2014 ELECTRICAL CONTRACTOR Topline Report

Prepared by Renaissance Research and Consulting Inc. for ELECTRICAL CONTRACTOR, May 2014

2014 ELECTRICAL CONTRACTOR PROFILE STUDY
TOPLINE REPORT

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BACKGROUND and PURPOSE

For over fifty years, ELECTRICAL CONTRACTOR magazine has sponsored its exclusive "Profile of the Electrical Contractor." This survey is conducted biannually among its subscribers and aims to provide the most complete "picture" of the contracting industry available from the electrical contractor's point of view. The survey provides electrical contractors with an indication of where their business "fits" into the overall industry, while at the same time providing information that is used to guide and refine the magazine's editorial content.

METHODOLOGY

The survey was conducted by postal mail and via the Internet among a random sample of ELECTRICAL CONTRACTOR subscribers. The field period for the survey began in March 2014 (March 10 for the postal mail version and March 14 for the Internet version), and ended on May 7, which was the deadline for the July 2014 article. A total of 2722 interviews were completed – 1214 via the Internet and 1508 via postal mail. The data were weighted to equalize the influence of the two modes so that it was in line with the 50/50 split which was the case in the most recent Profile studies.

Each respondent who received the survey via the Internet was sent two follow-up e-mails. However, follow-up mailings were not made to non-responders in the postal mail sample. An incentive was offered for participation in the survey: For each completed survey, ELECTRICAL CONTRACTOR magazine would contribute $5 to charity.

The Internet option was first introduced in 2004. In 2004 and 2006, the proportion of surveys completed via the Internet versus postal mail is approximately 60/40. Since 2008, the proportion has been closer to 50/50. As noted above, in 2014, the data were weighted to equalize the proportion that participated via postal mail and via the Internet.

As was the case since 2004, the survey was produced in different versions. Starting with the 2008 Profile study, there were four versions of the survey, which differed from each other on fewer than 10 questions. The first 4 pages were common to all versions while the differences among the versions occurred on the last page. The major difference was that in the Internet portion respondents were *required* in almost all cases to have percentage questions add to 100%. In addition, a few media-related questions were asked only in the Internet version.

In 2014, order to accommodate a longer list of questions while at the same time lessening the burden on the respondent, the survey was shortened from 5 print pages to 4. In order to accommodate all of the questions, the survey was produced in 8 versions (up from 4). This required a much larger sample size so that each of the questions would be asked of a large enough sample to allow for analysis – particularly by subgroups.

This research was conducted by New York, NY-based Renaissance Research & Consulting, Inc. (www.renaiss.com), an independent marketing research firm that has, as one of its specialties, market research for the construction industry.

Statistics

The margin of error on the total sample of 2722 is +/- 1.5% for percentages around 50 percent (i.e., we are confident that a reported 50% will fall between 51.5% on the plus side and 48.5% on the minus side 90% of the time. Please note that different rules apply to testing of averages, which were also tested at the 90% level of confidence and are also noted in the report.

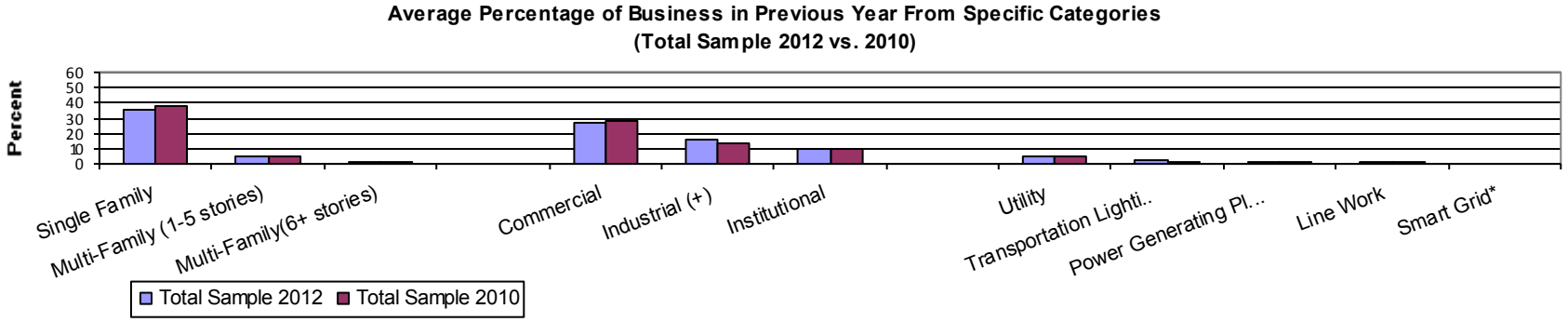
The report uses a few different graphics to indicate significant differences:

- In this example, the electrical contractors working in firms with 1- 4 (column 'a') or 1-9 employees (column 'b') are significantly older than those who work in firms with 10+ employees.

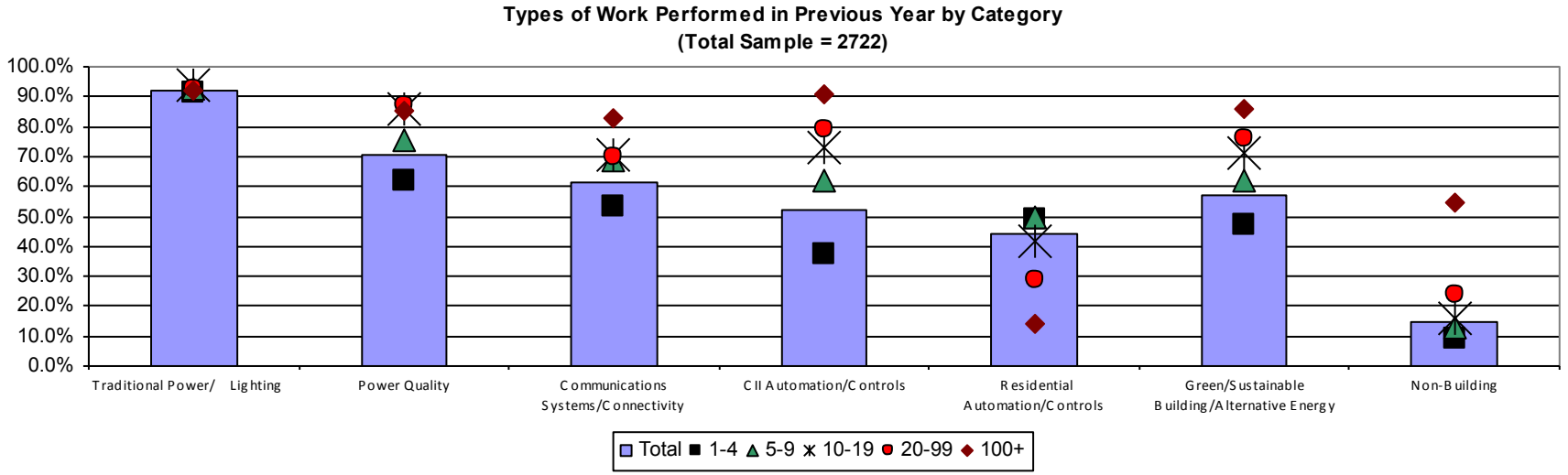
Average Age of Electrical Contractor in 2014 and 2012				
		Firm Size		
	Total	1-4	1-9	10+
		(a)	(b)	(c)
Average Age (2014 Study) N=2722	56.2	57.4	**57.1>**	53.3
Average Age (2012 Study) N=1024	56.1	57.5	**57.2>**	52.6

The bolding and the arrow indicate significant difference and the direction of the difference. Note that the significance of differences is heavily dependent on sample size. As a result, the difference between average revenues of 53% and 50% are significant because of the respective sample sizes (2722 and 1024) while the difference between 74% and 67% is not because the base sizes are so much smaller.

Finally, on a column or bar chart, a (+) or (-) next to the title indicates a significant difference compared to its pair. In this example from 2012, the percent of ecs working on Industrial projects rose compared to two years earlier.



How to read scatter plots: Subgroups that are shown above the blue bar are significantly larger than average while those within the bar are smaller than average. Subgroups that are average are not shown.



KEY FINDINGS

There are a number of hopeful findings in this survey.

- The percent of electrical contracting companies that are losing employees has declined significantly while the percent of companies that added employees posted a significant increase. Overall about 60% of companies experienced no change in the number of employees over the past 12 – 18 months while about 20% each increase or decreased.

- The average age of the electrical contractor has stopped getting older. We believe that this may be due to retirements as well as hiring and promotion.

- Electrical contractors have more wide-ranging interests in training topics than in the past. We believe that this may represent optimism on the part of electrical contractors and a willingness to invest in their company and their future.

    - Compared to two years ago, ecs are more likely to say that they plan to take training courses in 17 of the 31 topics that were asked in both 2012 and in 2014. In addition to NEC Changes, the topics cluster in the areas of Automation/Controls, Lighting, Grounding/Bonding, Safety (Electrical/Personal/on-Site and Jobsite), Green/Sustainability, Cabling, systems Integration and a number of business-related topics.

    - Compared to two years ago, ecs are more likely to report that they took training in 13 of the 31 topics that were asked in both 2012 and in 2014. These topics cluster in the areas of Automation/controls, Lighting, Grounding/Bonding, Safety (Electrical/Personal/on-Site and Jobsite), Cabling. Power Quality, Systems Integration and a number of business-related topics.

- Smaller firms are now doing more types of work that were formerly done by larger electrical contacting firms. The threshold for many types of work is now 10+ (or even 5+) rather than 20-99 or 100+. For example, two years ago there were only seven project types where the threshold was a firm with 10 –19 employees. The list now contains 20 project types. More available technology and the desire of smaller clients for advanced services and capabilities may be driving this change; electrical contractors should look at the types of projects performed by firms that are larger than they to decide which may represent an opportunity for them.

- The percent of ecs in small firms with a Bachelor's degree or higher is increasing.

What's stayed the same: Overall, however, the sample closely matches that of the 2012 Profile Study: about three-quarters of the sample work for firms with 1-9 employees and about three-quarters of electrical contracting firms interviewed have annual revenues of under $1 million. Therefore, the differences discussed are not based on sampling differences.

Other Notable Findings:

- Electrical/Power Distribution accounts for about 44% of average revenue, up from 39% in the 2012 Profile Study. Although this is the first up-tick since 2004; the average percent of revenue from Electrical/Power Distribution had been dropping steadily since 2004 when it was 69%, it is still significantly below its 2010 level of 56%. (Years prior to 2012 are not shown).
    - The increase cannot be tied to an increase in New Construction, which is essentially unchanged compared to two years ago. It may, however, be tied to an increase in work in Smart Grid Technology and/or to work in Microgrids, which was first asked in 2014 and cannot be trended.
        - The offsetting decreases are in these areas: Industrial Systems (Motors, Controls, etc) from 9.6% to 6.4% and Energy Management/Power Quality, which dropped from 1.5% to 0.8%
- Almost one –quarter of electrical contractors say that they currently use BIM (Building Information Modeling) and that on average, it is used on about 7% of projects. Firms with 100+ employees are the most likely to make use of BIM at all -- Any -- and to report using BIM a higher percentage of the time. It is also interesting to note that past and current BIM use appears to be particularly low among firms with 10-19 employees.
- "Availability" and "Price" are now <u>the most mentioned reasons</u> for original brand selection and for brand substitution. .
    - Compatibility with Existing Systems, an attribute that was added in 2014 emerged as quite compelling – 34% to 38% among the total sample cite it as a top-3 reason for brand selection. This may be a hot-button for manufacturers if they can use it differentiate their products from competitors.

Types of Work Performed in Previous Year

Respondents were also asked about projects within the separate contexts of Residential and CII.

- With the exception of Traditional Power and Lighting, most types of electrical work are more likely to be done in a CII setting

When asked about the types of work performed in the previous year, almost all firms worked on Power and Lighting (92%), down slightly, but significantly, from the 95% reported in 2012. About 70% work on Power Quality (up significantly from 62% reported in 2012). About 6 in 10 reported working on Communications Systems and or Green/Sustainable Technology/Alternative Energy (both rose significantly from the levels reported in 2012).

Compared to the 2012 Profile study, the percentages that reported working on every category with the exception of Non-Building, which did not change, showed statistically significant changes:

- Power Quality, Communications/Systems Connectivity and Green/Sustainable Building/Alternative Energy posted significant increases.
    - The growth of Energy Efficiency Projects (non-LEED), LEED Projects and Electric Vehicle charging Stations is particularly dramatic when trended over a six-year time frame.
    - Power Quality may have posted an increase due to the addition of Trouble Shooting/Maintenance of Low Voltage Systems. Green/Sustainable Building/Alternative Energy may also have benefited from the addition of electric Vehicle Charging Stations and a wording change – Thermal Imaging was added to Energy Audits.
- Three categories posted significant declines: Traditional Power/Lighting (which declined slightly, but significantly) and both Residential and CII Automation/Control Systems

Electrical contractors are continuing to cope with the recovering economy. On average, about 40% of electrical contractor revenue continues to come from Maintenance/Service or Repair; about 30% of revenue continues to come from New Construction (32%) or Modernization/Retrofit (27%). All of this is unchanged versus two years ago. New Construction, which accounted for 43% of average revenue in 2007, has not yet recovered.

There continue to be numerous indications of the far-reaching role(s) that electrical contractors have in brand specification:

- About 8 in 10 electrical contractors report receiving any plans and specs that are incomplete (that is, where their firm is responsible for completing the design documentation). Electrical contractors say that, on average, plans and specs are incomplete 46% of the time. These results are consistent with the 2012 and 2010 findings.

    - Survey respondents were asked how the percentage of incomplete plans and specs compared to 5 years ago. Among those who work in a given category, the most frequent answer is "about the same" followed by "*more* often now" and then by "*less* often now"

- Across the total sample, 7 in 10 firms performed (**any**) Design/Build or Design/Assist work in the previous year. As in the past, larger firms are even more likely than smaller firms to have engaged in D/B or D/A work. On average, 39% of revenue comes from Design/Build or Design/Assist work, which is a decline from 2012. During the same period, the average percent of work from "Other" delivery methods posted a significant increase. .

- About 8 in 10 electrical contractors report having a "medium" or "high" ability to influence the overall electrical design. Only 10% report having a "low" level of influence. The results are unchanged from two years ago

    - Current Level of Project Collaboration Compared with 3-5 Years Ago: 20% report getting involved earlier; 59% report "no change"; 8% say that they now get involved later in the process and the remainder say that the question is "not applicable" (14%) or that they "don't know". These results among the total sample are unchanged from two years ago.

    - Brand Specification Options: Electrical contractors continue to have a high level of brand choice. As in earlier tracking waves, only about one-quarter of the specs indicate a single or proprietary brand, while the remainder are some variation of multiple brands.

DETAILED FINDINGS

▲*"WHO" ARE THE ELECTRICAL CONTRACTORS?*

Size of Firms

A large majority of the electrical contracting firms interviewed are small in terms of both their number of employees and their revenue:

74% have between 1 and 9 employees and 72% have annual revenues of less than $1 million, both are statistically unchanged compared with both 2012 and 2010.

In fact, all of the breaks shown below are statistically unchanged versus two years ago.

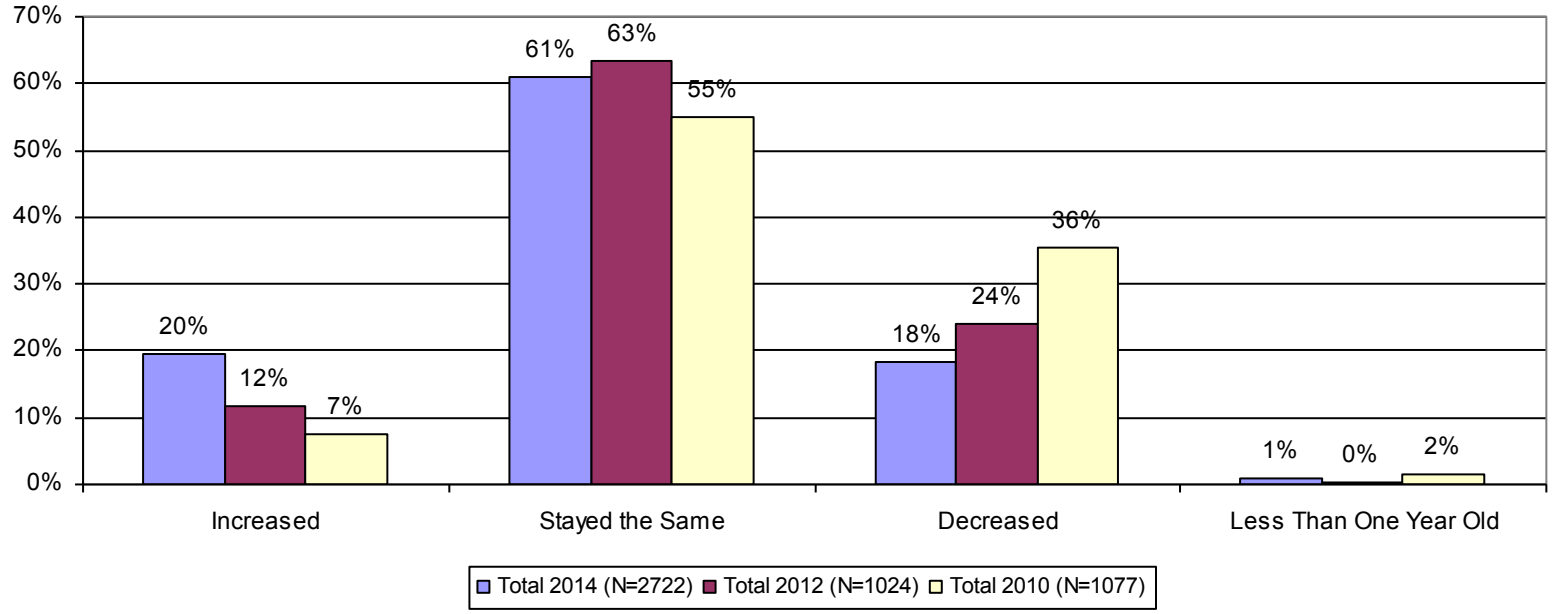
- Although the rise in the percent of small companies appears to have leveled off in the latest tracking waves, the number of small companies has risen dramatically from 63% in 2006 to 74% in 2014. (In the interim, it was 74% in 2012; 72% in 2010 and 67% in 2008.) Base: Total Sample = 2722

Change in Company Size During Past 12 - 18 Months

About 60% of firms say that they stayed the same in terms of employees over the past 12 – 18 months. As of the 2014 Profile study, the percent that increased and decreased is each at about 20%.

Compared to 2012, there is a statistically significant increase in the percentage of firms that added employees (to 20% from 12%) and a statistically significant decrease in the percent of firms that said that they lost employees (to 18% from 24%) in the past 12 – 18 months.

Change in Number of Employees Among Total Sample



Change in Company Size During Past 12 - 18 Months, continued

The story is now also consistent by company size, that is, both across companies of 1-9 and 10+ employees. Specifically, there was a statistically significant *increase* in the percent of firms that added employees combined with a statistically significant *decrease* in firms that dropped employees.

Two years ago, the story was different:

- *In 2012, the changes were particularly dramatic among large firms **(10+ employees)**, where the percent reporting a decline dropped almost in half from 61% to 35% while the percent reporting an increase in the number of employees jumped to 27% from 15%.*

- *In 2012, the story among firms with **1-9 employees** was one of stabilization: more firms shifted into the "stayed the same" category from the "declined" category. However, the percent of firms that added an employee was small and is statistically unchanged versus 2010.*

Change in Company Size During Past 12 - 18 Months										
	Total				1-9 Employees				10+ Employees	
	2014	2012	2010		2014	2012	2010		2014	2012	2010
	(2722)	(1024)	(1077)		(2039)	(759)	(780)		(668)	(258)	(285)
Increased	**20%>**	**12%>**	7%		**12%>**	6%=	5%		**42%>**	**27%>**	15%
Stayed the Same	61%=	**63%>**	55%		70%=	**72%>**	67%		35%=	**37%>**	23%
Decreased	18%	**<24%**	**<36%**		17%	**<20%**	**<26%**		23%	**<35%**	**<61%**

- In particular, firms with **5-9** employees showed dramatic growth between 2012 and 2014. In 2014, 34% of firms with 5-9 employees reported an increase in employee size compared with about one-half – 16% -- that reported an increase in 2012. Similarly, the percent that reported a decrease declined from 37% in 2012 to 21% in 2014.

Bolded numbers > and < indicate statistically significant differences in the direction of the arrow

Average Number of Employees By Firm's Revenue

As expected, almost all of the smallest firms have revenue of less than $1 million, while half of the very largest firms have revenue of $25 million or more.

- The high percent of "don't know/no answer" among firms with 100+ employees is the reason that only 80% of these firms report annual revenue of $1 million or more.

Average Number of Employees By Firm Revenue 2014 Profile Study								
	Total	(1-4)	(5-9)	1-9	10+	10-19	20-99	100+
	(2722)	(1613)	(426)	(2039)	(668)	(231)	(248)	(189)
	%	%	%	%	%	%	%	%
Less than $ 1 Million	**72**	**95**	**81**	**93**	**14**	**30**	**5**	**0**
Less than $250K	45	71	17	60	2	4	0	0
Between $250K and <$1 Million	27	24	64	33	12	26	5	0
$ 1 Million or More	**23**	**0**	**17**	**4**	**79**	**65**	**90**	**80**
Between $1 Million and <$2.5 Million	9	0	15	4	25	51	18	2
Between $2.5 Million and <$10 Million	7	0	2	0	27	13	56	9
Between $10 Million and <$25 Million	3	0	0	0	11	1	13	19
$25 Million +	4	0	0	0	16	0	3	50
Don't Know/No Answer	5	4	2	3	7	5	5	20

Q3 N=2722

Compared to 2012, there is no change in the proportion of firms that are over and under $1 million in revenue. Although the percentage of firms with sales of under $250K *decreased* significantly, there is no single category that rose by 4% to offset this change.

- Firms with 1-4 employees (that make up the largest proportion of the sample) are driving the decline among the total sample.

- The apparent decline in revenue among firms with 100 or more employees is most likely due to a smaller percentage of respondents answering this question in the most recent Profile Study compared with two years ago.

Average Number of Employees By Firm Revenue
2014 Profile Study Vs. 2012 Profile Study

	Total		1-4		5-9		10-19		20-99		100+	
	2014	2012	2014	2012	2014	2012	2014	2012	2014	2012	2014	2012
	(2722)	(1024)	(1613)	(617)	(426)	(142)	(231)	(78)	(248)	(97)	(189)	(83)
	%	%	%	%	%	%	%	%	%	%	%	%
Less than $ 1 Million	**72**	**73**	**95**	**97**	**81**	**82**	**30**	**32**	**5**	**3**	**0**	**0**
Less than $250K	45	<49	71	<75	17	20	4	4	0	0	0	0
Between $250K and <$1 Million	27	25	24	22	64	61	26	28	5	3	0	0
$ 1 Million or More	**23**	**23**	**0**	**0**	**17**	**15**	**65**	**67**	**90**	**95**	**80**	**84**
Between $1 Million and <$2.5 Million	9	8	0	0	15	15	51	46	18	24	2	2
Between $2.5 Million and <$10 Million	7	7	0	0	2	0	13	21	56	55	9	8
Between $10 Million and <$25 Million	3	3	0	0	0	0	1	0	13	17	19	12
$25 Million +	4	5	0	0	0	0	0	0	3	0	50	61
Don't Know/No Answer	5	3	4	3	2	3	5	1	5	2	20	16

< Indicates a significant difference at the 90% level of confidence

Other Firm Characteristics

(Race of Field Employees, NECA Membership, Business Development, Project Financing and Management Transition Planning)

- About 20% of firms have a separate person or department responsible for business development (41% among firms with 10+ employees); an additional 7% plan to create this responsibility (lower among firms with 1-4 employees).
- 12% of firms currently offer project financing (17% among firms with 5-9 employees and 16% among firms with 10+ employees); an additional 3% plan to institute this offering (4% among firms with 10+ employees);
- At this point in time whites/Caucasians make up the vast majority of field employees.
    - Not surprisingly, the racial mix of field employees varies by region. Whites/Caucasians are even more prevalent as field employees in North Central and Northeast states. Hispanics are disproportionately represented in the field staff in Western states. Asians and Other /not one dominant race are also disproportionately more likely to be part of Western field staff.

	Total 2014	Northeast	North Central	South	West
	(2722)	(706)	(793)	(728)	(477)
		(a)	(b)	(c)	(d)
Race of Field Employees (Q10)					
White or Caucasian	83	**86**	**<92>**	*79>*	*72*
Hispanic	8	6>	3		**<16**
Black or African-American	5		*4*	**<8>**	*3*
Asian	1		*0.3*	*0.7*	**<3**
Other or not one dominant race	3		*1.9*		**<6**

- 16% of firms in this survey are NECA members, significantly higher among firms with 20+ employees and those in the West.
- 14% of firms have a management transition plan currently in place (22% among firms with 5-9 employees and 31% among firms with 10+employees). An additional 8% are interested in setting this up (16% among firms with 10+ employees; particularly among firms with 10-19 where it is 21%)

Bolded numbers > and < indicate statistically significant differences in the direction of the arrow. Italics indicate significantly lower than average.

"WHO" WORKS FOR CONTRACTING FIRMS?

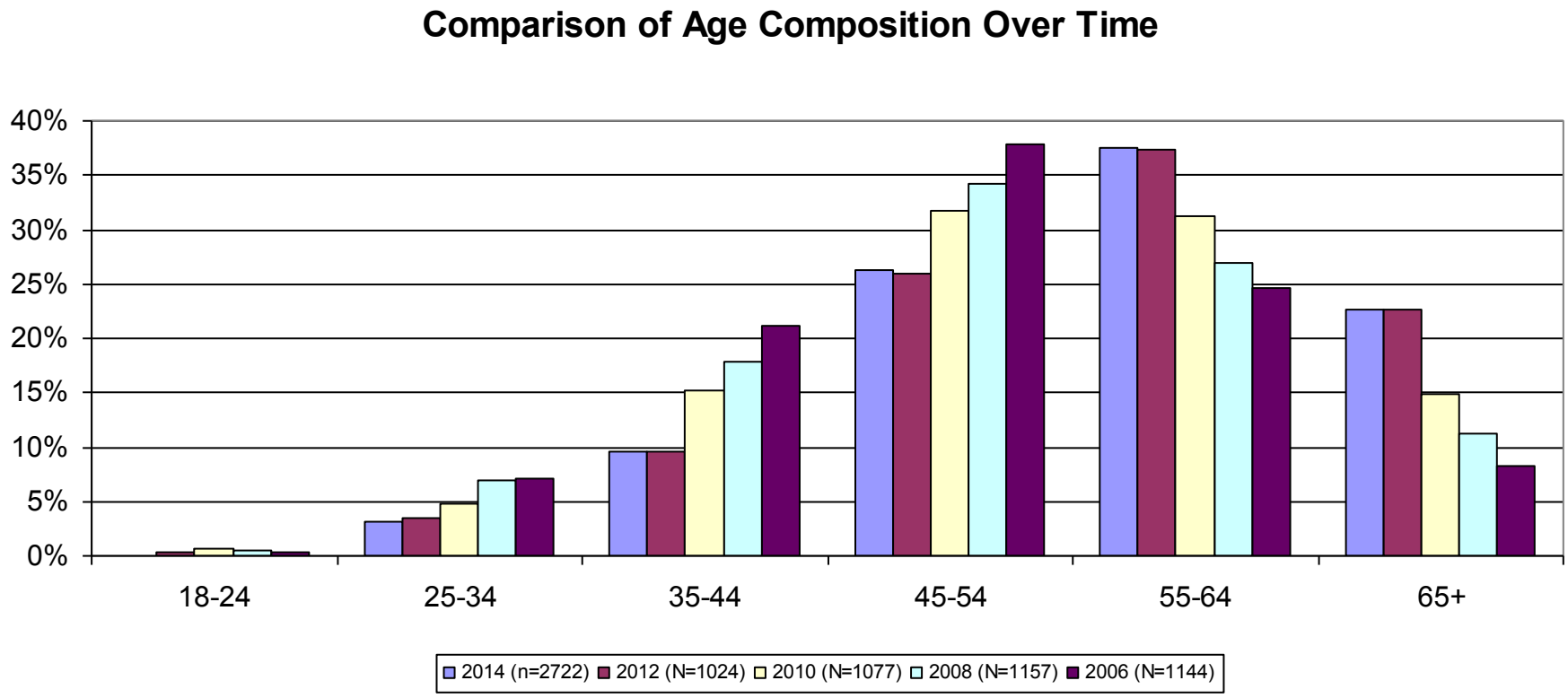
Age of Respondents

Regardless of company size (number of employees), the survey respondents tend to be at least middle aged, rather than young. Across the total sample, 36% are between the ages of 35 -54 (unchanged from 2012 but a decline from 2010 when it was 47%.) 70% are between the ages of 35 and 64 (statistically unchanged from 72% in 2012 but a significant decline from 2010 when it was about 80%).

- The average age of the electrical contractors participating in this is now 56.2, unchanged from two years ago. This is the first time since at least 2006 that the average age among the total sample has stopped trending older. (In at least the past four Profile surveys the average age rose by at least one year compared to the previous survey.) We believe that the leveling off of the average age is due to retirements, the increase in hiring and/or promotion to a higher level of responsibility.
- As was the case in the recent past, the respondent electrical contractors in smaller firms are older than those in larger firms. One hypothesis is that older electrical contractors may found their own -- smaller firms -- after working for others earlier in their careers.
- However, while the average age of the ec in the smaller firm is unchanged (or lower) vs. 2012, the average age of the electrical contractor respondent in the larger firm has increased by about half a year from 52.6 to 53.3.

Average Age of Electrical Contractor in 2014 and Earlier				
		Firm Size		
	Total	1-4	1-9	10+
		(a)	(b)	(c)
Average Age (2014 Study) N=2722	56.2	57.4	**57.1>**	53.3
Average Age (2012 Study) N=1024	56.1	57.5	**57.2>**	52.6
Average Age (2010 Study) N=1077	53	53.8	**53.8>**	50.4
Average Age (2008 Study) N=1157	51.2	**52. 6** >c	**52. 1**>c	49.2
Average Age (2006 Study) N=	49.9	**NA**	**NA**	**NA**

In addition, when looked at by age bracket, for the first time since at least 2006, survey participants stopped trending older; that is, comparing 2014 to 2012, the percentages are the same in each age bracket In contrast, from 2006 to 2012, the survey participants had been trending **steadily** older. Note that between 2006 and 2012 there was a significant *decline* in the percentage of electrical contractors who were aged 35-54 (from 59% in 2006 to 52% in 2008 to 47% in 2010 and 35% in 2012 and 2014) and a significant *increase* in the percent that were 55 or older (from 33% in 2006 to 38% in 2008 to 46% in 2010 to 60% in 2012 and 2014) or 65+ (from 8.3% in 2006 to 11% in 2008 and 15% in 2010 to 23% in 2012 and in 2014). [The composite age breaks of 35-54 and 55+ are not shown]



Respondent Education

A majority of survey respondents --56% across the total sample -- have some college education. The findings among the total sample are consistent with those reported two years ago with one exception**:** significantly fewer electrical contractors report having vocational, trade school or apprenticeship as their highest level of education (30% in 2014 compared with 34% in 2012).

- There is no single educational level that rose significantly to offset the lower percent of trade and vocational school graduates.

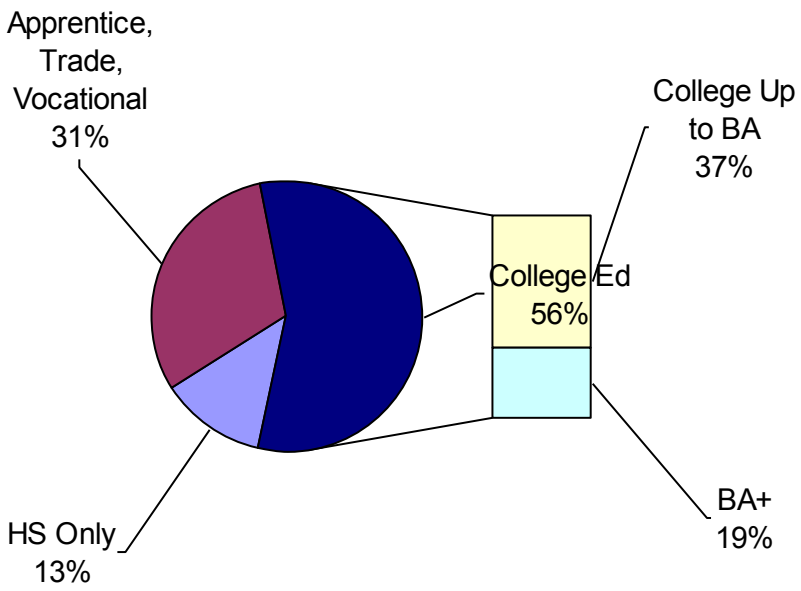
Across the total sample 19% have a BA degree or higher; this is unchanged from 2012. Those in larger firms (10+ employees) are significantly more likely to have attended college than those in firms with 1- 9 employees (64% vs. 53%), particularly a BA degree (27% of those in firms with 10+ employees versus 17% for those in firms with 1- 9 employees)

- However, the percent with a BA or higher appears to have declined significantly or directionally among firms with 10+ employees. In contrast, it increased slightly but significantly among firms with 1-9 employees (from 14% in 2012 to 17% in 2014.

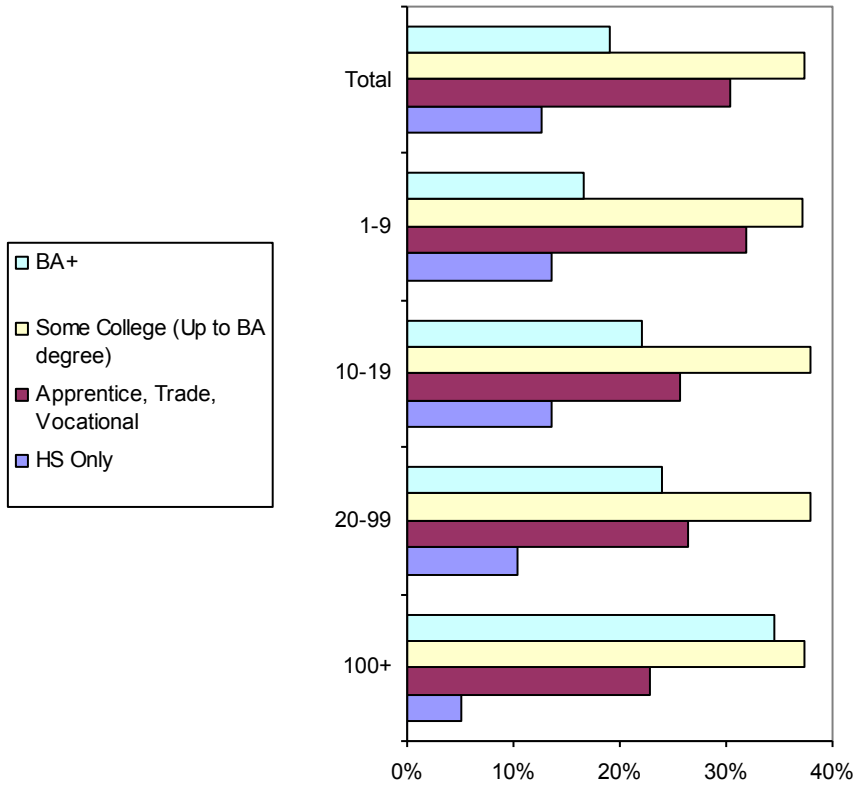
Those in smaller firms (1-9 employees) are more likely to have only Apprenticeship, Trade or Vocational School training compared to those in firms with 10+ employees (32% vs. 25%). However, the percent of those in small firms with only Apprenticeship, Trade or Vocational School training is statistically unchanged compared with two years ago.

- 2012 Profile results are not shown.

Respondent Education
Among Total Sample
2014 Profile Study



Respondent Education by Number of Employees
2014 Profile Study



Level of Responsibility

78% of the sample is composed of company owners and top management, 12% say that they are Master Electricians or the Equivalent Title, 4% are field managers and 5% say that they have another title.

- Those in the Northeast are more likely to describe their responsibility as Master Electrician or Equivalent (15%) while those in the West are less likely to do so (10%).

Gender

97% of the electrical contractors who participated in this survey are male; 3% are female. ~~When this question was last asked in 200x, 98% of the respondents were male. *(I think that the earlier question was worded differently)*~~

- The women in this survey are *less* likely to work at firms headquartered in the Northeast and more likely to work at firms HQed in the North Central or Western regions.

- The women in this survey are younger on average, 54% of the women in this survey are aged 35-54, compared with 36% of the total sample.

- The women who participated in this survey are far more likely to work for firms with 10+ employees (47% of these women work for firms with 10+ employees compared with 25% of the total sample). However, there is no difference by region; that is, women are no more or no less likely than average to be in a particular region or by race.

The women in the survey are *less* likely than the men to have the title of Owner/Top Management (65% compared with 72% of the total sample) or to be a Master Electrician or Equivalent (6% of women vs. 12% of the total) or Field Management (1% vs. 4% of the total sample). However, the women in this survey were far more likely to describe their level of responsibility as "Other" (26% of women vs. 5% of the total sample).

▲*"WHAT" TYPES OF WORK DO CONTRACTORS PERFORM?*

Green/Sustainable Building Elements

Electrical contractors were asked to estimate the percentage of company sales that included Green/Sustainable Building elements for multiple time periods. The results shown below provide a general understanding of where electrical contractors think that the market has been and where it is going.

In the most recent study, electrical contractors were asked to make three estimates: for the past year (2013), for the current year (2014) and the following year (2015). This table shows a number of findings:

- Reported usage goes up in time: reading any column (year) from the bottom to the top shows that the previous year is lower than estimates for the survey year. Both, in turn are lower than projected estimates for the following year.
- Estimates for a future time period tend to be higher than the current average estimate for that time period. For example, ecs in 2012 predicted that on average 17.6% of sales in 2013 would include Green/Sustainable Building elements. However, in 2014, electrical contractors estimated the percent for 2013 as 12.0%.

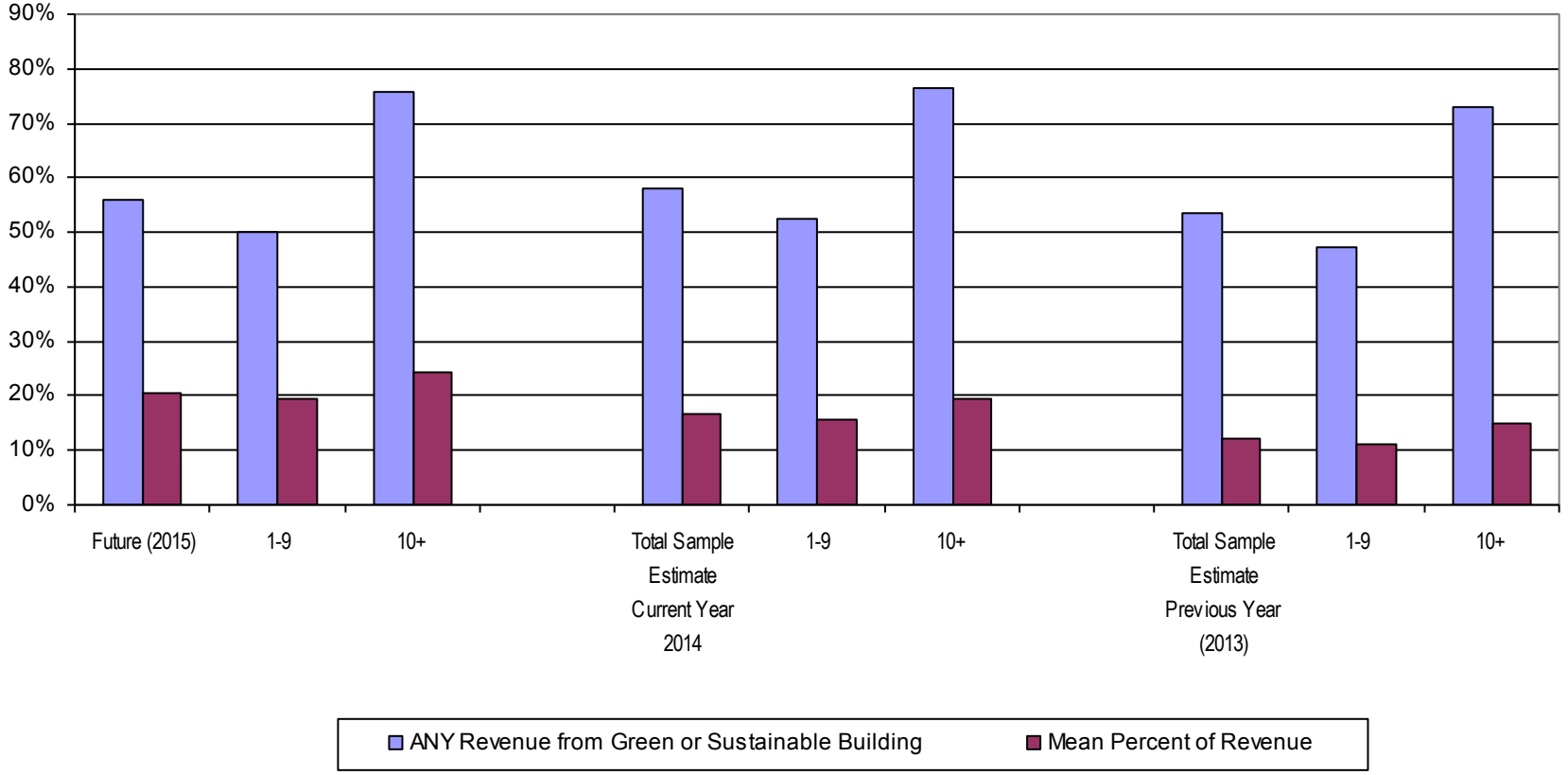
Percent of Company Sales That Included Green/Sustainable Building Elements			
	Average (Mean) Percent		
	Profile Study Year		
	2014 Version 5 Total	2012	2010
Survey Year + 1	2015	2013	2011
	20.6%	17.6%	16.8%
Survey Year	2014	2012	2010
	16.7%	13.8%	
Previous Year	2103	2011	2009
	12%	10.9%	11.5%

As shown on the next two pages, larger firms are more likely to be engaged in Green/Sustainable Building and are also more likely than smaller firms to actually --or predict to --derive a higher percentage of their revenue from it.

- In 2014, firms with 20-99 and 100+ employees report deriving the highest percentage of revenue from Green/Sustainable Building elements.

  - In contrast, in 2012, it was firms with 100+ employees that were most likely to report having Any or higher mean revenue from Green/Sustainable Building elements.

Revenue from Green/Sustainable Building Elements -- ANY and Mean Percent Revenue From 2014 Profile Study (N = 2722)



Types of Work Performed in Previous Year

Electrical contractors were shown a list of up to 36 different project types and were asked to indicate which they had performed this in the previous year. For the first time, the project types were asked separately for Residential and CII construction. These results are shown on the next few pages.

- Three new project types were included for the first time in the 2014 Profile Study. They are: Daylighting/Shading Systems in Traditional Power/Lighting), Trouble Shooting/Maintenance of Low Voltage Systems (in Power Quality) and Microgrid (in Non-Building).

- With the exception of Traditional Power and Lighting, most types of electrical work are more likely to be done in a CII setting

Numbers in bold are category Nets

Types of Work Performed by Company in 2013
Among Those That Work in Residential and /or CII Construction

(Base Answering)	2722	2021	2181
COMMUNICATIONS SYSTEMS/CONNECTIVITY	Any **61**	Res **37**	C/I/I **45**
Networking VOIP/ Wire-less/Broadband, etc.)	34	18	26
Fiber Optics (Communications and Security)	19	3	18
Structured Wiring/Cabling	51	30	37
Data Centers	18	3	17

GREEN/ SUSTAINABLE BUILDING ALTERNATIVE ENERGY	Any **57**	Res **32**	C/I/I **42**
LEED Projects	22	8	19
Energy Efficiency Projects/ Upgrades (non-LEED)	38	16	30
Energy Audits (including Thermal Imaging)	12	3	11
Co-Generation	8	4	6
Smart or Net Metering	8	4	6
Solar/Photovoltaics	16	9	10
Wind Generation	4	2	3
Geothermal	7	6	3
Fuel Cells	2	0.5	2
Energy Storage	4	2	3
Electric Vehicle Charging Station	14	8	8
POWER QUALITY	Any **70**	Res **43**	C/I/I **52**
Backup Power/UPS	51	26	37
Energy Management/Power Quality	21	5	19
TVSS/Lightning Surge Suppression	34	17	25
Trouble Shooting/ Maintenance of Low Voltage Systems	47	27	35

(Base Answering)	2722	2021	2181
TRADITIONAL POWER/LIGHTING	Any **92**	Res **69**	C/I/I **74**
Power	84	61	63
Lighting Controls	76	49	58
Lamps	76	52	59
Ballasts or LED Drivers	79	50	63
Lighting Fixtures	86	61	66
Daylighting/Shading Systems	21	9	17

AUTOMATION/CONTROL SYSTEMS	Any **71***	Res **44**	C/I/I **52**
Home Automation/Smart Home/Connectivity	--	19	<---
Fire/Life Safety (including Alarms/Detectors)	52	31	35
Security: CCTV/Access/Motion, etc.	36	19	28
Home Theater/Sound	--	18	<---
Automated Building Systems/ Connectivity	---	→	17
Industrial Controls	---	→	31
Sound and Video	---	→	18

NON-BUILDING	Any **15**	Res **5**	C/I/I **13**
Pre-Assembly/Pre-fab Of Elec Components	14	5	12
Smart Grid Technology	3	1	2
Microgrids	0.9	0.1	0.8
Nuclear	--	→	1

* 71% is the net – or unduplicated total --of those who worked in Res and/or CII Automation/Control Systems that are worded identically

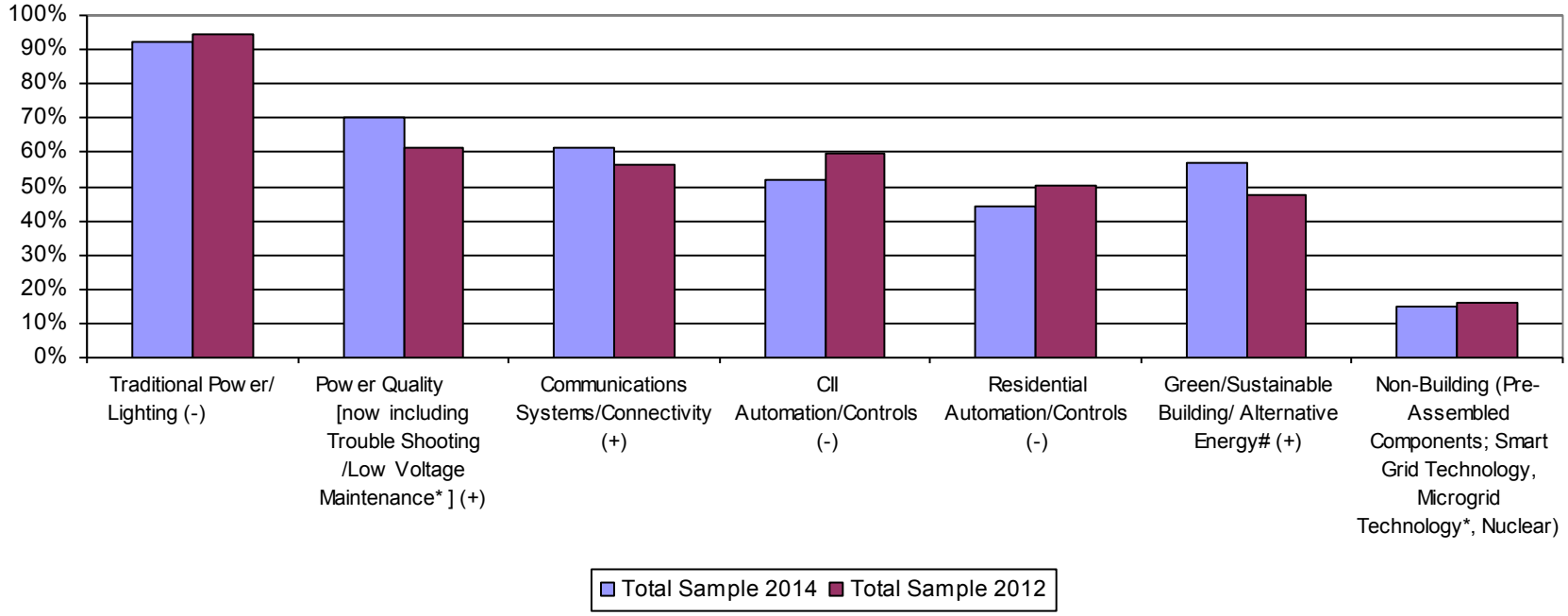
Since this is the first time that CII and RES were asked separately, the results can only be trended in Total

When asked about the types of work performed in the previous year, almost all firms worked on Power and Lighting (92%), down slightly, but significantly, from the 95% reported in 2012. About 70% work on Power Quality (up significantly from 62% reported in 2012). About 6 in 10 reported working on Communications Systems and or Green/Sustainable Technology/Alternative Energy (both rose significantly from the levels reported in 2012).

Compared to the 2012 Profile study, the percentages that reported working on every category with the exception of Non-Building, which did not change, showed statistically significant changes:

- As noted above, three categories posted significant increases: Power Quality, Communications/Systems Connectivity and Green/Sustainable Building/Alternative Energy.
    - Power Quality may have posted an increase due to the addition of Trouble Shooting/Maintenance of Low Voltage Systems. Green/Sustainable Building/Alternative Energy may also have benefited from the addition of electric Vehicle Charging Stations and a wording change – Thermal Imaging was added to Energy Audits.
- Three categories posted significant declines: Traditional Power/Lighting (which declined slightly, but significantly) and both Residential and CII Automation/Control Systems

Types of Work Performed in Previous Year by Category
Total Sample 2014 vs. 2012 Profile Studies
(+) and (-) indicate significant change in category versus 2012



(-) lndicates a significant decline vs. 2012
(+) Indicates a significant increase vs. 2012

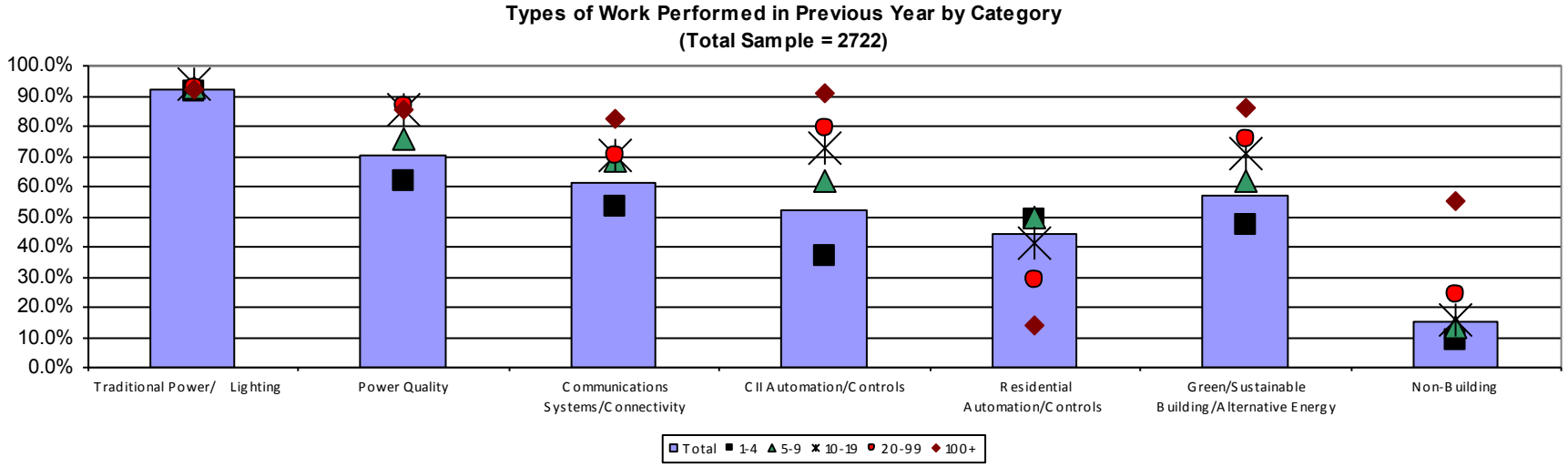
** Indicates project types that were added in 2014 study*
# Electric Vehicle Charging Stations was moved from Non-Building to Green/Sustainable Building/Alternative Energy in 2014

Q6: 2014 Total Sample Size = 2722

Q6: 2012 Total Sample Size = 1024

The differences by company size are shown below:

- In general, larger firms -- particularly those with 100+ but also those with 20-99 employees -- are more likely to perform most of the different types of work shown below. In addition, firms with 5+ employees (in 2012, the break was at 10+ employees) are also more likely than smaller firms to perform Power Quality, Communications Systems/Connectivity, CII Automation/Controls work and/or Green Sustainable Energy/Alternative Energy work.
    - What is interesting is that firms with 5-9 employees are acting like larger firms – 10+ employee firms -- rather than firms with 1-4 employees in that they are also more likely to work on Power Quality, Communications Systems/Connectivity, CII Automation/Controls and/or Green/Sustainable Building/Alternative Energy.
    - In 2012, we also made the observation that firms with 5-9 employees were acting more like larger firms. However in 2014, they are more also more likely to have worked on Power Quality and Communications Systems/Connectivity (first observed in 2014) as well as on CII Automation Controls (first observed in 2010) and/or on Green Green/Sustainable Building/Alternative Energy (first observed in 2012). Previous years not shown)
- The only exception is Residential Automation/Controls, which is more likely to be performed by smaller firms



Subgroups that are shown above the blue bar are significantly larger than average while those within the bar are smaller than average. Subgroups that are average are not shown

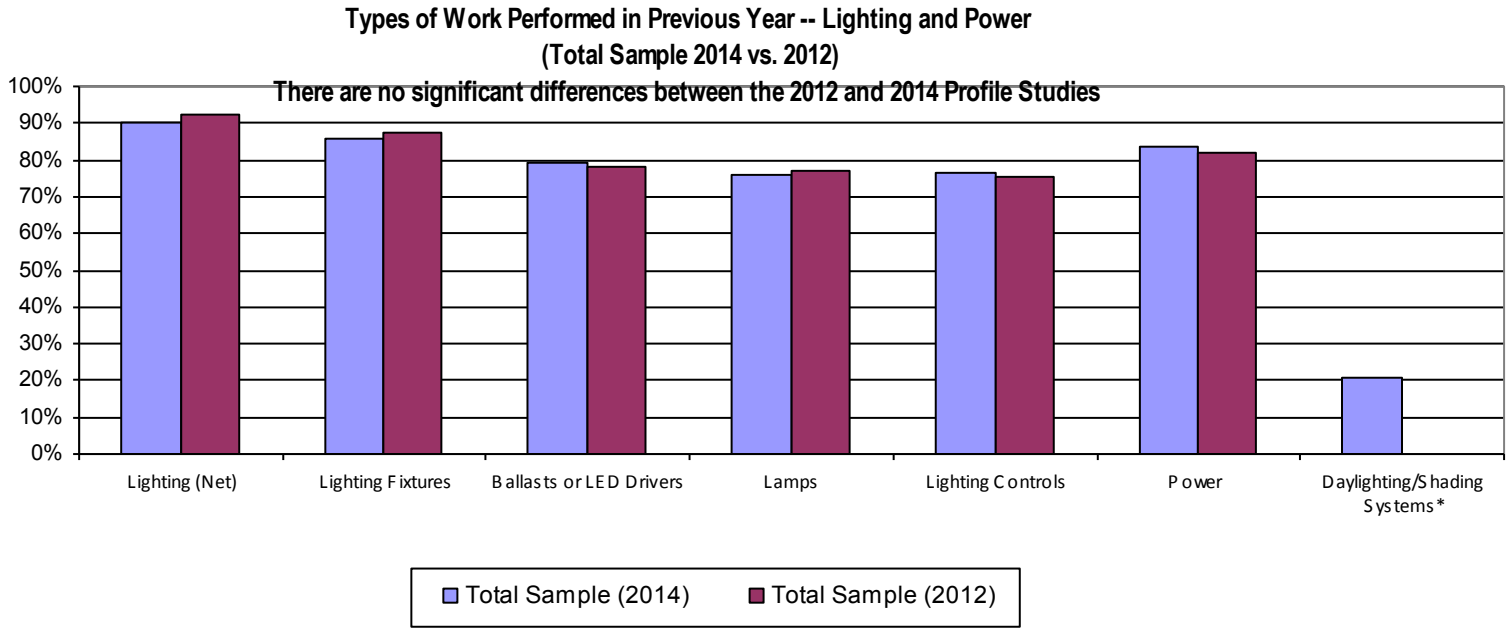
Types of Work Performed – Power and Lighting

Very high percentages of electrical contractors reported working in the various aspects of Lighting and in Power in both 2014 and 2012.

- Although the percentage of electrical contractors reported working on Lighting on a combined basis declined slightly, but significantly, to 90% in 2014 from 92% in 2012 (not shown), there is no single aspect of Lighting that accounts for this decline on a combined basis.

- Power is statistically unchanged compared with 2012

- Daylighting/Shading Systems was first added in 2014 and cannot be trended.



* Daylighting/Shading Systems was added in 2014

Previous year's work on both Residential and CII Automation/Building Controls Systems declined as categories and on these specific systems compared with two years earlier:

- Both [RES] and CII Fire/Life Safety (including Alarms/Detectors) declined in 2014 compared with 2012. However, both of these area experienced growth from 2010 to 2012, so it possible that there is less of this work to be performed given the relatively low levels of new construction.

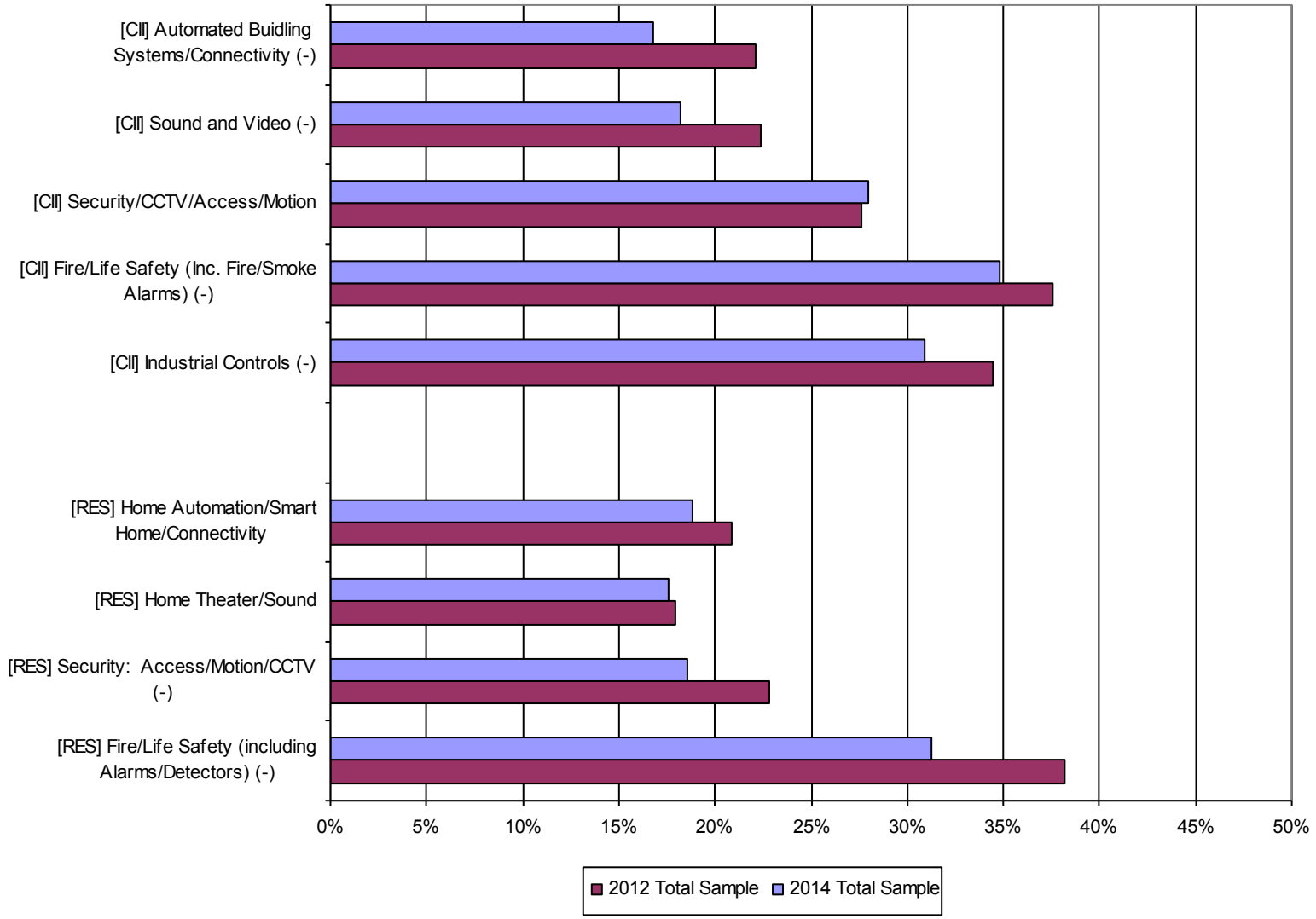
- [RES] Security also declined versus 2012.

    - There are no other changes in Residential Systems

- Fewer electrical contractors reported previous year's work in [CII] Industrial Controls (which had also declined in 2012 vs. 2010), [CII] Sound and Video and/or in [CII] Automated Building Systems/Connectivity.

    - There are no other changes in CII Systems compared with two years earlier.

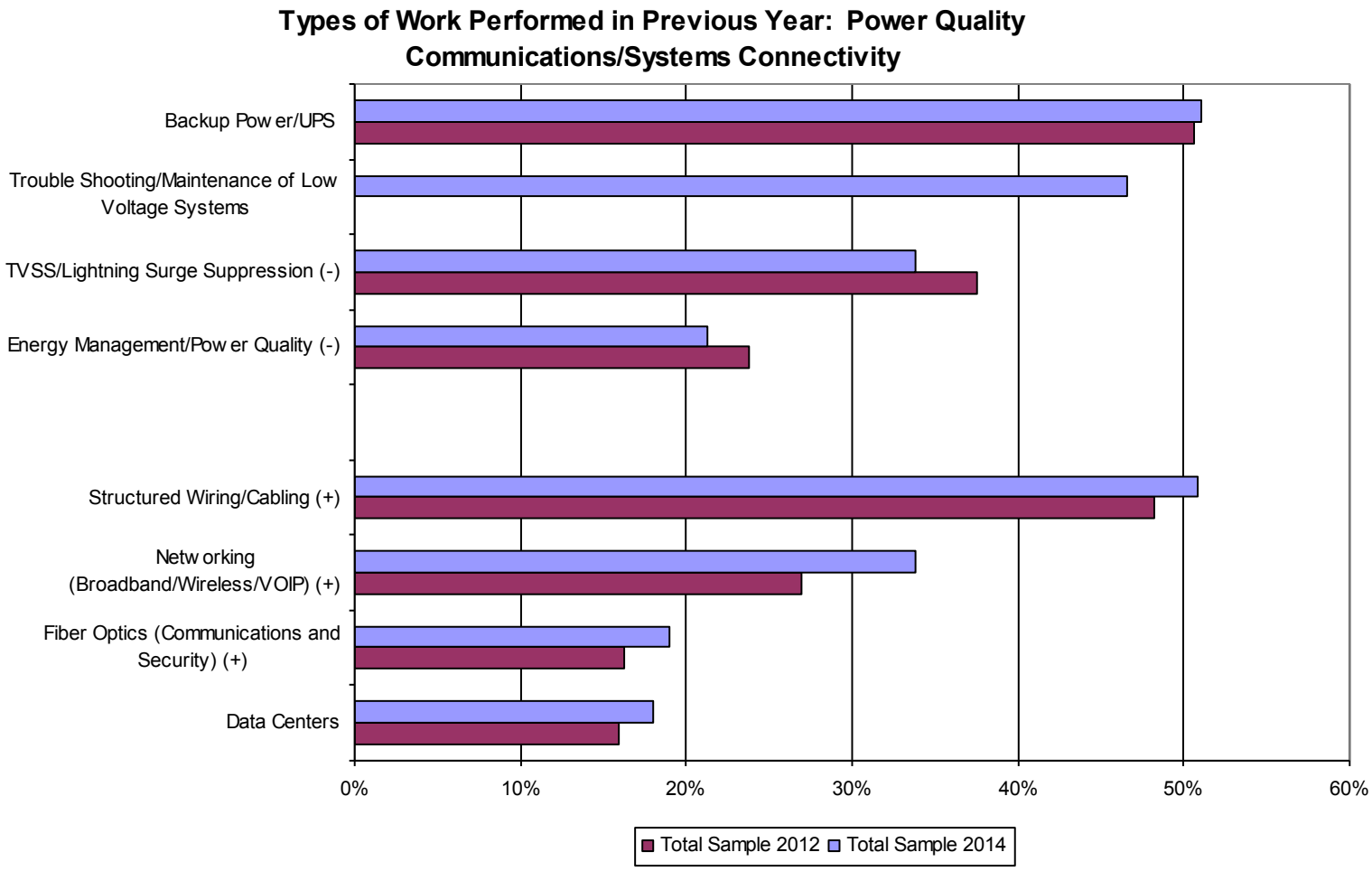
Types of Work Performed in Previous Year: Automation/ Controls Systems



(-) lndicates a significant decline vs. 2012
(+) Indicates a significant increase vs. 2012

70% of electrical contracting firms performed Power Quality work in the previous year. Backup Power/UPS and Trouble Shooting/Maintenance of Low Voltage Systems (which was first asked in 2014) were mentioned most often. TVSS/Lightning Surge Suppression and Energy Management/Power Quality each posted a small, but significant, decline versus two years earlier.

61% of electrical contracting firms performed Communications Systems/Connectivity work in the previous year. Structured wiring/Cabling was mentioned most often. All of the individual types of projects within this category posted a significant or directional increase versus two years earlier.



(-) lndicates a significant decline vs. 2012
(+) Indicates a significant increase vs. 2012

Given the amount of coverage of green building and alternative energy in both ELECTRICAL CONTRACTOR as well as in the general press, it is not surprising that five of the eleven types of alternative energy projects posted statistically significant increases changes over the past two years:

- Non-LEED Energy Efficiency Upgrades and LEED Projects were cited most frequently in 2014. In fact, on a pooled basis, fully 44% of electrical contractors said that they performed one or both types of this work in the previous year. This is a significant increase from the 2012 level of 34%.

    - Non-LEED Energy Efficiency Upgrades rose to 38% in 2014 from 30% in 2012.
    - LEED Projects rose to 22% from 15% two years earlier (not shown)

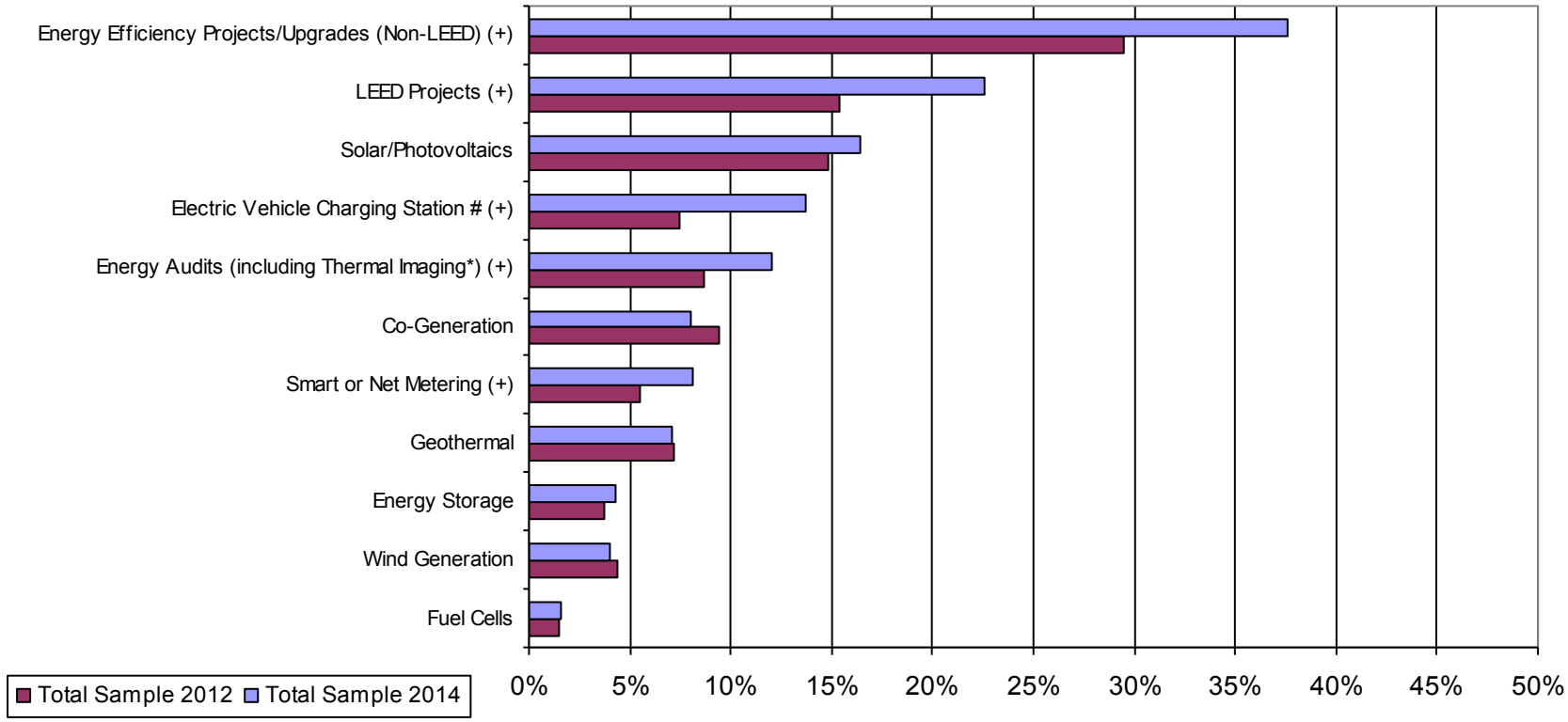
- Previous year work in Electric Vehicle Charging Stations is also significantly higher in 2014 than in 2012. In fact, Electric Vehicle Charging Stations jumped from 8% in 2012 to 14% in 2014.

- Previous year work in Energy Audits (including Thermal Imaging) and in Smart or Net Metering also posted significant increases compared to two years earlier.

    - Some of the increase in Energy Audits may be attributable to the wording change -- adding Thermal Imaging --in the 2014.

All of the other project types were unchanged versus two years earlier; none of the project types posted a significant decline versus 2012.

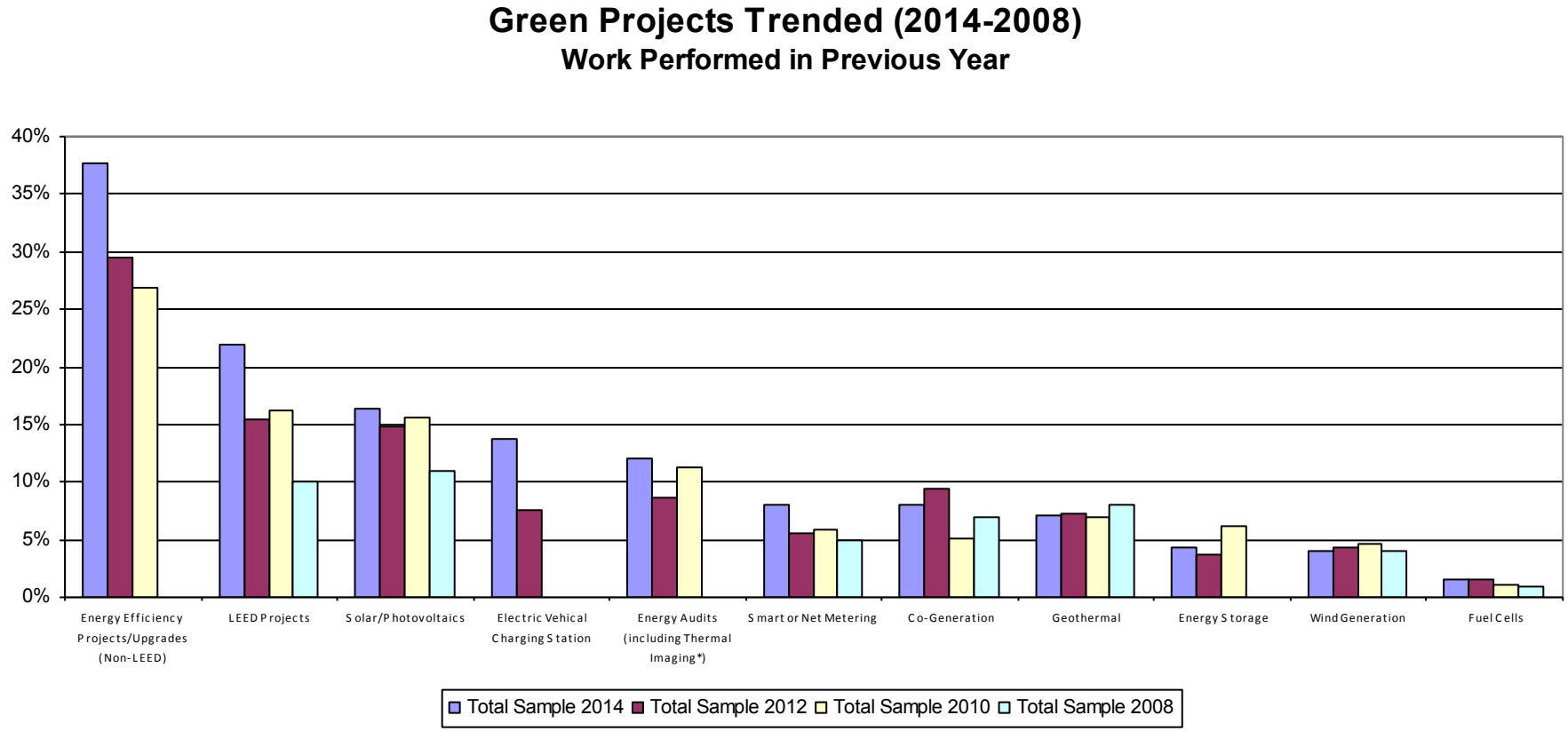
Types of Work Performed in Previous Year: Green/Sustainable Building/Alternative Energy



(-) lndicates a significant decline vs. 2012
(+) Indicates a significant increase vs. 2012

Electric Vehicle Charging Station was asked as part of the Non-Building grouping in 2012

The growth in Green/Sustainable projects – particularly Energy Efficiency (non-LEED), Lead projects and Electric Vehicle Charging Stations is even more dramatic when viewed over a six-year time horizon (2008 to 2014).

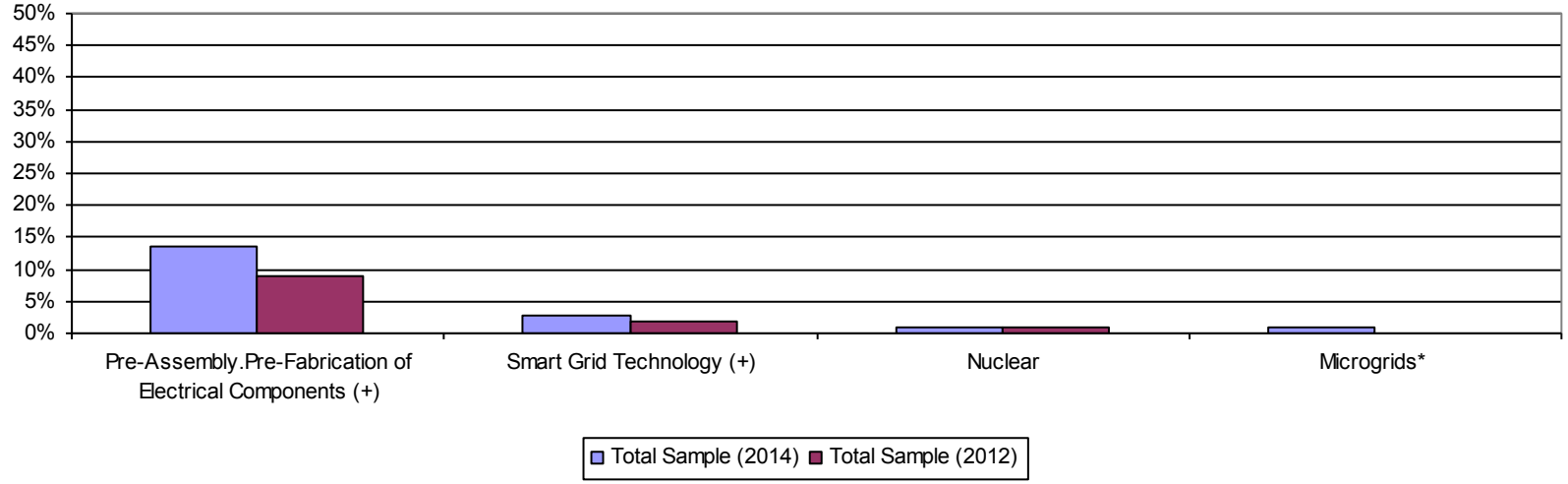


* Thermal Imaging was added to Energy Audits in 2014

In 2014, 15% of electrical contracting firms said that they performed Non-Building projects in the previous year. This is statistically unchanged from two years earlier.

- Pre-Assembly/Pre-Fabrication of Electrical Components is the highest on an absolute basis and also posted a significant increase versus 2012.
- All of the other project types were mentioned by 3% or less. There is a slight, but significant increase in the percent of electrical contracting firms that worked on Smart Grid Technology compared with two years ago. The percent of firms that worked on Nuclear projects in the previous year is unchanged between 2012 and 2014.
- Microgrids was first asked in the 2014 Profile Study and cannot be trended.

Types of Work Performed in Previous Year -- Non-Building
(Total Sample: 2014 vs. 2012)



* Added in 2014
(-) lndicates a significant decline vs. 2012
(+) Indicates a significant increase vs. 2012

Types of Work Performed – By Number of Employees

Project types generally vary by company size. (Each of the project types is listed only once below):

- Firms with 100+ employees are more likely than smaller firms to work on these five types of projects:
  - Wind Generation
  - Fuel Cells
  - Smart Grid Technology
  - Nuclear
  - Microgrids
- In addition, firms with 20 or more employees are more likely than smaller firms to work on these nine types of projects:
  - Lamps (20-99, but not 100+)
  - Networking (VOIP, Wireless, Broadband, etc)
  - Fiber Optics (Communications and Security)
  - Solar/Photovoltaics
  - Electric Vehicle Charging Stations
  - Smart or Net Metering
  - Energy Storage
  - Co-Generation
  - Pre-Assembly/Pre-Fabrication of Electrical Components

What's notable is that smaller firms are now doing more types of work that were formerly done by larger electrical contacting firms. The threshold for many types of work is now 10+ (or even 5+) rather than 20-99 or 100+. For example, two years ago there were only seven project types on the list for firms with 10 –19 employees. The list now contains 20 project types

- Firms with 10+ employees (10-19, 20-99 and 100+) are more likely to work on:
    - Power
    - Ballasts or LED Drivers (10-19 and 20-99, but not 100+)
    - Lighting Controls
    - Daylighting/Shading Systems
    - Backup Power/UPS
    - Trouble Shooting/Maintenance of Low Voltage Systems
    - TVSS/Lightning/Surge Suppression
    - Energy Management/Power Quality
    - Structured Wiring/Cabling
    - Data Centers
    - Energy Efficiency Projects/Upgrades (non-LEED)
    - LEED Projects
    - Energy Audits (including Thermal Imaging)
    - Geothermal
    - Wind Generation (10-19 and 100+ but not 20-99)
    - [CII] Fire/Life Safety (including Alarms)
    - [CII] Industrial Controls
    - [CII] Security/CCTV/Access/Motion, etc.
    - [CII] Sound and Video
    - [CII] Automated Building Systems/Connectivity

Firms with 1-9 employees are more likely than larger firms to work on:

- [RES] Fire/Life Safety (including Alarms/Detectors)
- [RES] Home Theater/Sound (driven by firms with 1-4 employees)
- [RES] Home Automation/Smart Home/Connectivity

Firms with 5-9 employees are more likely than firms of other sizes to work on:

- Lighting Fixtures

  - In addition, as shown on the next pages, in most cases, these firms have a profile that more closely mirrors that of firms with 10+ rather than those with 1-4 employees.

    - The main exception is [RES] Fire/Life Safety (including Alarms/Detectors), where firms with 5-9 employees mirror those with 1- 4 employees, rather than larger firms.

As shown on page 40 and below, the smallest firms (with 1-4 employees) are more likely than other firms to work on 1-9 project types. Firms with 5-9 are more likely than smaller firms to work on 12-19 project types while firms with 10-19 and 20 –99 employees are even more likely than firms with 5-9 or 100+ employees to work on 12-19 project types. Firms with 100+ employees (but also firms with 20-99 employees) continue to be more likely than firms of other sizes to work on 20 of the 36 project types.

	Total	**1-4**	5-9	1-9	10-19	20-99	100+
	%	%	%	%	%	%	%
Mentioned 1-9 Types	49	**62**	*42*	**58**	*30*	*22*	*16*
Mentioned 10-11 Types	12			**13**			***4***
Mentioned 12-19	28	*19*	**37**	*23*	**48**	**47**	**34**
Mentioned 20 + (out of 36) Project Types	9	*3*	*6*	*4*		**21**	**43**

Numbers that are **bolded** indicate that they are significantly larger than its reciprocal at the 90% level of confidencel while numbers that are *italicized* indicate that the number is significantly smaller than its reciprocal.

** Examples of reciprocals: If the total is composed of A+B, the reciprocal of A is B. If total = A+ B+ C, the reciprocal of A is B+C

*Italics indicate that the percentage shown for this firm size is significantly smaller than its reciprocal** at the 90% level of confidence*

Empty cells indicate the subgroup is average on this measure.

Types of Work Performed in Previous Year By Number of Employees (2014 Profile Stu

	Total	1-4	5-9	1-9	10-19	20-99	1
	%	%	%	%	%	%	
Lighting Fixtures	86		**88**				
Power	84	*81*		*82*	**89**	**90**	
Ballasts or LED Drivers	79	*77*	**83**	*78*	**85**	**84**	
Lamps	76	*74*		*75*		**81**	
Lighting Controls	76	*71*	**83**	*73*	84	**89**	
Daylighting/Shading Systems	21	*12*		*14*	**35**	**42**	
Backup Power/UPS	51	*41*	**56**	*44*	**68**	**72**	
Trouble Shooting/Maintenance of Low Voltage Systems	47	*42*	**51**	*43*	**55**	**53**	
TVSS/Lightning/Surge Suppression	34	*24*	**38**	*27*	**46**	**59**	
Energy Management/Power Quality	21	*12*		*13*	**36**	**42**	
Structured Wiring/Cabling	51	*44*	**55**	*46*	**60**	**62**	
Networking (VOIP/Wireless/Broadband, etc.)	34	*27*	**40**	***30***		**46**	
Fiber Optics (Communications and Security)	19	*8*		*11*		**43**	
Data Centers	18	*10*		*12*	**23**	**35**	
Energy Efficiency Projects/Upgrades (non-LEED)	38	*28*	**43**	*31*	**50**	**58**	
LEED Projects	23	*14*		*16*	**33**	**46**	
Solar Photovoltaics	16	*11*		*12*		**28**	
Electric Vehicle Charging Stations	14	*11*		*12*		**19**	
Energy Audits (Including Thermal Imaging)	12	*5*		*6*	**19**	**29**	
Geothermal	7			**9%** for 10+ category			
Smart or Net Metering	8	*5*		*5*		**16**	
Energy Storage	4	*3*		*3*		**8**	
Co-Generation	8	*4*		*5*		**13**	
Wind Generation	4	*3*		3	**7**		
Fuel Cells	2	*0.7*	***0.9***	*0.7*			
Pre-Assembly/-Fabrication of Electrical Components	14	*8*		*9*		**22**	
Smart Grid Technology	3	*2*	*2*	*2*			
Nuclear	1	*0.5*	*0.3*	*0.4*			
Microgrids	0.9	*0.3*		*0.4*			
	Continues on next page						

Bold indicates that the percentage shown for this firm size is significantly larger than its reciprocal** at the 90% level of confidence

** Examples of reciprocals: If the total is composed of A+B, the reciprocal of A is B. If total = A+ B+ C, the reciprocal of A is B+C

*Italics indicate that the percentage shown for this firm size is significantly smaller than its reciprocal** at the 90% level of confidence*

Empty cells indicate the subgroup is average on this measure.

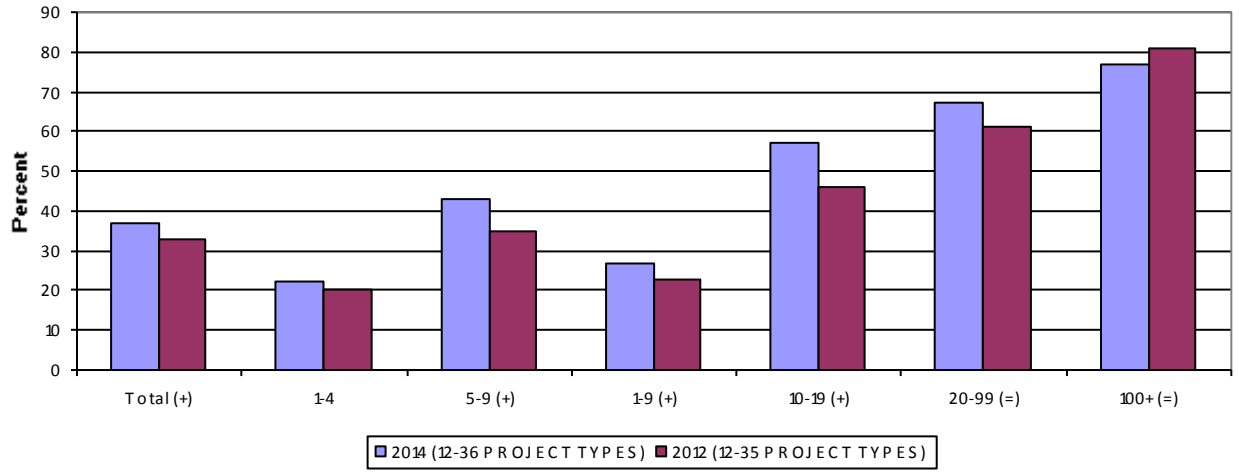
Types of Work Performed in Previous Year By Number of Employees (2014 Profile Study)

	Total	1-4	5-9	1-9	10-19	20-99	100+
	%	%	%	%	%	%	%
[CII] Fire/Life Safety (including Alarms/Detectors)	35	*20*	**41**	*24*	**56**	**68**	**79**
[CII] Industrial Controls	31	*20*	**35**	*23*	**45**	**50**	**71**
[CII] Security/CCTV/Access/Motion, etc	28	*16*	**33**	*19*	**39**	**55**	**72**
[CII] Sound and Video	18	*11*		*13*	**23**	**35**	**48**
[CII] Automated Build Systems/ Connectivity	17	*7*		*9*	**24**	**39**	**55**
[RES] Fire/Life Safety (incl Alarms/Detectors)	31	**34**	**35**	**34**		*24*	*10*
[RES] Security/CCTV/Access/Motion, etc	19	*18*	**24**	***20***			*9*
[RES] Home Automation/Smart Home/Connectivity	19	*18*	**25**	**20**	**23**		*9*
[RES] Home Theater/Sound	18	**19**		**19**		*14*	*6*

2014 Profile Study	Total	1-4	5-9	1-9	10-19	20-99	100+
Mentioned 1-9 Types	49	**62**	*42*	**58**	*30*	*22*	*16*
Mentioned 10-11 Types	12			**13**			***4***
Mentioned 12+ Project Types	37	22	43	27	57	67	77
Mentioned 12-19	28	*19*	**37**	*23*	**48**	**47**	**34**
Mentioned 20 + (out of 36) Project Types	9	*3*	*6*	*4*	9	**21**	**43**

Trended (2014 vs. 2012)

The percent of firms that worked on 12 + project types in previous year increased vs. 2012 among the Total Sample, firms with 1-9 employees (driven by those with 5-9) and among firms with 10-19 employees



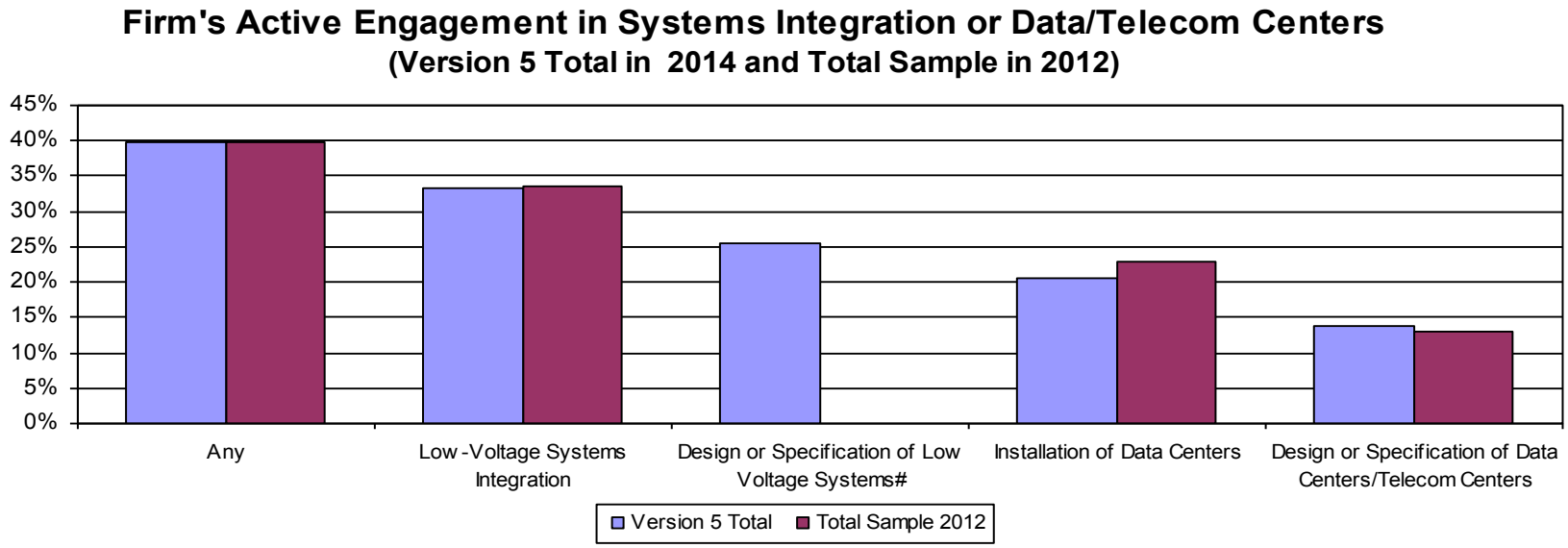
(-) Indicates a significant decline vs. 2012
(+) Indicates a significant increase vs. 2012
(=) Indicates no significant difference vs. 2012

Low Voltage: Firm's Active Engagement in Systems Integration or Data Centers

7% of firms currently have a separate low voltage division (20% among firms with 10+ employees); an additional 6% are planning to set one up (9% among firms with 5-9 employees). This question was first asked in 2014 and cannot be trended.

About 4 in 10 electrical contracting firms are actively engaged in Systems Integration and/or Data/Telecom Centers.

- Low-Voltage Systems *Integration* was mentioned most often.
- *Design or Specification* of Low Voltage Systems, which was first asked in 2014, received the next the next most mentions
    - Where the data can be trended, there are no significant differences from two years ago.



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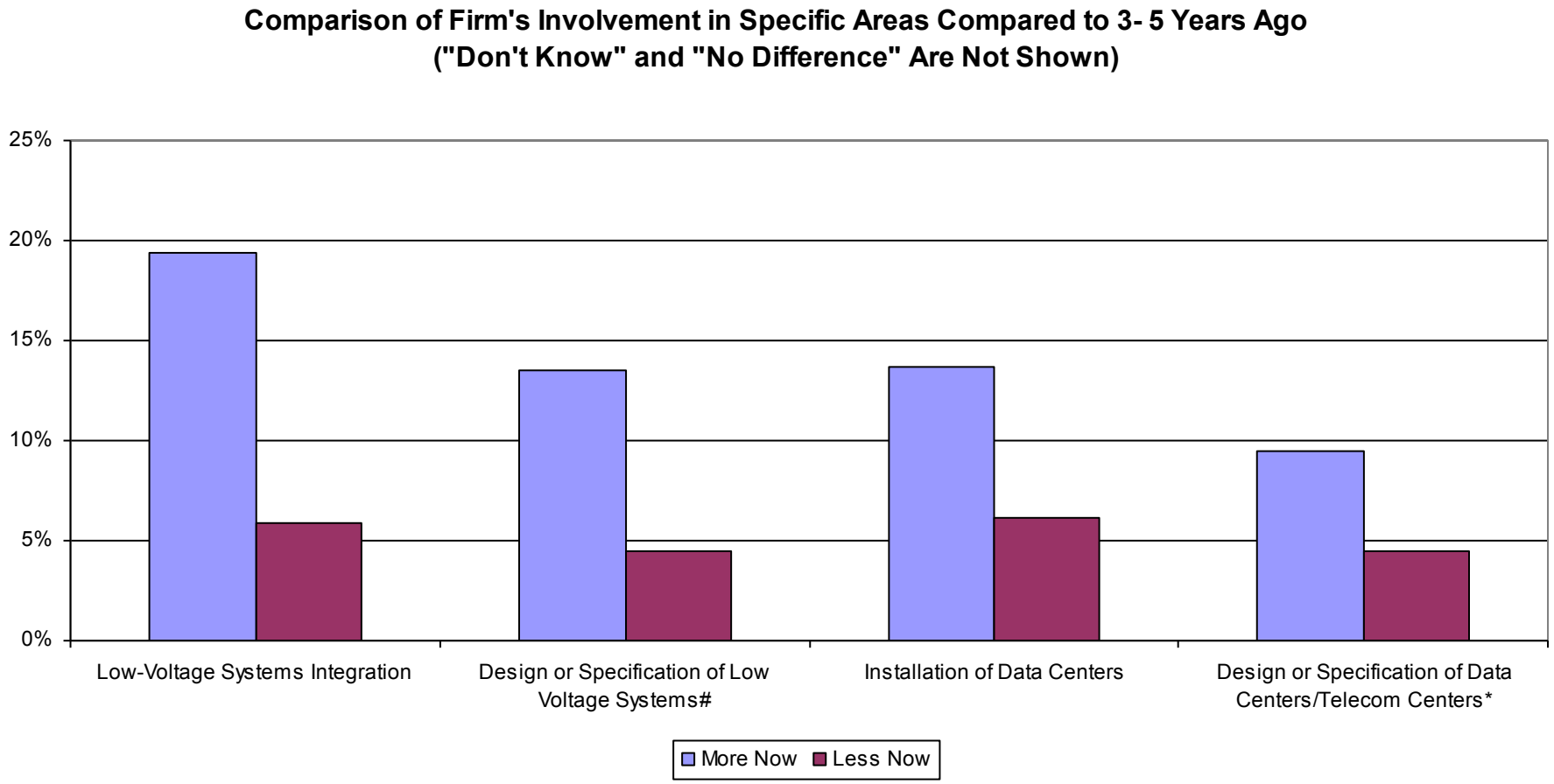
first asked in 2014

Q15 2014 Version 5 = 382; 2012 Total Sample = 1024

When asked to compare their involvement in each of these areas compared with 3 – 5 years earlier, electrical contractors are between two and four times more likely to say that they are “more involved now” rather than “less involved now”.



Roles Played by Firm in Integrated Systems

Electrical contractors were asked to indicate the extent to which they specify, install or both specify **and** install selected integrated systems.

- Almost 60% of ecs say that they both specify and install Lighting. This is about double the percent that only install.
- For all of the other integrated systems, the percent that both specify **and** install or only specify is around 25%, while the percent that install only ranges from 22% to 31%.

Roles Played by Firm in Integrated Systems					
	Specify *Only*	**Install *Only***	**Specify *and* Install**	**Don't Work in This Category**	**No Answer**
Version 7 Base (388)	%	%	%	%	%
Security	1	22	23	47	7
Fire/Life Safety	2	31	24	37	6
Lighting (including Controls)	2	28	58	8	4
Communications (VDV, etc.)	3	27	24	40	6
Building Controls (including HVAC)	2	28	23	41	6

The highest percentages report "no difference" in their roles in integrated systems compared with 3 – 5 years earlier. The ratio of specifying more now vs. specifying less ranges from about 2:1 to 5:1 in the case of Lighting.

Roles Played by Firm in Integrated Systems Compared to 3 – 5 Years Ago					
	Specify More	**No Difference**	**Specify Less**	**Don't Work in Category**	
Version 7 Base (388)	**%**	**%**	**%**	%	**No Ans %**
Security	10	37	4	43	6
Fire/Life Safety	9	48	4	35	4
Lighting (including Controls)	21	60	4	11	5
Communications (VDV, etc.)	8	44	2	39	7

Building Controls (including HVAC)	10	45	3	38	4

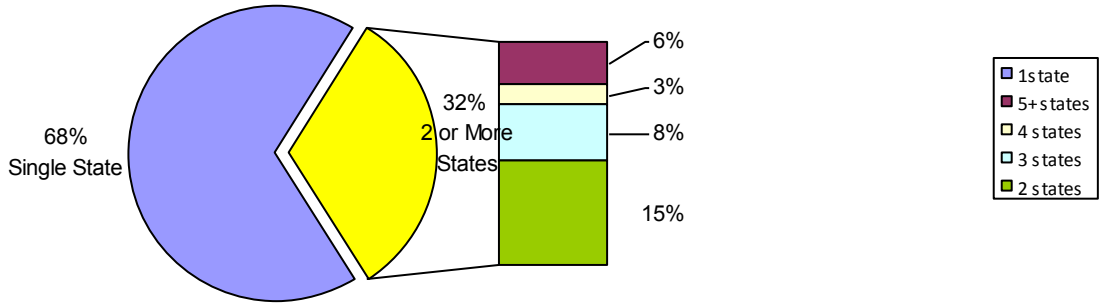
▲*"WHERE DO CONTRACTORS PERFORM THE WORK?*

Number of States In Which Electrical Contracting Firm Works

About one-third of electrical contracting firms perform their work in multiple states, suggesting, as noted in the past, that there may be issues of licensing and certification. The proportion working in 2 or more states is unchanged from two years ago.

These results are consistent with those reported two and four years ago.

Number of States in Which Electrical Contracting Firm Performs Its Work (2014 Profile Study)



Q 1b N=2722

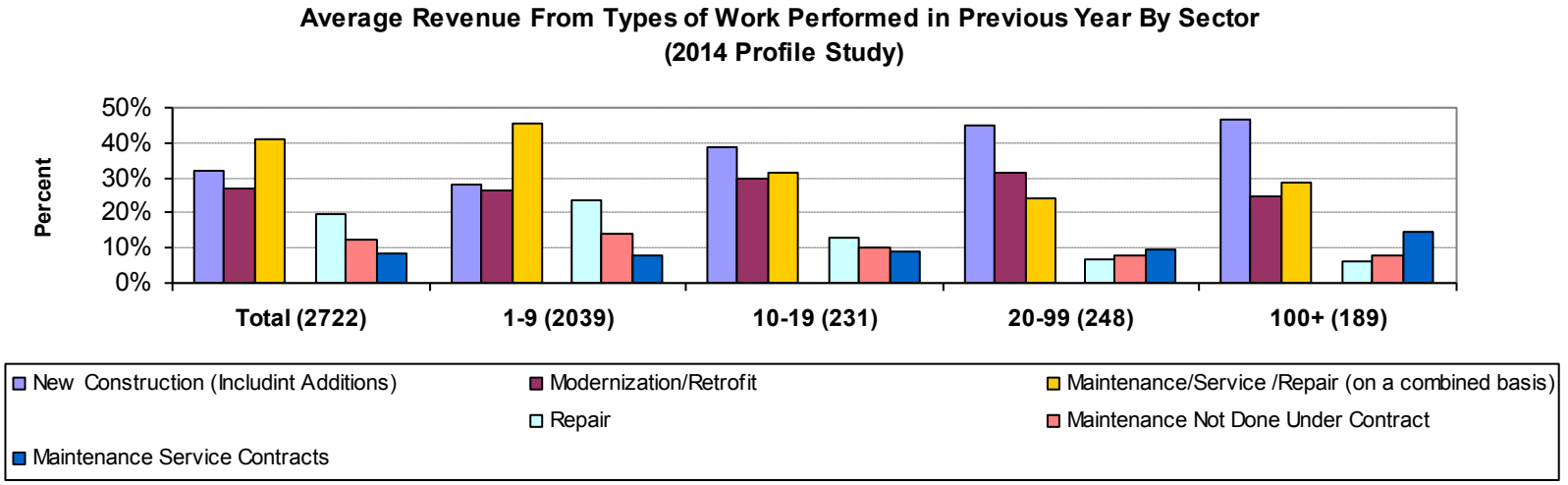
Not surprisingly, larger firms are more likely to work in multiple states. This was also the case in 2012:

	Total	1-4	5-9	1-9	10+
Work in 2+ States (2014)	31%	20%	<37%	23%	<55%

Types of Work: By Sector (New Construction Vs. Modernization Vs. Maintenance and Repair)

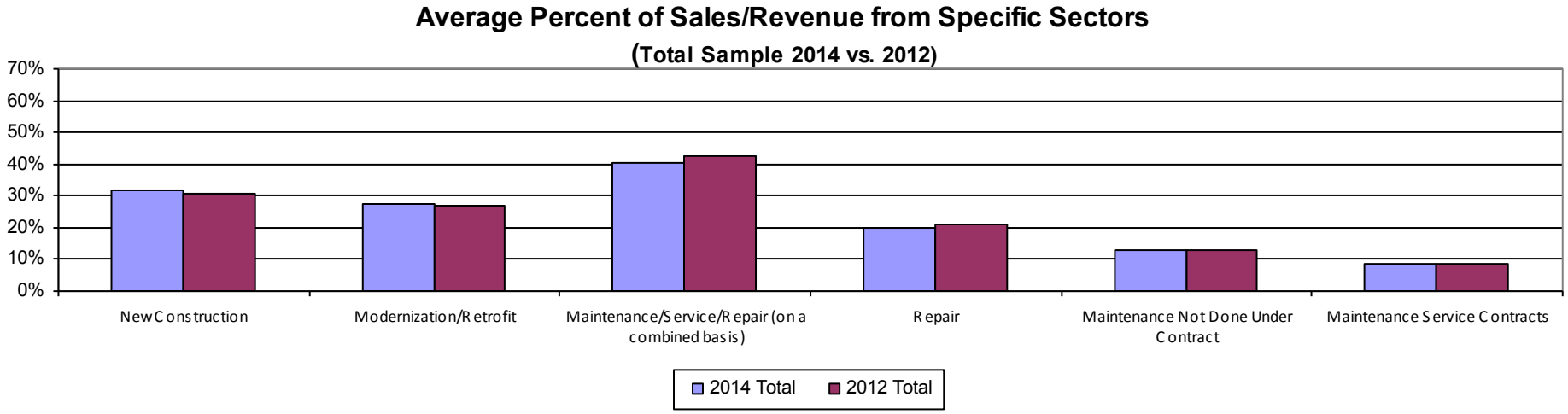
On average, about 40% of electrical contractor revenue continues to come from Maintenance/Service or Repair; about 30% of revenue continues to come from New Construction (32%) or Modernization/Retrofit (27%). All of this is unchanged versus two years ago. New Construction, which accounted for 43% of average revenue in 2007, has not yet recovered.

- As was the case in earlier Profile studies, New Construction (the blue bar) plays a proportionally larger role to firms with 10+ employees than to smaller firms, while Maintenance/Service/Repair – on a combined basis -- (the tan bar) accounts for a proportionally larger share of revenue among smaller firms.
    - However, Maintenance *Contracts* continue to play a proportionately larger role among larger firms than among smaller firms.



Q 5 Total Sample N=2722 (base sizes in parentheses above)

There are no statistically significant changes versus two years ago in the average percent of revenue from specific sectors.



2014 Total Sample = 2722; 2012 Total Sample = 1024

Nor are there any differences in average revenue from each sector by company size compared to two years ago.
(>) Difference is just short of significance at the 90% confidence level

	Average Revenue from Sector by Number of Employees											
	Total				1-9 Employees				10+ Employees			
	2014	**2012**	**2010**	**2008**	**2014**	**2012**	**2010**	**2008**	**2014**	**2012**	**2010**	**2008**
New Construction	32%	31%	**<34%**	**<43%**	28%	26%	**<30%**	**<38%**	43%	43%	47%	52%
Modernization/Retrofit	27%	27%	28%	27%	27%	27%	29%	27%	29%	28%	26%	26%
Maintenance/Service/Repair	41%	**42%>**	**38%>**	31%	45%	**47%>**	**41%>**	35%	28%	28%	**27%(>)**	22%
Repair	20%	21%	**18%>**	14%	24%	**25%>**	21%	18%	9%	9%	9%	7%

Types of Electrical Projects: Sources of Revenue

- Electrical/Power Distribution, at 44.6%, continues to account for the largest percent of company sales, by far. It also increased significa 39%. Although this is the first up-tick since 2004; the average percent of revenue from Electrical/Power Distribution had been droppin was 69%, it is still significantly below its 2010 level of 56%. (Years prior to 2012 are not shown).

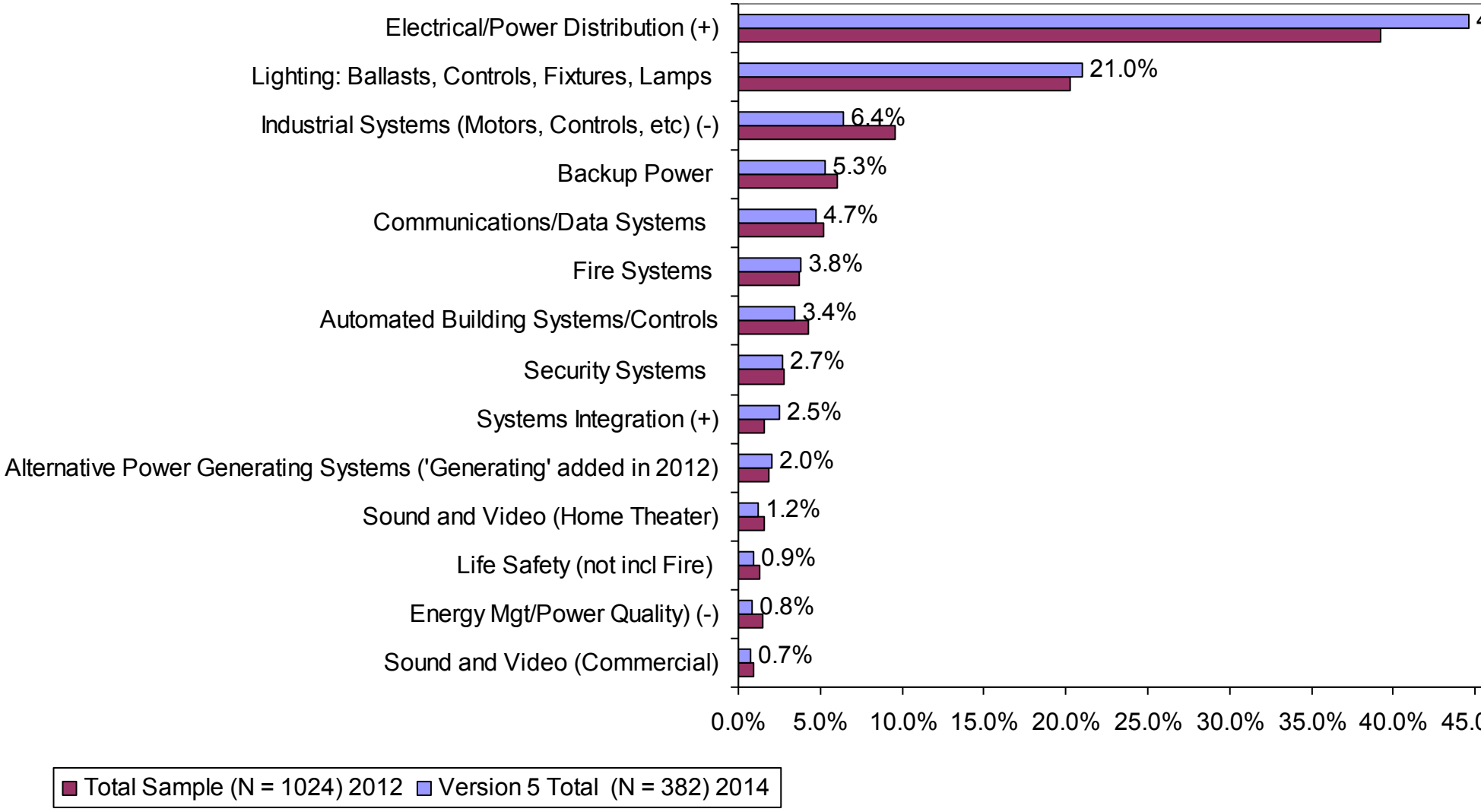
    - The increase cannot be tied to an increase in New Construction, which is essentially unchanged compared to two years ago. It m increase in work in Smart Grid Technology and/or to work in Microgrids, which was first asked in 2014 and cannot be trended.

        - The offsetting decreases are in these areas: Industrial Systems (Motors, Controls, etc) from 9.6% to 6.4% and Energy Mar dropped from 1.5% to 0.8%

        - In contrast, Systems Integration rose from 1.6% to 2.5 %.

            - There are no other significant differences among the total

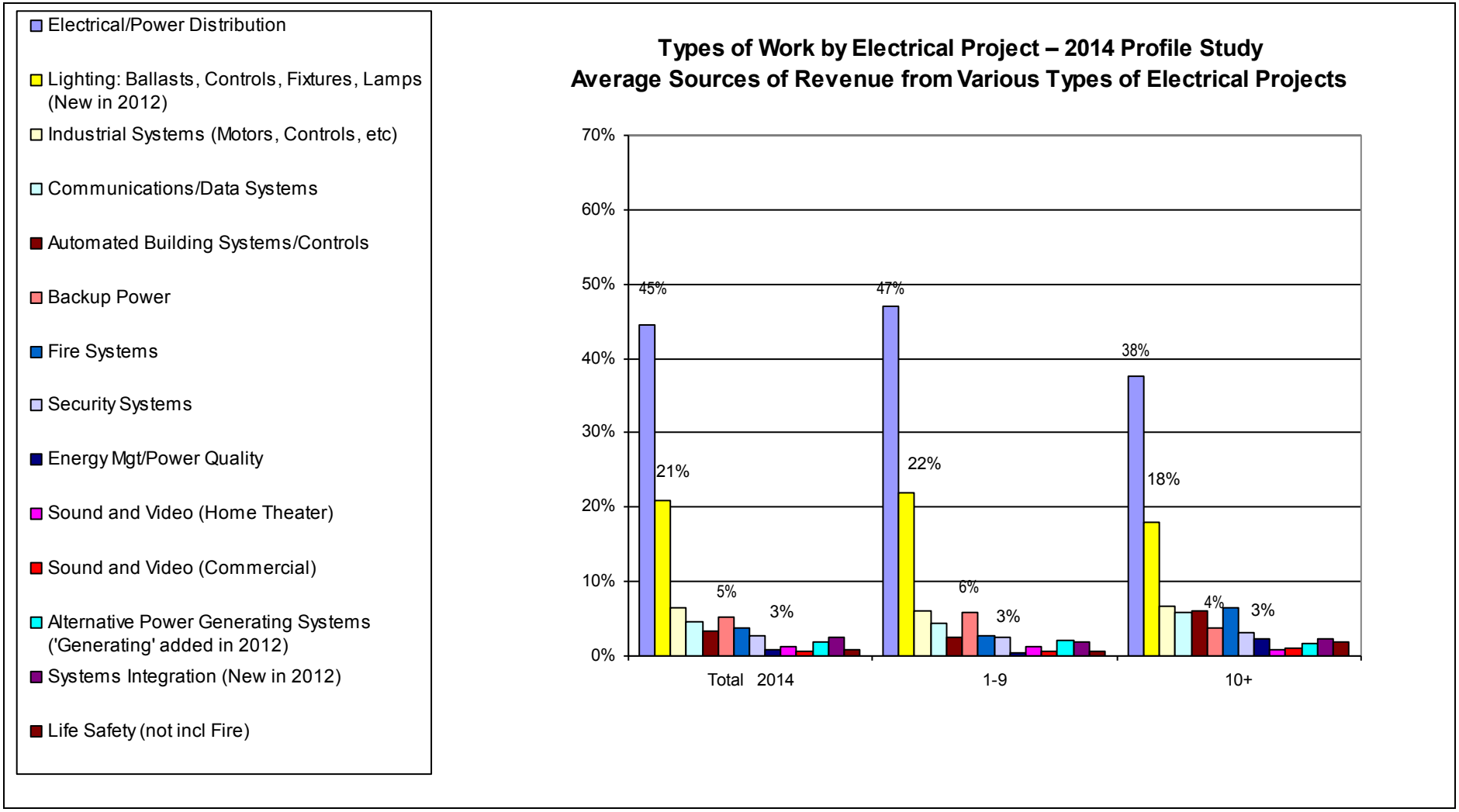
Average Sources of Revenue from Various Types of Electrical Projects Trended (2014 Profile Study vs. 2012 Profile Study)



As was also the case in 2012, Electrical/ Power Distribution in 2014 continues to account for more volume for smaller firms than for larger firms. Similarly, Lighting accounts for more revenue, on average, to firms with 1-9 employees compared with larger firms.

In contrast, large (10+ employee) firms derive more of their revenue from the remaining categories except in the following cases, where there is no difference by number of employees: Communications/Data Systems, Security Systems, Industrial Motor Controls, Commercial and Residential Sound and Video, Alternative Power Generating Systems and Backup Power.

- However, Backup Power accounts for slightly, but significantly more revenue to firms with 1- 4 employees than to the total sample (6.2% vs. 5.3%). Electrical/Power Distribution also accounts for more revenue to firms with 1- 4 employees compared with firms with 5-9 employees (not shown).

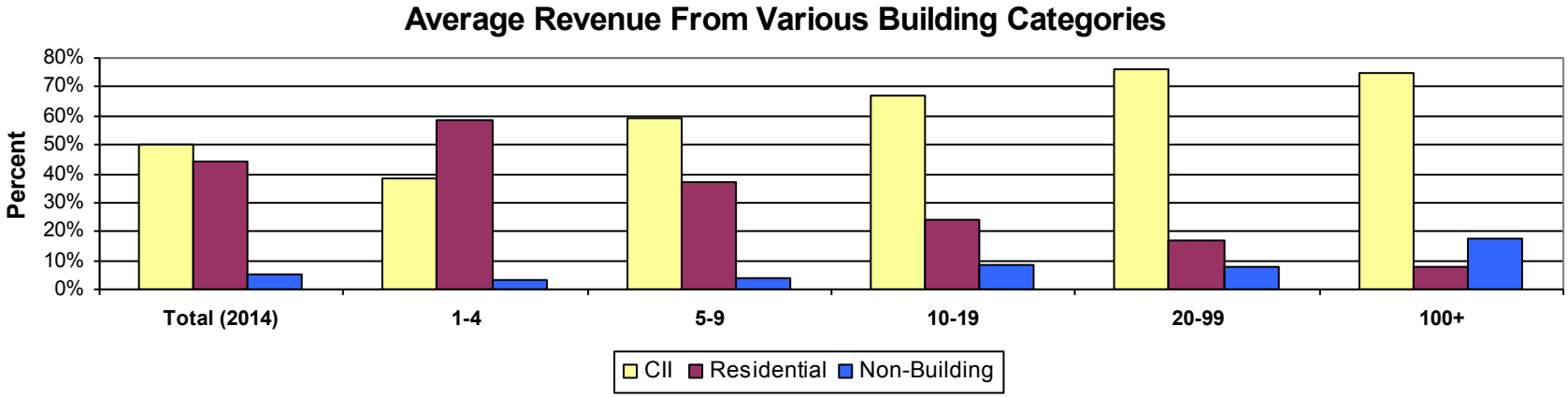

Electrical/Power Distribution
Lighting: Ballasts, Controls, Fixtures, Lamps (New in 2012)
Industrial Systems (Motors, Controls, etc)
Communications/Data Systems
Automated Building Systems/Controls
Backup Power
Fire Systems
Security Systems
Energy Mgt/Power Quality
Sound and Video (Home Theater)
Sound and Video (Commercial)
Alternative Power Generating Systems ('Generating' added in 2012)
Systems Integration (New in 2012)
Life Safety (not incl Fire)
Types of Work by Electrical Project – 2014 Profile Study
Average Sources of Revenue from Various Types of Electrical Projects
70%
60%
50%
40%
30%
20%
10%
0%
45%
21%
5%
3%
47%
22%
6%
3%
38%
18%
4%
3%
Total 2014
1-9
10+

Work in Various Building Categories (Residential vs. CII and Non-Building)

Across the total sample, electrical contractors continue to get more of their average revenue from CII (Commercial, Industrial, Institutional and Public Places), 50% on average, than from Residential projects, 44% on average. Non-Building projects (Transportation/Lighting and Utility) continue to account for about 5% of the contractors' business.

- However, as observed in the past, there continues to be dramatic differences in the types of work performed by larger vs. smaller firms. For example, Residential construction accounts for a much greater proportion of work among smaller electrical contractors (Particularly those with 1- 4 employees), while CII projects account for more of the work of larger electrical contracting firms. In addition, Non-Building work is much more the province of large than small firms.
    - As shown below, the percentage of Residential work declines smoothly and the percentage of Non-Building increases smoothly as company size increases. In contrast, in the case of CII, there is a big jump between firms with 1- 4 employees where average revenue is 38% and firms with 10+ employees where average revenue is substantially higher (73%, not shown). Non-Building continues to be the province of very large firms (100+ employees)

In 2010 and 2012, we hypothesized that firms with 10+ employees may now be the critical mass to work on CII projects. In 2008, the critical mass appeared to be 20+ employees (not shown).In 2014, however, the critical mass may be firms with 5-9 employees.



Q4 N=2722
CII = **Commercial** (Offices, Stores, Hospitality, etc); **Institutional** (Schools/Hospitals/Stadiums/Parks/Terminal/Cultural/Correctional, etc)
Industrial (Manufacturing Plants/Factories/Warehouses, etc); **Non-Building** (Line Work, Transportation Lighting, and Communications*, Power Generating Plants/Substations (on a combined basis) and Smart Grid* *Smart Grid was first added in 2012; 'Communications' was added to Transportation Lighting in 2012

Work in Various Building Categories (Residential vs. CII and Non-Building), continued

- In contrast to 2012, where there were few differences versus two years earlier, the 2014 results show a number of changes:

- The percent of average revenue from CII *declined* among the Total, among firms with 1-9 employees (driven by firms with 1-4 employees, not shown) and also among firms with 10+ employees (not shown). However, none of the declines *within* the 10+ group, such 10-19, 20-99, etc., is significant.

- In contrast, the average percent of revenue from Residential construction *increased* among the Total, among firms with 1-9 employees (driven by firms with 1-4 employees, not shown) and also among firms with 10+ employees. However, only the very largest firms, those with 100+ employees posted a statistically significant average revenue increase from Residential work among the 10+ segment.

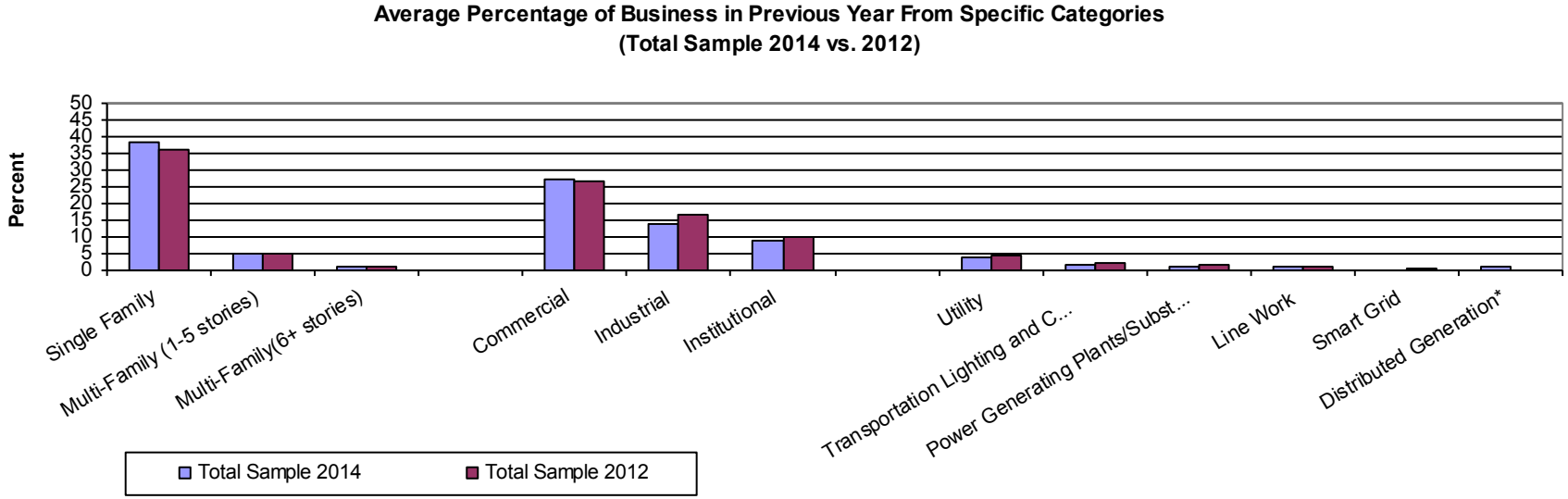
    - Interestingly, the increase in average Residential revenue is driven more by Single family housing than by Multifamily housing, although the difference is directional rather than significant (not shown).

- Non-Building remained unchanged among the total sample. However, it jumped dramatically among firms with 10-19 employees. The average percent of revenue from Utility work almost doubled among firms with 10-19 employees from 3.2% in 2012 to 5.9% in 2014 (not shown).

	Average Revenue in Previous Year From Specific Categories									
	Total		**1-9**		**10-19**		**20-99**		**100+**	
	2014	**2012**	**2014**	**2012**	**2014**	**2012**	**2014**	**2012**	**2014**	**2012**
	(2722)	(1024)	(2039)	(759)	(231)	(78)	(248)	(97)	(189)	(83)
CII	50%	**<53%**	43%	45%	67%	74%	76%	80%	75%	76%
Residential	**45%>**	42%	**54%>**	51%	24%	23%	17%	13%	**8%>**	4%
Non-Building	5.2%	4.9%	3.3%	3.3%	**8.5%>**	3.3%	7.6%	7.4%	17.7%	19.4%

Types of Residential and CII Work Performed

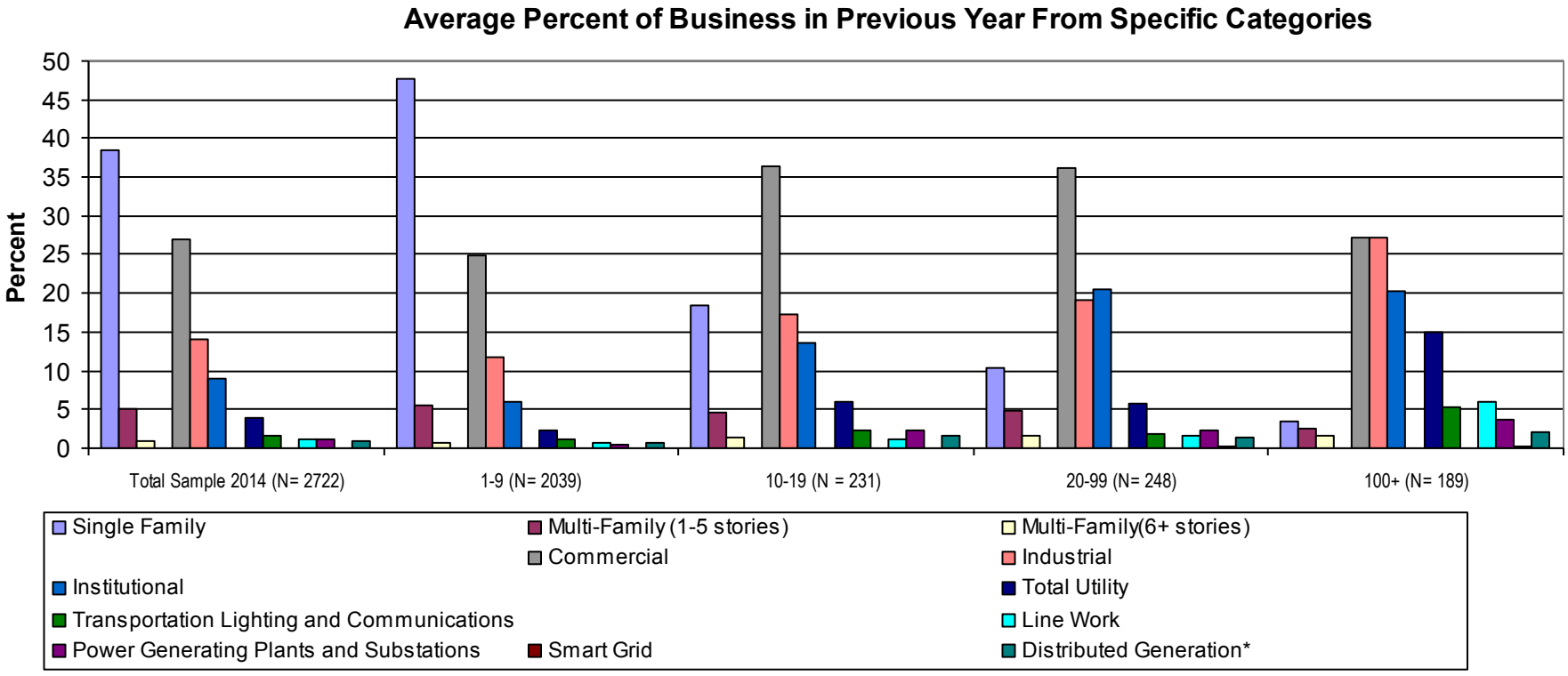
- Although on average, the greatest portion of electrical contractors' revenue comes from CII work, Single Family housing accounts for the *single* largest source of revenue (38.4% in the 2014 Profile Study). Also within the housing category, a higher percentage of revenue comes from Multi-Family housing with 1-5 stories compared with taller Residential buildings. This was also the case two and four years ago.
- As was also the case two and four years ago, within the broad CII category, a greater percentage of electrical contractors' revenue is from Commercial construction (27%) than from Industrial (14.1%) or Institutional projects (9.1%).
    - In 2014, the average revenue from Industrial projects declined significantly among the total sample (driven by a decrease in average revenue among firms with 1 – 4 employees (1-4 employees not shown). This is reversal of an increase that occurred between 2010 and 2012.



* Distributed Generation was added in 2014

As noted in previous Profile reports, while Single Family projects account for a high percentage of revenue across the total sample, this type of work is extremely important to electrical contracting firms with 1-9 employees. On average, these small firms derive almost one-half of their revenue from Single Family projects.

- Electrical contracting firms with 10 -99 employees derive the greatest percentage of their revenue from Commercial projects.
    - In addition, electrical contracting firms with 100+ employees get a disproportionate percentage of their revenue from Industrial and Institutional projects and from Utility/Non-Building work.



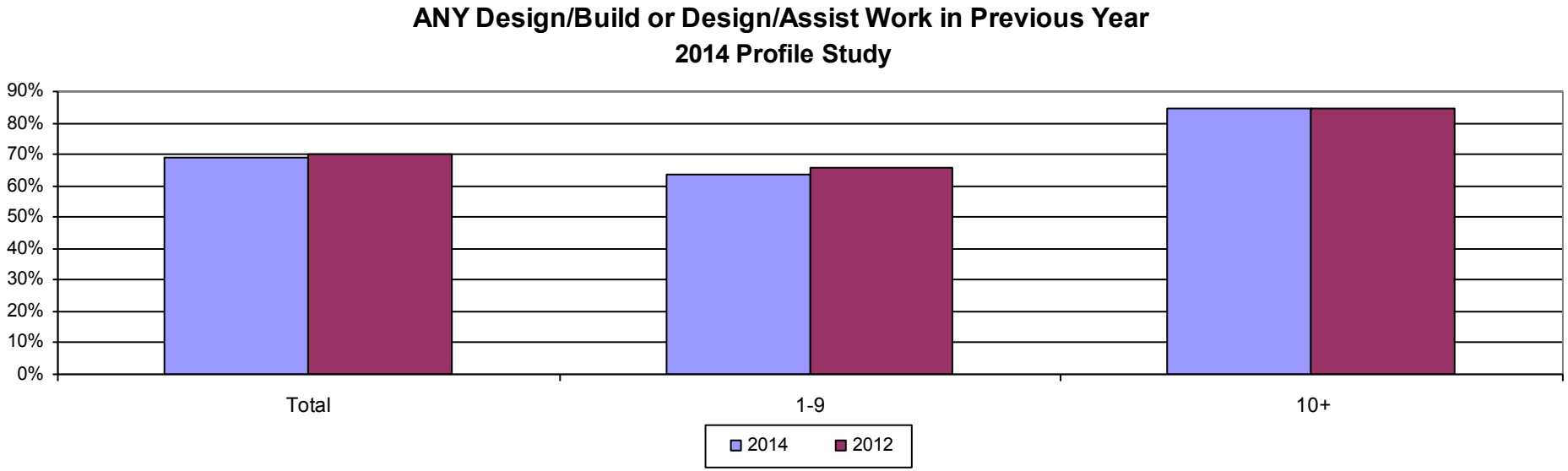
*** Distributed Generation was added in 2014**

▲ *"HOW" DO CONTRACTORS PERFORM THEIR WORK?*

Roles in Specification/Types of Project Delivery (Design/Build or Design/Assist)

Across the total sample, more than three-quarters of electrical contractors performed (**any**) Design/Build or Design/Assist work in the previous year. As in the past, larger firms are even more likely than smaller firms to have engaged in D/B or D/A work:

- While 63% of firms with 1-9 employees performed any DB or DA work in both 2013 going back to at least 2009, **any** D/B//D/A work was performed by 84% of firms with 10+ employees.
    - There are no significant changes compared to 2012 in the chart below.



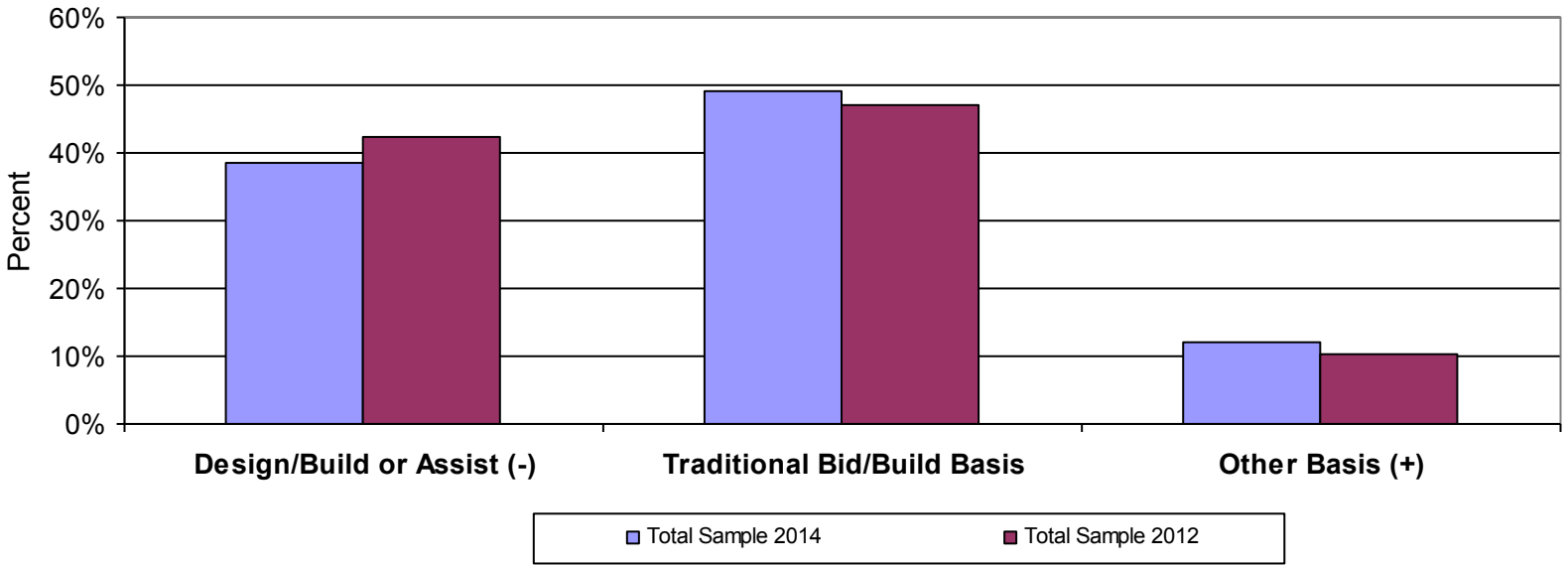
Q9 2014 Sample = 2722; 2012 Sample =1024

Overall, an average of 39% of electrical contractors' revenue was done on either a Design/Build or Design/Assist basis. This is a statistically significant decline from the 2012 level of 43% (The vast majority continues to be done as Design/Build --29%-- rather than Design/Assist –10%). .

About one-half of electrical contractors' revenue comes from Traditional Bid/Build projects (49%) and 12% was done on another basis.

- "Other delivery methods" increased vs. 2012 while there is no significant difference in the average percent of revenue from Traditional Bid/Build between 2012 and 2014.

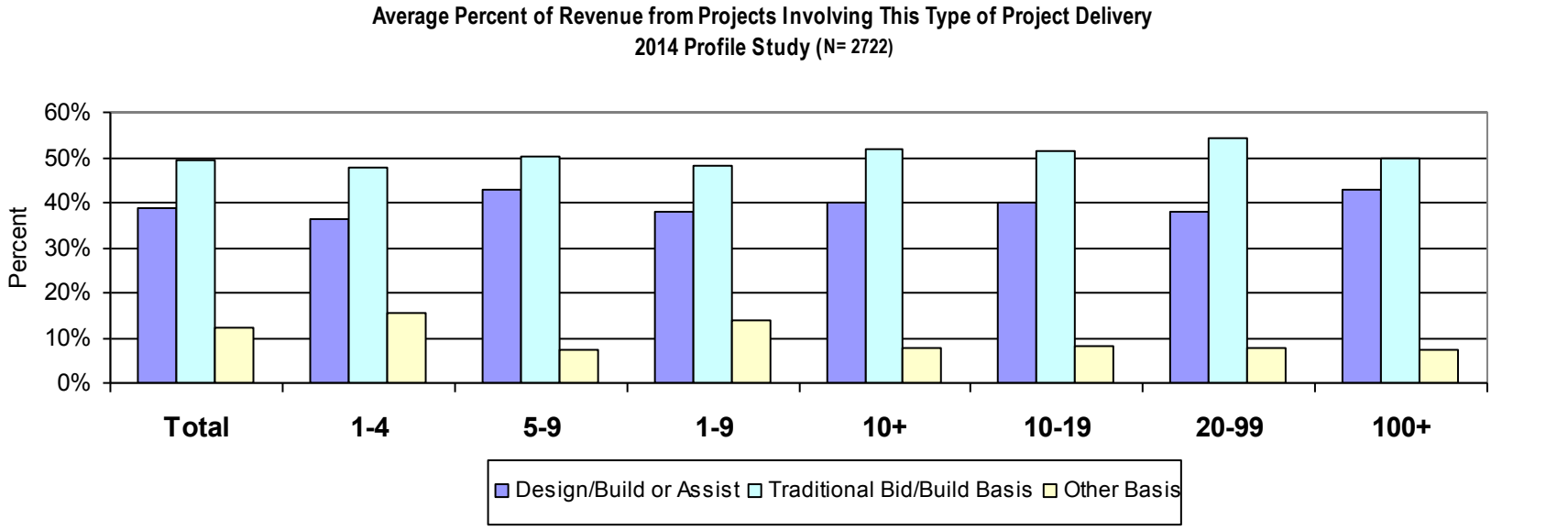
Average Percent of Revenue from Projects Involving This Type of Project Delivery

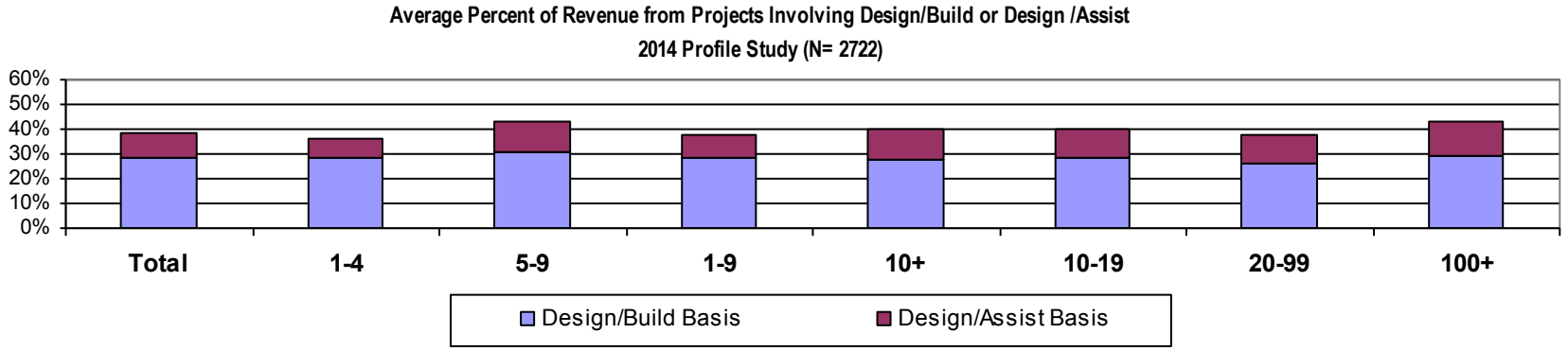


Q 9 2014 Sample = 2722 2012 Sample = 1024

(-) Indicates a significant decline vs. 2012
(+) Indicates a significant increase vs. 2012

As shown below, there is relatively little difference in the average percent of work from various project types by company size, although "Other" is much higher for firms with 1-9 employees (driven by firms with 1-4 employees).





BIM (Building Information Modeling)

Electrical contractors were asked to estimate the percentage of the time that they or someone in their firm uses BIM (Building Information Modeling) for three time periods: for the current year (2014), for 2-3 years ago and for 2-3 years in the future. This question was first asked in the 2012 Profile Study.

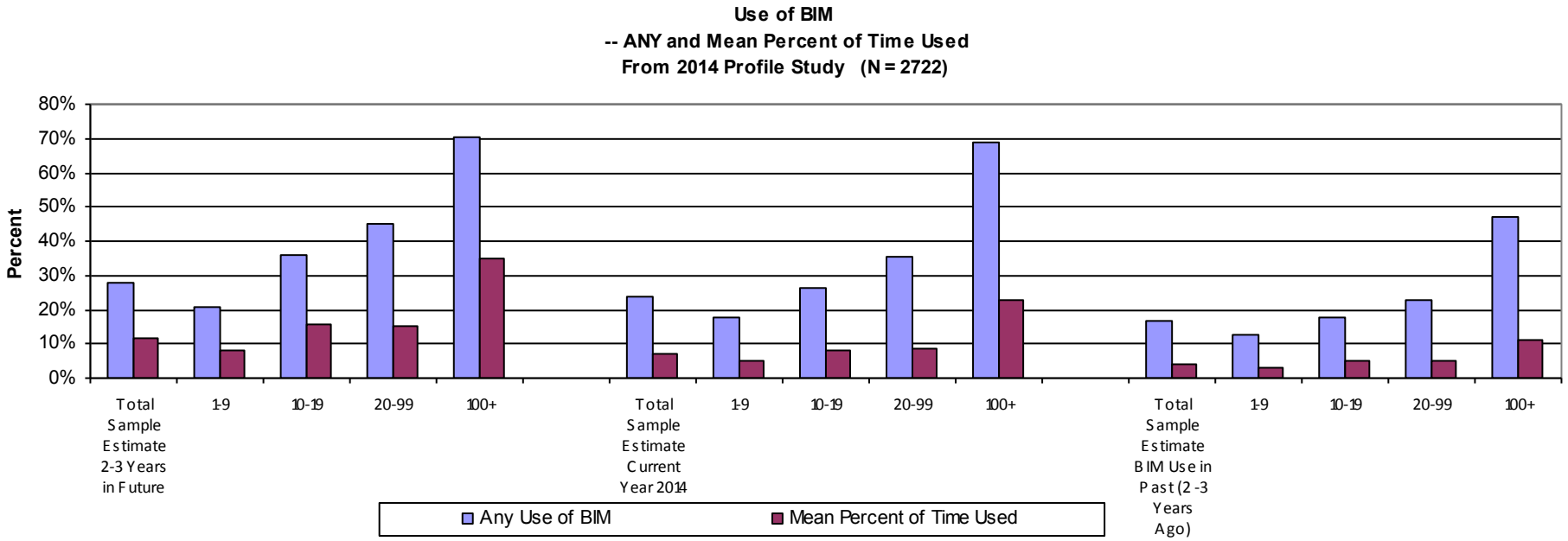
The table below shows increasing use over time but that predictions should be seen as "ballpark" rather than precise.

- Reading any column from the bottom to the top shows that estimates of previous use year are lower than estimates for the survey year. Both, in turn are lower than projected estimates for the following year.
- Estimates for a future time period tend to be higher than the current usage for that time period. For example, thinking about 2 to 3 years in the future, electrical contractors in 2012 predicted that BIM would be used at all (Any use) 26% of the time and on average 10.9% of the time. However, in 2014, electrical contractors estimated that the current usage of BIM was 23.7% (Any) and that it was used on average 7.1% of the time.

Use of Building Information Modeling (BIM)				
	Profile Study Year			
	2014		2012	
	Any Use	Average	Any Use	Average
2-3 Years in the Future	28%	11.6%	26%	10.9%
Survey Year (Current Use)	23.7%	7.1%	20%	5.8%
2-3 Years Earlier	16.6%	4.1%	14.4%	3.2%

Highlighting used to denote the same time period

As shown below, firms with 100+ employees are the most likely to make use of BIM at all -- Any -- and to report using BIM a higher percentage of the time. Note that (Any) use increases steadily as firm size increases. Average use tends to be highest among firms with 100+ employees and lowest among firms with 1-9 employees. Firms with 10-19 and 20-99 employees fall between the two.



Completeness of Plans and Specifications

Receipt of incomplete plans and specs continues to be quite prevalent. About 8 in 10 firms have received ANY incomplete plans and specs in 2013, statistically unchanged from two years earlier. On average, 46% of the plans and specs received were incomplete, also statistically unchanged versus two years ago.

How Often You Receive Plans and Specs That Are Incomplete Vs. 5 Years Ago					
	Any Business From				
	CII	Single Family	Multi-Family	Line Work	Power Generating/ Substations
Base: Version 7 (N=388)	(261)	(268)	(227)	(59)	(58)
	%	%	%	%	%
More Often Now	25	21	10	9	13
About the Same	55	62	60	51	45
Less Often Now	7	9	9	6	18
Don't Know	12	8	20	30	25

Survey respondents were asked about the frequency of receiving incomplete plans and specs compared to 5 years earlier (that is, in 2009). The answers shown below are restricted to firms that work in a given category. As shown below, the most frequent answer is "about the same" followed by "*more* often now" and then by "*less* often

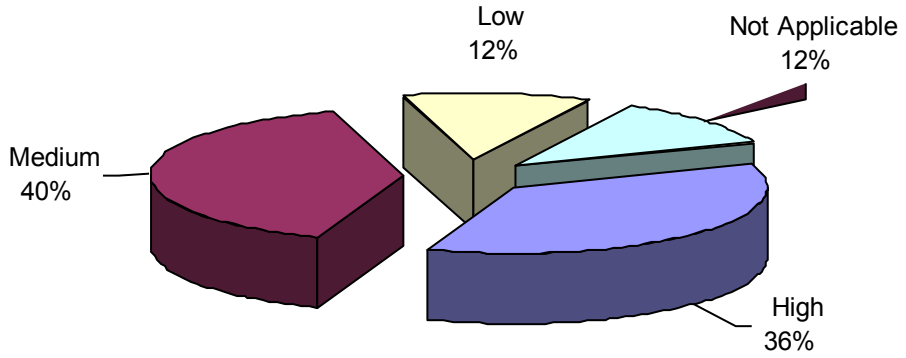
How Often You Receive Plans and Specs That Are Incomplete Vs. 5 Years Ago										
	Any Business From									
	CII		Single Family		Multi-Family		Line Work		Power Generating/ Substations	
	2014 (vs. 2009)	2012 (vs. 2007)	2014 (vs. 2009)	2012 (vs. 2007)	2014 (vs. 2009)	2012 (vs. 2007)	2014 (vs. 2009)	2012 (vs. 2007)	2014 (vs. 2009)	2012 (vs. 2007)
2014 Base: Version 6 (N=388) 2012 Base: Total Sample (N=1024)	(261)	(725)	(268)	(701)	(227)	(584)	(59)	(113)	(58)	(133)
	%	%	%	%	%	%	%	%	%	%
More Often Now	25	32	21	27	10	20	9	23	13	27
About the Same	55	46	62	53	60	52	51	44	45	37
Less Often Now	7	10	9	12	9	14	6	13	18	17
Don't Know	12	12	8	8	20	14	30	20	25	19

Project Collaboration/Level of Influence

About three-quarters of electrical contractors report having a “medium” or “high” ability to influence the overall electrical design or specifications with building owners or design team members

- More than 4 in 10 describe their level of influence as "medium" (40%) while 36% characterize their level of influence as "high."
- There are only a few meaningful differences by company size (not shown):
  - Those in firms with 1- 9 employees, especially those in firms with 1-4 employees, are more likely than those in firms with 10+ employees to report a “high” level of influence (39% in firms with 1-9 employees vs. 28% in firms with 10+ employees). This difference first emerged in the 2012 wave.
  - In contrast, larger companies (those with 10+ employees are more likely than average to report a “low” ability to influence the overall electrical design or specifications (21%, compared with 12% overall). This is consistent with the 2012 and 2010 Profile findings.

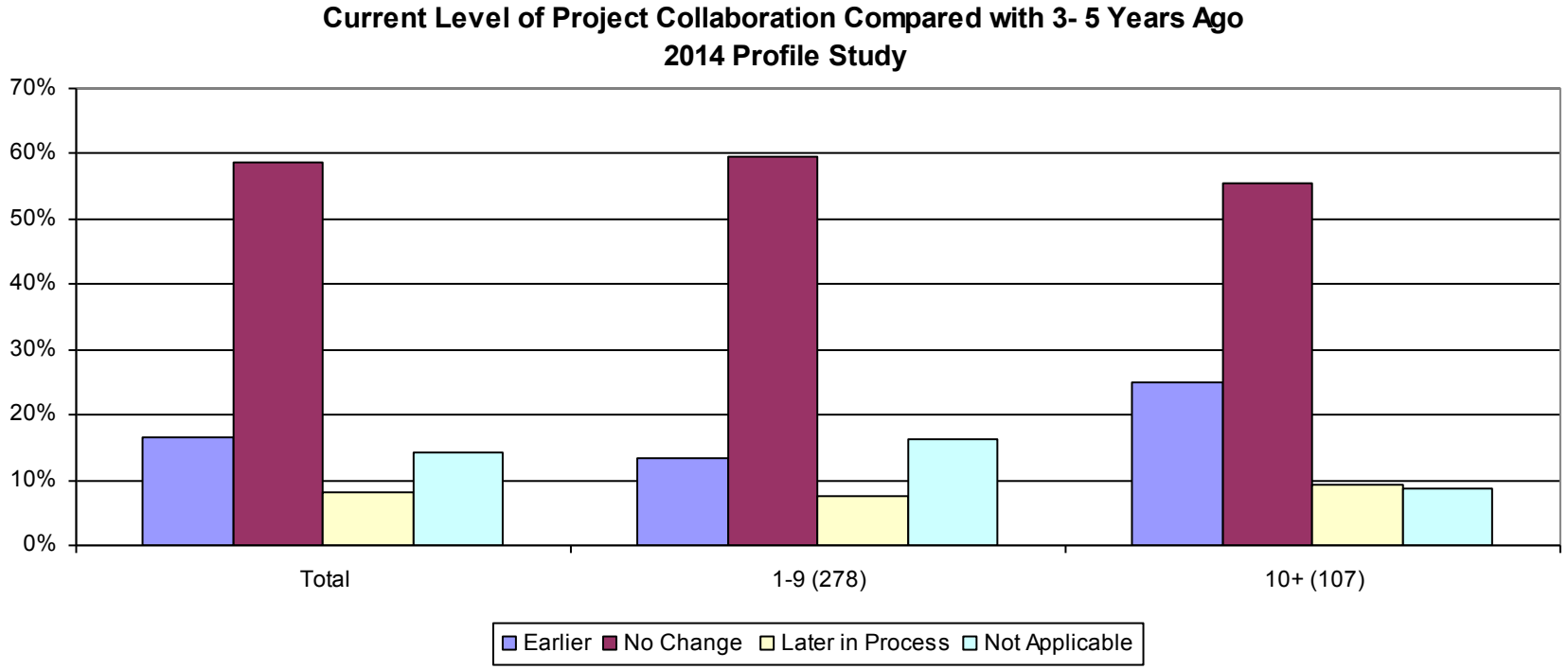
Ability to Influence Overall Design or Specifications With Building Owner or Design Team



Q 14a Version 7 Total = 388

Across the total sample, about 2 in 10 electrical contractors say that they now get involved *earlier* in the design collaboration; 59% report *no change* and 8% say that they now get involved *later* in the process, unchanged from 2010.

- Companies with 10+ employees are more likely than smaller firms to report getting involved *earlier* while electrical contracting firms with 1- 9 employees.
- The results follow the 2012 and 2010 findings very closely.

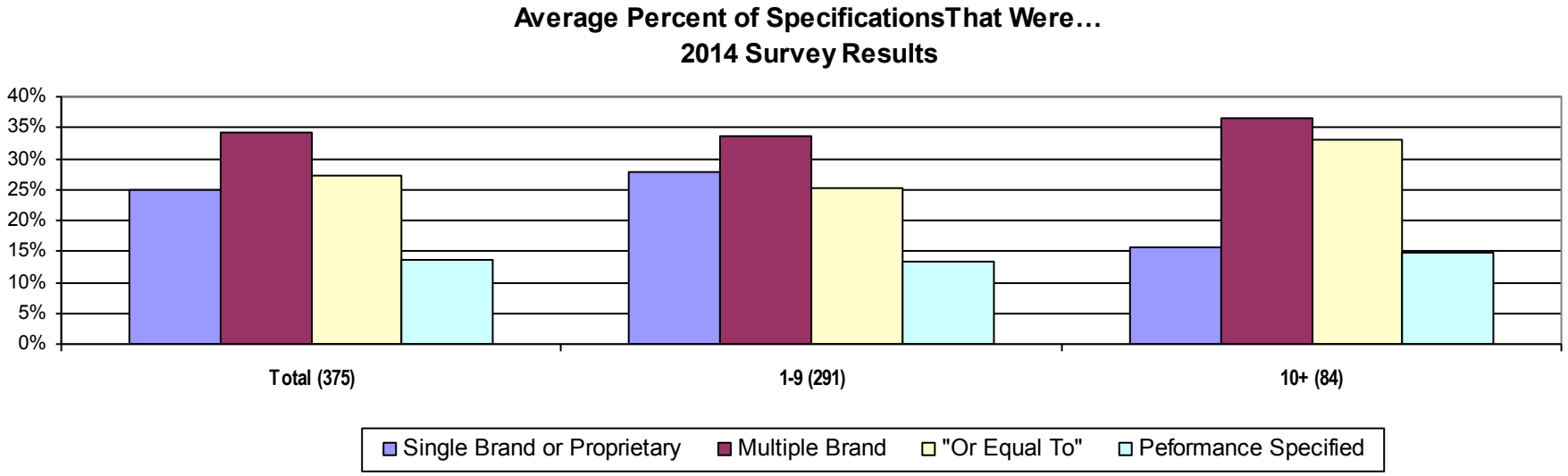


Version 7 Q15b (N= 388)

Brand Specification Options

Respondents were shown a list of four options and were asked what percent of the specifications that their company receives fall into each category. On average, a "single" brand is specified about one-quarter of the time. In all other cases, other factors -- multiple brands, "or equal to" or performance specified – come into play.

- Note that a "single" brand specification is statistically more common among electrical contracting firms with 1- 9 employees than among larger firms (due to firms with 1-4 employees, not shown). In contrast, "or equal to" is most common among firms with 20-99 employees.

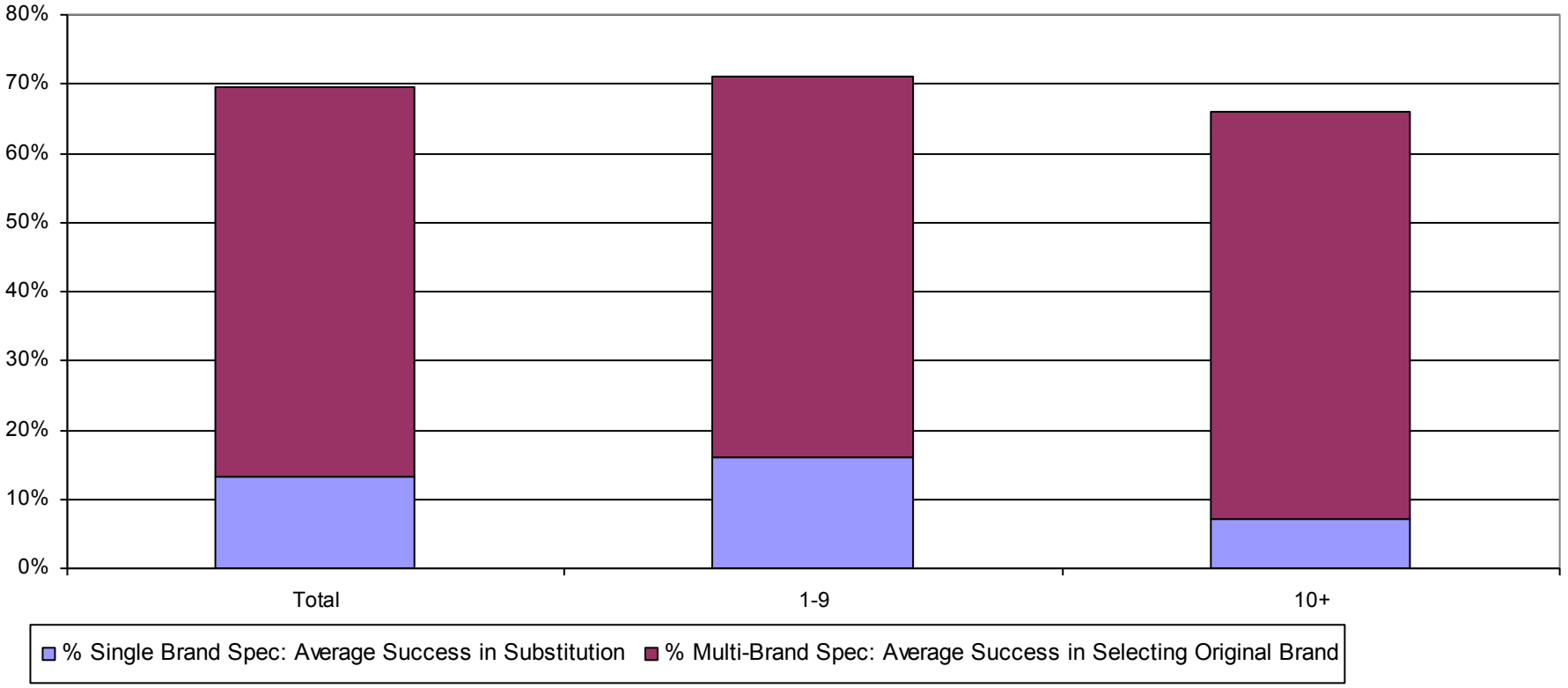


Version 6 Q14 N=375

Respondents were then asked how much discretion they have in making a brand substitution. Overall, contractors are able to make brand substitutions about seventy percent of the time.

Average Extent of Electrical Contractor Influence In Brand Selection

2014 Profile Survey



"Where a 'single or proprietary' specification is indicated, what percentage of the time are you or someone in your firm able to successfully make a substitution?"

"Where 'multiple or equal or performance' specification is indicated, what percentage of the time do you or someone in your firm make the brand decision for installation?"
Q10, Q11a and Q12a N=1024

Main Reasons for Original Brand Selection and Substitution

Original Brand Selection: Among the total sample, Availability and Price trump all other attributes as a top-3 reason for original brand selection. Note that as a first choice, Availability completely overshadows all of the other attributes.

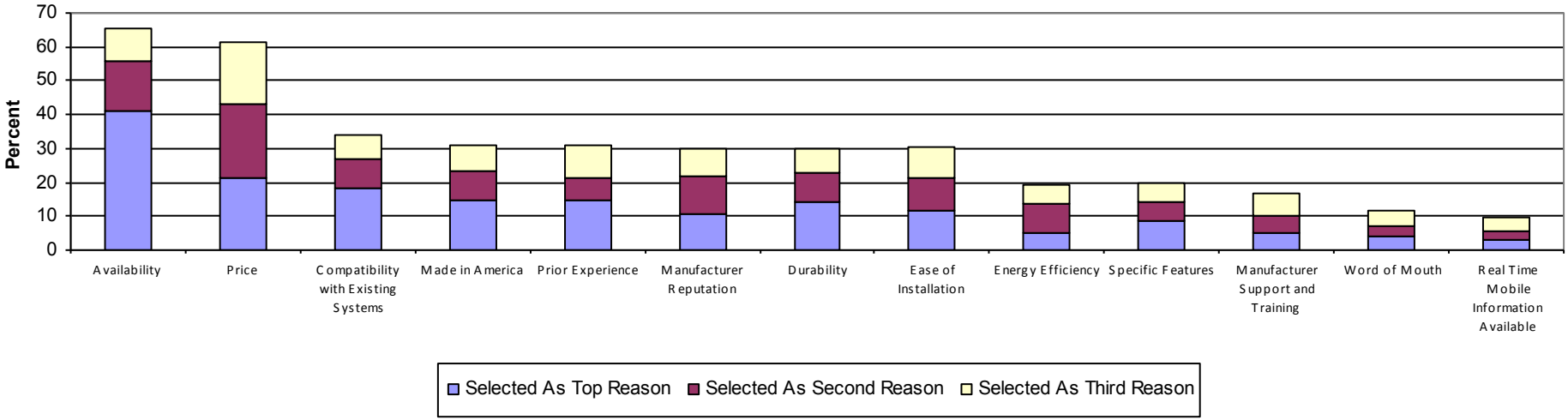
Compatibility with Existing Systems, which was first asked in 2014, had resonance with 34% of electrical contractors. It is now comparable or higher than Made in America, Prior Experience, Manufacturer Reputation, Durability and Ease of Installation. Each was chosen by about 30% of electrical contractors on a top-3 reason basis and together they form a second tier of top reasons for original brand selection.

Energy Efficiency, Specific Features and Manufacturer Support and Training form a third tier; each was chosen by about 20% of electrical contractors. Word of Mouth and Real Time Mobile Information Available were each chosen by about 10% of ecs as their reason for Original Brand Selection.

Once again, it is somewhat surprising that Energy Efficiency does not play a larger role as a top-3 reason for original brand selection.

- One hypothesis is that energy efficiency takes place long after the project has been specified and installed and there is no mechanism for the electrical contractor to be tied to the energy savings.

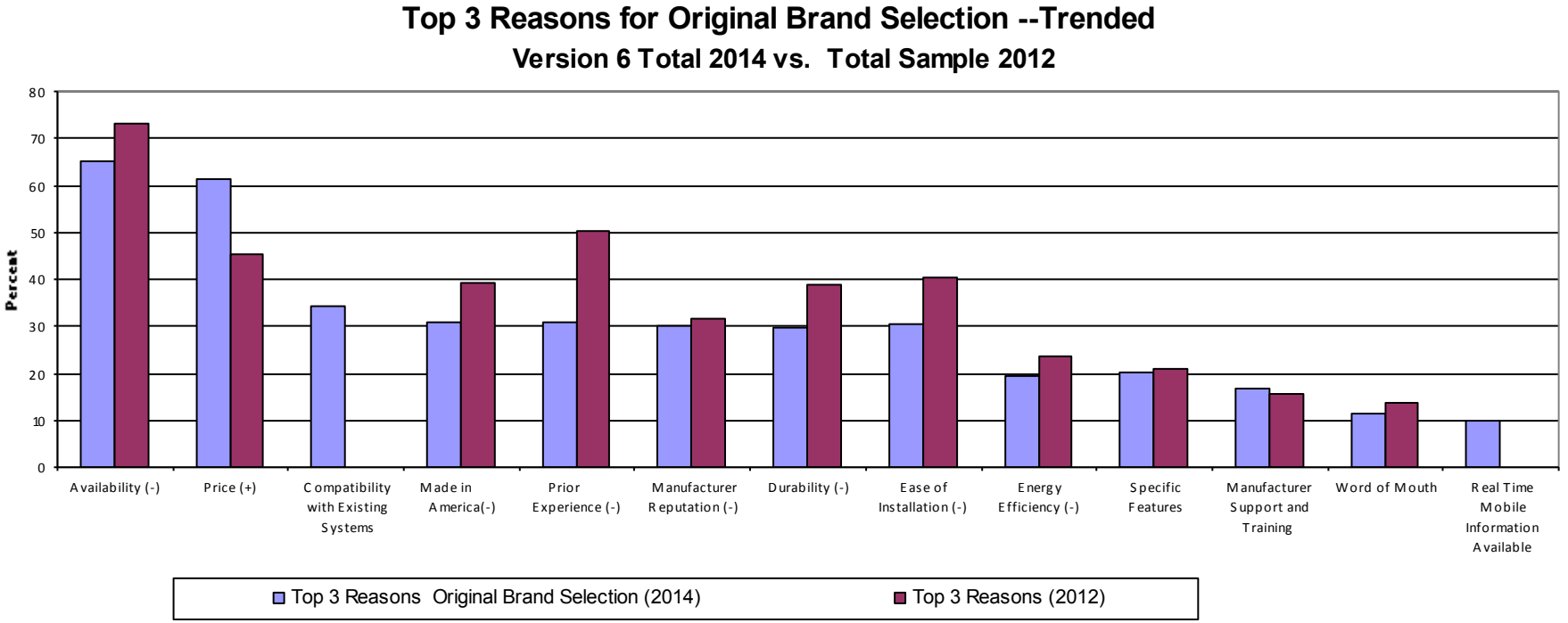
Top 3 Reasons for Original Brand Selection
Base: 2014 Version 6 Total (N= 375)



Top 3 Reasons for Original Brand Selection – Trended

Compared with 2012, Availability continues to be top-3 reason for original brand selection and for brand substitution as does Price. However, the relative importance of Availability declined significantly while Price rose significantly.

- Compatibility with Existing Systems, which was first asked in 2014, had resonance with 34% of electrical contractors; Real Time Mobile Information Available, which was also introduced in the 2014 Profile Study was cited as a top-3 reason for original brand selection by 10%. As a result of adding two new attributes, particularly Compatibility with Existing Systems, it is not surprising that a number of attributes were cited significantly less often in 2014 than in 2012. .



(-) lndicates a significant decline vs. 2012
(+) Indicates a significant increase vs. 2012

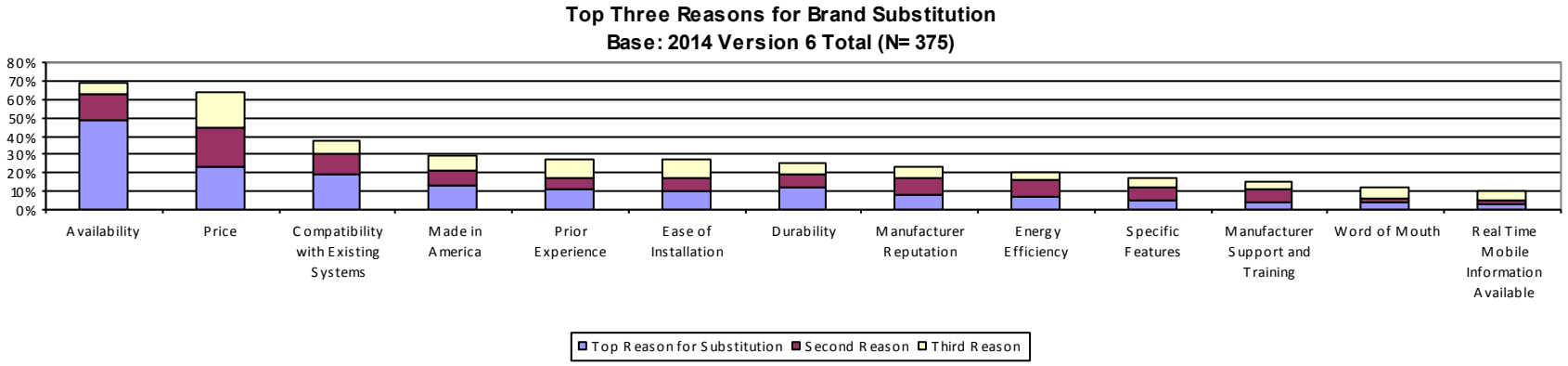
Brand Substitution: The top- 3 reasons for brand substitution mirror that of original brand selection. Among the total sample, Availability and Price trump all other attributes as a top-3 reason for original brand selection. Note that as a first choice, Availability completely overshadows all of the other attributes.

Compatibility with Existing Systems, which was first asked in 2014, had resonance with 38% of electrical contractors. It is now comparable or higher than Made in America, Prior Experience, Manufacturer Reputation, Ease of Installation and Durability. Each was chosen by about 30% of electrical contractors on a top-3 reason basis and together they form a second tier of top reasons for original brand selection.

Energy Efficiency, Specific Features and Manufacturer Support and Training form a third tier. Manufacturer Reputation and Energy Efficiency were each chosen by about 20% of electrical contractors as a top 3 reason for brand substitution. Specific Features, Manufacturer Support and Training, Word of Mouth and Real Time Mobile Information Available were each chosen by between 10% and 20% of electrical contractors.

Once again, it is somewhat surprising that Energy Efficiency does not play a larger role as a top-3 reason for original brand selection.

- As noted in the section on original brand selection, one hypothesis is that energy efficiency takes place long after the project has been specified and installed and there is no current mechanism for the electrical contractor to be tied to the energy savings.



Top 3 Reasons for Brand Substitution – Trended

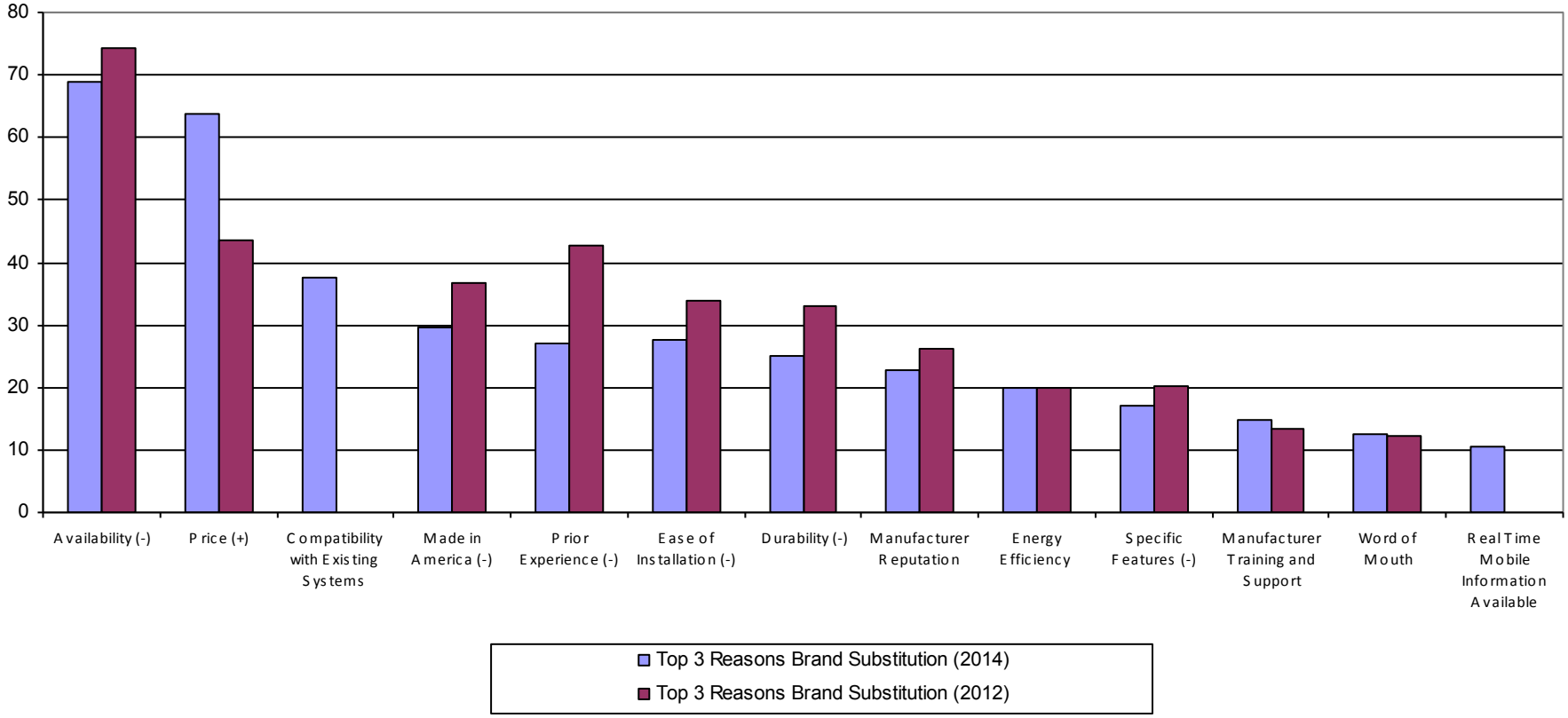
Compared with 2012, Availability continues to be top-3 reason for original brand selection as does Price. However, the relative importance of Availability declined significantly from 74% to 69% while Price rose significantly from 44% to 64%. Note, however, that even with this steep increase the percent citing Price as one of their top-3 reasons is now at the level it was in 2010 (, suggesting that the 2012 results may have been the outlier.

Compatibility with Existing Systems, which was first asked in 2014, had resonance with 38% of electrical contractors as a top-3 reason for brand substitution. It is now comparable to or higher than all of the other attributes including Made in America, Prior Experience, Ease of Installation, Durability and Manufacturer Reputation. All of these reasons were mentioned significantly less often in 2014 than in 2012, with the exception of Manufacturer Reputation, which is statistically unchanged from two years ago..

All of the other reasons are statistically unchanged versus 2012, with the exception of Specific Features, which declined. Real Time Mobile Information Available, which was first asked in 2014, was cited as a top-3 reason by only 9%.

Please note that some of the declines are due to the inclusion of a reason – Compatibility with Existing Systems – that turned out to be a top-3 reason for almost 4 in 10 electrical contractors.

Top 3 Reasons for Brand Substitution --Trended
Version 6 Total (2014) Vs. Total Sample (2012)

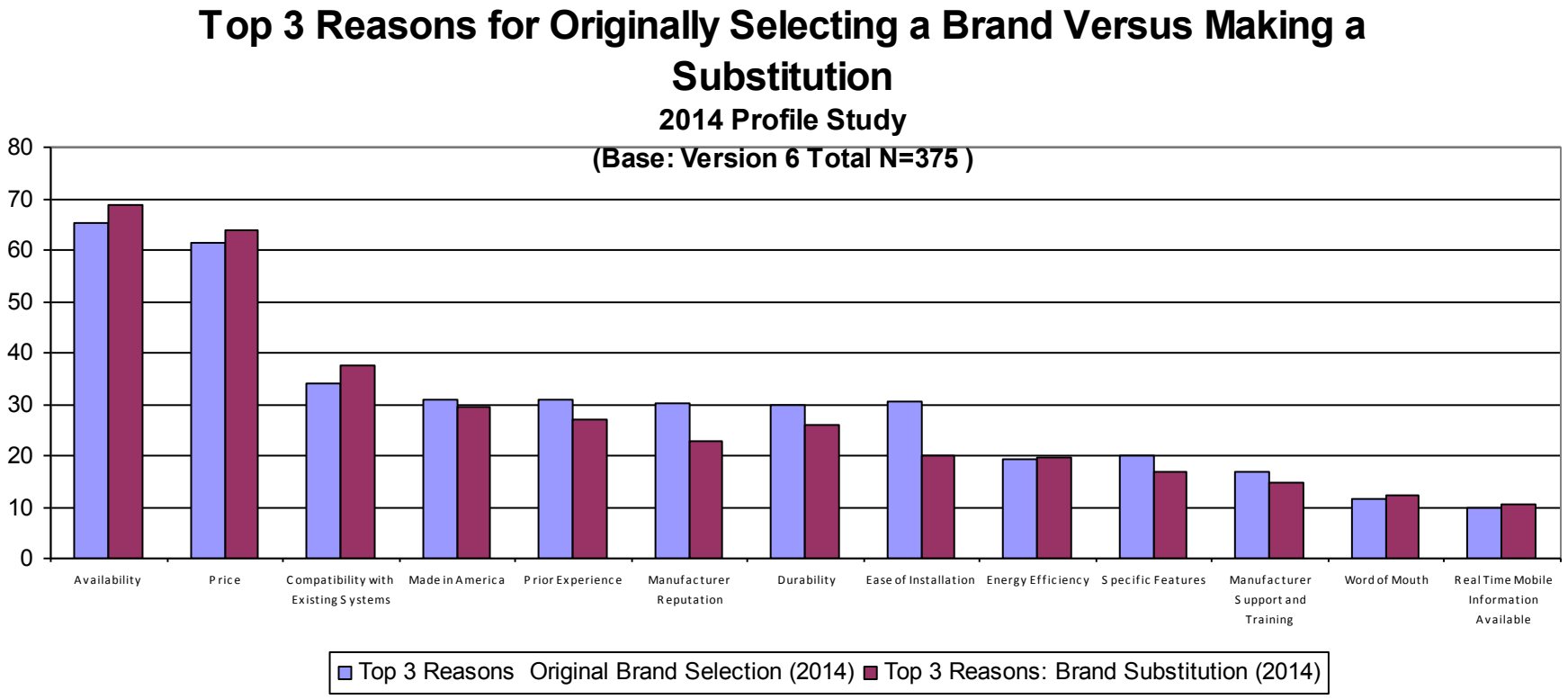


Base: Version 6 Total (N= 375)
(-) Indicates a significant decline vs. 2012
(+) Indicates a significant increase vs. 2012

Comparison of Main Reasons for Brand Selection Vs. Substitution

Availability and Price emerge as substantially more important than any of the other attributes as the reason for originally selecting a brand and for brand substitution. Compatibility with Existing Systems, which was first introduced in 2014, is now higher than or comparable to Made in America, Prior Experience, Manufacturer Reputation, Durability and Ease of Installation.

- Manufacturer Reputation, Durability and Ease of Installation assume higher importance in the original specification --when time considerations may play less of a factor.



Brand Choice: Main Reasons for Original Brand Selection /Substitution

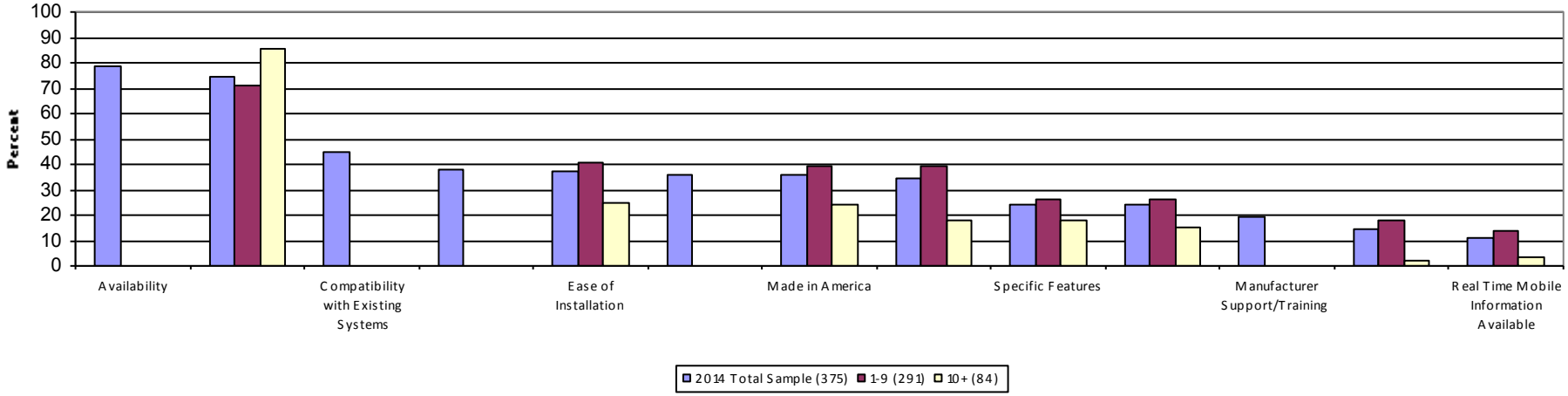
There are important differences by company size (number of employees) that might prove helpful to manufacturers and marketers. As mentioned in previous ELECTRICAL CONTRACTOR research reports, electrical contractors in smaller companies are more interested in ***reassurance*** so that attributes such as Ease of Installation, Durability, Specific Features, Word of Mouth and Real Time Mobile Information Available are significantly more likely to be rated as a top reason for those in companies with 1-9 employees than those in firms with 10+ employees. Interestingly, those in small companies also mention Made in America and/or Energy Efficiency far more often than those in larger companies as a top reason for brand selection.

- This finding suggests that manufacturers and marketers communicate a message of reassurance and support particularly in product lines that are sold to small electrical contractors. In addition, Made in America appears to be important to the smaller contactor. Energy efficiency benefits should also be communicated in this market.

- In contrast, Price is the only area that is more important to larger firms (10+ employees) than to their smaller counterparts (1-9 employees).

- Compatibility with Existing Systems is far more important to firms with 5-9 employees (58% top-3 vs. 45% among the total sample, not shown), which is undoubtedly related to the types of work that they perform.

Top 3 Reasons for Originally Selecting a Brand or Making a Substitution By Company Size
All Differences Shown Below Are Statistically Significant
2014 Profile Study



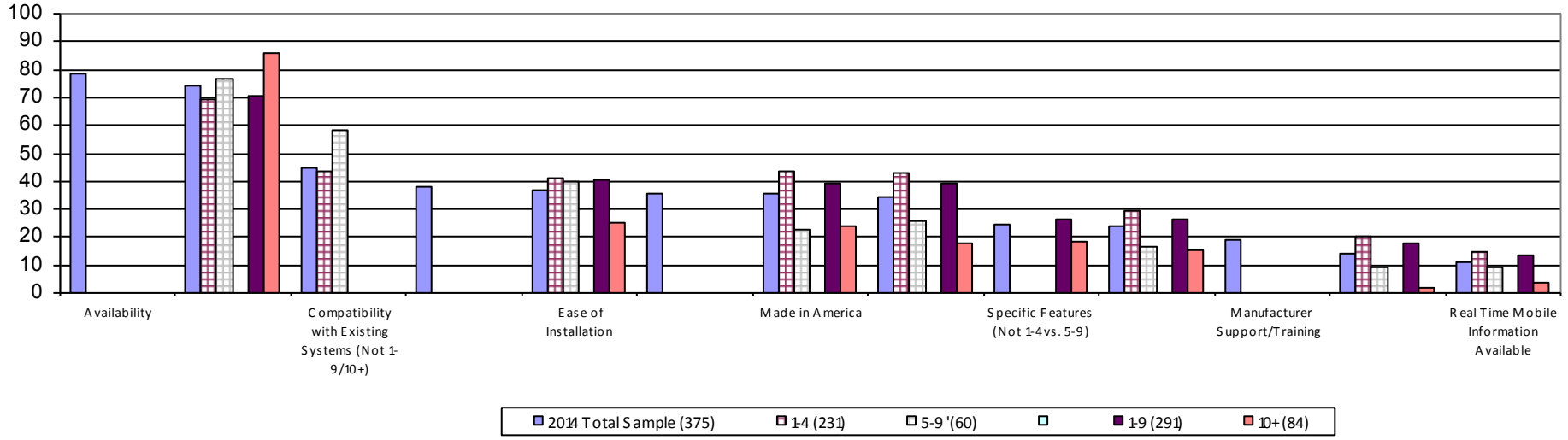
Brand Choice: Main Reasons for Original Brand Selection /Substitution

When firms with 1- 9 employees are further split into firms with 1-4 and 5-9 employees, the 1- 4 group (which is the largest component of the 1-9 group) generally mirrors the 1-9 group while the 5-9 group more closely mirrors firms with 10+ employees. The only differences are:

- As noted earlier, Compatibility with Existing Systems, which is significantly more important to firms with 5-9 than to firms with 1-4 employees. However, this difference did not emerge between firms with 1-9 vs. 10+ employees.
  - *(Need to link to types of work done by firms with 5-9 employees)*

- In contrast, Specific Features is more important to firms with 1-9 employees than to larger firms, but there is no significant difference on this measure between firms with 1-4 vs. those with 5-9 employees.

Top 3 Reasons for Originally Selecting a Brand or Making a Substitution By Company Size
(Only pairs that are statistically significant are shown below)
2014 Profile Study



Brand Choice: Main Reasons for Original Brand Selection /Substitution – By Age

- Respondents who are aged 65+ are more likely than those who are aged 35-54 to cite Prior Experience, Manufacturer Reputation and Made in America as a main reason for brand selection. In contrast, Availability is mentioned less often by electrical contractors who are older than 65 than by electrical contractors who are younger.

- Manufacturer Support/Training is more likely to be mentioned by those aged 55-64 than by electrical contractors who are older or younger.

- Interestingly, there is no difference by respondent age on Price. In contrast, two years ago it was more likely to be mentioned by electrical contractors aged 35-54.

Main Reasons for Original Brand Selection/Substitution -- By Respondent Age 2014 Profile Study (Only Statistically Significant Changes Are Shown)				
		Respondent Age		
		35-54	**55-64**	**65+**
	(375)	(125)	(144)	(89)
	%	%	%	%
Availability	78			*70*
Price	74			
Compatibility with Existing Systems	45			
Prior Experience	38	*26*		**46**
Ease of Installation	37			
Manufacturer Reputation	36	*28*		**47**
Made in America	36	*31*		**45**
Durability	34			
Specific Features	24			
Energy Efficiency	24			
Manufacturer Support/Training	19		**24**	

Counterfeit

Strong concern about the effectiveness of counterfeit products, tools and/or materials to meet codes dropped significantly from 67% in 2012 to 56% in 2014. It is now statistically do different than the 2010 level of 61%. The percent that are "somewhat concerned" rose significantly from 18% to 27%.

- Firms with 1-9 employees (driven by firms with 1-4 employees) are significantly more likely than firms with 10+ to say that they are "extremely" concerned about counterfeit products (32% vs. 23%). Further, firms with 1-4 employees are more likely than firms with 5-9 employees to say that they are "extremely" or "very" concerned about counterfeit products (61% vs. 59%) However, there is no difference on "extremely" or "very" concerned on a combined basis between firms with 1-9 vs. 10+ employees. (Results by number of employees is not shown).

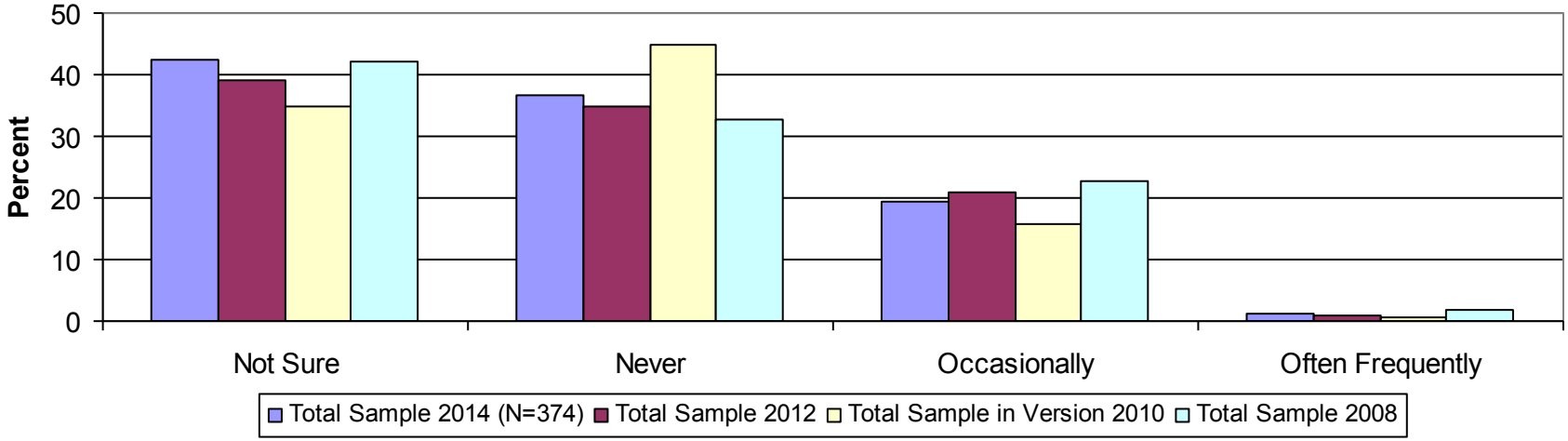
Concern About Counterfeit Products…		
	Version 3	
	2014	2012
	(374)	(234)
	%	%
Extremely/Very	56	<67
Extremely Concerned	30	<37
Very Concerned	26	30
Somewhat Concerned	27>	18
Not Very/At All Concerned	12	8
Not Sure/No Answer	4	7

Q18b. Version 3 Sample = 374 (Total Sample = 2722)

As shown below, the percentages that say that they have "never" encountered counterfeit goods declined significantly while the percentages that say that they "occasionally" encounter counterfeits has increased but not significantly. What is puzzling is that the 2012 results resemble the 2008 results so closely.

- There is no difference on this measure by company size (number of employees) or by whether the firm does any work on a DB or DA basis.

About 8 in 10 electrical contractors say either that they are "Not Sure" (42%) or "Never" (37%) have encountered counterfeit electrical products, tools or materials in the past year or so



Q18a. Version 3 Sample =234 (Total Sample=1024)

▲*TRAINING and TOPICS OF INTEREST*

Will Take/Have Taken Training and What Was Studied

More than seven in ten electrical contractors say that they, or someone in their firm, has taken training in the past 12 months or plans to take training in the next 12 months to improve or broaden skills or for certification. This training could be in the form of on-line, correspondence or classroom training. There is no statistically significant difference between the percentages that took training (75%) or who plan to take training (74%). There is also no change in the percent taking training or planning to take training versus two years ago.

NEC Changes, cited by 70%, is the most popular topic among those who plan to take training in the next 12 months; it is among the most popular among those who took training in the past 12 months (64%).

The most popular *future* (next 12 month) topics of study are Lighting, which was mentioned by 58% on a pooled (net) basis, Automation/Controls, mentioned by 55% on a (net) basis, Grounding/Bonding mentioned by 48%, Safety (Electrical/Personal/On-Site/Jobsite) mentioned by 47% and Green/Sustainable (47%) on a pooled (net) basis.

Lighting, mentioned by 57% on a pooled (net) basis is also among the most studied areas among those who took training in the *past* 12 months. Other popular past-12 month courses are: Automation/Controls, mentioned by 48% on a pooled (net) basis, Grounding/Bonding mentioned by 51% and Safety (Electrical/Personal/On-Site/Jobsite) mentioned by 47%.

For each of the following subject areas, *next* 12 month interest is significantly higher than was interest on a *past* 12 month basis, suggesting that these may be 'hot-button' areas. These are courses in high-tech areas such as: Automation Controls/Commercial Automation Systems, Green/Sustainable on a net basis as well as these specific topics: Green/Alternative Energy Systems, Electric Vehicle Charging Stations, LEED Certification and Energy Storage. Sound and Video (both CII and Residential), Smart Grid Technology and Microgrids. Going forward, there is also heightened interest these business topics: Estimating/Financial Management, Developing New Business Opportunities and Increasing Productivity.

Another way of trending is to compare 2014 to 2012. These comparisons are notable in the vast number of course topics that have received more mention in 2014 compared with 2012. One way to interpret these results is that it may suggest optimism and a willingness by electrical contractors to invest in their business. If true, a willingness-to-invest may also have implications for tools and equipment purchases as well as a willingness to embark in new directions.

Next 12 Month Training -- Trended

- Compared to two years earlier, a higher percentage of electrical contractors now plan to take training in 17 of the 31 topics that were asked in both 2012 and 2104. In addition to NEC Changes, the topics cluster in the areas of Automation/Controls, Lighting, Grounding/Bonding, Safety (Electrical/Personal/on-Site and Jobsite), Green/Sustainability, Cabling, systems Integration and a number of business-related topics.

Past 12 Month Training – Trended

- Compared to two years earlier, a higher percentage of electrical contractors now plan to take training in 13 of the 31 topics that were asked in both 2012 and 2104. These topics cluster in the areas of Automation/controls, Lighting, Grounding/Bonding, Safety (Electrical/Personal/on-Site and Jobsite), Cabling. Power Quality, Systems Integration and a number of business-related topics.

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Please note that many of the differences that appear on the next few charts are not statistically significant because of the limited base size caused by asking these questions of only a portion of the sample. Limiting certain questions to a portion of the sample allowed the survey to cover a wider range of questions without making the questionnaire too long. [1]

[1] The respondents were divided into groups and 1/4 were asked about training taken by a firm member in the *past* 12 months and 1/4 were asked about their firm's plans for training over the *next* 12 months.

Training – Main focus of Course Work (2014 Profile Study)

	Next 12 Months		Past 12
(Base Size of Version)	*(281)*		*(27*
Will Take/Has Taken Training	*74%*		*75*
And Answered Questions About Course Work	*(206)*		*(21*
NEC Changes	*70*		*6*
AUTOMATION/CONTROLS (NET)	*55*		*4*
Fire / Life Safety Systems	*31*		*2*
Security Systems	*22*		*1*
Automation / Controls: Commercial Automation Systems	*29*	>	*2*
Automation / Controls: Home Automation Systems	*22*		*1*
LIGHTING (Net)	*58*		*5*
Lighting: Controls / Systems	*51*		*4*
Lighting: Ballasts / Drivers	*36*		*3*
Lighting: Lighting Design	*32*		*3*
Lighting: Lamp Technology	*33*		*3*
Grounding / Bonding	*48*		*5*
Safety (Electrical / Personal / On-Site / Jobsite)	*47*		*4*
GREEN/SUSTAINABLE NET	*47*	>	*3*
Green: Alternative Energy Systems	*31*	>	*1*
Green: Electric Vehicle Charging Stations	*18*	>	*8*
Green: LEED Certification	*16*	>	*8*
Green: Green / Sustainable Building / Energy Audits	*11*		*9*
Green: Energy Use Regulations	*13*		*1*
Green: Energy Storage	*12*	>	*4*
CABLING (NET)	*39*		*3*
Cabling: Cabling (Power)	*24*		*2*
Cabling: Data and Telecom (Cable, Conduit, etc.)	*23*		*2*
Cabling: Data and Telecom: Testing	*19*		*1*
Power Quality	*22*		*2*
Estimating / Financial Management	*26*	>	*1*
Design Build	*20*		*1*
Developing New Business Opportunities	*23*	>	*1*
Electrical System Design or BIM	*19*		*1*
Increasing Productivity	*24*	>	*1*
Systems Integration	*24*		*1*
Sound and Video (Residential)	*15*	>	*8*
Sound and Video (Commercial)	*16*	>	*1*
Renovation / MACs / Maintenance	*20*		*1*
Line Work	*8*		*8*
Smart Grid Technology	*10*	>	*3*
Microgrids	*4*	>	*1*

Training -- Main focus of Course Work—Trended (Profile Study: 2014 and 2012)

Next 12 Months – Trended

	2014		2012
(Base Size of Version)	*(281)*		*(256)*
Will Take/Has Taken Training	*73%*		*69%*
And Answered Questions About Course Work	*(206)*		*(184)*
NEC Changes	*70*	>	*63%*
AUTOMATION/CONTROLS (NET)	*55*	>	*43%*
Fire / Life Safety Systems	*31*	>	*22%*
Security Systems	*22*	>	*14%*
Automation / Controls: Commercial Automation Systems	*29*	>	*19%*
Automation / Controls: Home Automation Systems	*22*	>	*14%*
LIGHTING (Net)	*58*	>	*49%*
Lighting: Controls / Systems	*51*	>	*39%*
Lighting: Ballasts / Drivers	*36*		*31%*
Lighting: Lighting Design	*32*		*29%*
Lighting: Lamp Technology	*33*		*29%*
Grounding / Bonding	*48*		*40%*
Safety (Electrical / Personal / On-Site / Jobsite)	*47*	>	*36%*
GREEN/SUSTAINABLE (NET)	*47*	>	*32%*
Green: Alternative Energy Systems	*31*	>	*16%*
Green: Electrical Vehicle Charging Stations	*18*		*16%*
Green: LEED Certification	*16*		*11%*
Green: Green / Sustainable Building / Energy Audits	*11*		*10%*
Green: Energy Use Regulations	*13*		*10%*
Green: Energy Storage	*12*	>	*6%*
CABLING (NET)	*39*	>	*28%*
Cabling: Cabling (Power)	*24*	>	*16%*
Cabling: Data and Telecom (Cable, Conduit, etc.)	*23*		*19%*
Cabling: Data and Telecom: Testing	*19*		*18%*
Power Quality	*22*		*20%*
Estimating / Financial Management	*26*	>	*19%*
Design Build	*20*		*19%*
Developing New Business Opportunities	*23*	>	*14%*
Electrical System Design or BIM	*19*		*19%*
Increasing Productivity	*24*	>	*10%*
Systems Integration	*24*	>	*16%*
Sound and Video (Residential)	*15*		*12%*
Sound and Video (Commercial)	*16*		*13%*
Renovation / MACs / Maintenance	*20*	>	*7%*
Line Work	*8*	>	*4%*
Smart Grid Technology	*10*		
Microgrids	*4*		

Training -- Main focus of Course Work—Trended (Profile Study: 2014 and 2012)

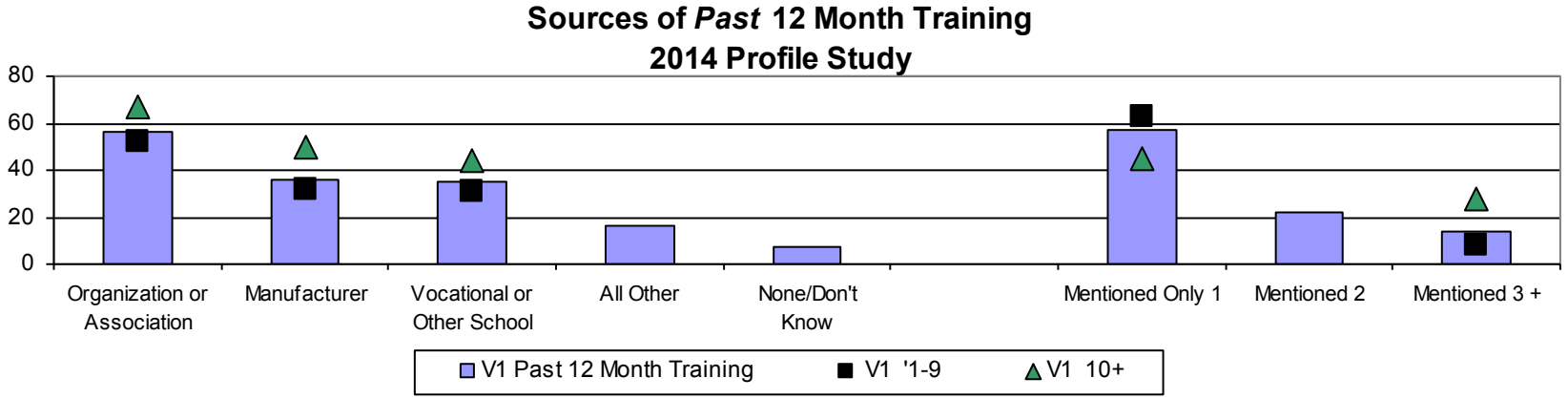
Past 12 Months – Trended

	2014		2012
(Base Size of Version)	*(279)*		*(245)*
Will Take/Has Taken Training	*75%*		*69%*
And Answered Questions About Course Work	*(211)*		*(176)*
NEC Changes	*64*		*58%*
AUTOMATION/CONTROLS (NET)	*48*	>	*29%*
Fire / Life Safety Systems	*28*	>	*18%*
Security Systems	*17*	>	*9%*
Automation / Controls: Commercial Automation Systems	*20*	>	*10%*
Automation / Controls: Home Automation Systems	*18*	>	*9%*
LIGHTING (Net)	*57*	>	*42%*
Lighting: Controls / Systems	*48*	>	*35%*
Lighting: Ballasts / LED Drivers (LED Drivers added to Ballasts in 2012)	*34*		*27%>*
Lighting: Lighting Design	*30*		*26%*
Lighting: Lamp Technology	*34*	>	*21%*
Grounding / Bonding	*51*	>	*40%*
Safety (Electrical / Personal / On-Site / Jobsite)	*47*		*40%*
GREEN/SUSTAINABLE NET	*31*		*28%*
Green: Alternative Energy Systems	*17*		*14%*
Green: Electrical Vehicle Charging Stations	*8*		*9%*
Green: LEED Certification	*8*		*7%*
Green: Green / Sustainable Building / Energy Audits	*9*		*6%*
Green: Energy Use Regulations	*10*	>	*5%*
Green: Energy Storage	*4*		*2%*
CABLING (NET)	*35*	>	*18%*
Cabling: Cabling (Power)	*24*	>	*12%*
Cabling: Data and Telecom (Cable, Conduit, etc.)	*23*	>	*8%*
Cabling: Data and Telecom: Testing	*17*	>	*7%*
Power Quality	*21*		*15%>*
Estimating / Financial Management	*17*		*14%*
Design Build	*18*		*14%*
Developing New Business Opportunities	*11*		*13%*
Electrical System Design or BIM	*17*		*12%*
Increasing Productivity	*16*	>	*9%*
Systems Integration	*19*	>	*8%*
Sound and Video (Residential)	*8*		*6%*
Sound and Video (Commercial)	*10*	>	*5%*
Renovation / MACs / Maintenance	*15*	>	*4%*
Line Work	*8*	>	*2%*
Smart Grid Technology	*3*		*NA*
Microgrids	*1*		*NA*

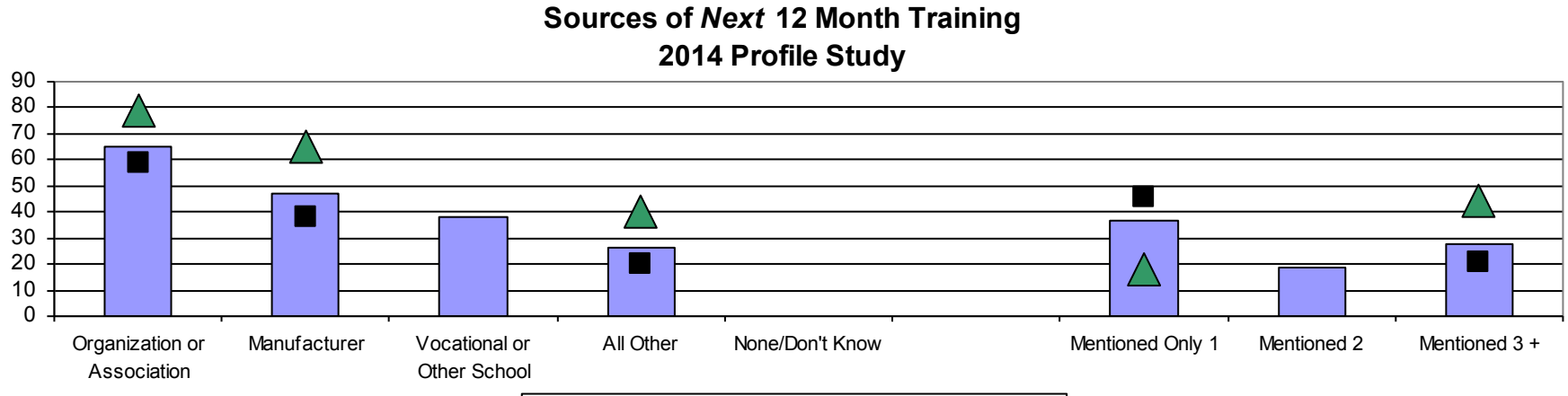
Sources of Training

Organizations/Associations are among the most frequently mentioned sources of training.

- Not surprisingly, electrical contractors in small firms (1-9 employees) are more likely to only mention one training source compared with those in larger firms.

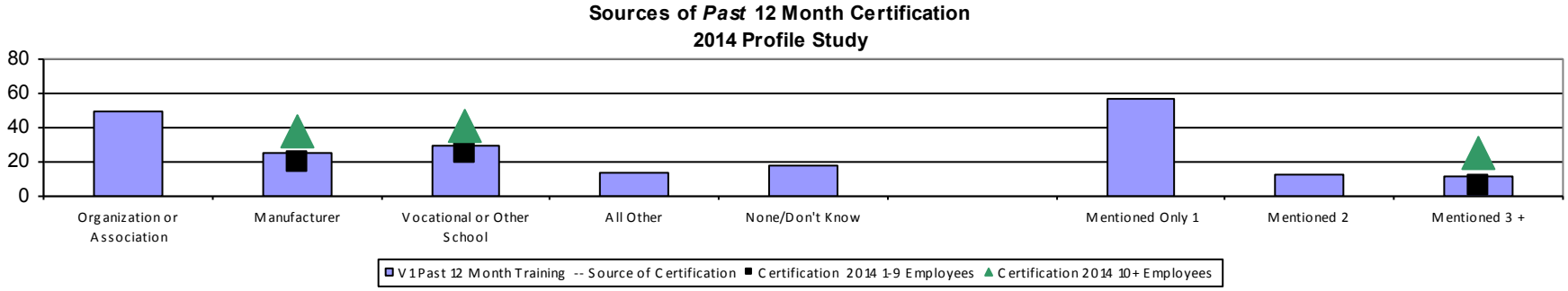


Version 1 (Past 12 Months) Sample = 211 Version 2 (Next 12 Months) Sample = 206

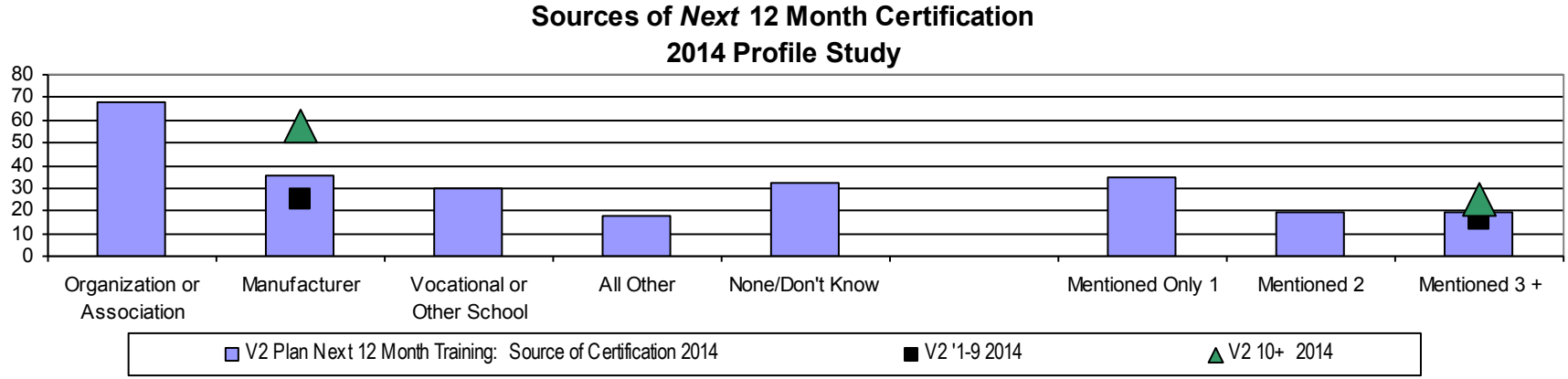


Sources of Certification

About 8 in 10 who plan training named a source for the Certification. Organizations/Associations are among the most frequently mentioned sources of training. Not surprisingly, electrical contractors in small firms (1-9 employees) are more likely to only mention one certification source compared with those in larger firms.



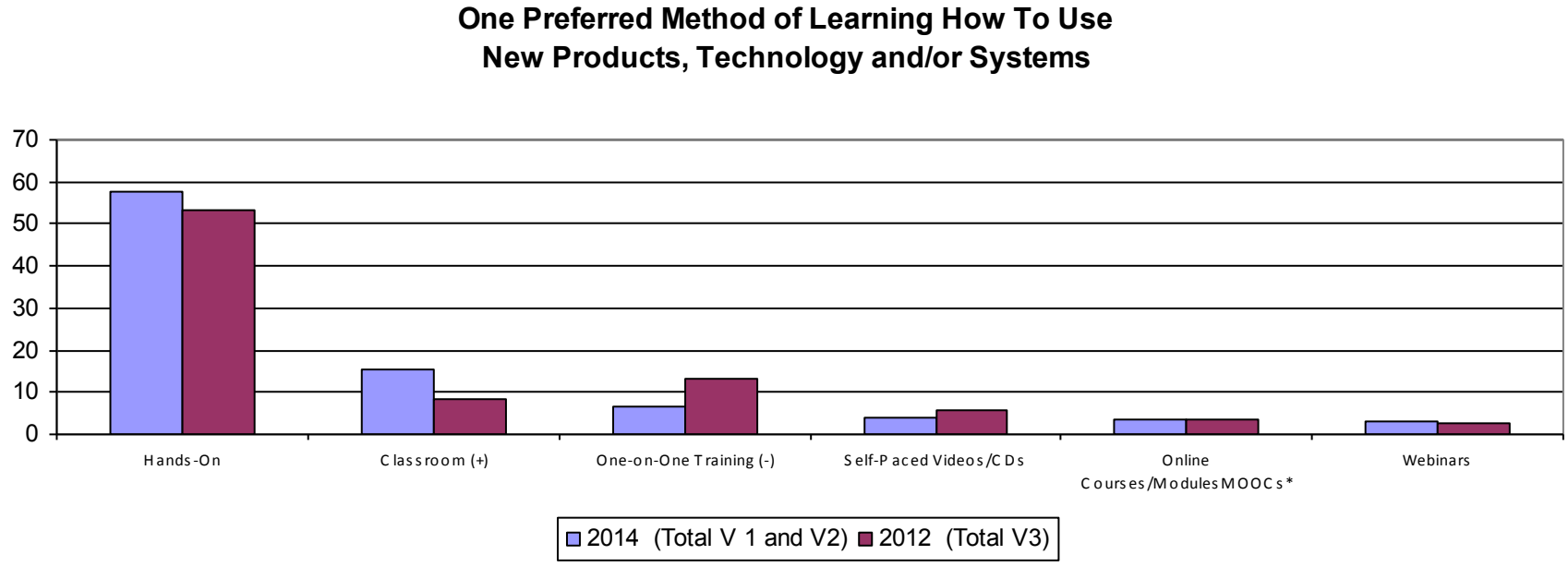
Version 1 (Past 12 Months) Sample = 211 Version 2 (Next 12 Months) Sample = 206



Preferred Method of Training

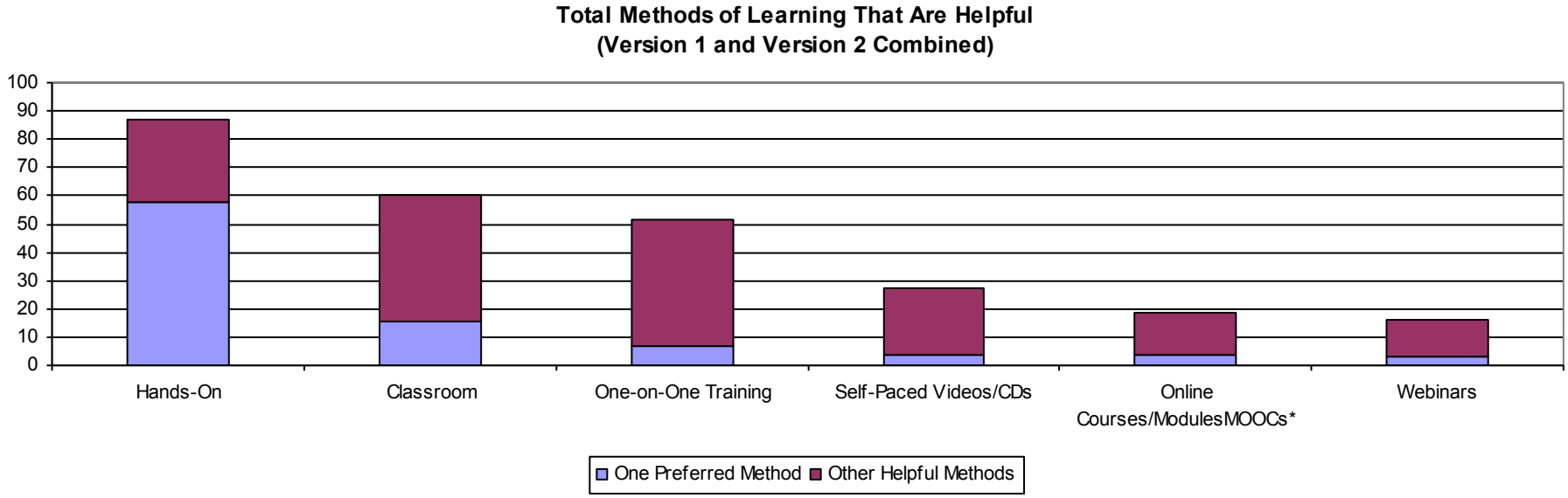
Hands-On training (preferred by 58%) wins hands down as the *single* preferred method of learning how to use new products, technology or systems! It is statistically unchanged compared with two years ago. However, classroom training and one-on-one training each traded places – classroom training rose significantly while the preference for one-on-one training declined.

- In contrast, One-on-One, Classroom, Self-Paced Videos/CD and Webinars are each preferred by between 13% and 3% of electrical contractors.



* MOOC was first added in 2014 and also defined: Massive Open Online Courses

Hands-on learning continues to lead all other methods when ecs are asked to include all types of training that are helpful. Classroom and One-on-One training are seen as useful to about 6 in 10 electrical contractors on this basis.



Self-paced videos and Webinars are viewed as more helpful among ecs in larger electrical contracting firms (10+ employees) compared with those in smaller electrical contracting firms.

	V1 and V2 Total 2014 (560) %	V1 and V2 1-9 Employees (417) %	V1 and V2 10+ Employees (141) %
Hands-On	87		
Classroom	60		
One-on-One Training	51		
Self-Paced Videos/CDs	28	25	**<34**
Online Courses/ModulesMOOCs*	19		
Webinars	16	14	**<24**
All Other Methods	3		
Don't Know/Refused	19		

Webinars

Across the sample of those who took or plan to take training, 27% had taken some training in the form of a Webinar and 25% expect to take some training in the form of a Webinar over the next 12 months.

These respondents were then asked on an optional basis, what, if anything, they like about Webinars and what, if anything, they dislike.

- "Likes" centered on various aspects of convenience and convenience related to cost-savings, time-savings, no travel and flexibility --ability to more easily fit the training into one's schedule and into the schedule of the firm's employees. In the cases where audience participation was available, this too was cited as a "like." Ecs also commented on the general benefits of training, such as being presented with well-organized material, the ability to hear hearing other people's questions, etc. The "likes" are well-summed up by this comment:

  - *Easy and inexpensive for everyone to attend. No travel. Manufacturers can give more concise, subject-oriented course without trying to cover too many topics. Good visual aids are still possible. Question/Answer session still occur. Post webinar videos are usually offered. a big plus for keeping up with fast changing industry.*

  - *It allows people in multiple locations to meet verbally and communicate as a group.*

- Some of the "dislikes" are caused by not being off-site and live. Being in the office (or, in any event, not in the same room as the presenter) can allow distractions and interruptions to occur and can also lead to a lower level of interaction with the presenter. Some noted that it is also harder to ask questions, especially if the Webinar is not being watched when it is being presented; the Webinar might not qualify as training for certification purposes. In addition, a few mentioned technical difficulties such as loss of a signal or difficulty.