D. Smith CLOSE %: 0.0 GEN PART: No

SHIP WEIGHT: 0.0 SHIP DAYS: 0 OPEN TASKS: 0

SHIP VIA: UPS UNITED PARCEL SER. FOB LOCATION:

PAY TERMS: N30 NET 30 DAYS NET CHARGE: \$0.00

METHOD: FACTOR: 0.0 FREIGHT: \$0.00

PRICE LIST: SALES TAX: \$0.00

TAXABLE: Yes RATE: 0.0 % QUOTE TOTAL: \$0.00

Quote Items

LINE	PART NUMBER	QUANTITY	UNIT	EXTENDED	CFG STATUS
1	CI-01-4-11759_201A_07	50.0000	\$0.0000	\$0.00	Complete
2	CI-02-4-11811_126_15	125.0000	\$0.0000	\$0.00	Complete
3	CI-03-4-11811_126_131	75.0000	\$0.0000	\$0.00	Complete
4	CI-04-09-1908-A	50.0000	\$0.0000	\$0.00	Complete
5	CI-05-1000-018-B2-PLG	100.0000	\$0.0000	\$0.00	Complete
6	DEMO-00-LIGHT	10.0000	\$0.0000	\$0.00	Configure

PROB

OK Cancel F8-View

- Select **"OK"** option to display Quote Item screen, then select the **"Configure"** option process quote item:

PROSPECT QUOTE: Global Edge Demo Server

Quote-Item

Quantity-Pricing Bill-of-Materials Nestings Image

CUST #: 1001 ABC MANUFACTURING

QUOTE #: 1021 ITEM #: 1 OPEN TASK #: 0

PART #: CI-01-4-11759_201A_07 PROJECT PHASE: 0

APRON LIST PRICE: \$182.3028

STANDARD COST: \$182.3028

QUOTE COST: \$182.3028

ROLL-UP COST: \$182.3028

MFR. SET-UP COST: \$156.5000

ONE TIME CHARGE: \$0.0000

ON HAND: 0.0000

PRICE METHOD: FACTOR: TAXABLE?:

PRICE LIST #: 0

QUANTITY UOM UNIT PRICE EXTENDED

ORDER: 50.0000 each \$0.0000 \$0.00

DISCOUNT: %

WEIGHT: 0.0 0.0

CONFIG STATUS Complete OVER/UNDER: 0.0 / 0.0 % CERTIFIED MATERIAL?:

PR10

Update Quote Item

QUOTE-ITEM

Update

Next

Previous

proD-Qty

Import-DXF

Configure

Fabrication

Summary

Notes

Work-Queue

Documents

Status

QUIT

5. Select **“OK”** option to display Quote Item screen, then select the **“Configure > Yes”** option process quote item. When the Configurator is finished generating routings, the following screen form and menu options are displayed:

PROSPECT QUOTE: Global Edge Demo Server

Configurator-Parameter-Input

MASTER CONFIGURATION PART #: CI-01-4-11759_201A_07 APRON

SUB-COMPONENT PART #: CRS COLD ROLLED STEEL

PARAM #: 4 PARAMETER: Material UOM: inches

ENTER PARAMETER NUMBER VALUE: 0.048000 INTERVAL: MIN: 0.0000 MAX:

ENTER FEET/INCHES: MIN. FEET/IN: MAX. FEET/IN:

ENTER PARAMETER TEXT VALUE: CRS

ENTER COMPONENT QUANTITY: QTY. UOM:

#	Parameter Option	Parameter Option Description

Param. # Parameter Parameter Value UOM

CFG1

View Bill of Materials

Complete

BOM

Documents

Routing

QUIT

OVR

6. Select **“BOM”** option to display the material and quantity required to fabricate part:

PROSPECT QUOTE: Global Edge Demo Server

Assembly-Components

Bill of Materials List

When Done Viewing BOM, Press [OK]:

LINE	PART NUMBER	DESCRIPTION	QTY. REQUIRED	UOM
1	CRS	COLD ROLLED STEEL	3.7080	lbs

FOUND 1 COMPONENT

B005

OK

Cancel

OVR

7. Select **“OK > Routing”** option to display the routings that were generated for selected part:

PROSPECT QUOTE: Global Edge Demo Server

Routing

PART #: CI-01-4-11759_201A_07 APRON

ROUTE #: 1 OF: 1 DESCRIPTION: CINCINNATI PART ROUTING OPTIMIZATION: 1.000000

TYPE: Standard ROUTE SOURCE: No SET-UP COST: \$156.5000

LOCATION LEVEL: None WORK QUEUE REBUILD: No PROCESS COST: \$22.6510

LOCATION #: COMPONENT COST: \$3.1518

DEPT #: TOTAL COST: \$25.30

W.C. #: ROLL-UP DATE: 08/03/2021

ASSET #:

SEQ #	ROUTING	ROUTING DESCRIPTION	TYPE	SET UP COST	PROC. COST	MACH. #	MACH. REF	TRANS
1	LASER-CUT	Laser Cut Operation	Process	\$14.00	\$0.5944	1123	CI-LSR-1123	2710
2	BEND	Press Brake Bending Operation	Process	\$37.50	\$0.7500	1011	CI-PB-1011	2711
3	TIG-WELD	TIG Weld	Process	\$22.50	\$6.7500	1112	WELD-1112	2712
4	DEBURR	Deburring Operation	Process	\$9.00	\$1.6769	1108	POLISH-1...	2713
5	SAND-PAINT-PREP	Sand / Paint / Preparation Operation	Process	\$6.00	\$0.2099	1086	PAINT-1086	2714
6	HANGING	Hanging Operation	Process	\$3.75	\$0.5000	1077	HANG-1077	2715
7	WASHING	Washing Operation	Process	\$3.75	\$0.2500	1082	WASH-1082	2716
8	PAINTING	Painting Operation	Process	\$6.00	\$0.4198	1084	PAINT-1084	2717
9	CURING	Curing Operation	Process	\$6.25	\$1.2500	1089	OVEN-1089	2718
10	ASSEMBLY	Assembly Operation	Process	\$12.50	\$2.5000	1094	ASSM-1094	2719
11	GENERAL-LABOR	General Labor Operation	Process	\$12.50	\$2.5000	1125	LABOR-1125	2720
12	FINAL-INSPECT	Final Inspection Operation	Process	\$8.75	\$1.7500	1099	INSPECT-...	2721
13	PACKAGE	Package Operation	Process	\$8.75	\$1.7500	1099	INSPECT-...	2722
14	SHIPPING	Shipping Operation	Process	\$5.25	\$1.7500	1104	SHIP-1104	2723

FOUND 14 SEQUENCES

BO 10

View Routing Sequences

ROUTING View QUIT

8. After the Configurator executes on a selected part, select the **“QUIT”** option, the software returns to the **“Quote-Item”** screen. Select **“Update”** option, fill in the remainder of the screen form with the proper information such as adding to the part description on the six descriptive lines located below the PART # field. Use the TAB key to move to the next data field. In the PRICE Method field, select **“Cost-Plus”** from the drop-down menu. In the FACTOR field, enter a factor as to what percentage the part should be marked up on the Sales Quote from the cost. Enter a factor of 1.5 to markup part. In the QUANTITY field, enter the quantity of parts to include on the Sales Quote:

PROSPECT QUOTE: Global Edge Demo Server

Quote-Item Quantity-Pricing Bill-of-Materials Nestings Image

Update Quote Item Information, then Press [OK]:

CUST #: 1001 ABC MANUFACTURING

QUOTE #: 1021 ITEM #: 1 OPEN TASK #: 1

PART #: CI-01-4-11759_201A_07 PROJECT PHASE:

APRON LIST PRICE: \$182.3028

STANDARD COST: \$182.3028

QUOTE COST: \$182.3028

ROLL-UP COST: \$182.3028

MFR. SET-UP COST: \$156.5000

ONE TIME CHARGE: \$0.0000

ON HAND: 0.0000

TAXABLE?:

PRICE METHOD: Cost-Plus FACTOR: 1.5

PRICE LIST #:

QUANTITY UOM UNIT PRICE EXTENDED

ORDER: 50.0000 each \$43.3992 \$2169.95

DISCOUNT: %

WEIGHT: 0.0 0.0 0.0

OVER/UNDER: 0.0 / 0.0 % CERTIFIED MATERIAL?:

PR 10

Enter Taxable: Yes, No

OK Cancel F5-Qty. Dist. F6-Discount F7-Part # F8-Phase F9-Unit F10-Quantity

9. For multiple price quantities, select the **"F10-Quantity"** option of right-hand menu to display the following **"Quantity-Pricing"** screen tab and fill in the various Quantity Prices in the QUANTITY field you want to appear on the Sales Quote:

PROSPECT QUOTE: Global Edge Demo Server

Quote-Item **Quantity-Pricing** Bill-of-Materials Nestings Image

PART #: CI-01-4-11759_201A_07 APRON

LIST PRICE:

ROW	QUANTITY	UNIT COST	UNIT PRICE	EXT.COST	EXT.PRICE
1	50.0000	\$28.9328	\$43.3992	\$1446.6400	\$2169.96
2	75.0000	\$27.8895	\$41.8343	\$2091.7125	\$3137.57
3	100.0000	\$27.3678	\$41.0517	\$2736.7800	\$4105.17
4	150.0000	\$26.8461	\$40.2692	\$4026.9150	\$6040.38
5	250.0000	\$26.4288	\$39.6432	\$6607.2000	\$9910.80

OK Cancel Insert Append Delete

OVR: ..

10. When done with remaining items, return to **"Quote-Header"** menu to display the following screen form and menu options:

PROSPECT QUOTE: Global Edge Demo Server

Quote-Header

Quote Header Information

CUST #: 1001 REF #: ABC MANUFACTURING

QUOTE #: 1021 QUOTE REF #: REVISION #: 0 STATUS: Entered

NOTE: New Quote for Imported DXF File(s) ENG. APPROVAL: No

LOCATION #: QUOTE DATE: 08/03/2021

CONTACT #: 1 Robert Smith VALID THRU:

OPPORTUNITY #: 3 Light Fixture & CI Parts APPROVED:

PROJECT #: SUBMITTED:

JOB #: 1017

QUOTE BY: PURGE: PURGE DATE:

SALES REP: RDS Robert D. Smith CLOSE %: 0.0 GEN PART: No

SHIP WEIGHT: 0.0 SHIP DAYS: 0 OPEN TASKS: 0

SHIP VIA: UPS UNITED PARCEL SER. FOB LOCATION:

PAY TERMS: N30 NET 30 DAYS NET CHARGE: \$19698.68

METHOD: FACTOR: 0.0 FREIGHT: \$0.00

PRICE LIST: SALES TAX: \$0.00

TAXABLE: Yes RATE: 0.0 % 0.0 % QUOTE TOTAL: \$19698.68

Quote Items

LINE	PART NUMBER	QUANTITY	UNIT	EXTENDED	CFG STATUS
1	CI-01-4-11759_201A_07	50.0000	\$43.3992	\$2169.96	Complete
2	CI-02-4-11811_126_15	125.0000	\$53.9469	\$6743.36	Complete
3	CI-03-4-11811_126_131	75.0000	\$38.6392	\$2897.94	Complete
4	CI-04-09-1908-A	50.0000	\$58.7267	\$2936.34	Complete
5	CI-05-1000-018-82-PLG	100.0000	\$37.0608	\$3706.08	Complete
6	DEMO-00-LIGHT	10.0000	\$124.5000	\$1245.00	Configure

PROB

Update Quote Item

Update Add Standard Update View Load Delete QUIT

OVR: ..

Sample Sales Quote

The following is a sample sales quote generated by the *Global Edge – Automated Quoting* system:

LOGIC DESIGN corporation		SALES QUOTATION						
1530 South Norwood Drive New Berlin, WI 53146-1419 Phone: 262-391-8697 www ldcglobal.com		QUOTE #: [1007] REV #: [1]				PAGE: 001		
		DATE: [08/23/2019]						
		CUST ID: [1001]						
		CONTACT: Robert Smith						
		E-MAIL: rsmith@abc-manufacturing.com						
		WEBSITE:						
		PHONE: 111-111-1111				FAX: 111-111-1111		
SUBMITTED TO:		SHIP TO:						
ABC MANUFACTURING 5000 West Industrial Way Milwaukee, WI, 55555 USA		ABC MANUFACTURING 5000 West Industrial Way Milwaukee, WI, 55555 USA						
FOB LOCATION	REV #	VALID THRU	SHIP VIA	DAYS2SHIP	PAY TERMS	SALES REP.		
Shipping Point	1		UNITED PARCEL SER.	10	NET 30 DAYS	Robert D. Smith		
PART #	DESCRIPTION			QTY	UOM	TAX	UNIT	EXTENDED
LIGHT-00-LIGHT-FIXTURE	LIGHT FIXTURE ASSEMBLY			5.00	ea	No	216.28	1,081.39
				1.00			229.48	229.48
				10.00			214.63	2,146.29
				50.00			213.31	10,665.43
				100.00			213.14	21,314.36
** PAYMENT SCHEDULE **					QUOTE SUB-TOTAL: 1,081.39 SALES TAX: 0.00 FREIGHT: 50.00 QUOTE TOTAL: 1,131.39			

Demo Section 3: Production Scheduling / Execution

This section illustrates the **Global Edge** Industry 4.0 integration with Production Scheduling / Execution capabilities that include the following:

- Automated Job Build / Scheduling
- Workstation Screen / Load Balancing / Schedule Export

Sample Job Orders

The following are sample Job Orders that are downloaded from ERP that will automatically build complete Production Orders that will illustrate the **“Production Scheduling / Execution”** capabilities of the **Global Edge** system:

Job #	Job Date	Req. Date	Sch. Start	Sch. End	Cust #	Job Description
1008	5/24/2021	6/7/2021	5/24/2021	5/31/2021	1001	CABINET BODY JOB (ERP Download)
1009	5/25/2021	6/8/2021	5/25/2021	6/1/2021	1001	LIGHT FIXTURE ASSEMBLY JOB (ERP Download)
1010	5/26/2021	6/9/2021	5/26/2021	6/2/2021	1001	APRON JOB (ERP Download)
1011	5/27/2021	6/10/2021	5/27/2021	6/3/2021	1001	LOAD CENTER BOX JOB (ERP Download)
1012	5/28/2021	6/11/2021	5/28/2021	6/4/2021	1001	BOTTOM DISPLAY LIGHT HOUSING JOB (ERP Download)
1013	5/29/2021	6/12/2021	5/29/2021	6/5/2021	1001	SHEET METAL HOUSING JOB (ERP Download)
1014	5/30/2021	6/13/2021	5/30/2021	6/6/2021	1001	SHEET METAL PANEL JOB (ERP Download)

Sample Job Order Work Packs

The **Global Edge** system provides the capability to divide Job Orders into Work Packs of similar manufacturing operations such as fabrication work packs, assembly work packs to improve shop floor efficiency. The following are sample Job Order Work Packs that will illustrate the **“Production Scheduling / Execution”** capabilities of the **Global Edge** system:

Job #	WP #	Sch. Start	Sch. End	% of Job	Description
1008	1	5/24/2021	5/29/2021	75	Cabinet Component Fabrication Work Pack
1008	2	5/29/2021	5/31/2021	25	Cabinet Assembly Work Pack
1009	1	5/25/2021	5/30/2021	75	Light Fixture Fabrication Work Pack
1009	2	5/30/2021	6/1/2021	25	Light Fixture Assembly Work Pack
1010	1	5/26/2021	5/31/2021	100	Component Fabrication Work Pack
1011	1	5/27/2021	6/1/2021	100	Component Fabrication Work Pack
1012	1	5/28/2021	6/2/2021	100	Component Fabrication Work Pack
1013	1	5/29/2021	6/3/2021	100	Component Fabrication Work Pack
1014	1	5/30/2021	6/4/2021	100	Component Fabrication Work Pack

Sample Manufacturing Process / Routing Operation Data

The following are sample Manufacturing Processes that are utilized with Routing Operations throughout the demonstration process:

Process	Description	Class	Std. Cost	UOM
ASSEMBLY	Assembly Operation	ASM	50.0000	hours
BEND	Press Brake Bend Operation	FRM	75.0000	hours
CURING	Curing Operation	OVN	25.0000	hours
CUT-TO-LENGTH	Cut-to-Length Operation	SHR	55.0000	hours
EMBOSS	Embossing Operation	PNC	75.0000	hours
FINAL-INSPECT	Final Inspection	ISP	35.0000	hours
GRIND-SM	Small Grinding Operation	FIN	25.0000	hours
HANGING	Hanging Operation	HNG	25.0000	hours
LASER-CUT	Laser Cut	LSR	140.0000	hours
PACKAGING	Packaging Operation	PKG	35.0000	hours
PAINTING	Painting Operation	PNT	40.0000	hours
PANELBEND	Panel Bender Bending Operation	PNL	120.0000	hours
PUNCH	Turret Punch Operation	PNC	75.0000	hours
SAND-PAINT-PREP	Sand / Paint / Preparation Operation	WPR	40.0000	hours
SHEAR	Shear	SHR	55.0000	hours
SHIPPING	Shipping Operation	SHP	35.0000	hours
STUD-CD-MD	Med. Capacitive Discharge Studding Oper.	WST	45.0000	hours
WASHING	Washing Operation	WSH	25.0000	hours
WELD-MD	Medium Seam-Tack Welding Operation	WTK	45.0000	hours

Sample Machine Tool Data

The following are sample Machine Tools that are utilized throughout the demonstration process:

Asset #	Ref #	Description	Category	Type	WC #	Cost Rate	Bill Rate
1006	LASER-1006	Salvagnini L3Xe Fiber	PRD	LASER	3	140.00	182.00
1007	TURRET-1007	Amada Coma 567	PRD	TURRET	4	75.00	97.50
1009	PANEL-1009	Salvagnini P4Xe	PRD	PANEL-B	7	120.00	156.00
1011	CI-PB-1011	Cincinnati 135 MX8 Press Brake	PRD	PR-BRKE	7	75.00	97.50
1020		Medium Manual Tack Machine (Line 1)	PRD	WELDTACK	9	45.00	58.50
1043	WELD-1043	Medium Manual Studding Mach (Capacitive)	PRD	WELDSTUD	9	45.00	58.50
1059		Small Manual Grinding Station	PRD	WELDGRND	8	25.00	32.50
1077	HANG-1077	Manual Hanging Station 1	PRD	HANGING	10	25.00	32.50
1082	WASH-1082	Automated Wash Station	PRD	WASH	10	25.00	32.50
1084	PAINT-1084	Manual Paint Booth 1	PRD	PAINT	10	40.00	52.00
1086	PAINT-1086	Sand-Paint Prep Station	PRD	PAINT	10	40.00	52.00
1089	OVEN-1089	Auto Cure Oven	PRD	OVEN	10	25.00	32.50
1094	ASSM-1094	Assembly Line 1	PRD	ASSEMBLY	11	50.00	65.00
1099	INSPECT-1099	Inspection Station	PRD	INSPECT	12	35.00	45.50
1100	PACK-1100	Carbon Packaging Station	PRD	PACKAGE	14	35.00	45.50
1102	PACK-1102	Crating Packaging Station	PRD	PACKAGE	14	35.00	45.50
1104	SHIP-1104	Shipping Station	PRD	SHIPPING	15	35.00	45.50
1109	CI-SHR-1109	Cincinnati HS Series Shear	PRD	SHEAR	1	55.00	71.50
1123	CI-LSR-1123	Cincinnati CL900 Laser	PRD	LASER	3	125.00	162.50

Last Update: Friday, April 03, 2026

Sample Workstation Screen

Once the Production Jobs are automatically generated scheduled from the downloaded ERP Job Orders, the **Global Edge** system assigns each of the jobs to the appropriate Workstation screen to execute production schedules for each work center (Work Cell). The following are sample Workstation schedules will illustrate the **“Production Scheduling / Execution”** capabilities of the **Global Edge** system.

Sample Workstation Production Schedule

Asset #	Machine Tool Description	Dept #	W.C. #
1006	Salvagnini L3Xe Fiber	8	3

Job #	Part Number	Process	Trans #	Prod. #	Card #	Sch. Start	Sch. End	Qty.
1008	SLD-002-WRAP-325616-0001	LASER-CUT	777	1001	46	5/24/2021	5/29/2021	5.0000
1008	SLD-003-CAB-BOT-5616-0001	LASER-CUT	779	1003	48	5/24/2021	5/29/2021	5.0000
1008	SLD-004-CAB-TOP-5616-0001	LASER-CUT	780	1004	49	5/24/2021	5/29/2021	5.0000
1008	SLD-015-FILL-PNL-1627-0001	LASER-CUT	781	1005	50	5/24/2021	5/29/2021	5.0000
1008	SLD-017-SPINE-CT-32-0001	LASER-CUT	784	1008	53	5/24/2021	5/29/2021	5.0000
1008	SLD-018-SPINE-LT-32-0001	LASER-CUT	786	1010	55	5/24/2021	5/29/2021	5.0000
1008	SLD-019-SPINE-RT-32-0001	LASER-CUT	788	1012	57	5/24/2021	5/29/2021	5.0000

Asset #	Machine Tool Description	Dept #	W.C. #
1123	Cincinnati CL900 Laser	8	3

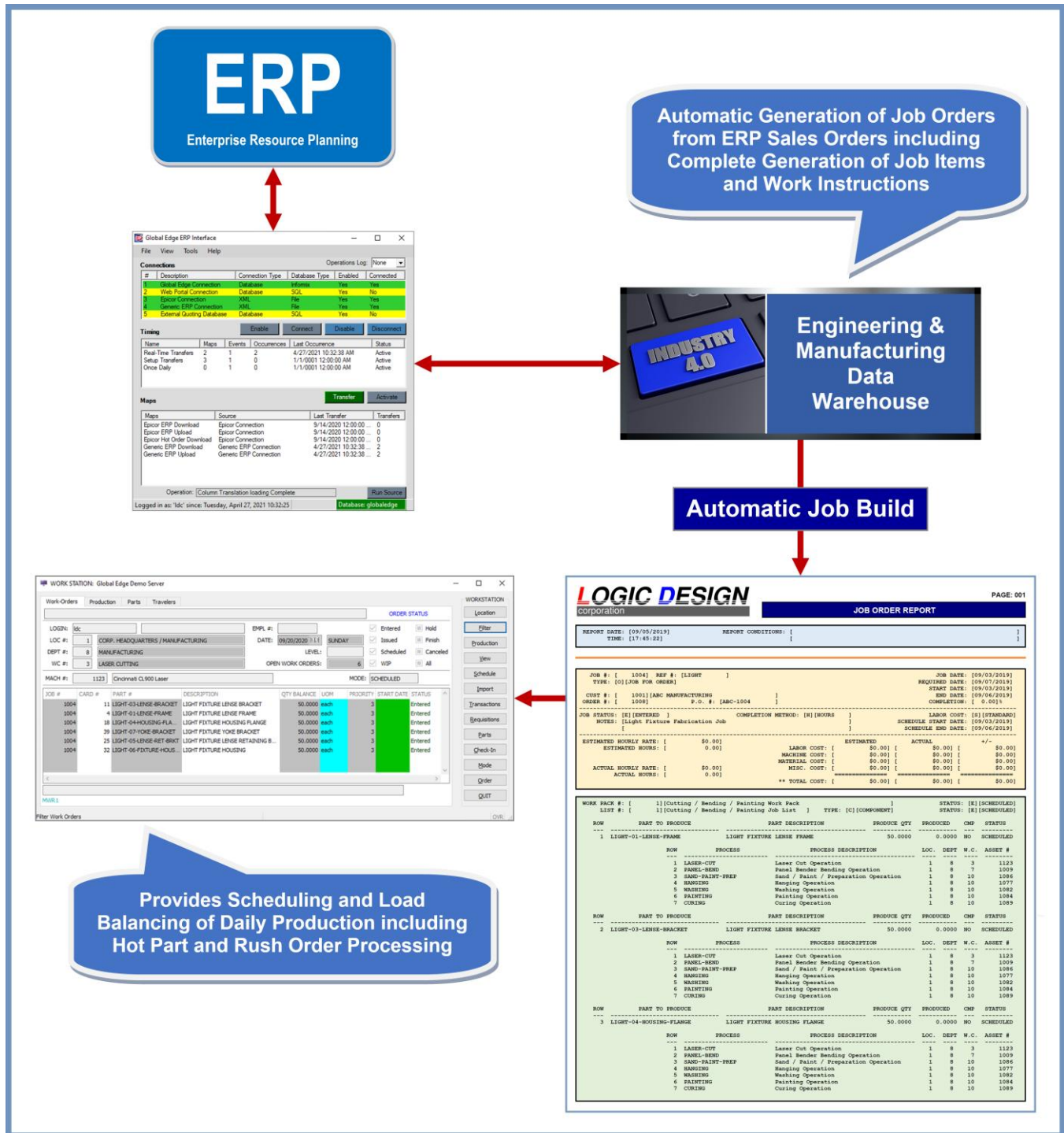
Job #	Part Number	Process	Trans #	Prod. #	Card #	Sch. Start	Sch. End	Qty.
1009	LIGHT-01-LENSE-FRAME	LASER-CUT	623	1026	71	5/25/2021	5/30/2021	10.0000
1009	LIGHT-03-LENSE-BRACKET	LASER-CUT	630	1028	73	5/25/2021	5/30/2021	10.0000
1009	LIGHT-04-HOUSING-FLANGE	LASER-CUT	637	1030	75	5/25/2021	5/30/2021	10.0000
1009	LIGHT-05-LENSE-RET-BRKT	LASER-CUT	644	1032	77	5/25/2021	5/30/2021	10.0000
1009	LIGHT-06-FIXTURE-HOUSING	LASER-CUT	651	1034	79	5/25/2021	5/30/2021	10.0000
1009	LIGHT-07-YOKE-BRACKET	LASER-CUT	658	1036	81	5/25/2021	5/30/2021	10.0000
1010	CI-01-4-11759_201A_07	LASER-CUT	794	1076	121	5/26/2021	5/31/2021	15.0000
1011	CI-02-4-11811_126_15	LASER-CUT	806	1088	133	5/27/2021	6/1/2021	20.0000
1012	CI-03-4-11811_126_131	LASER-CUT	818	1100	145	5/28/2021	6/2/2021	25.0000
1013	CI-04-09-1908-A	LASER-CUT	829	1111	156	5/29/2021	6/3/2021	30.0000
1014	CI-05-1000-018-B2-PLG	LASER-CUT	841	1123	168	5/30/2021	6/4/2021	35.0000

Asset #	Machine Tool Description	Dept #	W.C. #
1109	Cincinnati HS Series Shear	8	1

Job #	Part Number	Process	Trans #	Prod. #	Card #	Sch. Start	Sch. End	Qty.
1008	SLD-016-HORZ-DIV-55-0001	CUT-TO-LENGTH	782	1006	51	5/24/2021	5/29/2021	5.0000
1008	SLD-020-VERT-DIV-BOT-15-0001	CUT-TO-LENGTH	790	1014	59	5/24/2021	5/29/2021	5.0000
1008	SLD-021-VERT-DIV-TOP-16-0001	CUT-TO-LENGTH	792	1016	61	5/24/2021	5/29/2021	5.0000
1009	LIGHT-09-FRAME-CHANNEL	CUT-TO-LENGTH	851	1038	83	5/25/2021	5/30/2021	10.0000

Production Scheduling / Execution Workflow Diagram

Global Edge Integrated Manufacturing provides the capabilities to drive and record production on a real-time basis using the information generated throughout the integrated factory enterprise.



Production Scheduling / Execution Demonstration Sequence

Global Edge Integrated Manufacturing includes the ability to automatically generate job orders from downloaded ERP orders including the scheduling and management of shop floor production. The sections within this stage include:

- **3.1 – Automated Job Build / Scheduling**
- **3.2 – Workstation Screen / Load Balancing / Schedule Export**

Production Scheduling / Execution – Section Overview

The following is an overview of this section and what is illustrated within each of the steps.

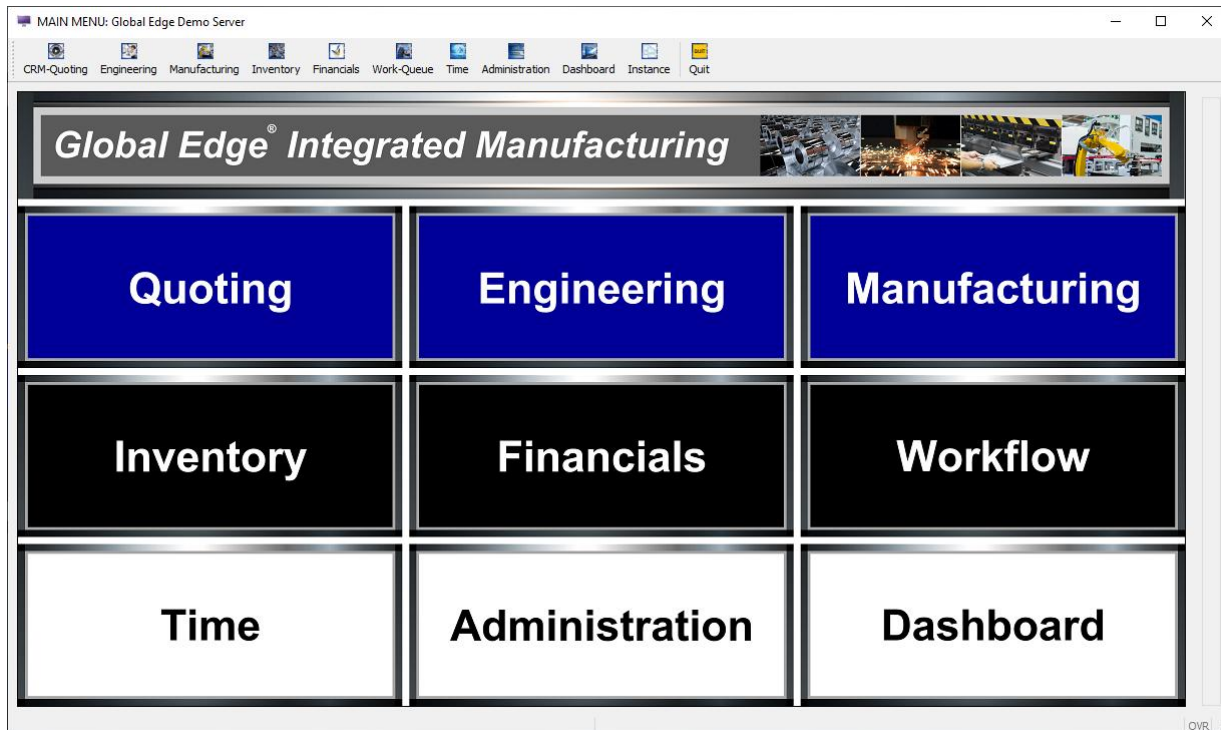
- **3.1 – Automated Job Build / Scheduling**: The steps within this section illustrate how **Global Edge** can automatically generate complete job orders from orders that are downloaded from ERP. The automated tasks illustrated include:
 - **Automated Job Build / Scheduling**
- **3.2 – Workstation Screen / Load Balancing / Schedule Export**: The steps within this section illustrate how **Global Edge** can schedule and manage production including load balancing, and the exporting of the workstation schedule to a CSV file to be imported into a third-party scheduling system. The automated tasks illustrated include:
 - **Automated Production Order Generation**
 - **Production Load Balancing**
 - **Production Schedule Export**

3.1 – Automated Job Build / Scheduling

These steps illustrate the automated job build and scheduling capabilities of orders that were downloaded from ERP.

Workflow Steps

1. Select the **“Manufacturing > Job Order Maintenance”** option on the **Global Edge** main menu:



2. The **“Job Maintenance”** screen is displayed:

3. Select the **“Jobs”** option to display the **“Job Build”** screen:

INCL	JOB #	PRIORITY	DESCRIPTION	CUST #	COMPANY NAME	JOB DATE	REQUIRED DATE	STATUS	TEMPLATE JOB
☐	1009	3	Cabinet Body (ERP Download)	1001	ABC MANUFACTURING	08/03/2021	08/17/2021	Build	
☐	1010	3	Light Fixture (ERP Download)	1001	ABC MANUFACTURING	08/04/2021	08/18/2021	Build	
☐	1011	3	CI - Apron (ERP Download)	1001	ABC MANUFACTURING	08/05/2021	08/19/2021	Build	
☐	1012	3	CI - Load Center Box (ERP Dow...	1001	ABC MANUFACTURING	08/06/2021	08/20/2021	Build	
☐	1013	3	CI - Bottom Display Light Housin...	1001	ABC MANUFACTURING	08/07/2021	08/21/2021	Build	
☐	1014	3	CI - Sheet Metal Housing (ERP ...	1001	ABC MANUFACTURING	08/08/2021	08/22/2021	Build	
☐	1015	3	CI - Sheet Metal Panel (ERP Do...	1001	ABC MANUFACTURING	08/09/2021	08/23/2021	Build	
☐	1016	3	Transformer (ERP Download)	1003	XYZ INCORPORATED	08/10/2021	08/24/2021	Build	
☐	1017	3	Transformer (ERP Download)	1003	XYZ INCORPORATED	08/11/2021	08/25/2021	Build	
☐	1018	3	Transformer (ERP Download)	1003	XYZ INCORPORATED	08/12/2021	08/26/2021	Build	

BUILD JOBS: 10 PENDING JOBS: 0 ISSUED JOBS: 0 TOTAL JOBS: 10 BUILT JOBS: 0
BUILD SELECTED: 0 PENDING SELECTED: 0 ISSUED SELECTED: 0 SELECTED JOBS: 0 SCHEDULED JOBS: 0
ON HOLD JOBS: 0

MRP _

Select Jobs

OVR

Global Edge provides the ability to automatically build jobs that have been downloaded from ERP that are structured and scheduled based on rules from template jobs that can be customized for specific product lines. During this process, **Global Edge** automatically matches each of the job orders with the appropriate user defined template jobs and then builds the job organizing and scheduling operations into optimized work packs that make efficient use of machine tools and people.

4. Select the **“Templates”** option to assign the appropriate TEMPLATE JOB to the downloaded jobs followed by the **“All”** option which will display the following:

JOB IMPORT BUILD: Global Edge Demo Server

Job-Build

INCL	JOB #	PRIORITY	DESCRIPTION	CUST #	COMPANY NAME	JOB DATE	REQUIRED DATE	STATUS	TEMPLATE JOB :
☒	1009	3	Cabinet Body (ERP Download)	1001	ABC MANUFACTURING	08/03/2021	08/17/2021	Build	1005
☒	1010	3	Light Fixture (ERP Download)	1001	ABC MANUFACTURING	08/04/2021	08/18/2021	Build	1006
☒	1011	3	CI - Apron (ERP Download)	1001	ABC MANUFACTURING	08/05/2021	08/19/2021	Build	1007
☒	1012	3	CI - Load Center Box (ERP Dow...	1001	ABC MANUFACTURING	08/06/2021	08/20/2021	Build	1007
☒	1013	3	CI - Bottom Display Light Housin...	1001	ABC MANUFACTURING	08/07/2021	08/21/2021	Build	1007
☒	1014	3	CI - Sheet Metal Housing (ERP ...	1001	ABC MANUFACTURING	08/08/2021	08/22/2021	Build	1007
☒	1015	3	CI - Sheet Metal Panel (ERP Do...	1001	ABC MANUFACTURING	08/09/2021	08/23/2021	Build	1007
☒	1016	3	Transformer (ERP Download)	1003	XYZ INCORPORATED	08/10/2021	08/24/2021	Build	1008
☒	1017	3	Transformer (ERP Download)	1003	XYZ INCORPORATED	08/11/2021	08/25/2021	Build	1008
☒	1018	3	Transformer (ERP Download)	1003	XYZ INCORPORATED	08/12/2021	08/26/2021	Build	1008

BUILD JOBS:	10	PENDING JOBS:	0	ISSUED JOBS:	0	TOTAL JOBS:	10	BUILT JOBS:	0
BUILD SELECTED:	10	PENDING SELECTED:	0	ISSUED SELECTED:	0	SELECTED JOBS:	10	ISSUED JOBS:	0
								SCHEDULED JOBS:	0
								ON HOLD JOBS:	0

MRP_

Select All Jobs

JOBS

Select

All

Clear

Templates

Requery

Build

Issue

schedule

QUIT

5. Select the ***Build*** option to execute the automated build of the selected jobs. When the job build is complete, the following is displayed:

JOB IMPORT BUILD: Global Edge Demo Server

Job-Build

INCL	JOB #	PRIORITY	DESCRIPTION	CUST #	COMPANY NAME	JOB DATE	REQUIRED DATE	STATUS	TEMPLATE JOB :
☒	1009	3	Cabinet Body (ERP Download)	1001	ABC MANUFACTURING	08/03/2021	08/17/2021	Pending	1005
☒	1010	3	Light Fixture (ERP Download)	1001	ABC MANUFACTURING	08/04/2021	08/18/2021	Pending	1006
☒	1011	3	CI - Apron (ERP Download)	1001	ABC MANUFACTURING	08/05/2021	08/19/2021	Pending	1007
☒	1012	3	CI - Load Center Box (ERP Dow...	1001	ABC MANUFACTURING	08/06/2021	08/20/2021	Pending	1007
☒	1013	3	CI - Bottom Display Light Housin...	1001	ABC MANUFACTURING	08/07/2021	08/21/2021	Pending	1007
☒	1014	3	CI - Sheet Metal Housing (ERP ...	1001	ABC MANUFACTURING	08/08/2021	08/22/2021	Pending	1007
☒	1015	3	CI - Sheet Metal Panel (ERP Do...	1001	ABC MANUFACTURING	08/09/2021	08/23/2021	Pending	1007
☒	1016	3	Transformer (ERP Download)	1003	XYZ INCORPORATED	08/10/2021	08/24/2021	Pending	1008
☒	1017	3	Transformer (ERP Download)	1003	XYZ INCORPORATED	08/11/2021	08/25/2021	Pending	1008
☒	1018	3	Transformer (ERP Download)	1003	XYZ INCORPORATED	08/12/2021	08/26/2021	Pending	1008

BUILD JOBS: PENDING JOBS: ISSUED JOBS: TOTAL JOBS: BUILT JOBS:
BUILD SELECTED: PENDING SELECTED: ISSUED SELECTED: SELECTED JOBS: ISSUED JOBS:
SCHEDULED JOBS:
ON HOLD JOBS:

MRP_

Build Selected Jobs

OVR |

6. Select the **“Issue”** option to issue the Pending jobs that are selected by the check boxes. When the job issue is complete, the following is displayed:

INCL	JOB #	PRIORITY	DESCRIPTION	CUST #	COMPANY NAME	JOB DATE	REQUIRED DATE	STATUS	TEMPLATE JOB
☒	1009	3	Cabinet Body (ERP Download)	1001	ABC MANUFACTURING	08/03/2021	08/17/2021	Issued	1005
☒	1010	3	Light Fixture (ERP Download)	1001	ABC MANUFACTURING	08/04/2021	08/18/2021	Issued	1006
☒	1011	3	CI - Apron (ERP Download)	1001	ABC MANUFACTURING	08/05/2021	08/19/2021	Issued	1007
☒	1012	3	CI - Load Center Box (ERP Dow...	1001	ABC MANUFACTURING	08/06/2021	08/20/2021	Issued	1007
☒	1013	3	CI - Bottom Display Light Housin...	1001	ABC MANUFACTURING	08/07/2021	08/21/2021	Issued	1007
☒	1014	3	CI - Sheet Metal Housing (ERP ...	1001	ABC MANUFACTURING	08/08/2021	08/22/2021	Issued	1007
☒	1015	3	CI - Sheet Metal Panel (ERP Do...	1001	ABC MANUFACTURING	08/09/2021	08/23/2021	Issued	1007
☒	1016	3	Transformer (ERP Download)	1003	XYZ INCORPORATED	08/10/2021	08/24/2021	Issued	1008
☒	1017	3	Transformer (ERP Download)	1003	XYZ INCORPORATED	08/11/2021	08/25/2021	Issued	1008
☒	1018	3	Transformer (ERP Download)	1003	XYZ INCORPORATED	08/12/2021	08/26/2021	Issued	1008

BUILD JOBS: 0 PENDING JOBS: 0 ISSUED JOBS: 10 TOTAL JOBS: 10 BUILT JOBS: 10
 BUILD SELECTED: 0 PENDING SELECTED: 0 ISSUED SELECTED: 10 SELECTED JOBS: 10 ISSUED JOBS: 10
 SCHEDULED JOBS: 0 ON HOLD JOBS: 0

MRP_

Issue Selected Jobs

7. Select the **“Schedule”** option to schedule the Issued jobs that are selected by the check boxes. When the job schedule generation is complete, the following is displayed:

INCL	JOB #	PRIORITY	DESCRIPTION	CUST #	COMPANY NAME	JOB DATE	REQUIRED DATE	STATUS	TEMPLATE JOB
☒	1009	3	Cabinet Body (ERP Download)	1001	ABC MANUFACTURING	08/03/2021	08/17/2021	Scheduled	1005
☒	1010	3	Light Fixture (ERP Download)	1001	ABC MANUFACTURING	08/04/2021	08/18/2021	Scheduled	1006
☒	1011	3	CI - Apron (ERP Download)	1001	ABC MANUFACTURING	08/05/2021	08/19/2021	Scheduled	1007
☒	1012	3	CI - Load Center Box (ERP Dow...	1001	ABC MANUFACTURING	08/06/2021	08/20/2021	Scheduled	1007
☒	1013	3	CI - Bottom Display Light Housin...	1001	ABC MANUFACTURING	08/07/2021	08/21/2021	Scheduled	1007
☒	1014	3	CI - Sheet Metal Housing (ERP ...	1001	ABC MANUFACTURING	08/08/2021	08/22/2021	Scheduled	1007
☒	1015	3	CI - Sheet Metal Panel (ERP Do...	1001	ABC MANUFACTURING	08/09/2021	08/23/2021	Scheduled	1007
☒	1016	3	Transformer (ERP Download)	1003	XYZ INCORPORATED	08/10/2021	08/24/2021	Scheduled	1008
☒	1017	3	Transformer (ERP Download)	1003	XYZ INCORPORATED	08/11/2021	08/25/2021	Scheduled	1008
☒	1018	3	Transformer (ERP Download)	1003	XYZ INCORPORATED	08/12/2021	08/26/2021	Scheduled	1008

BUILD JOBS: 0 PENDING JOBS: 0 ISSUED JOBS: 0 TOTAL JOBS: 10 BUILT JOBS: 10
 BUILD SELECTED: 0 PENDING SELECTED: 0 ISSUED SELECTED: 0 SELECTED JOBS: 0 ISSUED JOBS: 10
 SCHEDULED JOBS: 10 ON HOLD JOBS: 0

MRP_

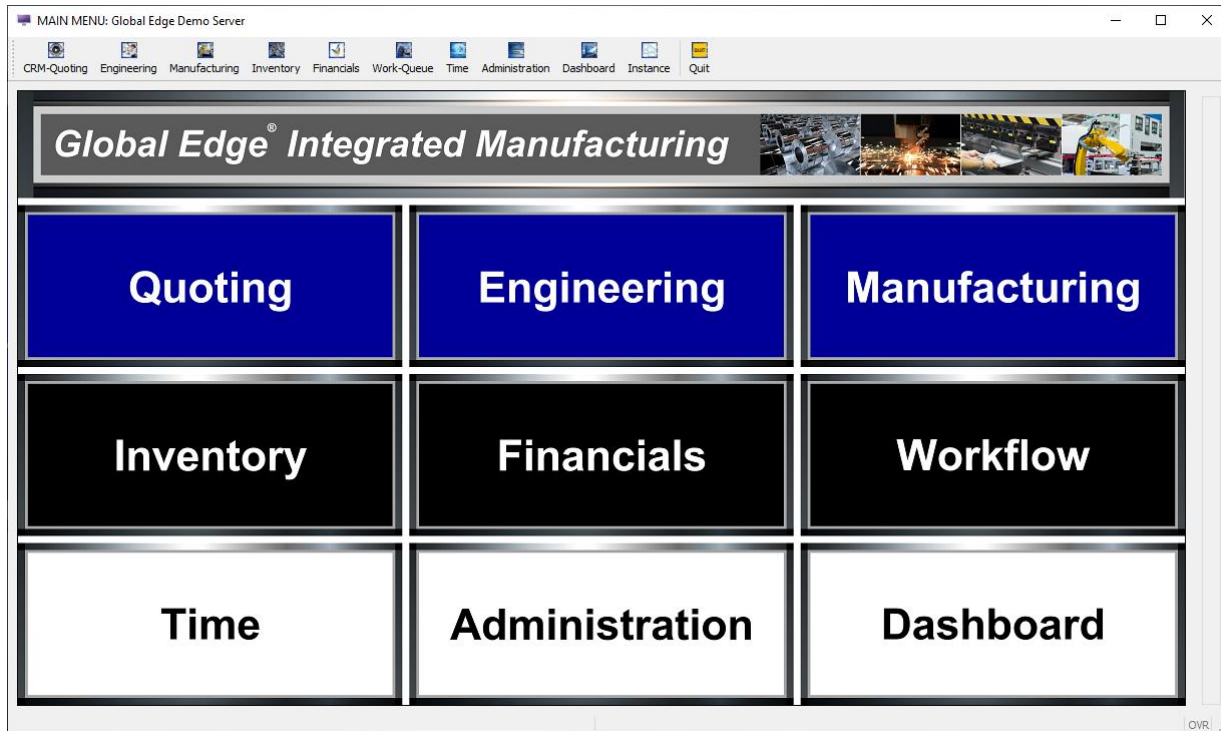
Schedule Selected Jobs

3.2 – Workstation Screen / Load Balancing / Schedule Export

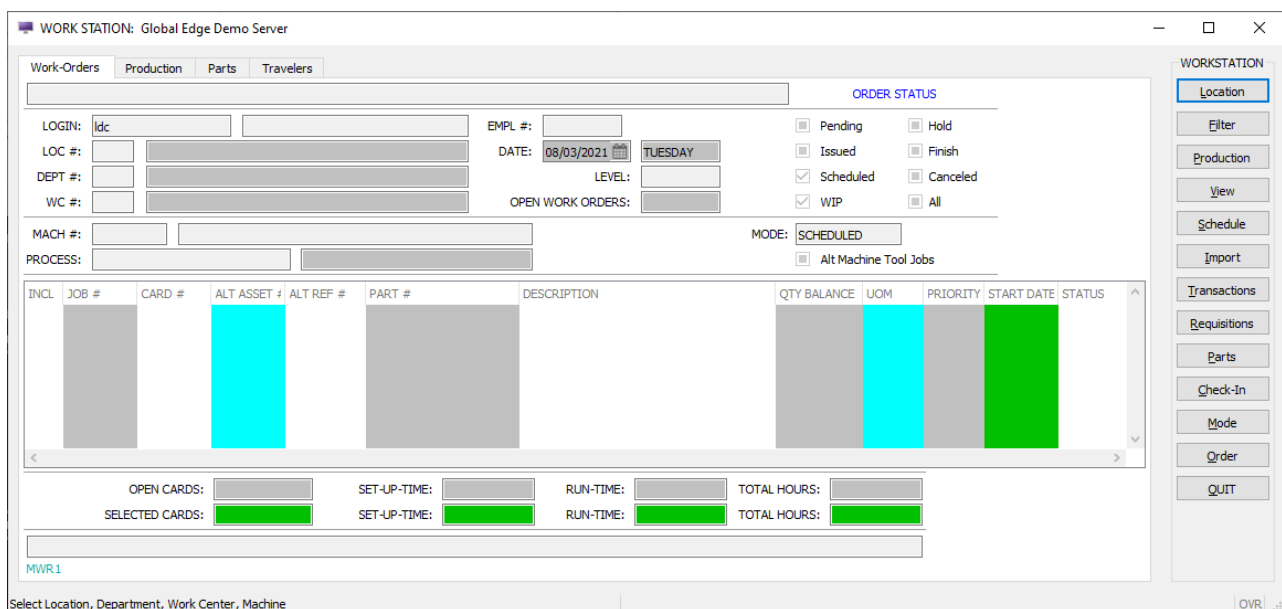
These steps illustrate the workstation screen including load balancing and the exporting of production schedules to a CSV file for the purpose of integration with a third-party scheduling system.

Workflow Steps

1. Select the **“Manufacturing > Workstation”** option on the **Global Edge** main menu:



2. This will display the following Workstation screen and menu options:



3. Select **"Location"** option and enter Location, Department and Work Center numbers including the Machine Tool number to access, followed by filling in the PROCESS field which will display the following Job Orders:

WORK STATION: Global Edge Demo Server

Work-Orders Production Parts Travelers

ORDER STATUS

LOGIN: ldc EMPL #: DATE: 08/03/2021 TUESDAY

LOC #: 1 CORP. HEADQUARTERS / MANUFACTURING

DEPT #: 8 MANUFACTURING

WC #: 3 LASER CUTTING

OPEN WORK ORDERS: 11

MACH #: 1123 Cincinnati CL900 Laser

MODE: SCHEDULED

PROCESS: LASER-CUT Laser Cut

INCL	JOB #	CARD #	ALT ASSET #	ALT REF #	PART #	DESCRIPTION	QTY BALANCE	UOM	PRIORITY	START DATE	STATUS
☐	1010	1235			LIGHT-03-LENSE-BRACKET	LIGHT FIXTURE LENSE BRACKET	10.0000	each	3	08/06/2021	Scheduled
☐	1010	1242			LIGHT-04-HOUSING-FLA...	LIGHT FIXTURE HOUSING FLANGE	10.0000	each	3	08/06/2021	Scheduled
☐	1010	1249			LIGHT-05-LENSE-RET-BRKT	LIGHT FIXTURE LENSE RETAINING BRACKET	10.0000	each	3	08/06/2021	Scheduled
☐	1010	1256			LIGHT-06-FIXTURE-HOUS...	LIGHT FIXTURE HOUSING	10.0000	each	3	08/06/2021	Scheduled
☐	1010	1228			LIGHT-01-LENSE-FRAME	LIGHT FIXTURE LENSE FRAME	10.0000	each	3	08/06/2021	Scheduled
☐	1010	1263			LIGHT-07-YOKE-BRACKET	LIGHT FIXTURE YOKE BRACKET	10.0000	each	3	08/06/2021	Scheduled
☐	1011	1270			CI-01-4-11759_201A_07	APRON	50.0000	EA	3	08/07/2021	Scheduled
☐	1012	1284			CI-02-4-11811_126_15	LOAD CENTER BOX	125.0000	EA	3	08/08/2021	Scheduled

OPEN CARDS: 11 SET-UP-TIME: 1.10 RUN-TIME: 3.67 TOTAL HOURS: 4.77

SELECTED CARDS: 0 SET-UP-TIME: 0.00 RUN-TIME: 0.00 TOTAL HOURS: 0.00

MWR1

Select Location, Department, Work Center, Machine

WORKSTATION

Location

Filter

Production

View

Schedule

Import

Transactions

Requisitions

Parts

Check-In

Mode

Order

QUIT

OVR

- Select **"Filter"** option and check the **"Alt Machine Tool Jobs"** check box followed by **"OK > View"** option to include production orders scheduled and assigned to other machine tools that can be run on the selected machine tool:

WORK STATION: Global Edge Demo Server

Work-Orders Production Parts Travelers

LOGIN: ldc EMP #:

LOC #: 1 CORP. HEADQUARTERS / MANUFACTURING DATE: 08/03/2021 TUESDAY

DEPT #: 8 MANUFACTURING LEVEL:

WC #: 3 LASER CUTTING OPEN WORK ORDERS: 30

MACH #: 1123 Cincinnati CL900 Laser MODE: SCHEDULED

PROCESS: LASER-CUT Laser Cut

ORDER STATUS

☐ Pending ☐ Hold

☐ Issued ☐ Finish

☒ Scheduled ☐ Canceled

☒ WIP ☐ All

☒ Alt Machine Tool Jobs

INCL	JOB #	CARD #	ALT ASSET #	ALT REF #	PART #	DESCRIPTION	QTY BALANCE	UOM	PRIORITY	START DATE	STATUS
☐	1009	1214	1006	LASER-1006	SLD-017-SPINE-CT-32-00...	CABINET SPINE - CENTER	5.0000	EA	3	08/05/2021	Scheduled
☐	1009	1216	1006	LASER-1006	SLD-018-SPINE-LT-32-0001	CABINET SPINE - CORNER - LEFT	5.0000	EA	3	08/05/2021	Scheduled
☐	1009	1213	1006	LASER-1006	SLD-015-FILL-PNL-1627...	CABINET FILL PANEL	5.0000	EA	3	08/05/2021	Scheduled
☐	1009	1218	1006	LASER-1006	SLD-019-SPINE-RT-32-00...	CABINET SPINE - CORNER - RIGHT	5.0000	EA	3	08/05/2021	Scheduled
☐	1009	1209	1006	LASER-1006	SLD-002-WRAP-325616...	CABINET BODY WRAP	5.0000	EA	3	08/05/2021	Scheduled
☐	1009	1212	1006	LASER-1006	SLD-004-CAB-TOP-5616...	CABINET BODY TOP	5.0000	EA	3	08/05/2021	Scheduled
☐	1009	1211	1006	LASER-1006	SLD-003-CAB-BOT-5616...	CABINET BODY BOTTOM	5.0000	EA	3	08/05/2021	Scheduled
☐	1010	1235			LIGHT-03-LENSE-BRACKET	LIGHT FIXTURE LENSE BRACKET	10.0000	each	3	08/06/2021	Scheduled
☐	1010	1228			LIGHT-01-LENSE-FRAME	LIGHT FIXTURE LENSE FRAME	10.0000	each	3	08/06/2021	Scheduled
☐	1010	1263			LIGHT-07-YOKE-BRACKET	LIGHT FIXTURE YOKE BRACKET	10.0000	each	3	08/06/2021	Scheduled
☐	1010	1256			LIGHT-06-FIXTURE-HOUS...	LIGHT FIXTURE HOUSING	10.0000	each	3	08/06/2021	Scheduled
☐	1010	1249			LIGHT-05-LENSE-RET-BRKT	LIGHT FIXTURE LENSE RETAINING BRACKET	10.0000	each	3	08/06/2021	Scheduled
☐	1010	1242			LIGHT-04-HOUSING-FLA...	LIGHT FIXTURE HOUSING FLANGE	10.0000	each	3	08/06/2021	Scheduled
☐	1011	1270			CI-014-11759_201A_07	APRON	50.0000	EA	3	08/07/2021	Scheduled
☐	1012	1284			CI-02-4-11811_126_15	LOAD CENTER BOX	125.0000	EA	3	08/08/2021	Scheduled
☐	1013	1298			CI-03-4-11811_126_131	BOTTOM DISPLAY LIGHT HOUSING	75.0000	EA	3	08/09/2021	Scheduled
☐	1014	1312			CI-04-09-1908-A	SHEET METAL HOUSING	50.0000	EA	3	08/10/2021	Scheduled
☐	1015	1326			CI-05-1000-018-B2-PLG	SHEET METAL PANEL	100.0000	EA	3	08/11/2021	Scheduled
☐	1016	1343	1005	LASER-1005	DEMO-XFORM-BOTTOM	TRANSFORMER CABINET BOTTOM	20.0000	each	3	08/12/2021	Scheduled
☐	1016	1347	1005	LASER-1005	DEMO-XFORM-LID	TRANSFORMER CABINET LID	20.0000	each	3	08/12/2021	Scheduled
☐	1016	1345	1005	LASER-1005	DEMO-XFORM-FRONT	TRANSFORMER FRONT PANEL	20.0000	each	3	08/12/2021	Scheduled
☐	1016	1349	1005	LASER-1005	DEMO-XFORM-WRAPPER	TRANSFORMER BODY WRAPPER	20.0000	each	3	08/12/2021	Scheduled
☐	1017	1354	1005	LASER-1005	DEMO-XFORM-BOTTOM	TRANSFORMER CABINET BOTTOM	15.0000	each	3	08/13/2021	Scheduled
☐	1017	1358	1005	LASER-1005	DEMO-XFORM-LID	TRANSFORMER CABINET LID	15.0000	each	3	08/13/2021	Scheduled
☐	1017	1356	1005	LASER-1005	DEMO-XFORM-FRONT	TRANSFORMER FRONT PANEL	15.0000	each	3	08/13/2021	Scheduled
☐	1017	1360	1005	LASER-1005	DEMO-XFORM-WRAPPER	TRANSFORMER BODY WRAPPER	15.0000	each	3	08/13/2021	Scheduled
☐	1018	1371	1005	LASER-1005	DEMO-XFORM-WRAPPER	TRANSFORMER BODY WRAPPER	30.0000	each	3	08/14/2021	Scheduled
☐	1018	1369	1005	LASER-1005	DEMO-XFORM-LID	TRANSFORMER CABINET LID	30.0000	each	3	08/14/2021	Scheduled
☐	1018	1365	1005	LASER-1005	DEMO-XFORM-BOTTOM	TRANSFORMER CABINET BOTTOM	30.0000	each	3	08/14/2021	Scheduled
☐	1018	1367	1005	LASER-1005	DEMO-XFORM-FRONT	TRANSFORMER FRONT PANEL	30.0000	each	3	08/14/2021	Scheduled

OPEN CARDS: 30 SET-UP-TIME: 1.80 RUN-TIME: 15.39 TOTAL HOURS: 17.19

SELECTED CARDS: 0 SET-UP-TIME: 0.00 RUN-TIME: 0.00 TOTAL HOURS: 0.00

MWR 1

View Open Work Orders

WORKSTATION

Location

Filter

Production

View

Schedule

Import

Transactions

Requisitions

Parts

Check-In

Mode

Order

QUIT

Global Edge provides a full functioned workstation screen that provides the shop floor operator to manage the work centers they oversee. This includes the ability to load balance orders between available machines and export schedules to third party scheduling software.

5. Select **“Production > Select”** option and select the Job to record production for:

WORK STATION: Global Edge Demo Server

Work-Orders Production Parts Travelers

Select Work Order for Transactions, then Press [OK]:

LOGIN: ldc EMPL #: DATE: 07/28/2021 03:31 WEDNESDAY

LOC #: 1 CORP. HEADQUARTERS / MANUFACTURING

DEPT #: 8 MANUFACTURING

WC #: 3 LASER CUTTING

OPEN WORK ORDERS: 30

MACH #: 1123 Cincinnati CL900 Laser

PROCESS: LASER-CUT Laser Cut

MODE: SCHEDULED

☐ Pending ☐ Hold ☐ Issued ☐ Finish ☒ Scheduled ☐ Canceled ☒ WIP ☐ All ☐ Alt Machine Tool Jobs

INCL	JOB #	CARD #	ALT ASSET #	ALT REF #	PART #	DESCRIPTION	QTY BALANCE	UOM	PRIORITY	START DATE	STATUS
☐	1009	1036	1006	LASER-1006	SLD-017-SPINE-CT-32-00...	CABINET SPINE - CENTER	5.0000	EA	3	07/29/2021	Scheduled
☐	1009	1038	1006	LASER-1006	SLD-018-SPINE-LT-32-0001	CABINET SPINE - CORNER - LEFT	5.0000	EA	3	07/29/2021	Scheduled
☐	1009	1035	1006	LASER-1006	SLD-015-FILL-PNL-1627-...	CABINET FILL PANEL	5.0000	EA	3	07/29/2021	Scheduled
☐	1009	1040	1006	LASER-1006	SLD-019-SPINE-RT-32-00...	CABINET SPINE - CORNER - RIGHT	5.0000	EA	3	07/29/2021	Scheduled
☐	1009	1031	1006	LASER-1006	SLD-002-WRAP-325616-...	CABINET BODY WRAP	5.0000	EA	3	07/29/2021	Scheduled
☐	1009	1034	1006	LASER-1006	SLD-004-CAB-TOP-5616-...	CABINET BODY TOP	5.0000	EA	3	07/29/2021	Scheduled
☐	1009	1033	1006	LASER-1006	SLD-003-CAB-BOT-5616-...	CABINET BODY BOTTOM	5.0000	EA	3	07/29/2021	Scheduled
☒	1010	1057			LIGHT-03-LENSE-BRACKET	LIGHT FIXTURE LENSE BRACKET	10.0000	each	3	07/30/2021	Scheduled
☐	1010	1050			LIGHT-01-LENSE-FRAME	LIGHT FIXTURE LENSE FRAME	10.0000	each	3	07/30/2021	Scheduled
☐	1010	1085			LIGHT-07-YOKE-BRACKET	LIGHT FIXTURE YOKE BRACKET	10.0000	each	3	07/30/2021	Scheduled
☐	1010	1078			LIGHT-06-FIXTURE-HOUS...	LIGHT FIXTURE HOUSING	10.0000	each	3	07/30/2021	Scheduled
☐	1010	1071			LIGHT-05-LENSE-RET-BRKT	LIGHT FIXTURE LENSE RETAINING BRACKET	10.0000	each	3	07/30/2021	Scheduled
☐	1010	1064			LIGHT-04-HOUSING-FLA...	LIGHT FIXTURE HOUSING FLANGE	10.0000	each	3	07/30/2021	Scheduled
☐	1011	1092			CI-01-4-11759_201A_07	APRON	50.0000	EA	3	07/31/2021	Scheduled
☐	1012	1106			CI-02-4-11811_126_15	LOAD CENTER BOX	125.0000	EA	3	08/01/2021	Scheduled
☐	1013	1120			CI-03-4-11811_126_131	BOTTOM DISPLAY LIGHT HOUSING	75.0000	EA	3	08/02/2021	Scheduled
☐	1014	1134			CI-04-09-1908-A	SHEET METAL HOUSING	50.0000	EA	3	08/03/2021	Scheduled
☐	1015	1148			CI-05-1000-018-B2-PLG	SHEET METAL PANEL	100.0000	EA	3	08/04/2021	Scheduled
☐	1016	1165	1005	LASER-1005	DEMO-XFORM-BOTTOM	TRANSFORMER CABINET BOTTOM	20.0000	each	3	08/05/2021	Scheduled
☐	1016	1169	1005	LASER-1005	DEMO-XFORM-LID	TRANSFORMER CABINET LID	20.0000	each	3	08/05/2021	Scheduled
☐	1016	1167	1005	LASER-1005	DEMO-XFORM-FRONT	TRANSFORMER FRONT PANEL	20.0000	each	3	08/05/2021	Scheduled
☐	1016	1171	1005	LASER-1005	DEMO-XFORM-WRAPPER	TRANSFORMER BODY WRAPPER	20.0000	each	3	08/05/2021	Scheduled
☐	1017	1176	1005	LASER-1005	DEMO-XFORM-BOTTOM	TRANSFORMER CABINET BOTTOM	15.0000	each	3	08/06/2021	Scheduled
☐	1017	1180	1005	LASER-1005	DEMO-XFORM-LID	TRANSFORMER CABINET LID	15.0000	each	3	08/06/2021	Scheduled
☐	1017	1178	1005	LASER-1005	DEMO-XFORM-FRONT	TRANSFORMER FRONT PANEL	15.0000	each	3	08/06/2021	Scheduled
☐	1017	1182	1005	LASER-1005	DEMO-XFORM-WRAPPER	TRANSFORMER BODY WRAPPER	15.0000	each	3	08/06/2021	Scheduled
☐	1018	1193	1005	LASER-1005	DEMO-XFORM-WRAPPER	TRANSFORMER BODY WRAPPER	30.0000	each	3	08/07/2021	Scheduled
☐	1018	1191	1005	LASER-1005	DEMO-XFORM-LID	TRANSFORMER CABINET LID	30.0000	each	3	08/07/2021	Scheduled
☐	1018	1187	1005	LASER-1005	DEMO-XFORM-BOTTOM	TRANSFORMER CABINET BOTTOM	30.0000	each	3	08/07/2021	Scheduled
☐	1018	1189	1005	LASER-1005	DEMO-XFORM-FRONT	TRANSFORMER FRONT PANEL	30.0000	each	3	08/07/2021	Scheduled

OPEN CARDS: 30 SET-UP-TIME: 1.80 RUN-TIME: 15.39 TOTAL HOURS: 17.19

SELECTED CARDS: 0 SET-UP-TIME: 0.00 RUN-TIME: 0.00 TOTAL HOURS: 0.00

MWR1

OK Cancel F6-Detail

OVR

6. Select **“OK”** to display the following screen form and menu options:

The screenshot displays the 'WORK STATION: Global Edge Demo Server' window. The 'Workstation' tab is active. The 'CARD #' is 1057, 'SEQ #' is 1, and the operation is 'LASER-CUT'. The 'PART #' is 'LIGHT-03-LENSE-BRACKET'. The 'Laser Cut Operation' section is empty. The 'LIGHT FIXTURE LENSE BRACKET' section is also empty. The 'STD. HR. COST' is \$140.0000. The 'TYPE' is 'Process' and 'STATUS' is 'Scheduled'. The 'STD TIME/UNIT' is 0.01384 HR(S) and 'UNITS/HOUR' is 72.2439. The 'QTY. SCHEDULED' is 10.0000, 'PREVIOUS' is 0.0000, 'PRODUCED' is 0.0000, 'SCRAPPED' is 0.0000, and 'BALANCE' is 10.0000. The 'START DATE/TIME' and 'END DATE/TIME' are both empty. The 'RUN HOURS' is 0.0000, 'PARTS/HOUR' is 0.0000, and 'PART COST' is 0.0000. The table below has columns: START DATE/TIME, END DATE/TIME, HOURS, QTY PRODUCED, SCRAPPED, COMPLETE, APPRVD, and POSTED. The 'MWR2' label is at the bottom left. The 'PRODUCTION' menu on the right includes: Start, Finish, Update, BOM, Process, NC Programs, Documents, Notes, and QUIT.

7. Select **“Finish”** option and record Quantity Produced and Quantity Scrapped including entering END DATE/TIME which will display the following prompt:

The screenshot displays the 'WORK STATION: Global Edge Demo Server' window after selecting the 'Finish' option. The 'Is End Time Correct?' prompt is displayed on the right. The 'QTY. SCHEDULED' is 10.0000, 'PREVIOUS' is 0.0000, 'PRODUCED' is 9.0000, 'SCRAPPED' is 1.0000, and 'BALANCE' is 1.0000. The 'START DATE/TIME' is 07/28/2021 10:30 AM and 'END DATE/TIME' is 07/28/2021 10:42 AM. The 'RUN HOURS' is 0.20, 'PARTS/HOUR' is 45.0000, and 'PART COST' is \$3.1111. The table below has columns: START DATE/TIME, END DATE/TIME, HOURS, QTY PRODUCED, SCRAPPED, COMPLETE, APPRVD, and POSTED. The 'MWR2' label is at the bottom left. The 'Is End Time Correct?' prompt on the right includes: Yes, Forward, Back, and QUIT.

8. After answering “**Yes**”, the Production Transaction is displayed at the bottom of the screen:

WORK STATION: Global Edge Demo Server

Workstation

CARD #: 1057 SEQ #: 1 LASER-CUT

PART #: LIGHT-034 LENSE BRACKET

Laser Cut Operation

LIGHT FIXTURE LENSE BRACKET

TYPE: Process STATUS: Scheduled

STD. HR. COST: \$140.0000

STD TIME/UNIT: 0.01384 HR(S) UNITS/HOUR: 72.2439

QTY. SCHEDULED: 10.0000 UOM:

START DATE/TIME: 07/28/21 10:30 AM

PREVIOUS: 0.0000

END DATE/TIME: 07/28/21 10:42 AM

PRODUCED:

RUN HOURS:

SCRAPPED:

PARTS/HOUR:

BALANCE: 1.0000

PART COST:

START DATE/TIME	END DATE/TIME	HOURS	QTY PRODUCED	SCRAPPED	COMPLETE	APPRVD	POSTED
07-28-21 10:30 AM	07-28-21 10:42 AM	0.20	9.0000	1.0000	Yes	No	No

MWR2

Finish Production

PRODUCTION

Start

Finish

Update

BOM

Process

NC Programs

Documents

Notes

QUIT

OVR

9. Select **“QUIT > Transaction”** option to display the following screen form and menu options:

WORK STATION: Global Edge Demo Server

Workstation-Transaction

MACH #: WORK DATE:

JOB #	PART #	DESCRIPTION	HOURS	QTY PRODUCED	UNITS	APPRVD	POSTED
1010	LIGHT-034 LENSE BRACKET	LIGHT FIXTURE LENSE BRACKET	0.20	9.0000	each	No	No
SEQ #:	1 LASER-CUT						
SEQ #:							
SEQ #:							
SEQ #:							
SEQ #:							
SEQ #:							
SEQ #:							
SEQ #:							
SEQ #:							
SEQ #:							
SEQ #:							
SEQ #:							
SEQ #:							

UNAPPROVED: APPROVED: POSTED: TOTAL:

MWR3

10. Select **“Approve”** option followed by the **“Post”** option to approve and post the Production, which will then display the following:

WORK STATION: Global Edge Demo Server

Workstation-Transaction

MACH #: WORK DATE: 07/28/2021 Wednesday

JOB #	PART #	DESCRIPTION	HOURS	QTY PRODUCED	UNITS	APPRVD	POSTED
1010	LIGHT-03 LENSE-BRACKET	LIGHT FIXTURE LENSE BRACKET	0.32	9.0000	each	No	No
SEQ #: 1	LASER-CUT						

UNAPPROVED: APPROVED: POSTED: TOTAL:

MWR3

TRANSACTIONS
 ... Next
 ... Previous
 Update
 View
 Approve
Post
 QUIT

Demo Section 4: Smart Factory Shop Floor Integration

This section illustrates the **Global Edge** Industry 4.0 integration with Smart Factory Shop Floor Integration capabilities that include the following:

- Production Dashboard
- Shop Floor Data Collection / IoT (Internet of Things) Connectivity
- Automated Production ERP Upload

Sample Production Orders

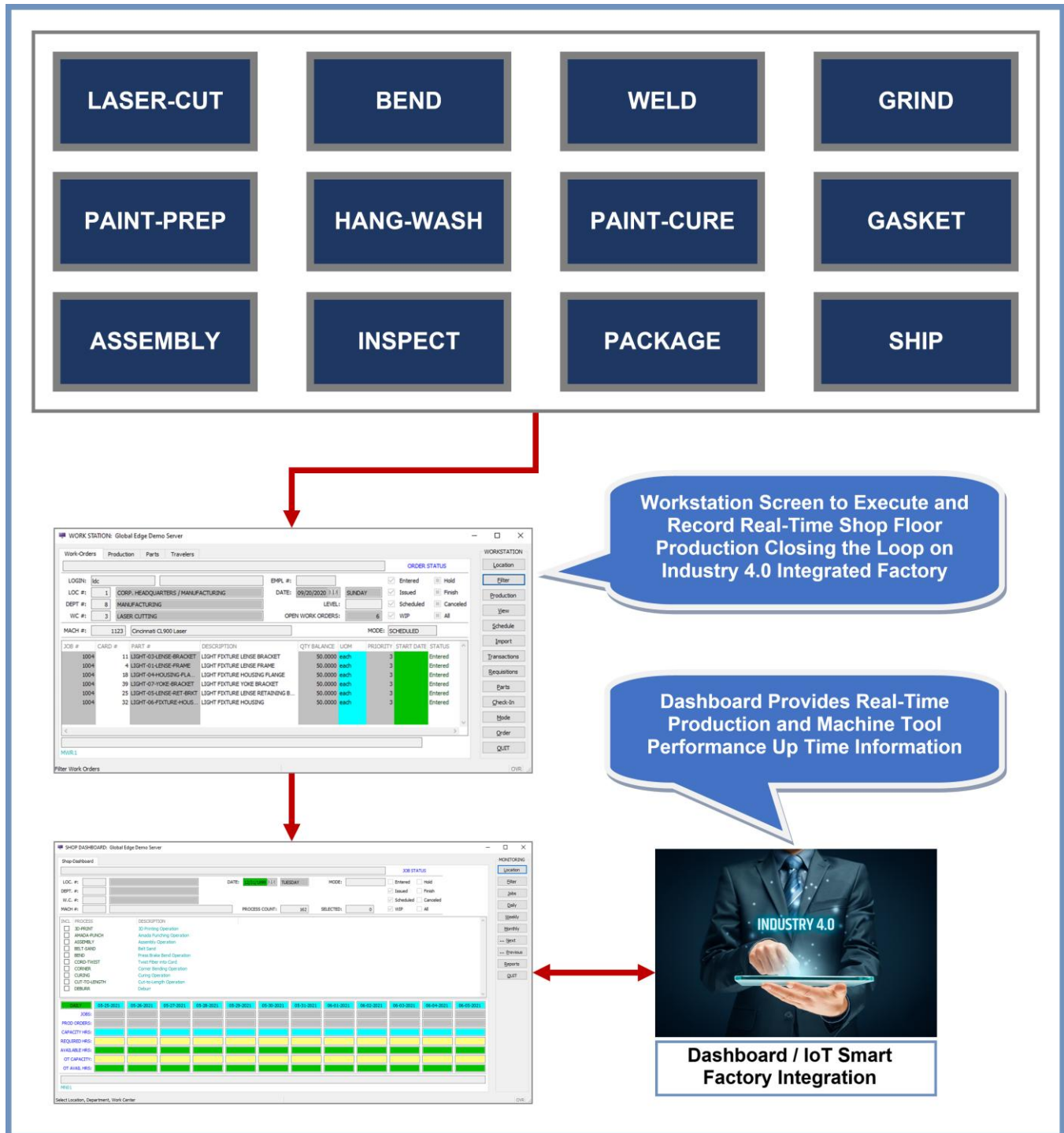
Once the **Global Edge** system downloads ERP Sales Orders / Job Orders and automatically builds more complete Job Orders, the process also includes the automatic generation of specific Production Orders within those Job Orders to be schedule and executed within specific Work Centers (Work Cells). The following are sample Production Orders that will illustrate the “**Smart Factory Shop Floor Integration**” capabilities of the **Global Edge** system.

Sample Production Orders

Prod. Order #	Part Number	Qty.	UOM	Job #	WP #	List #	Seq. Trans #	Rel. Date	Sch. Date
1001	SLD-002-WRAP-325616-0001	5.0000	EA	1008	1	1	1	5/24/2021	5/24/2021
1002	SLD-002-WRAP-325616-0001	5.0000	EA	1008	1	1	2	5/24/2021	5/24/2021
1003	SLD-003-CAB-BOT-5616-0001	5.0000	EA	1008	1	1	1	5/24/2021	5/24/2021
1004	SLD-004-CAB-TOP-5616-0001	5.0000	EA	1008	1	1	1	5/24/2021	5/24/2021
1005	SLD-015-FILL-PNL-1627-0001	5.0000	EA	1008	1	1	1	5/24/2021	5/24/2021
1006	SLD-016-HORZ-DIV-55-0001	5.0000	EA	1008	1	1	1	5/24/2021	5/24/2021
1007	SLD-016-HORZ-DIV-55-0001	5.0000	EA	1008	1	1	2	5/24/2021	5/24/2021
1008	SLD-017-SPINE-CT-32-0001	5.0000	EA	1008	1	1	1	5/24/2021	5/24/2021
1009	SLD-017-SPINE-CT-32-0001	5.0000	EA	1008	1	1	2	5/24/2021	5/24/2021
1010	SLD-018-SPINE-LT-32-0001	5.0000	EA	1008	1	1	1	5/24/2021	5/24/2021
1011	SLD-018-SPINE-LT-32-0001	5.0000	EA	1008	1	1	2	5/24/2021	5/24/2021
1012	SLD-019-SPINE-RT-32-0001	5.0000	EA	1008	1	1	1	5/24/2021	5/24/2021
1013	SLD-019-SPINE-RT-32-0001	5.0000	EA	1008	1	1	2	5/24/2021	5/24/2021
1014	SLD-020-VERT-DIV-BOT-15-0001	5.0000	EA	1008	1	1	1	5/24/2021	5/24/2021
1015	SLD-020-VERT-DIV-BOT-15-0001	5.0000	EA	1008	1	1	2	5/24/2021	5/24/2021
1016	SLD-021-VERT-DIV-TOP-16-0001	5.0000	EA	1008	1	1	1	5/24/2021	5/24/2021
1017	SLD-021-VERT-DIV-TOP-16-0001	5.0000	EA	1008	1	1	2	5/24/2021	5/24/2021
1018	SLD-001-BODY-325616-0001	5.0000	EA	1008	2	1	1	5/29/2021	5/29/2021
1019	SLD-001-BODY-325616-0001	5.0000	EA	1008	2	1	2	5/29/2021	5/29/2021
1020	SLD-001-BODY-325616-0001	5.0000	EA	1008	2	1	3	5/29/2021	5/29/2021
1021	SLD-001-BODY-325616-0001	5.0000	EA	1008	2	1	4	5/29/2021	5/29/2021
1022	SLD-001-BODY-325616-0001	5.0000	EA	1008	2	1	5	5/29/2021	5/29/2021
1023	SLD-001-BODY-325616-0001	5.0000	EA	1008	2	1	6	5/29/2021	5/29/2021
1024	SLD-001-BODY-325616-0001	5.0000	EA	1008	2	1	7	5/29/2021	5/29/2021
1025	SLD-001-BODY-325616-0001	5.0000	EA	1008	2	1	8	5/29/2021	5/29/2021

Shop Floor Data Collection / Dashboard Workflow Diagram

Global Edge Integrated Manufacturing provides the capabilities to drive and record production on a real-time basis using the information generated throughout the integrated factory enterprise.



Smart Factory Shop Floor Integration Demonstration Sequence

Global Edge Integrated Manufacturing includes functionality that achieves a smart factory environment. The sections within this stage include:

- **4.1 – Production Dashboard**
- **4.2 – Shop Floor Data Collection / IoT (Internet of Things) Connectivity**
- **4.3 – Automated Production ERP Upload**

Smart Factory Shop Floor Integration – Section Overview

The following is an overview of section and what is illustrated within each of the steps.

- **4.1 – Production Dashboard**: The steps within this section illustrate how **Global Edge** can track real-time production results with a production dashboard. The automated tasks illustrated include:
 - **Real-Time Production Monitoring by Work Center, Job, Process, Etc.**
- **4.2 – Shop Floor Data Collection / IoT (Internet of Things) Connectivity**: The steps within this section illustrate how **Global Edge** can integrate with the recording of production data on the shop floor. The automated tasks illustrated include:
 - **Recording of PLC Production Counts**
- **4.3 – Automated Production ERP Upload**: The steps within this section illustrate how the **Global Edge** can upload production results / data back to ERP. The automated tasks illustrated include:
 - **Upload of Production Results / Work in Process Inventory Transactions to ERP**

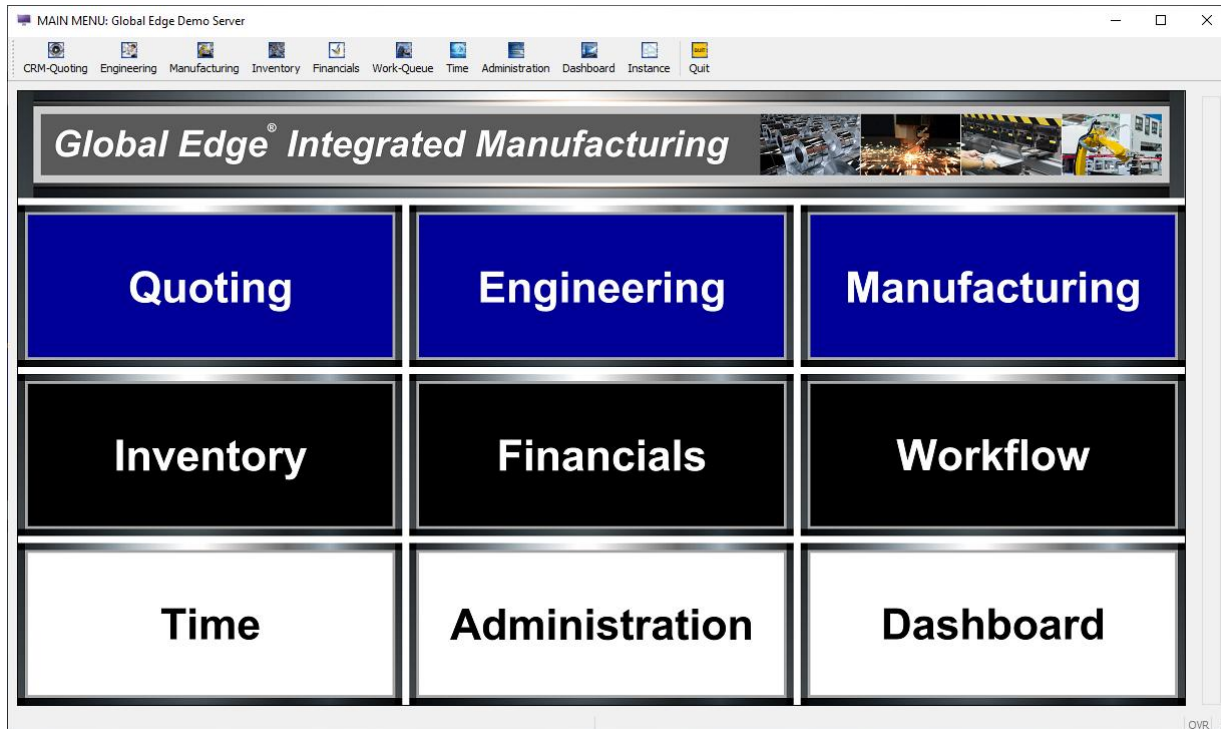
Last Update: Friday, April 03, 2026

4.1 – Production Dashboard

These steps illustrate the capabilities provided by the **Global Edge** Production Dashboard for real-time monitoring of production.

Workflow Steps

1. Select the **“Manufacturing > Shop Dashboard”** option on the **Global Edge** main menu:



2. This will display the Shop Dashboard screen and following menu options:

SHOP DASHBOARD: Global Edge Demo Server

Shop-Dashboard

LOC. #: 1 CORP. HEADQUARTERS / MANUFACTURING DATE: 07/14/2021 WEDNESDAY MODE: WEEKLY

DEPT. #: W.C. #: MACH. #: PROCESS COUNT: 155 SELECTED: 0

JOB STATUS: ☐ Pending ☐ Hold ☒ Issued ☐ Finish ☒ Scheduled ☐ Canceled ☒ WIP ☐ All

INCL. PROCESS DESCRIPTION

- ☐ 3D-PRINT 3D Printing Operation
- ☐ AMADA-PUNCH Amada Punching Operation
- ☐ ASSEMBLY Assembly Operation
- ☐ BELT-SAND Belt Sand
- ☐ BEND Press Brake Bend Operation
- ☐ CORD-TWIST Twist Fiber into Cord
- ☐ CORNER Corner Bending Operation
- ☐ CURING Curing Operation
- ☐ CUT-TO-LENGTH Cut-to-Length Operation
- ☐ DEBURR Debur

WEEK ENDING	07-17-2021	07-24-2021	07-31-2021	08-07-2021	08-14-2021	08-21-2021	08-28-2021	09-04-2021	09-11-2021	09-18-2021	09-25-2021	10-02-2021
JOBS	0	0	0	0	0	0	0	0	0	0	0	0
PROD ORDERS	0	0	0	0	0	0	0	0	0	0	0	0
CAPACITY HRS	2244.00	2244.00	2244.00	2244.00	2244.00	2244.00	2244.00	2244.00	2244.00	2244.00	2244.00	0.00
REQUIRED HRS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVAILABLE HRS	2244.00	2244.00	2244.00	2244.00	2244.00	2244.00	2244.00	2244.00	2244.00	2244.00	2244.00	0.00
OT CAPACITY	404.50	404.50	404.50	404.50	404.50	404.50	404.50	404.50	404.50	404.50	404.50	0.00
OT AVAIL HRS	2648.50	2648.50	2648.50	2648.50	2648.50	2648.50	2648.50	2648.50	2648.50	2648.50	2648.50	0.00

MNO1

Select Location, Department, Work Center

MONITORING: Location, All, Select, Clear, Jobs, Daily, Weekly, Monthly, ... Next, ... Previous, Reports, QUIT

3. Select “**Location**” option and enter Location, Department, Work Center and Machine Tool Number followed by “**Select**” option to select manufacturing process for selected machine tool to view current production for:

SHOP DASHBOARD: Global Edge Demo Server

Shop-Dashboard

LOC. #: 1 CORP. HEADQUARTERS / MANUFACTURING DATE: 07/14/2021 WEDNESDAY MODE: WEEKLY

DEPT. #: 8 MANUFACTURING W.C. #: 3 LASER CUTTING MACH. #: 1123 Cincinnati CL900 Laser PROCESS COUNT: 2 SELECTED: 1

JOB STATUS: ☐ Pending ☐ Hold ☒ Issued ☐ Finish ☒ Scheduled ☐ Canceled ☒ WIP ☐ All

INCL. PROCESS DESCRIPTION

- ☒ LASER-CUT Laser Cut
- ☐ WES-LASER-CUT Wesgar (077) Laser Cut Operation

WEEK ENDING	07-17-2021	07-24-2021	07-31-2021	08-07-2021	08-14-2021	08-21-2021	08-28-2021	09-04-2021	09-11-2021	09-18-2021	09-25-2021	10-02-2021
JOBS	2	4	4	2	0	0	0	0	0	0	0	0
PROD ORDERS	13	9	4	0	0	0	0	0	0	0	0	0
CAPACITY HRS	88.00	88.00	88.00	88.00	88.00	88.00	88.00	88.00	88.00	88.00	88.00	0.00
REQUIRED HRS	2.23	6.51	5.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVAILABLE HRS	85.77	81.49	82.69	88.00	88.00	88.00	88.00	88.00	88.00	88.00	88.00	-2.23
OT CAPACITY	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	0.00
OT AVAIL HRS	101.77	97.49	98.69	104.00	104.00	104.00	104.00	104.00	104.00	104.00	104.00	-2.23

MNO1

Select Processes to Include

MONITORING: Location, All, Select, Clear, Jobs, Daily, Weekly, Monthly, ... Next, ... Previous, Reports, QUIT

4.2 – Shop Floor Data Collection / IoT (Internet of Things) Connectivity

Global Edge Integrated Manufacturing provides the capability to integrate directly with the shop floor machine tools utilizing IoT (Internet of Things) connectivity and store this information in the **“Engineering & Manufacturing Data Warehouse”**. The production counts collected from the machine tool PLCs are integrated directly with the Production Job Orders maintained in **Global Edge** that appear real-time in the Production Dashboard and are uploaded to ERP to provide full visibility of the manufacturing shop floor with Smart Factory Shop Floor Industry 4.0 integration capabilities.

Smart Factory Shop Floor Integration



Real-Time Shop Floor Data Collection / Dashboard

Last Update: Friday, April 03, 2026

4.3 – Automated Production ERP Upload

These steps illustrate the upload of shop floor production data back to an ERP system:

Workflow Steps

1. Launch the **Global Edge ERP Interface** to display the following screen:

Global Edge ERP Interface

File View Tools Help

Operations Log: **None**

Connections

#	Description	Connection Type	Database Type	Enabled	Connected
1	Global Edge Connection	Database	Infomix	Yes	Yes
2	Web Portal Connection	Database	SQL	Yes	No
3	Epicor Connection	XML	File	Yes	Yes
4	Generic ERP Connection	XML	File	Yes	Yes
5	External Quoting Database	Database	SQL	Yes	No

Enable Connect Disable Disconnect

Timing

Name	Maps	Events	Occurrences	Last Occurrence	Status
Real-Time Transfers	2	1	0	1/1/0001 12:00:00 AM	Active
Setup Transfers	3	1	0	1/1/0001 12:00:00 AM	Active
Once Daily	0	1	0	1/1/0001 12:00:00 AM	Active

Maps Transfer Activate

Maps	Source	Last Transfer	Transfers
Epicor ERP Download	Epicor Connection	9/14/2020 12:00:00 ...	0
Epicor ERP Upload	Epicor Connection	9/14/2020 12:00:00 ...	0
Epicor Hot Order Download	Epicor Connection	9/14/2020 12:00:00 ...	0
Generic ERP Download	Generic ERP Connection	9/14/2020 12:00:00 ...	0
Generic ERP Upload	Generic ERP Connection	9/14/2020 12:00:00 ...	0

Operation: **Column Translation loading Complete** Run Source

Logged in as: 'ldc' since: Tuesday, August 03, 2021 11:38:02 Database: **globaledge**

2. Highlight **“Generic ERP Upload”** data map followed by **“Transfer”** option to initiate the upload of shop floor production data back to ERP.