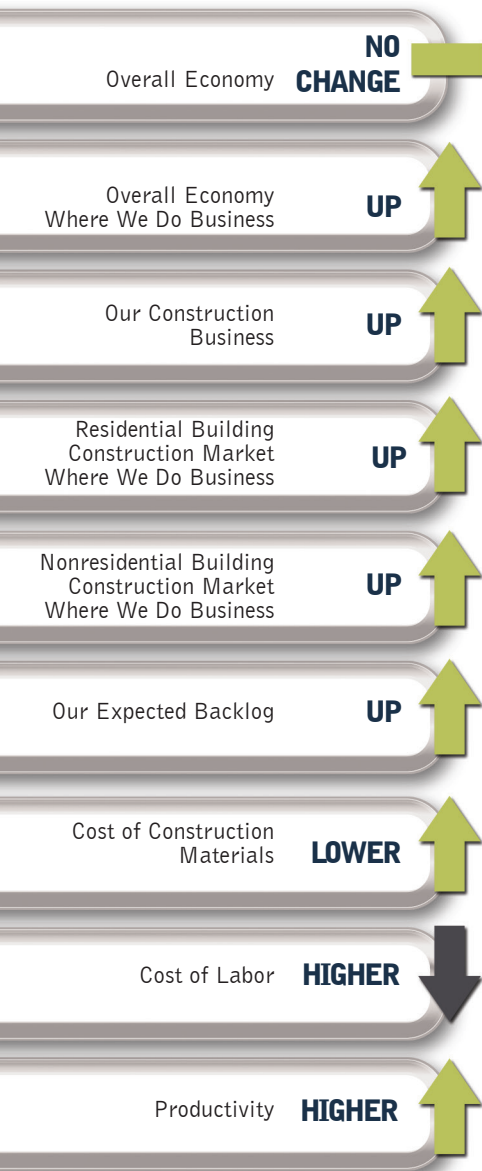


*“Productivity and the growth of productivity must be the first economic consideration at all times, not the last. That is the source of technological innovation, jobs and wealth.”*

William E. Simon

### CURRENT CIRT SUMMARY

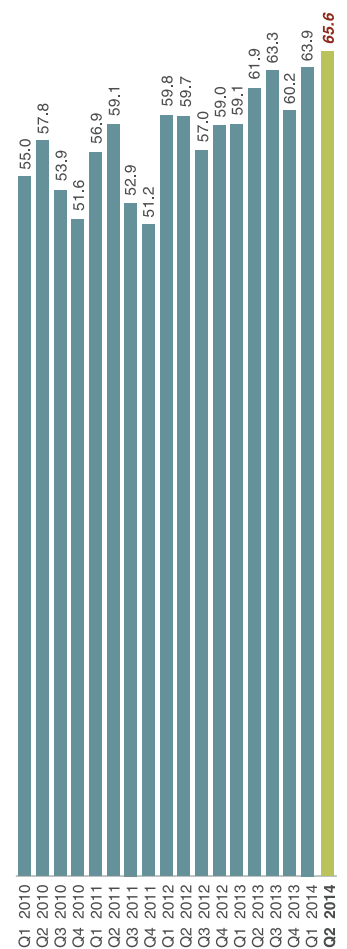


### CIRT SENTIMENT INDEX SECOND QUARTER 2014 EXECUTIVE SUMMARY

The wisdom of the 63rd U.S. Secretary of the Treasury reflects the results of our current issues questions this quarter concerning research and development as well as innovation in the construction industry. Most people in America would agree that research and development has been one of our leading strengths in the world, and we were interested to learn that 35% of CIRT panelists responding to our survey this quarter have dedicated departments for R&D, and 37% do some R&D as needed for specific projects. On the other hand, almost a quarter (23%) do not have dedicated R&D within their companies. But it is important to keep in mind, CIRT members are executives of many of the largest construction and engineering design firms in the nation, unlike the general survey for the broader distribution of contractors, where nearly half (47%) of FMI's Nonresidential Construction Index (NRCI) panelists polled this quarter said they have no ongoing research and development effort in their companies.

Often people, especially those outside the industry, criticize the construction industry as being behind the curve when it comes to innovation and R&D. It can be argued that much of that criticism is deserved, but that is not the whole picture. Even those in the industry, like the panelists for the CIRT Sentiment Index who are top executives and owners of construction firms, rank the engineering and construction industry as “fair to middling” when it comes to innovation. (See details below in the “Current Issues” section.)

So why is this topic so important in a report that is designed to take the economic pulse of the industry? The main reason — it appears clear that focus on innovation, including research and development in markets, methods and materials, will be among the leaders in the next economy, the “new normal.”



<b>NEW</b>	<b>CURRENT CIRT SENTIMENT INDEX READING Q2 2014</b>	<b>65.6</b>
	<b>CURRENT CIRT DESIGN INDEX READING Q2 2014</b>	<b>64.4</b>

PREVIOUS SENTIMENT INDEX READING: 63.9

EXHIBIT 1

### CIRT Sentiment Index

Scores Since: Q1 2010 to Q2 2014

(Scores above 50 indicate expansion, below 50 indicate contraction)

# ABOUT THE CONSTRUCTION INDUSTRY ROUND TABLE (CIRT)

The Construction Industry Round Table (CIRT) is composed exclusively of approximately 100 CEOs from the leading architectural, engineering and construction firms doing business in the United States.

CIRT is the only organization that is uniquely situated as a single voice representing the richly diverse and dynamic design/construction community. First organized in 1987 as the Construction Industry Presidents' Forum, the Forum has since been incorporated as a not-for-profit association with the mission "to be a leading force for positive change in the design/construction industry while helping members improve the overall performance of their individual companies."

The Round Table strives to create one voice to meet the interests and needs of the design/construction community. CIRT supports its members by actively representing the industry on public policy issues, by improving the image and presence of its leading members, and by providing a forum for enhancing and developing strong management approaches through networking and peer interaction.

The Round Table's member CEOs serve as prime sources of information, news and background on the design/construction industry and its activities. If you are interested in obtaining more information about the Construction Industry Round Table, please call 202-466-6777 or contact us by email at [cirt@cirt.org](mailto:cirt@cirt.org).

## CIRT SENTIMENT INDEX

The CIRT Sentiment Index is a survey of members of the Construction Industry Round Table conducted quarterly by FMI Research, Raleigh, N.C. For press contact or questions about the CIRT Sentiment Index, contact Mark Casso at [mcasso@cirt.org](mailto:mcasso@cirt.org) and/or Phil Warner, research consultant with FMI Corporation, at [pwarner@fminet.com](mailto:pwarner@fminet.com) or call 919-785-9357.



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### CONFIDENTIALITY

All individual responses to this survey will be confidential and shared outside of FMI only in the aggregate.  
All names of individuals responding to this survey will remain confidential to FMI.

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## Executive Summary ... continued

One of the key problems that companies seek to solve with innovative ideas is the ability to predict or create change and be at the innovative forefront in the next five years. A sample of what CIRT members are hoping to gain from R&D and innovation includes:

- “How to make the most efficient use of labor in the field. With the continued tight margins combined with the shortage of skilled labor, anything that begins to crack this nut effectively will be huge.”
- “How to utilize technology, construction process improvements and LEAN approaches to deliver a better product at 50% less cost.”

The good news this quarter is that the CIRT Sentiment Index has once again inched into record territory to 65.6; however, the Design Index slipped 1.5 points to 64.4. Material and labor costs are among the items holding the construction portion of the Index back, as almost every other component improved this quarter. Labor, in particular, is one of the largest ongoing concerns as noted in the comments on R&D in our Current Issues section. As Secretary Simon admonishes us to remember, productivity is a chief concern and should be the primary subject of innovation and R&D.

Meantime, we are caught in the middle of a sluggish recovery. A lingering recession mentality keeps companies from investing, banks from lending and consumers — aka “regular people” — from spending. Nonetheless, we are slowly working our way out of that “doom loop.” Meantime, material prices go up, and workers want, and often need, higher wages to be able to stay up with the rising costs of food, shelter and other amenities. It should be good news that more state and local governments are seeing increasing revenues, but they, too, have at least short-term memories of the hazards of deficit spending. Like a rocket on the launch pad, there are signs the economy could take off at any time; but the countdown keeps being put on hold. The goal is to get everyone off the ground, not just the few at the top of the tower. Otherwise, it is like taking off without the power needed to achieve critical altitude for orbit. Being caught in the middle of a sluggish recovery can be as difficult as being caught in a recession, when it comes to planning and projecting future success.

The actionable good news: CIRT members participating in this quarter’s survey think there is room for research and development to play a greater role in solving the problems of labor and productivity in the future. Some are ahead of the curve, investigating and investing in new ideas and technologies like advanced BIM applications, modularization and prefabrication, 3-D printing and better use of communications in the field. Not all the innovation comes from technology; there are innovations in processes and learning too. Ultimately, the focus of R&D must be determined by industry leaders and companies as they plan their strategies and investments for future growth.

## CIRT Sentiment Index Second Quarter 2014 Highlights

**Overall Economy:** The CIRT Sentiment Index component for the overall economy was down .04 points this quarter, or essentially unchanged from 79.9 last quarter. The majority of CIRT panelists responding this quarter continue to view the economy as expanding, albeit slowly.

**Overall Economy Where Panelists Do Business:** The economy for CIRT panelists' markets was up a solid 4.3 points to 77.2 this quarter.

### CIRT Design Index Components

**Consulting Planning:** The markets for design services are more changeable than for construction services, and the consulting planning component slipped 1.6 points this quarter to 69.0.

**Predesign work:** The component for predesign work improved 1.9 points to move up to a solid 76.1.

**Commercial:** Although commercial construction is trying to make a comeback after the long recession, it is having difficulty getting traction, and the design index for commercial design was off 9.9 points to 63.2.

**Education:** Design services for education markets continue to be flat at 50.0. Overall, this reflects other markets that rely on large portions of public spending.

**Health Care:** The component for health care design services is slowly on the mend, registering 60.5 this quarter or 4.5 points ahead of Q1.

**Industrial:** Industrial design services were essentially unchanged, but remain at an optimistic 72.2 this quarter.

**Transportation:** Another market predominantly driven by government spending, transportation slowed this quarter, losing 4.2 points to 66.7.

**Heavy/Civil:** Perhaps anticipating increased government spending on infrastructure, the heavy/civil market improved 3.8 points to a solid 68.2 this quarter.

**International:** Design services for international clients dropped 7.6 points this quarter to 61.4.

### Construction

**Construction Business:** CIRT panelists' construction businesses added another point this quarter to 74.6, a slow improvement but still moving in the right direction.

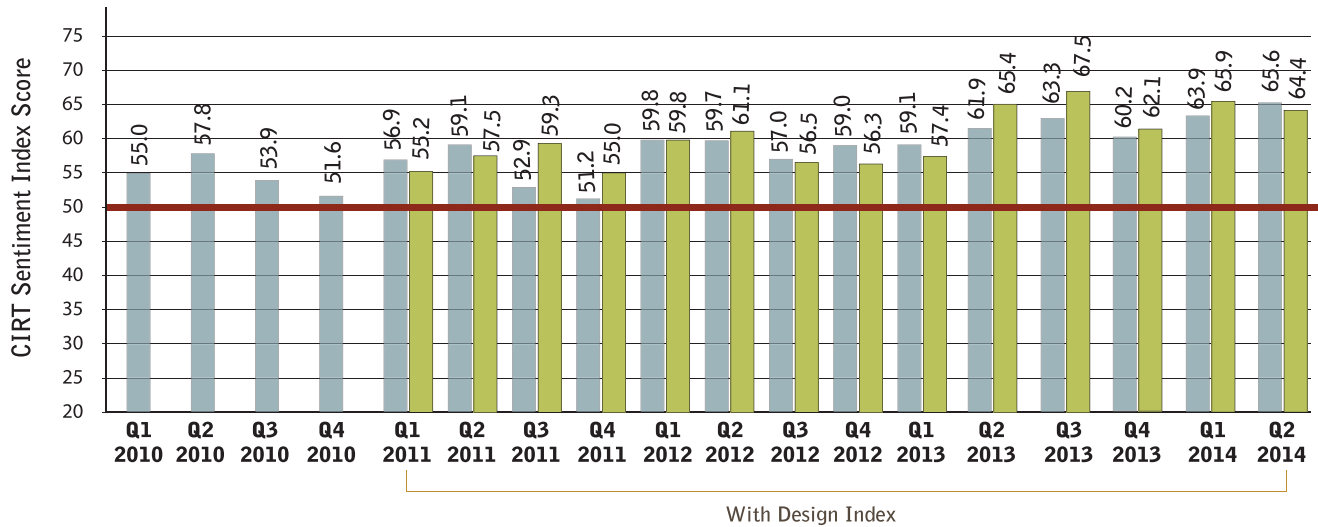
**Private Sector Construction Business:** The near-term outlook for both manufacturing and office construction slipped somewhat after looking more optimistic last quarter. Commercial construction improved in the near-term outlook, but panelists cut back on their optimism for the coming year. The outlook for education is soft but improving slightly. Health care construction continues to improve, but there are no signs of a long-term boom despite the expectation that more people being insured will increase the need for services.

**Cost of Construction Materials and Labor:** The cost of construction materials continues to climb, according to panelists, though not as rapidly this quarter. We can consider that less bad than last quarter. On the other hand, the index for the cost of labor dropped 4.2 points, indicating increasing labor costs and working against an increase in the overall CIRT Sentiment Index score.

**Productivity:** After falling below 50 in the third quarter of 2013, the index component for productivity has slowly improved to 55.7 this quarter. Panelists continue to work to improve productivity in a number of ways, and it appears these efforts are beginning to pay off at least for some. The responses to current issues questions on R&D and innovation below also have a strong focus on productivity improvement.

**EXHIBIT 2**

**CIRT Sentiment Index Scores : Q1 2010 to Q2 2014** (Scores based on a 100 point scale, above 50 indicate expansion, below 50 indicate contraction.)



**Current Issues:**

**Research, Development and Innovation in the Construction Industry**

As noted in the executive summary above, 23 percent of CIRT panelists polled this quarter said they have no ongoing research and development effort in their companies. That seems like a shocking headline, but then, many people, especially those outside the industry, criticize the construction industry as being behind the curve when it comes to innovation and R&D. However, 35% of panelists indicated they have a dedicated R&D department, and 37% do some R&D as needed for specific projects. As projects become more complex and challenging, it will force companies to be more innovative and smart. At the same time, there is also a need to be more innovative when, for example, one wins a project on a low bid and needs to be highly productive to complete it and make a profit.

Although the figures are not shown here, the tendency, as one would expect, is that larger companies invest more in R&D. Smaller and mid-sized companies tend to rely on getting new research and ideas from institutions like industry associations, research universities and, most importantly, materials and equipment suppliers. However, what is

somewhat disappointing to find is that the “associations dedicated to research” and “research universities” are also seen as the LEAST innovative places. (See Exhibit 5 findings.) Much of the innovation that benefits contractors emanates from the supplier community (such as the development of BIM). But there are also many other benefits that come from technology research, including telecommunications, GPS for heavy machinery, robotic welders and project management software to name some of the better-known.

We asked panelists how much in relation to revenue they budget for R&D. Since such a small number of panelists actually budgeted anything for R&D, our results can only be a rough estimate. Of those who estimated R&D spending, it looks like someone getting into R&D for the first time can expect to budget up to 1% of revenue for the effort. In any event, such a number indicates quantity, but does not guarantee the quality or effectiveness of the investment.

Research and development is a cost and can be a large cost, so it is important to be able to make the effort pay off. That requires making R&D and innovation part of a company’s strategic direction. It also means that smaller companies won’t make these investments. In order to partake in new developments, they will likely be followers and look to their association connections and suppliers to help them keep

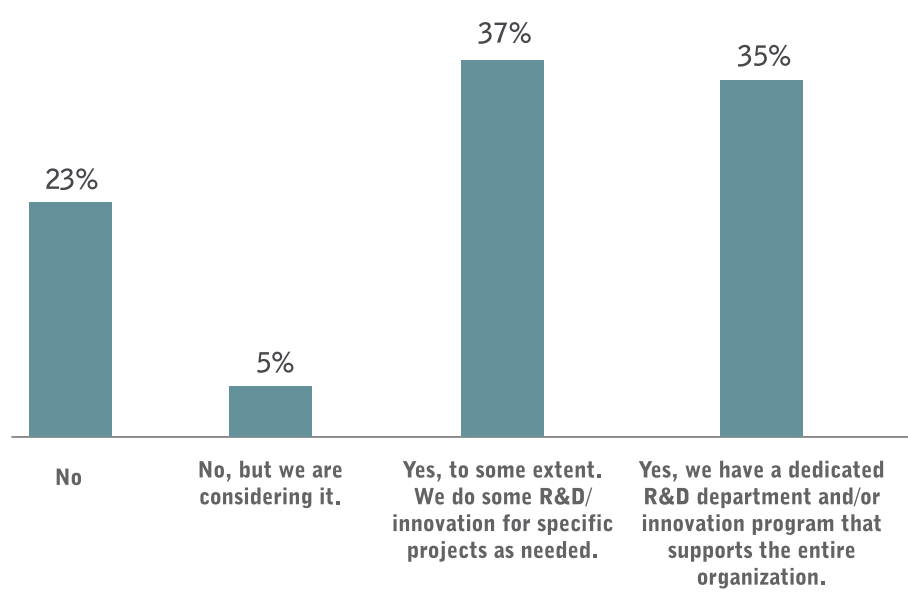
from falling too far behind the curve. However, it is often pointed out that economic recessions and depressions breed innovative ideas. Often we think of innovative technologies being invented in garages, famously Microsoft, Apple and Disney. This most inventive R&D activity is generally not from established small companies, but from startups daring to bring something new to the world. Is there a garage or warehouse somewhere printing 3-D buildings outfitted with MEP equipment built by robots? Of course not. That's way too radical for the conservative construction industry, isn't it? A recent announcement in the news from China is that it has used a 3-D printer to build 10 new residential "bungalows" in a day. In a day! Imagine that! A decade ago, this was hardly even science fiction.

Ultimately, R&D and an innovative culture are tied to strategy and productivity. The current and coming skilled labor shortages are both driving and hindering creative ideas. A lack of training or talented personnel inhibiting innovation was a concern to 47% of panelists. It is more difficult to build a culture of innovation when turnover is high and experience and talent are low. Still, some don't

have these difficulties, due in part to good training, and some of those that do have dedicated R&D efforts hire specifically for that department, not for the workforce in general.

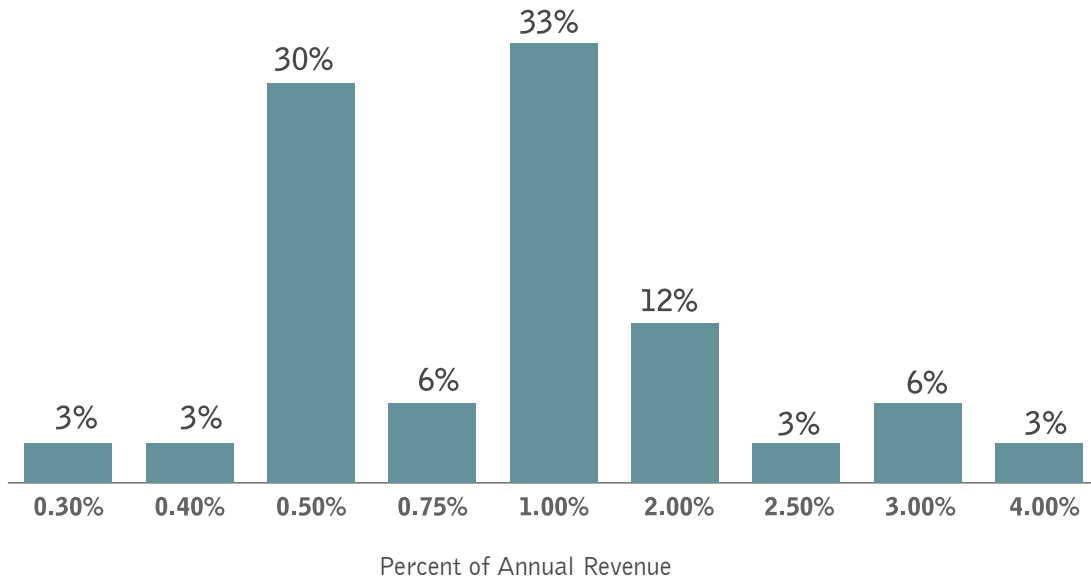
On one hand, our brief initial investigation into R&D and innovation efforts in the construction industry indicates there is more adoption of new ideas in the construction industry than most people thought there was. On the other hand, there is much room for improvement. When asked to rank the engineering and construction industry's ability to be innovative, panelists scored it mostly as moderate or below. When asked about their own company's ability to be innovative, the opinions shifted toward the innovative end of the scale. We would like to think that means our panelists for the CIRT Sentiment Index are more innovative, research-conscious free thinkers than the industry in general. That might just be true if one believes that those who participate more in the industry and look toward the future also participate in surveys like this. This could be a subject for future research.

**EXHIBIT 3** Does your organization have an ongoing research and development effort?



**EXHIBIT 4**

If you budget for R&D/Innovation, what percentage of your annual revenue do you spend on those efforts?



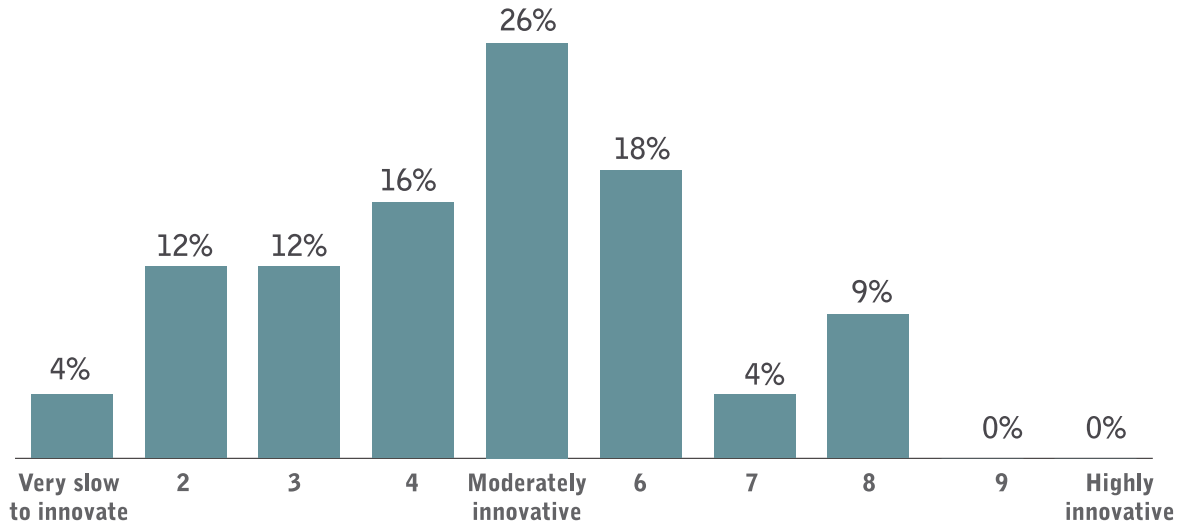
**EXHIBIT 5**

Where do most new ideas for the construction industry come from?

	1 Least Innovative	2	3	4	5 Most Innovative
Architectural and engineering firms	22%	26%	26%	11%	15%
Industry associations dedicated to research and development	24%	13%	31%	20%	11%
Supplier community (including software, materials and equipment, etc.)	7%	19%	15%	24%	35%
Research universities	30%	26%	11%	26%	7%
Our own internal R&D	17%	17%	17%	19%	31%

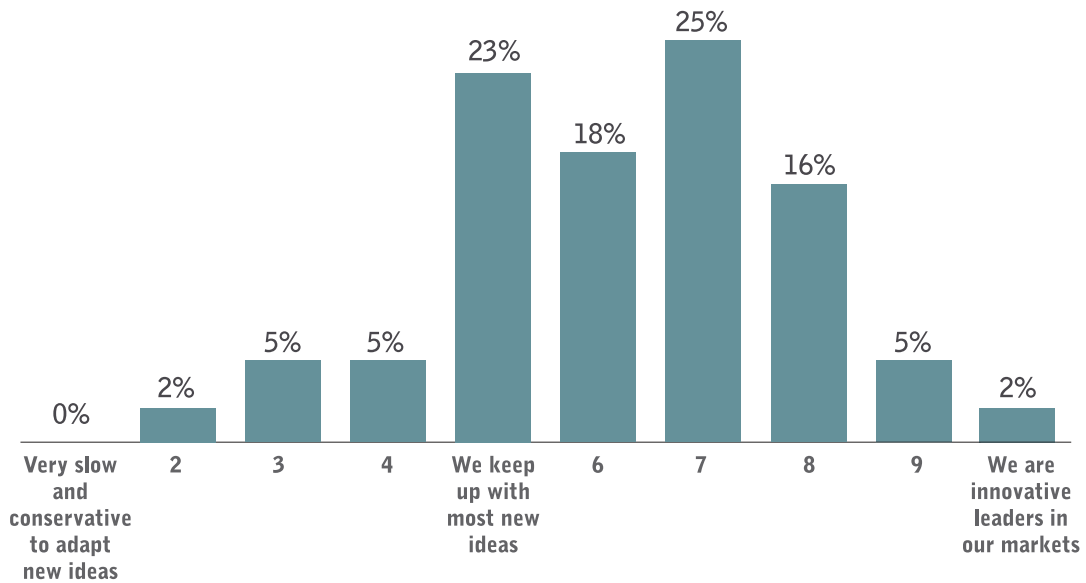
**EXHIBIT 6**

On a scale of 1 to 10, how would you rank the engineering and construction industry's ability to be innovative?



**EXHIBIT 7**

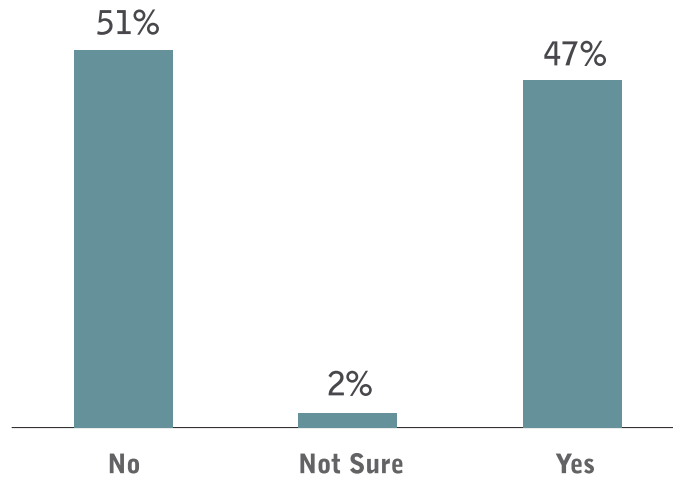
On a scale of 1 to 10, how would you rank YOUR organization's ability to be innovative?





**EXHIBIT 8**

Does a lack of training or talented personnel hinder the rate of innovation in your firm?



## Respondent Comments on Current and Future R&D and Innovations in the Construction Industry:

For open-ended responses, we asked about both current and future R&D in the construction industry. Not surprisingly, the use of BIM in all of its capacities topped the list of most respondents. For the sake of brevity, in our selected comments below, we have removed many of the comments on BIM. In fact, BIM is so well-known as a recent innovation that some don't see this as the cutting edge anymore. For instance, one panelist noted:

What generally passes for “innovative” is generally widely understood and adopted (BIM, geopositioning, etc.). Very little truly innovative progress.

Lean construction practices and prefabrication were also top mentions, thus indicating innovation isn't just about computer technology; it is a combination of people skills and technologies. As much as most see productivity as a labor issue, we can also expect the use of more technology could result in a scarcity of technically skilled people to operate and maintain all that technology. For instance, we often hear of difficulties finding trained operators for BIM systems.

If there is a single theme in the comments below, it is productivity improvement as the primary focus of innovation and R&D efforts. In addition, the biggest concern overall is the lack of skilled labor now and in the future. Research and development is no longer a matter of applying one idea or another; it is the challenge of putting a number of new ideas and technologies together, collaborating and trying new delivery methods and processes. Ultimately, R&D and innovation from a variety of sources will be a key answer to how to survive in the “new normal” and the coming technological environment. Therefore, we think it must become a greater part of the industry discussion and thought leadership concerning future challenges and opportunities.

## What are some of the most innovative ideas being used in the construction industry today?

- 4-D modeling (building models with estimates and/or schedules linked). Lean Construction operating systems. Laser scanning. Electronic construction document management.
- Alternative delivery, public-private partnerships, outsourcing.
- Application of technology, i.e., welding, laser scanning, 3-D modeling, software tools, specialized tools, etc.
- BIM. Robotic total stations. Prefabrication. Safety innovations. Integration of design and construction.
- Building Information Modeling, Robotics, use of RFID technology, Enterprise Content Management solutions and improvements in equipment efficiency.
- Craft worker efficiency efforts are beginning to gain traction as the way to get work done.
- During final design and coordination, BIM and “colocation” of personnel to create timely efficient models are eliminating a tremendous amount of waste in terms of time and resources. Bringing together the owner, the design professionals, construction manager and core specialty contractors into one room, with an expert facilitator, is absolutely the way to go. There are many lessons learned of good and bad experiences. As an industry, we need to see more published to allow others to jump on board with a running start of what to do and what not to do.
- Extensive use of BIM Modular high-rise construction, tablet-based site inspection tools.
- I believe most that are happening are happening at the manufacturers’ level, with some limited innovation happening by contractors in the field. Off-site assembly is probably one of the biggest since it represents the “four wins” - safer, higher quality, lower cost and quicker! (Not too many things get you that!)
- Insulation, energy saving.
- Integrated digital delivery. Field digital documents. Prefabrication. Intense collaboration Integrated BIM/conceptual estimating.
- Interoperability between design, construction and building operation software.
- Real-time information at hand. Equipment and GPS positioning.
- Structural precast components that reduce labor in the field. (Especially in high-cost regions.)
- The innovative changes we have made in the last five years, which relate specifically to project execution models, have come from our internal R&D.
- The trends on modularization and off-site assembly.
- Virtual construction seems to be a place where there is a great deal of energy focused and seems to present a lot of opportunity.
- There don’t seem to be too many [new innovations], and it’s an area that could really be improved. We have seen some pretty good tool feathering systems and techniques for safety for dropping tools and equipment.
- Some contractors are better at permitting storage of materials on some of the floors in order for us to be more efficient and save cost. And, since we’re a sub, this is important to us so that we can keep the project on schedule.
- Utilization of the Alternative Technical Concept process in the DB delivery mode.
- Virtual Design and Construction (VDC).

## Where do you think the construction industry most needs to focus for future innovation in the next five to 10 years?

- Alternative delivery methods and continued growth in the application of technology.
- Application of manufacturing processes. Enhanced safety measures. Integration of digital design and construction. Lean.
- Attracting and keeping more construction workers. Construction labor market in the U.S. is shrinking.
- Cross-disciplinary designs. The design field is still siloed even to a greater degree than construction.
- Eliminating the need for field workforce.
- Getting high school and college-age children excited about pursuing a career and finding opportunities related to ACE careers.
- Innovative contractual and insurance arrangements to leverage the benefits of the BIM revolution.
- Integrated design-build.
- Integration of software, making software more intuitive. Understanding benefits.
- IPD or IPDish project delivery - common risk/reward profit pools.
- Labor is certainly one of our biggest costs, so any savings here would make a difference. Hoisting equipment, hoisting techniques, equipment sharing with subs, properly sized elevators, etc. All of these areas could be vastly improved to reduce labor and save cost. Better project management, systems and software related to project management could help catch problems earlier and improve the efficiency of the project.
- Many different ways to innovate. I would say biggest hurdle would be to get owners in the mindset to procure services in a way that allows innovation.
- Modular construction. Innovative materials.
- Modularization and off-site assembly.
- Off-site modularization, robotics.
- Prefabrication and modularization. Further advancement and Implementation of BIM.
- Electronic layout and measurement.
- Prefabrication is going to grow with the driver being the lack of a workforce to place in the field.
- Privatization, total cost of ownership, value-pricing selection criteria in the public sector design space.
- Replacing conventional labor with alternatives (robotics, modularization and perhaps 3-D printing, etc.)
- Supply Chain Optimization.
- The challenge of our legal system causing clients to avoid being at the leading edge of a new idea.
- The environmental and project delivery systems. It takes tens of years to get a project built from inception to completion.
- The next generation and expansion of BIM to allow more of a manufactured approach to buildings and less stick-built in the field. While manufacturing or “prefab on steroids” is growing with each passing year, we are far from tapping the full opportunity of new technologies.
- Utilizing technology, construction process improvements and LEAN approaches to deliver a better product at 50% less cost.
- We need to focus on solutions to supplement an ever-dwindling workforce.

	Overall Quarter 1 for 2014				Overall Quarter 2 for 2014			
	Improving over last quarter	Remains the same as last quarter	Worse compared with last quarter	CIRT Sentiment Index Component Results for Q1 2014	Improving over last quarter	Remains the same as last quarter	Worse compared with last quarter	CIRT Sentiment Index Component Results for Q2 2014
<i>Business Outlook - Three Months</i>								
Commercial	35.5%	61.3%	3.2%	66.1	38.5%	57.7%	3.8%	67.3
Education	20.0%	72.5%	7.5%	56.3	16.7%	75.0%	8.3%	54.2
Health Care	15.0%	70.0%	15.0%	50.0	22.2%	69.4%	8.3%	56.9
Lodging	31.3%	65.6%	3.1%	64.1	36.7%	63.3%	0.0%	68.3
Manufacturing	40.9%	54.5%	4.5%	68.2	34.8%	56.5%	8.7%	63.0
Office	45.0%	55.0%	0.0%	72.5	33.3%	63.9%	2.8%	65.3
Industrial / Petro Chemical	55.2%	37.9%	6.9%	74.1	68.4%	31.6%	0.0%	84.2
Transportation Related	18.4%	71.1%	10.5%	53.9	24.1%	58.6%	17.2%	53.4
Public Works / Heavy Civil	12.5%	70.0%	17.5%	47.5	17.2%	62.1%	20.7%	48.3
Other	60.0%	20.0%	20.0%	70.0	50.0%	50.0%	0.0%	75.0
<i>Business Outlook - One Year</i>								
Commercial	64.5%	35.5%	0.0%	82.3	46.2%	53.8%	0.0%	73.1
Education	36.6%	61.0%	2.4%	67.1	25.7%	71.4%	2.9%	61.4
Health Care	39.0%	53.7%	7.3%	65.9	41.7%	52.8%	5.6%	68.1
Lodging	36.4%	57.6%	6.1%	65.2	51.7%	44.8%	3.4%	74.1
Manufacturing	42.9%	47.6%	9.5%	66.7	34.8%	60.9%	4.3%	65.2
Office	46.3%	48.8%	4.9%	70.7	44.4%	47.2%	8.3%	68.1
Industrial / Petro Chemical	79.3%	20.7%	0.0%	89.7	88.9%	11.1%	0.0%	94.4
Transportation Related	39.5%	57.9%	2.6%	68.4	32.1%	57.1%	10.7%	60.7
Public Works / Heavy Civil	31.7%	61.0%	7.3%	62.2	39.3%	50.0%	10.7%	64.3
Other	40.0%	60.0%	0.0%	70.0	50.0%	50.0%	0.0%	75.0
<i>Business Outlook - Three Years</i>								
Commercial	66.7%	20.0%	13.3%	76.7	57.7%	38.5%	3.8%	76.9
Education	55.0%	42.5%	2.5%	76.3	36.1%	63.9%	0.0%	68.1
Health Care	65.0%	30.0%	5.0%	80.0	47.2%	47.2%	5.6%	70.8
Lodging	32.3%	54.8%	12.9%	59.7	41.4%	55.2%	3.4%	69.0
Manufacturing	47.6%	38.1%	14.3%	66.7	43.5%	43.5%	13.0%	65.2
Office	43.6%	51.3%	5.1%	69.2	42.9%	37.1%	20.0%	61.4
Industrial / Petro Chemical	75.9%	24.1%	0.0%	87.9	76.5%	17.6%	5.9%	85.3
Transportation Related	65.8%	31.6%	2.6%	81.6	51.9%	40.7%	7.4%	72.2
Public Works / Heavy Civil	62.5%	35.0%	2.5%	80.0	60.7%	32.1%	7.1%	76.8
Other	80.0%	20.0%	0.0%	90.0	50.0%	50.0%	0.0%	75.0

**CIRT Index Scores**

> 50 indicates growth (better)  
 < 50 indicates slowing (worse)

\* A note on the use of the diffusion index: Do not interpret diffusion index values in the same manner as averages, because a simple increase or decrease in a diffusion index does not necessarily imply an improving or declining result. For example, if a diffusion index moves from 31 last quarter to 35 this quarter, it does not imply the market has improved. A reading greater than 50 indicates improving or expansion, 50 indicates remaining the same, and lower than 50 indicates worse or contracting. Therefore, if a reading goes from 31 to 35, then the result still implies a decline from the previous quarter because 35 is lower than 50; but the decline is not as great as the previous decline because 35 is greater than 31. As another example, if the diffusion index changes from 31 to 65, it implies improvement over the previous quarter, not because 65 is greater than 31, but because 65 is greater than 50.

Design Index Components: Compared with last quarter, what are your expectations for projects in the following markets for design services in the next year?

**EXHIBIT 10**

	Quarter 1 for 2014				Quarter 2 for 2014			
	Improving Over Last Quarter	Remains the Same as Last Quarter	Worse than Last Quarter	Overall Component Score Q1 2014	Improving Over Last Quarter	Remains the Same as Last Quarter	Worse than Last Quarter	Overall Component Score Q2 2014
Consulting Planning	44.8%	51.7%	3.4%	70.7	42.9%	52.4%	4.8%	69.0
Pre-Design Work	48.3%	51.7%	0.0%	74.1	56.5%	39.1%	4.3%	76.1
Commercial	46.2%	53.8%	0.0%	73.1	31.6%	63.2%	5.3%	63.2
Residential	22.7%	72.7%	4.5%	59.1	18.8%	75.0%	6.3%	56.3
Education	12.5%	75.0%	12.5%	50.0	16.7%	66.7%	16.7%	50.0
Health Care	20.0%	72.0%	8.0%	56.0	26.3%	68.4%	5.3%	60.5
Industrial	44.0%	56.0%	0.0%	72.0	44.4%	55.6%	0.0%	72.2
Transportation	50.0%	41.7%	8.3%	70.8	38.9%	55.6%	5.6%	66.7
Heavy/Civil	33.3%	62.5%	4.2%	64.6	47.4%	42.1%	10.5%	68.4
International	48.3%	41.4%	10.3%	69.0	31.8%	59.1%	9.1%	61.4
Design Firms Index				65.9				64.4

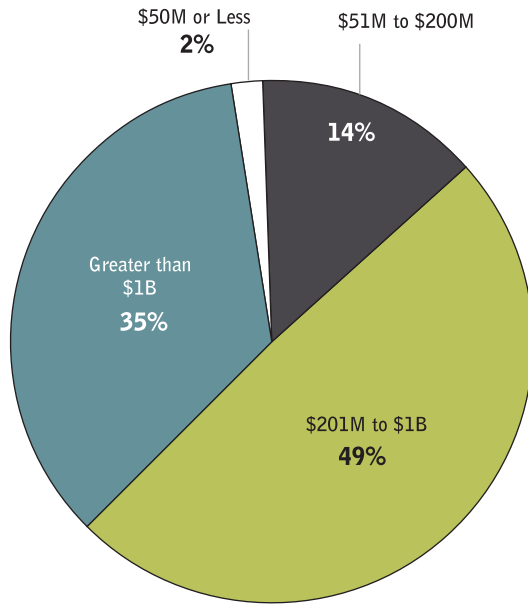
CIRT Sentiment Indexes — Comparison of Results: Q2 of 2013 to Q1 of 2014

**EXHIBIT 11**

**CIRT Scores**

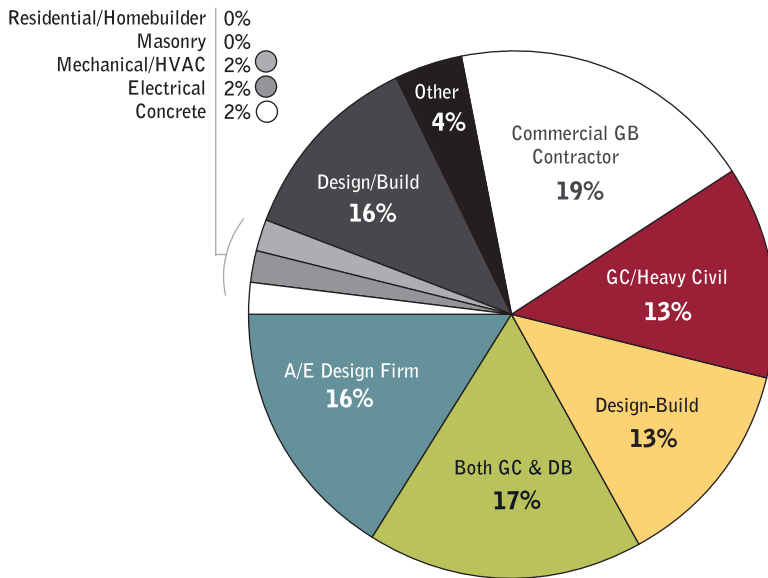
> 50 indicates growth (better)  
< 50 indicates slowing (worse)

	CIRT Sentiment Index Components Q3 for 2013	CIRT Sentiment Index Components Q4 for 2013	CIRT Sentiment Index Components Q1 for 2014	CIRT Sentiment Index Components Q2 for 2014
The Overall Economy	73.7	62.2	79.9	79.5
The Overall Economy Where Panelists Do Business	70.3	63.0	72.9	77.2
Panelists' Construction Business	70.2	58.0	73.6	74.6
The Residential Building Construction Market Where Panelists Do Business	77.4	76.9	69.8	76.7
The Nonresidential Building Construction Market Where Panelists Do Business	64.0	64.9	69.4	75.5
Cost of Construction Materials	27.2	25.5	19.4	29.0
Cost of Labor	25.4	21.4	22.8	18.6
Productivity	43.8	50.0	52.2	55.7
Expected Change in Backlog	64.7	59.2	63.4	70.9
Approximate Current Signed Backlog in Months	14.0	13.0	14.0	12.0



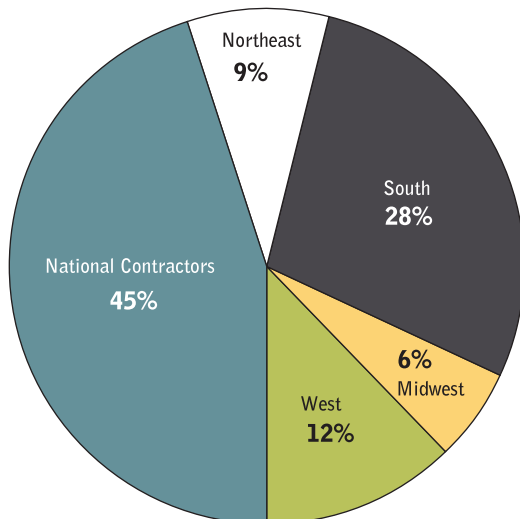
### EXHIBIT 12

Size of the Organization in Annual Revenue



### EXHIBIT 13

Type of Contracting Business



### EXHIBIT 14

Primary Region in Which Panelists Work

CIRT Sentiment Index Results: Q1 of 2014 and Q2 of 2014

EXHIBIT 15

	CIRT Sentiment Index, Quarter 1 of 2014				CIRT Sentiment Index, Quarter 2 of 2014			
	Improving over last quarter	Staying the same as last quarter	Worse compared with last quarter	CIRT Q1 2014	Improving over last quarter	Staying the same as last quarter	Worse compared with last quarter	CIRT Q2 2014
Overall Economy	62.5%	34.7%	2.8%	79.9	60.7%	37.5%	1.8%	79.5
Overall Economy Where Panelists Do Business	50.0%	45.8%	4.2%	72.9	57.9%	38.6%	3.5%	77.2
Panelists' Construction Business	51.4%	44.4%	4.2%	73.6	57.9%	33.3%	8.8%	74.6
Residential Building Construction Market Where Panelists Do Business	39.6%	60.4%	0.0%	69.8	58.1%	37.2%	4.7%	76.7
Nonresidential Building Construction Market Where Panelists Do Business	44.4%	50.0%	5.6%	69.4	56.6%	37.7%	5.7%	75.5
<b>Backlog in Months</b>	High	Median	Low		High	Median	Low	
Approximate Current Signed Backlog	48.0	14.0	4.0		84.0	12.0	4.0	
	Grow faster than last quarter	Stay about same as last quarter	Shrink compared to last quarter		Grow faster than last quarter	Stay about same as last quarter	Shrink compared to last quarter	
Expected Change in Backlog	35%	56%	8%	63.4	49%	44%	7%	70.9%
	Higher than last quarter	Same as last quarter	Lower than last quarter		Higher than last quarter	Same as last quarter	Lower than last quarter	
Cost of Construction Materials	61%	39%	0%	19.4	42%	58%	0%	29.0%
Cost of Labor	54%	46%	0%	22.8	63%	37%	0%	18.6%
	Improving over last quarter	Same as last quarter	Declining compared to last quarter		Improving over last quarter	Same as last quarter	Declining compared to last quarter	
Productivity	10%	84%	6%	52.2	15%	81%	4%	55.7%

CIRT Sentiment Index Components: Q1 of 2014 to Q2 of 2014  
Business Outlook Summary by Market Sector

EXHIBIT 16

**CIRT Scores**

> 50 indicates growth (better)  
< 50 indicates slowing (worse)

Sector	Results Q4 of 2013			Results Q1 of 2014			Results Q2 of 2014		
	3 Months	1 Year	3 Years	3 Months	1 Year	3 Years	3 Months	1 Year	3 Years
Commercial	63.9	77.8	88.9	66.1	82.3	76.7	67.3	73.1	76.9
Education	50.0	58.3	64.6	56.3	67.1	76.3	54.2	61.4	68.1
Health Care	48.1	72.2	90.4	50.0	65.9	80.0	56.9	68.1	70.8
Lodging	63.6	68.2	72.7	64.1	65.2	59.7	68.3	74.1	69.0
Manufacturing	62.5	62.5	66.7	68.2	66.7	66.7	63.0	65.2	65.2
Office	60.0	64.0	76.0	72.5	70.7	69.2	65.3	68.1	61.4
Industrial / Petro Chemical	77.3	86.4	77.3	74.1	89.7	87.9	84.2	94.4	85.3
Transportation Related	47.9	58.3	68.8	53.9	68.4	81.6	53.4	60.7	72.2
Public Works / Heavy Civil	48.1	51.9	70.4	47.5	62.2	80.0	48.3	64.3	76.8
Other	75.0	75.0	100.0	70.0	70.0	90.0	75.0	75.0	75.0

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# About FMI

FMI is a leading provider of management consulting, investment banking† and research to the engineering and construction industry. We work in all segments of the industry providing clients with value-added business solutions, including:

- Strategic Advisory
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