How Business Process Re-Engineering Works

An example from the American Institute of Steel Construction

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There’s always a solution in steel.
BIM steel
Interoperability Initiatives for the Structural Steel Industry

- Interoperability Strategy
- Information Delivery Manual (business processes)
- Automating Steel Fabrication
- Shop Drawing Review
- Model Sharing: Design to Detailing
- Material Procurement & Management
- ...
What? When? Why?

Information Delivery Manual (IDM)
BIMsteel: 
Shop Drawing Model Review

Moving from Shop Drawing Review to Shop Model Review
Integrating BIM into the review and approval process

www.aisc.org/ModelReview

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<th>Register</th>
<th>Date</th>
<th>Venue</th>
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BIM Model – “Approved!”

Alta Bates Summit Medical Center

Looking At The Numbers

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<tr>
<th>ABSMC</th>
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<td>330 hours billed*</td>
<td>A Lot More Time</td>
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<tr>
<td>(19,800 min.)</td>
<td>Also Much More</td>
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<td>3500 tons of steel</td>
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<td>(4700 pieces)</td>
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<td>0.1 hr/ton</td>
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<td>(4.2 min/piece)</td>
<td>(9.2 min/piece)</td>
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*Includes time spent on review of steel pieces only (no welding procedures, inspection criteria, etc.)
BIMsteel: Design to Detailing Handoff / steelIFC

Improving collaboration between designers and fabricators through better BIM based data exchanges.
Improving collaboration between designers and fabricators through better data exchanges

http://dcom.arch.gatech.edu/aisc/?q=node/1
BIMsteel: Automating Steel Fabrication / steelIFC

Integrating BIM into the fabrication process to save time, increase efficiency and improve accuracy.
“It’s a process that works but hasn’t changed significantly for too long. We are in danger of not taking advantage of the capability evolving technology affords us.”

—Chris Moor, AISC Director of Industry Initiatives, Chicago, IL
This is the first true application of BIM anywhere in the industry.

—Wayne Morrison, Herrick Corporation, Stockton, CA
Next Level Technology & Automation

Automated Layout

Robotic Welding

Automated Assembly
Automating Fabrication

BIMsteel

AceCad
AGT
Bentley
FabSuite
FabTrol
FICEP
GRAITEC
HGG
ProDevco
Nemetschek
Scia
Steel Projects
Tekla
Voortman
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| Promotional/Educational                           |     |     |     |     |     |     |     |     |     | 99%      |            |
| Web Pages                                         |     |     |     |     |     |     |     |     |     | 99%      |            |
| Promotional Materials                             |     |     |     |     |     |     |     |     |     | 77%      |            |
| NASCC Preparation                                 |     |     |     |     |     |     |     |     |     | 0%       |            |
| Engage Industry/Fabricators                       |     |     |     |     |     |     |     |     |     | 30%      |            |
| Encourage Supplier Involvement                    |     |     |     |     |     |     |     |     |     | 43%      |            |
BIMsteel:
Material Procurement & Management /
(steelXML)

Improving the way steel is quoted, procured, delivered and managed.
A lot of data entry
No automation to speak of
Manual operation
Prone to errors
XML file export/XML file import

- Standard format – anyone can read data from any system
- Eliminates manual re-entry of data
- Reduces/eliminates errors
**Workflow # E3-1**

Issue Purchase Order
If P.O. includes additional services, also provide supplier with that information separately

**Workflow # E3-2 (a, b)**

Receive P.O., confirm, process, acknowledge

Steps include:
- Pricing
- Supplier Stock
- Planned Stock
- Rolling Schedule
- Bundling Charts
- Sustainability Data
- Customer Specific Pricing
- Pricing for Services

**Buyer**

Accept All?
- Yes: Create Purchase Order
- No: Partial Accept?
- Yes: Does P.O. include Service?
- No: Refine RFQ
- No: Reject/Store

Check Pricing & Detail
- Check OK?
- Yes: Receive Confirmation
- No: Revise/Reissue P.O. (Back to E3 3.1)
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