



State of the Industry

Observations, trends and information for the construction industry

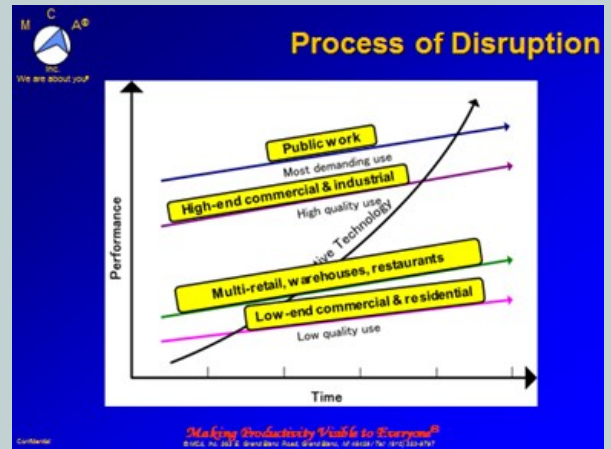
March 2016

Volume 4 Issue 1

Welcome to our First State of the Industry report of 2016. Please let us know what you think by sending us a quick email—click [HERE](#).

Disruption: The Second Front in the Battle for Market Share

Industrialization of Construction® is upon us; already competition from abroad is here utilizing manufacturing processes, and completing construction projects at an amazing pace and profitability. As the gap widens between the number of skilled workers and the amount of construction needed to be performed, this further accelerates the opportunity and demand for foreign competition with a manufacturing mindset.



If this wasn't enough of a threat for contractors across the entire industry let alone just signatory contractors, the next battle begins with Disruption. Disruption of the Industry occurs when the needs of unserved customers are met by alternative providers. These alternate providers, then in time begin to penetrate the larger existing markets of signatory contractors. Initially the open shop contractors begin by picking up the general commercial and residential work on the outer edges of the larger cities. As the city expands and the suburbs begin to develop in the outer areas gradually higher level commercial work follows suit. Unfortunately for signatory contractors, portability restrictions can force a customer who had been using a preferred contractor within the city's local to seek out a new contractor when they have a project outside of the city's local. This affords the open shops the opportunity to build relationships with their new customers, allowing them to migrate towards the epicenter of the more technical and larger markets within the city.

Like the automotive industry of the 1960's, competition from abroad and the decline of the union's presence in automotive manufacturing didn't seem real or probable.

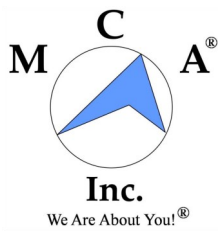


MCA Spring Symposium

See page 3 and sidebar on pages 2, 4, 6, 8 & 10.

In this issue:

Disruption: The Second Front in the Battle for Market Share	1,2
Labor Shortage	2,3
Agile Construction® Across the Country	4
Web based Training	4
Observations, trends and information for the construction industry	4
Detailed Construction Categories	5, 6
Construction across the Country	6
Client News	6
Calendar of Events	7
Publications	7,8,9
Testimonials & Customer Results	10, 11



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to Manage Work**
(Segregation and Externalizing Work® through Prefabrication and VMI.)

This Symposium will consist of train in various stakeholders, including but not limited to: project managers, estimators, prefab shop managers, field supervision, field technicians, vendor and supplier points of interface, project support such as drafting/detailing, coordinators, administrators, owners, executives, Vice Presidents, etc.

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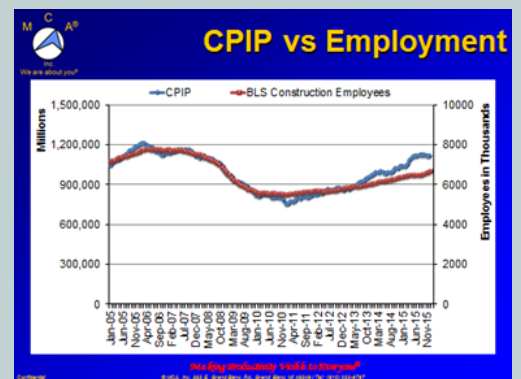
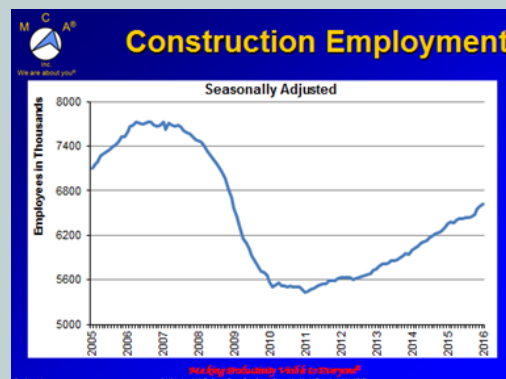
[Click here!](#)

Disruption: (cont'd)

Through the mid 1970's US automotive manufactures literally dominated the market. During the 1980's Asian manufactures began to take hold and capture market share from the US manufactures. No longer controlling the automotive market, US manufactures began to see their profit margins erode with their market share, as foreign competition embracing lean operations perfected their manufacturing processes. The industry is changing and contractors are at a precipice where success will require a change in the traditional business models and this has to happen through a change in the culture, where in companies will have to go through a transformation to survive, the transformation to Agile.

The Labor Shortage

Construction is back, and you have just finished wrapping up 2015 and from our discussion above you know you have a small window to address the upcoming issues on your backlog of projects coming up this year. One of the top concerns on your list is manpower, not only how many? Where do I get them? But, how much is it going to cost? Is bringing on skilled workers going to be at a premium? And is it going to kill your bottom line? Looking at construction employment through January 2016, employment numbers continue to steadily rise in light of the market size tapering off at the end of the year. Comparing Construction Put In Place with construction employment, we see an unprecedented disparity between the dollar value of construction and the number employed. What does this mean? This means successful contractors are using their manpower more efficiently and effectively to get the job done.



Looking at what the BLS (Bureau of Labor Statistics) is projecting this disparity to become the norm for the industry. Essentially this means you have 2 options:

1. You can either bring on more high skilled labor at a premium to meet your



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deadlines, and risk killing your bottom line or

2. You become Agile, training your workforce to practice the fundamentals and use the tools to bring your jobs in on time and on budget.

Industrialization of the Construction

Industry is happening across the globe, and

it is here to stay. The only way to compete and win in this environment is to train your workforce to manage the labor, manage the work, and continuously improve your processes to obtain the utmost efficiency of your work force.

In April, the team at MCA will join others at the MCA Symposium on “Workforce Training to Manage Work Segregation and Externalizing Work® through Prefabrication and Agile Procurement™”, which will be held Thursday, April 20th through the 22nd 2016 in Carrollton, Georgia in conjunction with a training and users forum focusing on the tools of Agile Construction® (taking place Wednesday, April 20th). This is the second in a series of five Symposiums focusing on training the workforce on the five steps of Industrialization:

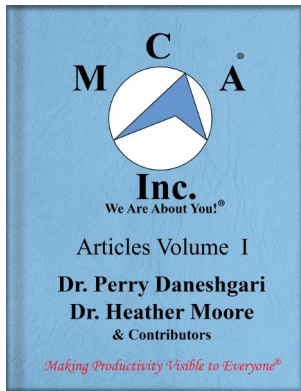
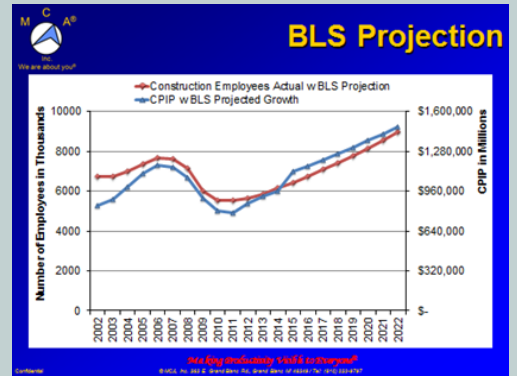
1. Management of Labor,
2. Management of Work,
3. Lean Operations,
4. Simulation and Modeling,
5. Feedback from the Source.



The focus of the topic this spring will be:

Corporate Infrastructure Design for Workforce Training to Manage Work...

The Symposium will consist of training various stakeholders, including but not limited to: project managers, estimators, prefab shop managers, field supervision, field technicians, vendor and supplier points of interface, project support such as drafting/detailing, coordinators, administrators, etc. [Click here](#) for more information.



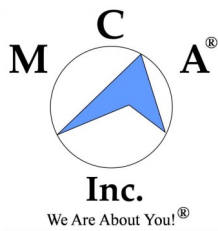
FREE EBOOK!

This ebook is packed full of Agile Construction® related articles on...

- Transformation
- Productivity
- Profitability
- Process
- Procedures
- Tools
- Measurements

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Read online [here](#).



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Agile Construction® Across the Country

Agile Construction® is coming to a town near you! MCA is conducting Agile Construction® classes at various locations across the United States and Canada. This is a great opportunity to see first-hand on what Agile Construction® can do for you and your company. For more information and to register [click here](#), or contact Dan Waltz at dwaltz@mca.net

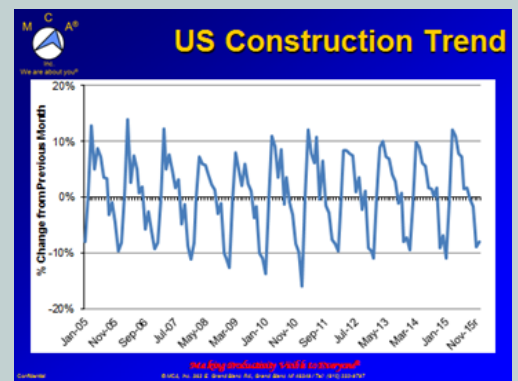
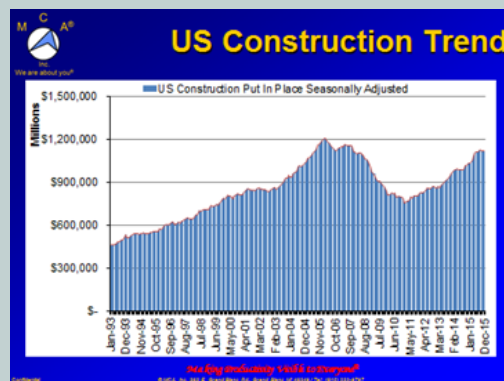
Web Based Training

MCA is proud to announce that we have web based training available to all our clients. This offers participants the benefit of reduced training costs, greater flexibility in training schedules, and a greater variety of courses to choose from:

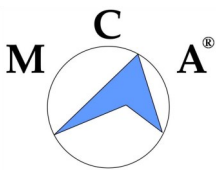
- JPAC® & SIS® mini classes
- Agile Classes
- Design Teams
- Project Management courses

Observations, trends and information for the construction industry

Construction remained strong with growth tapering off through the fourth quarter. Overall annual construction for the US in 2015 came in at \$1,097 billion, an increase of 10.5% from 2014. Construction spending in November and December declined from the 3 month peak seen in August through September, remaining just above mid-summer levels. Analysts continue to predict this upward trend through 2017.



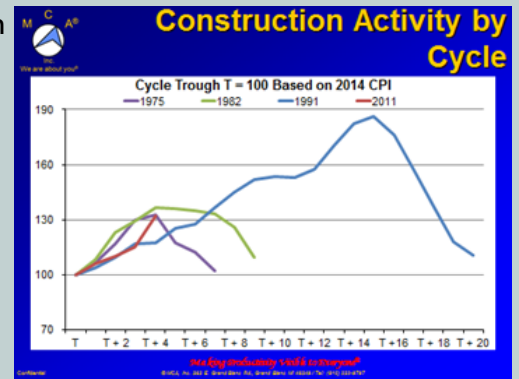
The Construction Put In Place (CPIP) trend indicates the beginning of a head and shoulders growth pattern in 2016 for the US Construction Industry. The month to month percent change shows the seasonal variation, with the trend indicating the industry has experienced the end of its' growth for the year, with an additional dip expected for January before the market begins its' seasonal growth pattern.



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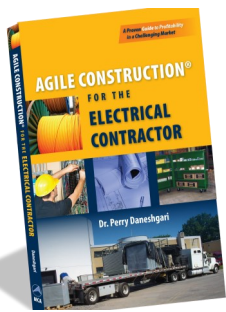
The next chart gives a historical comparison of the duration of construction cycles since 1975. The sharp increases in 2015, as seen near the peak of the 2011 cycle, as well as the other cycles indicate a deceleration in the growth pattern for the construction industry for 2016



Detailed Construction Categories

The first chart below ranks the biggest movers and shakers by detailed category from 2014 to 2015. Lodging may have shown the greatest amount of movement in this period; however with an annual value of \$252 billion it is one of the smaller detailed categories of the industry. The second biggest mover, Manufacturing became the 4th largest detailed category in 2015 with an annual value of construction at \$1,004 billion

The next chart looks at the trend of some of the more popular detailed categories within the commercial segment for the past 14 years. Education the largest of the select detailed categories had been steadily declining since its' peak in 2008, in 2015 it has a significant increase in size mid-year and has remained stable throughout the remainder of the year. Not surprisingly, the general commercial market showed the greatest decline at the onset of the 2008 financial crisis. It was showing one of the strongest recoveries since bottoming out in 2010, and has remained stable throughout 2015. The office category lags behind the general commercial following a similar trend, showing signs of stable growth since 2013. While the health care category declined the lease at the onset of the financial crisis, it has remained



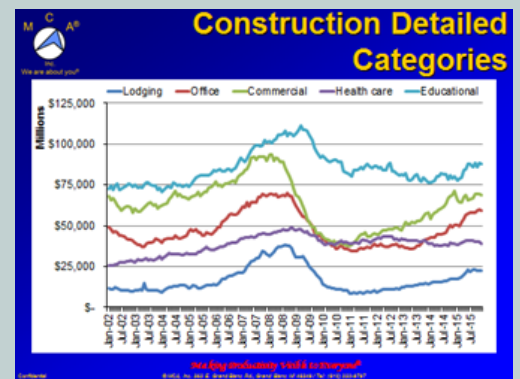
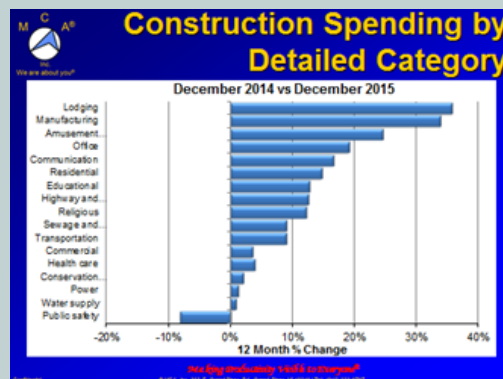
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by
Dr. Perry
Daneshgari

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relatively constant, showing a slight decline in the latter half of 2015. The smallest of the popular detailed categories, lodging had been showing the stable growth since 2011. However its growth stopped and remained constant through the 2015.



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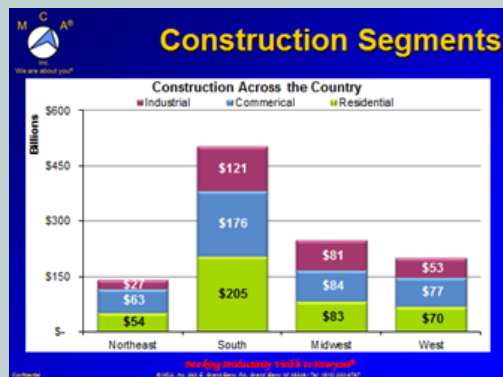
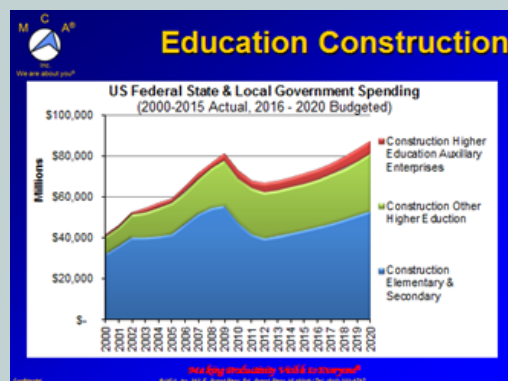
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Detailed Construction Categories (cont'd)

Education has consistently been one of the top 3 largest detailed categories in construction. Below as a forecast based on actual and budgeted construction expenditures from 2000 through 2020 and the type of educational the spending will be directed toward. The primary market will continue to be within the elementary and secondary education sectors followed steady growth within higher education.

Construction Across the Country

Let's look at the value of CPIP in the industrial, commercial, and residential construction segments within different US Census regions across the county through 2015. The south continues dominate the other regions with the most activity within



its residential and commercial markets more than double that of same markets in other regions across the county. Construction in the Northeast and West regions are primarily commercial, while construction in the Midwest is evenly split between residential, commercial, and industrial work.

Client News

LiveWire Electrical Systems Inc. - Has begun their Agile journey.

Taylor Electric - Has begun their assessment process to establish their baselines.

Bronco Electric - Is increasing prefabrication operations.

Graybar - Warehouse restructuring and working on CPAC® implementation.

Moran Electric - Is increasing the number of SIS® users.

Hardt Electric- Is enhancing their project management skills through classes

Fuller Electric - Has started using Short Interval Scheduling (SIS®)

ConneXion - Is beginning CPAC® Implementation and Information Runner

Symtech - Has begun a pilot project with on-line training using JPAC® and SIS®

Aldridge - Shares first year of Agile in their Agile Construction® Newsletter [click here.](#)

Thanks for the Feedback!



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before they get
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Watch video!

Mobile app video: [here](#)
Web app video: [here](#)

Calendar of Events

Tuesday's- SIS® Mini-Classes @ 10 & 10:15am

Wednesday's- SIS® Mini-Classes @ 9am SIS® Executive Mgmt. Mini Class 4 pm

Thursday's- JPAC® Mini-Classes @ 3pm

April 20 – 22- MCA Spring Symposium “Workforce Training to manage Work Segregation and Externalizing Work® through Prefabrication and Agile Procurement™” – Carrollton, GA [Click here](#) for more information.

April 27 – April 28- Agile Construction® – Portland, OR

May 5 - 6- Agile Construction® – Chicago, IL

June 9- NECA – Prefabrication Design – King of Prussia, PA

July 14 – 15- Agile Construction® – Toronto, Canada

July 28 - 29- Agile Construction® – Seattle, WA

September 15- NECA – Avoid Killer Jobs Improve Estimating – King of Prussia, PA

September 22 - 23- Agile Construction® – TBD, IL

November 10 – 11- Agile Construction® – TBD, NJ

December 8 – 9- Agile Construction® – TBD, TX

Upcoming events and engagement can be found on our website www.mca.net

Recent Publications

Financial Implications of VMI for Electrical Contractors and Their Distribution Partners - Contractors and distributors achieve top performance by minimizing both their variable and mixed costs through error reduction, process improvement and customer awareness.

Agile Construction® for the Electrical Contractor - Agile Construction® for the Electrical Contractor provides the tools and guidance needed to transform a traditional, reactive project management style to a new, proactive, profitable, and productive business management model - one that can quickly respond to changing industry needs and remain a profitable enterprise, even during the toughest of times.

MCA Articles Vol I Ebook - Agile Construction® related articles on Transformation, Productivity, Profitability, Process, Procedures and Tools, and Measurements

Impact of Prefabrication on Industrial Construction Work - Prefabrication is no longer a standalone approach to construction decided only by the “shop foreman” or “our prefab catalog.”



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Recent Publications (cont'd)

Reducing Labor Waste With Short Interval Scheduling - Labor waste is a negative term from both workers' and managers' perspectives. They agree waste should not exist, but they define it differently.

Competing in the New Construction Environment - Book I- Competing in the New Construction Environment A Compilation to Lead the Way - Book I: The Here and Now-How to Be Competitive Construction is facing a revolution. No industry will remain untouched by the technological improvements in communication, processes, and tools.

Reducing Labor Waste With Short Interval Scheduling - Labor waste is a negative term from both workers' and managers' perspectives. They agree waste should not exist, but they define it differently.

The CEO's Role in Information Management - Often we believe that processes and information management will happen by themselves – but they don't. Each company's products and services are a direct reflection of its management's commitment to time, cost and quality, as well as their customers, employees, communities and owners or shareholders.

Access to more publications can be found on our website at www.mca.net/resources/publications/

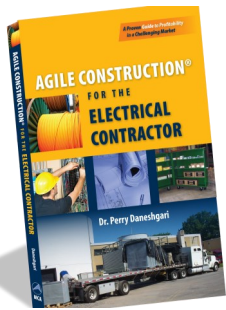
Prefabrication Increases Productivity - Prefabrication is really a misnomer for what is happening in the industry. It's not prefabrication that is happening, but rather separation of production from installation. Most find there's no longer a choice to participate in productivity improving activities to improve time, cost and quality of the construction project delivery.

Applying Scalable Prefabrication to Industrial Construction Work - The industrialization of construction is upon us. It is no longer a choice to participate in productivity-enhancing activities to improve the time, cost and quality of construction project delivery. Prefabrication is only the stepping stone in the application of industrialization through agile construction, the precursor of lean in construction.

Electri Newsletter - 5/2015 - ELECTRI Launches Series on Industrialization ELECTRI International has released the first in a series of four white papers on topics pertaining



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to the Industrialization of the Construction Industry. MCA Inc., under the leadership of Dr. Perry Daneshgari, President/CEO, is producing this series for ELECTRI. Book One - Here and Now is available from ELECTRI. The three subsequent texts will include Benefits from Globalization & Industrialization, Foundation and Future, and Efficiency and Continuous Improvement. These will be produced and released from 2015 to 2017.

Electri - NECA Presentation - At the recent NECA Convention, Dr. Heather Moore, Vice President - Operations for MCA Inc., presented two classes on Prefabrication and one session on Utilizing and Managing a Lesser Skilled Workforce. Both topics are directly connected to ELECTRI research. In the presentation on Prefabrication in Electrical Construction, Dr. Moore explained that Prefab is not just about building and assembling; it is looking for ways to externalize work®, which very often the field workforce does not recognize until they create a Work Breakdown structure.

Principles of Job Productivity Assurance and Control (JPAC®) - Job productivity has historically been measured from the accounting perspective. This method of measurement has alienated the labor; as a result the outcome is data that is not useful.

How to Increase Your Market Share - Like many other industries, construction is going through constant change to keep up with the new market realities have its new challenges, especially for large cities, which historical have been the strong hold of union contractors.

How to Manage Your Job Using Work Breakdown Structure - Construction Productivity has historically lagged other industries in productivity, which until it is correctly measured, it cannot be improved.

Is Prefabrication Making You Money? - Like many other industries, construction is going through constant change to keep up with market demands. Industrialization and globalization of the construction design, procurement, and build process has forced more and more contractors to adopt prefabrication and vendor managed inventory processes and programs.

Access to all our publications can be found on our website at www.mca.net under resources/publications



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Testimonials & Customer Results

Aldridge Electric

“It presented a new way of thinking and approach to all that I do.”

“Coming from a Lean Manufacturing background, it was great to see our company breaking these barriers before it is too late.”

“It reiterated the importance of willingness to change and to continue thinking of new and better ways to do the work.”

Aldridge Electric, Agile Construction® Training Series

Bronco Electric

“Hiring you guys was the best decision we have ever made as a company.”

Bret Smith, Owner and COO, Bronco Electric

Holmes Electric

“...very valuable information to show areas of possible productivity and revenue loss and specific areas for improvement, which makes every trade more efficient and productive.”

Ed Hillman – Field Superintendent,

Aldridge Electric

“I could not help to notice today (MCA 2015 Spring Symposium) the culture that each speaker and their company now have after partnering with MCA. Each of these companies have built a tremendous team minded culture that I am sure was not present before their transformation. ”

Jayson Lange, Foreman Aldridge Electric

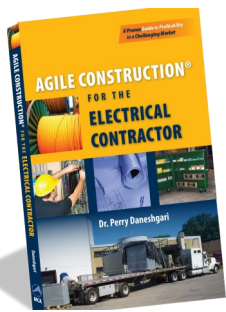
Bronco Electric

“I think the process went very well and the 30 min max that it took us to sit down and go over all of this will end up saving Bronco so much money and productivity on the job site. 1st procedure change, in my opinion is a VERY BIG/GOOD change and should only look to put us more in the GREEN at the end of the projects.”

Robbie Judd, Estimator/Project Manager, Bronco Electric Inc.



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Independent Electrical Contractors, Inc. – National Office

“Your sessions were a great addition to our program and were certainly appreciated by our members. (Your scores were outstanding!) Thank you again for sharing your time and expertise and elevating our educational program standards.”

Lysa E. Egly, Director of Education, Independent Electrical Contractors, Inc.

F.B. Harding Inc., Electrical Contractors

“I watched your latest video on the website this morning. Even though I have heard the concepts before, it is always good to see and hear them again. It is a great video, going to show it to our guys too.”

Scott Harding, President, F. B. Harding Inc.,

Holmes Electric

“(with SIS®)...We develop a 3 day look ahead EACH day, and at the end of each day we review that day’s events and report on the obstacles that allowed or kept us from working that days planned activity. That also allows us to project a new plan for the next 3 days.”

“On our larger projects at Holmes we normally run 2 programs with weekly and sometimes daily tracking updates that measure 2 key components. One is to track productivity as compared to budgeting, called “JPAC®” which is “Job Productivity Assurance and Control®... The second program which I have been running ... is simply called “SIS®”, “Short Interval Scheduling®”. This program simply tracks the flow of a project by showing our ability to work a planned project based on the interruptions to that planning.”

Ed Hillman, Field Superintendent, Holmes Electric

Oregon-Columbia NECA Chapter Market Share Study and Analysis—Tim Gauthier

“We have had very good results we are using the study to make changes to improve our competitive position.”

Tim Gauthier—Executive Manager, Oregon-Columbia NECA Chapter