

Hudson

Steel & Metals Industry Experience

1 ABOUT HUDSON TECHNOLOGY SOLUTIONS

Hudson Overview

Hudson is a division of Hudson Highland Group (NASDAQ: HHGP), one of the world's leading specialized solutions and professional staffing providers. The firm has about 4,000 employees serving some 10,000 clients in nearly 30 countries and has more than \$1 billion in annual revenue. Hudson Information Technology Solutions (IT Solutions) provides a full range of information technology skill-specific teams or entire IT departments to optimize and enhance your company's information technology assets.

Our Manufacturing and Metals practice is focused on the steel industry. In our 18-year history, we have delivered over 300 systems for metals companies all over the world. These systems were built with a thorough understanding of both plant operations and business objectives.

Current clients of Hudson's IT Solutions Group in the metals industry are:

- Allegheny Technologies International (ATI)
- AK Steel
- International Steel Group
- J&L Specialty
- Nucor Steel

As developers of over two hundred systems for the metals industry, Hudson personnel are familiar with process data, its sources, its structure and its management in systems applications. This experience enables Hudson to employ an approach, which has been successfully used in previous projects to develop a sound architecture to meet Dofasco's requirements.

Hudson provides solutions for all elements of system integration needs throughout the life cycle of the project. Whether a project involves one step in the process or every step, Hudson handles:

- Conceptual Planning
- Feasibility Studies
- Requirements Definition
- System Analysis and Design
- System Implementation and Commission
- Quality Assurance and Testing
- Training and Documentation
- Project Management Services
- Vendor and Package Selection
- Standards Development and Evaluation
- Application Maintenance

Hudson is with your project from start to finish – and beyond.

1.1 Industry Recognition

Hudson Information Technology Solutions Group is a recognized leader in providing systems integration and consulting to the steel industry. One key to our success are individuals with the knowledge and expertise not only within the realm of information technology, but in the domain of process and production management. The average IT Solutions Group employee has over 20 years of experience providing systems integration and consulting services to clients in the metals industry; many of those years have been spent working together as a team.

Hudson continues to demonstrate leadership in the steel industry through the following channels:

- Active membership in steel industry associations such as the Iron and Steel Society (ISS), Association of Iron and Steel Engineers (AISE), along with appointment to association committees.
- Technology partnership relationships with industry leaders such as Oracle, Microsoft, and IBM
- Authoring technical articles for steel industry publications
- Presenting papers at industry conferences

1.1.1 Consultant Profiles

The following brief backgrounds of Hudson Information Technology Solutions staff are representative of our knowledge and experience:

Laura Maxwell, Director

Laura Maxwell has served as Practice Director in the Information Technology Solutions group since 1998 and has over eighteen years of experience executing systems integration and systems consulting projects primarily for clients in the metals industries. Her background includes project management and technical leadership responsibilities in all phases of development for computer automation and supervisory control systems, as well as operational responsibilities for two integrated steel producers.

Laura received a Master of Science degree in Industrial Administration, with concentrations in Information Technology and Manufacturing at Carnegie Mellon's Graduate School of Industrial Administration. She received her Bachelor of Science degree in Chemical Engineering from Carnegie Mellon University. Laura is a member of the Association for Iron and Steel Technology (AIST), where she serves on the Project Management and Computer Applications operating committees.

A. Dean Mundy, Senior Architect

Dean has over twenty-two years of experience in a broad range of roles including developer, integrator, architect, product designer, project/program director, and business leader. These roles have been focused on being a world class provider of production information / automation systems and management / e-business consulting services to manufacturing companies around the world.

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Dean has a Master of Science degree in Mechanical/Controls Engineering from the University of California at Berkeley. He completed the General Electric Edison Engineering "Advanced Courses in Engineering" program and received a Bachelor of Science degree in Chemical Engineering from the University of Pittsburgh. Dean is a member of the AIST, a member of the Project Management Institute, and is a registered Professional Engineer.

Daniel T. Houck, Senior Architect

Dan is a founding partner of INSIGHT Automation Systems, which was acquired by Hudson. With over twenty-five years of experience in computer automation, Dan has worked on a wide variety of projects ranging from the metals to the food industries.

Dan is a graduate of the University of Pittsburgh with a Bachelor of Science degree in Industrial Engineering and a Master of Science degree in Operations Research. Dan's professional affiliations include membership in the IEEE, the AIST, and the Pittsburgh Technology Council.

1.1.2 Presentations and Publications

Over the past several years, the following papers have been presented at industry conferences or published in industry publications:

- **Productivity Gains in Building Graphical User Interfaces**, by Dan Houck, presented at the Computer Applications Symposium of the Iron and Steel Society, December 1995
- **Design, Implementation, and End-User Issues Encountered while Developing Databases for Two Level 3 Systems**, by Lisa Loar, presented at the Iron and Steel Society Electric Furnace Conference, November 1998 and published in Iron and Steelmaker Magazine, April 1999
- **Production Scheduling At A Closely Coupled Facility**, by Dan Houck, presented at the Iron and Steel Society Electric Furnace Conference, November 1998
- **80" Hot Strip Mill Control System Migration**, by Richard Burgess, et al., presented to the Association of Iron and Steel Engineers Conference, September 2000 and published in Steel Technology magazine, February 2001
- **Real-time Process Quality Monitoring and Online Statistical Analysis**, by D. James McCafferty and Lisa Loar, presented at the Computer Applications Symposium of the Iron and Steel Society, June 2001
- **Security Issues in Industrial Internets**, by Dan Houck, presented at the Computer Applications Symposium of the Iron and Steel Society, June 2001

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- **Improving Automation Project Performance with Front End Loading**, by Laura Maxwell, presented at the AISE Annual Conference, October 2003
- **The Technical Challenges of Updating the Legacy IT Infrastructure**, by Dan Houck and Brian Harris, presented at the AIST Annual Conference, September 2004
- **Managing Small Projects**, by Laura Maxwell, presented at the AIST Annual Conference, September 2004

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1.2 Client References

Client	Project	Type
Armco, Butler	AOD MMI Development	Level 2
Armco, Mansfield	AOD MMI Development	Level 2
AK Steel	Recirculating Vacuum Degasser (LMF)	Level 2
Alcan, Kingston	Continuous Annealing Line Supervisory	Level 2
Alcan, Fairmont	Cold Mill Data Collection and Reporting	Level 2
Alcan, Fairmont	Cold Mill Scheduling System	Level 2, 3
Alcan, Oswego	Control Targets and Automation Plan	Level 2
Alcan, Oswego	Preheat Area Supervisory System	Level 2, 3
Alcan, Oswego	Hot Line Supervisory System	Level 2, 3
Alcan, Oswego	Cold Mill Supervisory (2 Mills)	Level 2
Alcan, Oswego	Cold Mill Flatness System	Level 2
Alcan, Oswego	Slitter Supervisory (2 Mills)	Level 2
Alcan, Oswego	Coil Weigh Station	Level 2
Alcoa, Davenport	Common Casting Control System	Level 2
Alcoa, Warrick & Tennessee	Ingot Plant Cell Controller / Inventory	Level 3
Bethlehem Steel, Burns Harbor	BOF System Consulting	Level 2
Bethlehem Steel, Burns Harbor	Continuous Caster Supervisory System	Level 2
Bethlehem Steel, Burns Harbor	Central Dispatch (Utilities) Supervisory System	Level 2
Bethlehem Steel, Burns Harbor	Plant-wide Networking Software	Level 3
Danieli Wean	Strip Process Line Configuration Tool	
Erdemir, Eregli, Turkey	Ladle Treatment Station Supervisory System	Level 2
Geneva Steel, Provo	LMF Supervisory System	Level 2
Geneva Steel, Provo	Caster Supervisory System	Level 2
Georgetown Steel	Integrated Melt Shop System	Level 2, 3
	•	Melt Shop Process Level 3
	•	Chem Lab
	•	Scrap
	•	EAF
	•	LMF
	•	Caster
GST Steel	Integrated Melt Shop System	Level 2, 3
	•	Melt Shop Process Level 3
	•	Chem Lab
	•	Scrap
	•	EAF
	•	LMF
	•	Caster

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International Steel Group	ERP Implementation and Integration <ul style="list-style-type: none"> • Financials • Purchasing • Order Management and Fulfillment • Estimating and Providing • Order Dressing • Unit Scheduling • Production Reporting 	Level 3, 4
International Steel Group	Maintenance Management System	Level 3, 4
J&L Specialty Steel	Caster Supervisory System	Level 2
J&L Specialty Steel	AOD Charge Calculation System	Level 2
Logan Aluminum	Cold Mill Gauge and Flatness System	Level 2
Logan Aluminum	Slitter Gauge and Flatness System	Level 3
Logan Aluminum	On-line Standard Operating Procedures	Level 2
Logan Aluminum	Control Targets and Automation Plan	Level 2
Logan Aluminum	Surface Inspection System	Level 2
National Steel, Great Lakes	Caster Supervisory System Twinning Upgrade	Level 2
National Steel, Great Lakes	Hot Strip Mill Upgrade	Level 2
North American Stainless	Integrated Melt Shop System <ul style="list-style-type: none"> • • • • • • 	Level 2, 3 Melt Shop Process Level 3 Scrap EAF AOD Stir Station Caster
Nucor Steel, Hickman	EAF Supervisory System (2 Furnaces)	Level 2
Nucor Steel, Hickman	LMF Supervisory System (2 Furnaces)	Level 2
Nucor Steel, Hickman	Caster Supervisory System (2 Casters)	Level 2
Nucor Steel, Hickman	Scrap Management System	Level 2
Nucor Steel, Nebraska	Melt Shop System <ul style="list-style-type: none"> • • • 	Level 2, 3 EAF LMF Caster
Pechiney Rolled Products	Charge Calculation System	Level 2
Rocky Mountain Steel	Vacuum Tank Degasser	Level 2
Rocky Mountain Steel	Caster Supervisory System	Level 2
Rouge Steel	Ladle Refining Facility Sequencing	Level 3
Rouge Steel	Caster Supervisory System	Level 2
Tuscaloosa Steel	Caster Supervisory System	Level 2
Tuscaloosa Steel	Data Warehouse and Scheduling System	Level 3
USS, Fairfield	Disciplined Slab Storage Computer System	Level 2

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USS, Fairfield	Coil Quality / Coil Data Management System	Level 2
USS, Fairfield	Blast Furnace -to- Caster Sequencing System	Level 2, 3
USS, Gary	Caster #2 Performance Consulting	Level 2
USS, Irvin	Temper Mill Supervisory System	Level 2
USS/Kobe Steel, Lorain	Caster Runout Area Automation	Level 2
USS, Research	Hot Mill Data Acquisition System	Level 2
USS, Research	Cold Mill Data Acquisition System	Level 2
Weirton Steel	Caster Slab Dispositioning System	Level 2
Wheeling Pittsburgh Steel	Caster Supervisory System	Level 2

Automation Specification Efforts

Client	Project	Type
Alcoa, Massena	Potline Functional Specification	Level 2
American Home Foods	Corporate-wide MES Design Guidelines	Level 2, 3
Armco, Butler	MMI and SCADA Implementation Study and Recommendation	Level 2
Bethlehem Steel, Sparrows Point	BOF Computer Specification	Level 2
Bethlehem Steel, Burns Harbor	Breakout Prevention Study	Level 2
Bethlehem Steel, Burns Harbor	Caster Functional Specification	Level 2
BHP Steel, Whyalla	Slab Inventory Functional Specification	Level 2
Calgon Carbon	Plant-wide Automation Specification	Level 2, 3
DuPont	Corporate-wide Automation Plan	Level 2, 3
Georgetown Steel, SC and GST Steel, Kansas City	Melt Shop Data Collection	Level 2,3
Golden Aluminum, San Antonio	Caster to- Hot Mill Plant-wide Automation Plan	Level 3
GST Steel, Kansas City	Grinding Media Supervisory System	Level 2,3
Hills Pet Products	Plant-wide CIM Strategy Study	Level 2, 3
Hills Pet Products	Plant Functional Specification	Level 2, 3
J&L Specialty Steel	Corporate-wide (3 plant) Automation Planning	Level 2, 3 and Level 1, 4
J&L Specialty, Midland	Level 3 Functional Specification	Level 3
Latrobe Steel	MMI Functional Specification	Level 1.5
MUKAND Ltd., India	Plant-wide Automation Plan	Level 2, 3 and Level 1, 4
NABISCO	SCADA Package Study & Recommendation	Level 2
National Steel	Migration Plan for Hot Strip Mill	Level 2
Weirton Steel	BOF & Caster Functional Specification	Level 2
Weirton Steel	BOP Functional Specification	Level 2, 3