

## **Lean Manufacturing Workshop**

*“New Technology for Faster Planning and Faster Machining”*

ISO STEP Meeting Implementors Forum  
Renaissance Hotel, Seattle Washington  
Wednesday October 6, 8AM to 5PM

### **Executive Summary**

A suite of new standards is being developed within the ISO STEP for many different aspects of Manufacturing. The standards enable lean manufacturing by making manufacturing operations faster using new software processes. For shipbuilding this means less items have to be stored in the depots. For aerospace this means more flexibility in choosing machine tools. For transfer line manufacturing this means more opportunity to use flexible manufacturing cells.

For example, a recent study showed one UK Navy depot can save \$4M by rapidly manufacturing machined parts from an intelligent product data description and eliminating the requirement to store those parts in a warehouse. The study only computed the savings for the 2,000 simplest parts of a potential 13,000 parts in the depot and the potential savings for the entire enterprise may range up to \$640M per annum.

Another study for the aerospace industry shows that a shop with three high-speed machines making 7,200 parts per year may save \$500,000 or more per year by reducing overhead, avoiding waste and increasing throughput.

This workshop will introduce the audience to the STEP-Manufacturing standards. The first session will describe the business cases. The second session will describe some of the key technologies. The third session will survey the software tools that are being implemented. The last session will include an opportunity for key CAD/CAM and CNC vendors to give their perspective. The day will end with a panel for all the speakers and will be followed by an opportunity for vendors and users to give desktop demonstrations during a social hour.

The workshop will take place on Wednesday, October 6th and requires advance registration. It will be open to all full week meeting attendees at no additional charge on a space available basis and will be available to individual attendees for a single day registration fee of \$295. The registration fee includes lunch and a concluding social hour/demo session (cash bar).

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### 1. Business case: 8AM to 10AM

The STEP Manufacturing Suite – A Contribution to Lean Manufacturing

*Bill Freeman, SCRA, Charleston, South Carolina*

Case study on reducing inventory in the shipbuilding industry

*Alan Crawford, LSC Group Ltd. UK*

Boeing's AP-238 Early Implementation Study

*David Odendahl, Boeing Company, Tulsa, Oklahoma*

### BREAK

### 2. The Technologies: 10:30AM to Noon

Geometric dimensions and tolerances

*Tom Hendrix, Boeing Commercial Airplane, Seattle, Washington*

Manufacturing processes and features

*Len Slovensky, SCRA/NGIT, Cincinnati, Ohio*

Machining programs and tooling

*David Loffredo, STEP Tools, Inc., Troy, New York*

### LUNCH (provided): Noon to 1pm

### 3. Implementation tools: 1PM to 3PM

Tools to create CNC turning programs

*Suk-Hwan Suh, POSTECH, Pohang, Korea*

Tools for process planning

*Chiaki Sakamoto, Manufacturing Engineering Research Inc., Japan*

C++ libraries for CNC and GD&T data

*Martin Hardwick, STEP Tools, Inc., Troy USA.*

### BREAK

### 4. Vendor Perspective: 3:30PM to 5PM

CAD/CAM Vendor Perspective

*Chen Han Lee, UGS Corp*

CNC Vendor Perspective

*Jim Spearman, GE Fanuc*

CAM Vendor Perspective

*John Callen, GibbsCAM*

### 5. Facilitated Panel discussion with session presenters

### AFTER MEETING: 5PM to 6PM

Desktop demonstrations and networking social hour Cash Bar