ELECTRICAL CONTRACTOR

POWER & INTEGRATED BUILDING SYSTEMS

2020 PROFILE OF THE ELECTRICAL CONTRACTOR

SPECIAL REPORT ON COMMUNICATIONS, SOFTWARE AND TECHNOLOGY

2020 "ELECTRICAL CONTRACTOR MAGAZINE PROFILE"
DATABASE REPORT

ELECTRICAL CONTRACTORS:

THEIR USE, PURCHASE AND LEASE OF:

ELECTRICAL TESTERS/MULTIMETERS ETC.
LAN/DATACOM/OTHER LOW VOLTAGE
THERMAL IMAGING
LABELING/IDENTIFICATION
SOFTWARE
SMART/MOBILE/CELL PHONES/TWO-WAY RADIOS/PUSH-TO-TALK
TABLETS/PORTABLE READING DEVICES
DRONES
3D SCANNERS
3D PRINTERS

THEIR OWNERSHIP OF COMPUTERS AND ELECTRONIC DEVICES

SOFTWARE USAGE

INCLUDING ESTIMATES BASED ON THE 2018 COUNTY BUSINESS PATTERNS

A SPECIAL REPORT PREPARED BY
RENAISSANCE RESEARCH & CONSULTING, INC.

FOR:

WASHINGTON, DC 20004

NOVEMBER 2020

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KEY FINDINGS

This report is volume one of a two-volume report covering different types of tools and equipment as well as use of electronic devices and software. Pages 1 and 2, as well as pages 8 – 24 are common to both reports.

USE, PURCHASE AND RENTAL/LEASE BEHAVIOR OVERVIEW:

Tools and Equipment **Used** in 2019

In 2020, the following 3 tool types were added to the list asked in 2018: Measuring tools (including digital), Fishing tools and 3D printers.

Not surprisingly, as was the case two years ago, many of the top categories mentioned were those that received high levels of purchase and/or rental/lease in previous Profile studies, with about 8 in 10 mentioning: Hand tools, Power tools, Electrical testers, multimeters, Measuring tools and Fishing tools. About 7 in 10 mentioned Phones (including Smartphones, Mobile, Cell, Two-way radios and Push-to-talk phones), Pipe threaders, benders, cutters, Labeling/identification and/or Personal protective equipment (PPE), including apparel and accessories.

Between about 50% and 60% of the firms surveyed said that they or their firm used the following in 2019: Job-site safety equipment, Cable pullers, Portable generators, Tablets or portable reading devices, Software, Aerial lifts/scaffolding, Temporary job-site lighting and/or Trailers (to haul equipment). However, we think that the Software numbers are too low for several reasons:

- The list of software types included only 6 types of software rather than a more expanded list.
- Based on a different series of questions (asked in a Version 8 of the survey), we believe that software usage by electrical contractors is actually closer to 90%. In that question instead of asking the participants about their use of "software", we asked if the respondents handled each of the 13 tasks "…internally, using a computer". This was done because we had concerns that the word "software" may be ambiguous to survey participants, for example, if it comes pre-loaded is it viewed as "software"?

Usage of four types of tools and equipment rose significantly compared to 2017: Labeling/identification, Job-site safety equipment, Tablets or portable reading devices, Trailers (to haul equipment/materials). Usage did not decline for any of the types of tools and equipment studied.

In 2019, 90% of electrical contractors say that they made use of multiple types of tools and equipment, statistically unchanged from two years earlier.

Note: In the cases of Digging/HDD/Boring Equipment, Aerial lifts/scaffolding, Cranes and Mobile office space, a somewhat higher percentage of firms said that they had *purchased* and/or *rented/leased* these types of equipment than had reported *using* them. This could be an error in reporting on the part of participants or it could be that these items were acquired in anticipation of their later use, or some combination of the two. Note that we also observed this type of discrepancy two years ago.

Tools and Equipment **Purchased** in 2019

Eight in ten electrical contractors (84%) reported purchasing Tools and Equipment in 2019, statistically unchanged from two years earlier.

Hand tools and Power tools continue to top the list.

- In 2019, purchase of 5 these types of tools and equipment rose from their 2017 levels: Electrical tester, multimeters, etc., LAN, datacom, other low-voltage testing equipment, Aerial lifts/scaffolding, Digging/HDD boring equipment and Drones.
    - In contrast, none of the purchase levels declined compared with two years earlier. All of the remaining types of tools and equipment were statistically unchanged or could not be trended because they were just added in the most recent study.

As was the case in previous Profile studies, in 2019, the bulk of electrical contractors made purchases in *multiple* categories (79% in 2019), statistically unchanged compared with two years earlier.

- However, significantly more companies report making a 2019 purchase in 4 or more and 6 or more categories while significantly fewer report making a purchase in 2-3 categories.
    - This is in contrast to two years earlier when there were no statistically significant differences between 2017 and 2015.

Tools and Equipment **Rented/Leased** in 2019

In 2019, as was the case in 2017, six in ten electrical contractors (60%) *rented/leased* equipment. Note that in 2015 and 2013, the rental/lease rate was substantially and signficantly lower -- in the 37% to 40% range.

Nevertheless, as has been the case in recent Profile studies, fewer electrical contractors continue to obtain tools and equipment through rental/lease (60%) than through outright purchase (84%).

As was also the case two years ago, in addition to Aerial lifts/scaffolding and Digging/HDD/boring equipment, Cranes and Mobile office space (trailers) are the only four categories that are more likely to be obtained through rental/lease than through purchase.

Of these four categories, only Cranes posted an increase among the total sample in rental/lease. The other three categories were unchanged compared with two years earlier. None of the types of tools and equipment studied posted a decline in rental/lease compared with two years earlier.

- In addition, rental/lease of Power tools has also increased compared to two years earlier.
- Among the total sample, almost one half (46%) of electrical contractors rented or leased in multiple categories. This is statistically unchanged from two years earlier. Not surprisingly, rental/lease “Any”, and in multiple categories is higher among larger firms and/or among firms that work primarily on CII rather than residential projects.

KEY FINDINGS: TOOLS

Electrical Testers and Multimeters

55% of respondent firms *purchased* Electrical testers and multimeters (etc.) in 2019, up significantly from its 2017 level of 45%. Only 2.5% rented/leased in this category, statistically unchanged from two years earlier.

- In a pattern that we've observed in other categories, larger firms and/or firms working primarily on CII projects are more likely to have made a *purchase* in this category compared with smaller firms and/or those that work primarily on residential construction.

- Larger firms are also more likely than smaller firms to have *rented or leased* in this category. However, there is no difference by primary type of construction work performed.

LAN, Datacom, Other Low Voltage Testing Equipment

22% of respondent firms *purchased* LAN, datacom, other low-voltage testing equipment in 2019. In 2019, purchase levels posted a significant increase versus 2017, when it was 14%. Note that purchase levels have been increasing in this category since 2015. Only 1.7% rented/leased in this category, statistically unchanged from two years earlier.

- In 2019, purchase was significantly higher among larger companies (10+ employees) vs. smaller companies (1-9 employees) and/or among firms working primarily on CII projects rather than firms working primarily on residential projects.

Thermal Imaging

12% of electrical contracting firms purchased Thermal imaging in 2019, statistically unchanged compared to two years ago. The level of rental/lease, at 4.7%, is also statistically unchanged compared with 2017.

- Larger firms and/or those that work primarily on CII projects are significantly more likely to have made a *purchase* in this category compared with smaller firms and/or those that work primarily on residential projects.

- *Rental/lease* is more prevalent among firms that work primarily on CII projects compared with firms that work primarily on residential projects. There is no statistically significant difference in renting/lease in this category by number of employees.

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Communications and Logistics

Labeling/Identification (Cable/Panel)

36% of electrical contracting firms purchased Labeling/identification (cable/panel) equipment in 2019; this is statistically unchanged from the 34% reported two years earlier. Only about 1% rented/leased in this category in 2019.

- Larger firms and/or firms working primarily on CII projects are more likely to have made a past year purchase in this category.

Phones: Smart/Mobile/Cell, Two-Way Radios or Push-to-Talk Phones:

43% of electrical contracting firms *purchased* Phones: smart/mobile/cell/two-way radios/push-to-talk phones in 2019. There is no statistically significant difference between 2019 and 2017. The percentage that *rent/lease* in this category is only 3.0%, also statistically unchanged from the 3.4% recorded in 2017.

Larger firms and/or those that work primarily on CII projects are significantly more likely to have made a past year *purchase* compared with smaller firms and/or those that work primarily on residential projects. The same holds true for *rental/lease*: larger firms and/or those that work primarily on CII projects are also more likely to rent/lease in this category, compared with smaller firms and/or those work primarily on residential projects.

Tablets or Portable Reading Devices

31% of electrical contracting firms reported a 2019 purchase of Tablets or portable reading devices. This is statistically unchanged from the level reported for 2017. The percentage that rent/lease in this category is less than 2% (1.7%)

- Firms with 10+ employees and/or firms that work primarily on CII projects are far more likely than firms with 1-9 employees and/or those that work primarily on residential projects to have made a 2019 Tablets or portable reading device purchase.

New Technology: Drones, 3D Scanners and 3D Printers

We've categorized three products as new technology: Drones and 3D scanners, both of which were first asked in the 2018 Profile study and 3D printers which were first asked in 2020.

As of 2019, usage for each is under 10%; purchase is in the 5% range and rental/lease for each is in the 2% range. However, purchase of Drones posted a statistically significant increase in purchase compared with 2017.

KEY FINDINGS: Ownership and Use of Computers and Electronic Devices

Certain questions in the 2020 Profile Survey were given to only a part of the sample in order to keep the overall survey shorter and more manageable. The findings in this section are based on a different set of respondents than those who answered the preceding questions on Tools and Equipment purchase.

98% of respondents reported they that they or their firm uses/owns one or more of the 16 types of computers and electronic devices measured in this survey.

Ownership of phones and computers are on a par, with 94% of survey participants reporting usage or ownership of *each*.

Use/ownership of the specific types of computer and electronic equipment tends to be significantly higher among larger electrical contracting firms compared to their smaller counterparts.

- Note that there are no categories where use/ownership is higher among firms with 1-9 employees compared with their larger counterparts.

In addition, usage and ownership tends to be higher in many categories among firms that work primarily on CII construction compared to those firms that work primarily on residential construction. In other categories, there is no difference by primary type of work performed (CII vs. residential), rather than that use/ownership if higher among firms working primarily on residential projects.

- The only exception involves 3D printers which are significantly more likely to be used/owned by companies working primarily on residential projects. This finding is somewhat surprising because smaller firms tend to work primarily on residential projects, but in this case, it is larger firms that were more likely to use/own 3D printers.

53% of the electrical contractors surveyed said that they are considering a purchase of one or more of the devices included in this survey.

Across the total sample, 20% of the electrical contractors surveyed said that they are considering a purchase of one or more of these “New Technology” devices. In addition to Thermal imaging cameras (11%), 6% are considering the purchase of Wearable technology; 5% of a 3D scanner; 4 % of a 3D printer; 3% are considering the purchase of a Drone and 2% purchase of VR/AR headsets or hardhats.

While these numbers are still small, we will be watching their progress and expect them to increase, perhaps even dramatically over time.

In the more mature categories of Computers and Phones, 40% of those surveyed are considering the purchase of a Desktop, Laptop and/or Tablet, as a broad category. 26% are considering the purchase of one or more type of Phone or Two-way or Push-to-talk radio.

As we noted two and four years ago, the wide array of computers and electronic devices that electrical contractors are considering for purchase might provide a fruitful environment to Big Box electronics vendors such as Best Buy or even Amazon or e-Bay.

Use of Software

The same group of respondents were shown a list of 13 types of business functions and asked how their firm handles these functions.

Starting with the 2018 Profile Study, we asked about use of software in a different way than in previous Profile Studies. Instead of asking the participants about their use of "software", we asked if the respondents handled each of the 13 tasks "…internally, using a computer". This was done because we had concerns that the word "software" may be ambiguous to survey participants. Specifically, over the past few Profile Studies we came to believe that the use of software question did not accurately reflect the computer-related activity of electrical contractors. For instance, six years ago, only 73% of those who took the survey online (where the invitation was sent by e-mail) said that they or their firm uses computer software to access the Internet!

Overall, almost 9 in 10 (86%) of the electrical contracting firms we surveyed make use of one or more of the types of software included in the 2020 Profile Study. Use of any of these types of software is substantially and significantly higher among larger firms than among their smaller counterparts (99% vs.79%).

- Larger firms are more likely than their smaller counterparts to currently use each of the different types of software included in this survey. As a consequence, they are also more likely to currently use 4 or more types of software compared with firms with 1-9 employees.

- Similarly, firms that derive more than one half of their revenue from CII projects are also more likely than firms that work primarily on residential projects to currently use each of the types of software included in the survey. Note that firms that work primarily on CII projects tend to be larger.

The most frequently cited types of business functions or activities that are "handled internally, using a computer are": Estimating (68%), Accounting/Payroll (64%), Job Cost Control/Analysis (59%), Productivity Software (58%) Project Management (53%), Scheduling Service Work/Logistics (53%) Time and Attendance and Take-Off (51%).

METHODOLOGY

This report focuses on electrical contractors' use, purchase, rental/lease for hand tools and power tools and construction site equipment. In 2020, three new categories were included. They are: Measuring tools (including digital), Fishing tools and 3D printers. Please note that the Profile study is conducted in even years (2018 or 2016) and asks about the previous year (2019 or 2017).

The survey was conducted by internet and postal mail among a random sample of ELECTRICAL CONTRACTOR subscribers. In addition, in 2020 as in 2018, about 100 members of the ELECTRICAL CONTRACTOR Subscriber Research Panel also participated in the survey. The field period for the survey began on February 21, 2020 and ran through April 13, 2020, which was the deadline for the July 2020 article. A total of 1635 completed the survey during that time period.

In 2020, we offered those in the mail sample a choice of either participating in the survey online, though a link, or to continue to receive a paper survey by postal mail. A total of 144 completed the survey by mail and another 53 completed the survey online.

The data were not weighted for two reasons – since the proportion of the total attributable to the print list was so low, weighting would distort the total statistics. The other reason was that comparing the unweighted 2020 results with the 2018 weighted results showed very little difference among the total sample.

Each respondent who received the survey through the internet was sent up to four follow-up emails. However, follow-up mailings were not made to nonresponders in the postal mail sample. An incentive was offered for participation in the survey: For each completed survey, ELECTRICAL CONTRACTOR would contribute $5 to charity, up to a total of $10,000. In addition, as was the case in 2018, the magazine also offered a sweepstakes drawing for one of five $150 Amazon e-gift cards.

The internet option was first introduced in 2004.

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 3 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%.

This report and its companion report are drawn from Versions 3 – tools and equipment used, purchased, rented/leased and from Version 8 – business activities conducted in-house, using a computer ("software") – and use/ownership and planned acquisition of electronic devices. The base sizes of those version are as follows: Version 3 has a base size of 236 and Version 8 has a base size of 232.

As in the past, statistical testing was done at the 90% level of confidence.

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.

DETAILED FINDINGS

Tools and Equipment Use, Purchase and Rental/Lease Overview

Tools and Equipment Used in 2019

In the 2020 Profile study, electrical contractors were asked to indicate which of 30 types of tools and equipment they or their firm **used** in the *previous* year.

In 2020, the following three tool types were added to the list asked in the 2018 Profile study: Measuring tools (including digital), Fishing tools and 3D printers.

Not surprisingly, as was the case two years ago, many of the top categories mentioned were those that received high levels of purchase and/or rental/lease in previous Profile Studies, with about 8 in 10 mentioning: Hand tools, Power tools, Electrical testers, multimeters, Measuring tools and/or Fishing tools. About 7 in 10 mentioned Phones (including Smartphones, Mobile, Cell, Two-way radios and Push-to-talk phones), Pipe threaders, benders, cutters, Labeling/identification and/or Personal protective equipment (PPE), including apparel and accessories.

Between about 50% and 60% of the firms surveyed said that they or their firm used the following in 2019: Job-site safety equipment, Cable pullers, Portable generators, Tablets or portable reading devices, Software*, Aerial lifts/scaffolding, Temporary job-site lighting, and/or Trailers (to haul equipment).

About one-third mentioned LAN, teledata, low voltage meters, Digging/HDD/boring equipment** and/or Thermal imaging.

15 percent or fewer mentioned: Thermal imaging, Mobile office space (trailers), Cranes, 3D scanner, Drones, and/or 3D printers.

The table follows on the next page.

Usage of four types of tools and equipment rose significantly compared to 2017: Labeling/identification, Job-site safety equipment, Tablets or portable reading devices, and/or Trailers (to haul equipment/materials). Usage did not decline for any of the types of tools and equipment studied.

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*Based on a different series of questions (asked in a Version 8 of the survey), we believe that software usage by electrical contractors is actually closer to 90%. Instead of asking the participants about their use of "software", we asked if the respondents handled each of the 13 tasks "…internally, using a computer". This was done because we had concerns that the word "software" may be ambiguous to survey participants, for example, if it comes pre-loaded is it viewed as "software"?

**Note: In the cases of Digging/HDD/boring equipment, Aerial lifts/scaffolding, Cranes and Mobile office space, a somewhat higher percentage of firms said that they had *purchased* and/or *rented*/*leased* these types of equipment than had reported *using* them. This could be an error in reporting on the part of participants or it could be that these items were acquired in anticipation of their later use, or some combination of the two. Note that we also observed this type of discrepancy two year ago.

Tools and Equipment Used	Total 2019		Total 2017
	(236)		(234)
	%		%
"Any"	90		91
Hand tools	81		82
Power tools	79		82
Electrical testers, multimeters, etc.	78		80
Measuring tools (including digital)	78		N/A
Fishing tools	76		N/A
Phones: smart/mobile/cell or two-way radios/push-to-talk	71		71
Pipe Threaders, benders, cutters	70		71
Labeling/identification (cable/panel)	67	>	55
Personal protective equipment, including apparel and accessories	65		59
Job-site safety equipment	58	>	45
Cable pullers	54		53
Portable generators	51		46
Tablets or portable reading devices	51	>	42
Software (e.g. CAD, estimating, procurement, etc.)	50		45
Aerial lifts/scaffolding	49		52
Temporary job-site lighting	48		48
Trailers (to haul equipment/materials)	46	>	39
LAN, datacom, other low-voltage	37		34
Digging/HDD/boring equipment	33		26
Thermal imaging	32		26
Mobile office space (trailers)	14		13
Cranes	14		11
3D scanner	8		5
Drones	8		5
3D printer	8		N/A
Estimating	36		36
Project management	23		22
CAD	24		22
Scheduling sales and service	21		22
Tool and inventory control	21		19
BIM	16		11

Here is a comparison of software usage when asked in two different ways – by showing a list of 6 types of software and asking if it was used in 2019 or, based on a different series of questions (asked in a different version of the survey). That is, instead of asking the participants about their use of “software”, we asked if the respondents handled each of the 13 tasks “…internally, using a computer”. This was done because we had concerns that the word “software” may be ambiguous to survey participants, for example, if it comes pre-loaded is it viewed as “software”.

Based on the latter way of asking the question on software use and showing a longer list of 13 rather than 6, we believe that software usage by electrical contractors is closer to 90%.

	Task Handled Internally, Using a Computer (V8)	Software Used in 2019 (V3)	Difference
	(232)	(236)	
	%	%	
ANY	86	50	
Accounting/Payroll	64		
Estimating	68	36	+32
Job Cost Control/Analysis	59		
CAD	33	24	+9
Take-Off	51		
Project Management	53	23	+30
Time and Attendance Software	53		
Tool/Equipment Inventory Control	33	21	+12
Scheduling Service Work/Logistics	53	21	+32
Fleet Management/Vehicle Locator	28		
BIM (Building Information Modeling)	22	16	+6
Project Collaboration Software	35		
Productivity Software	58		

In this section we are returning to the full list of 30 types of tools and equipment, rather than focusing solely on software. Note that the vast majority of electrical contracting firms make ***use*** of **multiple** types of tools and equipment, about 90% across the total sample.

- While reported use of 2-3 types of tools is higher among firms with 1-9 employees compared with firms with 10+ employees, there is no difference by company size in use of 4 or more types of tools and equipment.

- The main finding by primary type of work performed is that firms that work primarily on CII projects are significantly more likely to make use of 6 or more types of tools and equipment compared with firms that work primarily on residential projects (89% vs. 75%). Perhaps more important is the high percentage of smaller firms and firms that work primarily on residential construction that make use of 6 or more types of tools and equipment.

	Use in Multiple Categories in 2019				
		Number of Employees		**Work Primarily In**	
	Total	**1-9**	**10+**	**Residential**	**CII**
	(236)	(150)	(85)	(84)	(116)
	%	%	%	%	%
Any Use	90	93	86	89	91
Use Only 1 Category	1	1	0	1	1
Use in **Multiple** Categories	89	91	86	88	91
Use in 2 – 3 Categories	3	**5 >**	0	**7 >**	1
Use in **4+** Categories	86	87	86	81	90
Use in 4 – 5 Categories	3	3	1	**6 >**	1
Use in 6+ Categories	84	83	85	75	**< 89**

2017 is shown below for comparison. Note that it 2017, but not in 2019, firms with 10+ employees were significantly more likely to use 6+ types of tools and equipment. Firms that work primarily on CII projects were and are more likely to make use of 6 or more types of tools and equipment.

	Use in Multiple Categories in 2017				
		Number of Employees		**Work Primarily In**	
	Total	**1-9**	**10+**	**Residential**	**CII**
	(234)	(162)	(71)	(81)	(107)
	%	%	%	%	%
Any Use	91	90	93	91	93
Use Only 1 Category	1	**2 >**	0	1	2
Use in **Multiple** Categories	90	88	93	90	90
Use in 2 – 3 Categories	5	6	5	6	5
Use in **4+** Categories	84	83	88	84	85
Use in 4 – 5 Categories	7	**10 >**	1	**13 >**	3
Use in 6+ Categories	78	73	**< 86**	71	**< 82**

Percent That Purchase Different Types of Tools and Equipment

About eight in ten electrical contractors (84%) reported purchasing tools and equipment in 2019, statistically unchanged from two years earlier.

Hand tools and Power tools continue to top the list.

- In 2019, purchase of 5 these types of tools and equipment rose from their 2017 levels: Electrical testers, multimeters, etc., LAN, datacom, other low-voltage testing equipment, Aerial lifts/scaffolding, Digging/HDD boring equipment and Drones.
    - In contrast, none of the purchase levels declined compared with two years earlier. All of the remaining types of tools and equipment were statistically unchanged or could not be trended because they were just added in the most recent study.
        - These categories are statistically unchanged compared with two years earlier: Hand tools, Power tools, Personal protective equipment (PPE) including apparel and accessories, Phones, Labeling/identification (cable/panel), Pipe threaders, benders, cutters, Job-site safety equipment, Tablets or portable reading devices, Temporary job-site lighting, Cable pullers, Portable generators, Trailers (to haul equipment/materials), Thermal imaging, Mobile office space (trailers), 3D scanners and Cranes.
    - Measuring tools (including digital), Fishing tools and 3D printers were added in 2019 and cannot be trended

PURCHASE OF TOOLS AND EQUIPMENT									
	In 2019		**In 2017**		**In 2015**		**In 2013**		**In 2011**
	Total		**Total**		**Total**		**Total**		**Total**
	(236)		(234)		(376)		(374)		(234)
	%		%		%		%		%
<u>“Any”</u> <u>Purchase …</u>	84	=	81	>	79	<	**<u>84</u>**	>	<u>77</u>
Hand tools	74	=	70	=	70	<	**77**	>	69
Power tools	68	=	66	=	70	=	**72**	>	64
Electrical testers, multimeters, etc.	**55**	>	45	=	46	<	**60**	>	47
Measuring tools (including digital) (first asked in 2020 Profile Study)	49		N/A		N/A		N/A		N/A
Fishing tools (first asked in 2020 Profile Study)	46		N/A		N/A		N/A		N/A
Personal protective equipment, including apparel and accessories	43	=	**42**	>	31	<	44	=	41
Phones: smart/mobile/cell or two-way radios/push-to-talk	43	=	37	=	37	<	47	=	42
Labeling/identification (cable/panel)	36	=	**34**	>	22	<	33	=	27
Pipe Threaders, benders, cutters	35	=	**28**	>	22	<	28	=	25
Job-site safety equipment	34	=	28	=	26	<	32	=	28
Tablets or portable reading devices	31	=	**24**	>	16	<	**22**	>	10
Temporary job-site lighting (first asked in 2016)	26	=	**23**	>	15		N/A		N/A
Cable pullers (first asked in 2014 Profile Study)	25	=	**19**	>	10	<	14		N/A
Software (e.g. CAD, estimating, procurement, etc.)[1]	**23**	>	15	=	16	<	21	=	16
LAN, datacom, other low-voltage	**22**	>	**14**	>	9	<	16	=	12
Portable generators (first asked in 2016 Profile Study)	19	=	16	=	19		N/A		N/A
Trailers (to haul equipment/materials) (first asked in 2016)	17	=	**12**	=	9		N/A		N/A
Thermal imaging (first asked in 2014 Profile Study)	12	=	10	=	8	=	10		
Aerial lifts/scaffolding	**11**	>	6	<	10	<	16	=	13
Digging/HDD/boring equipment	**9**	>	4	=	7	=	9	=	9
Mobile office space (trailers) (first asked in 2016 Profile Study)	5	=	3	=	4		N/A		N/A
3D scanner (first asked in 2018 Profile Study)	5	=	2		N/A		N/A		N/A
Drones (first asked in 2018 Profile Study)	**5**	>	2		N/A		N/A		N/A
3D printer (first asked in 2020 Profile Study)	4		N/A		N/A		N/A		N/A
Cranes (first asked in 2016 Profile Study)	3	=	1		2		N/A		N/A

Bolded numbers denote and arrows significant differences at the 90% level of confidence

[1] See additional discussion on the next page

The perceived increase in software purchase is, in part, an artifact of the higher percentage of electrical contractors who took the survey on the Internet in 2020 compared with 2018. Specifically, when we compare the two Internet samples, the increase goes away.

Software Purchased in 2019	**2019**		**2017**		**2019**		**2017**
	Total		Total		Internet Sample		Internet Sample
	(236)		(234)		(218)		(131)
	%		%		%		%
Software	23	>	15		24	=	19
Estimating	15		10		16		14
CAD	12	>	6		13	=	10
BIM	9	>	4		9	=	5
Tool and inventory control	9	>	5		10	=	7
Project management	9		7		10		8
Scheduling sales and service	8		7		9		9

Purchase and rental were not asked in V8 and therefore cannot be shown for comparison here.

Purchase in Multiple Categories

As has been the case in earlier Profile studies, in 2019, the bulk of electrical contractors made purchases in *multiple* categories (79% in 2019), statistically unchanged compared to two years ago.

- However, significantly more companies report making a 2019 purchase in 4 or more and 6 or more categories while significantly fewer report making a purchase in 2-3 categories.
    - This is in contrast to two years earlier when there were no statistically significant differences between 2017 and 2015.

PURCHASE IN MULTIPLE CATEGORIES									
	In 2019		**In 2017**		**In 2015**		**In 2013**		**In 2011**
	Total		**Total**		**Total**		**Total**		**Total**
	(236)		(234)		(376)		(374)		(234)
	%		%		**%**		**%**		**%**
Any Purchase	84	=	81	=	79	<	**84**	>	77
Purchased Only 1 Category	5	=	6	=	5	=	3		5
Purchase in **Multiple** (2+) Categories	79	=	75	=	**74**	<	**81**	>	72
Purchased in 2 – 3 Categories	**13**	<	22	=	21	=	20		17
Purchase in **4+** Categories	**66**	≥	53	=	53	≤	61		55
Purchased in 4 – 5 Categories	13	=	16	=	18	=	19		24
Purchased in 6+ Categories	**53**	>	37	=	**35**	<	**42**	>	31

Bolded numbers denote significant differences at the 90% level of confidence in the direction of the arrow.

Purchase in Multiple Categories, continued

By number of employees: Those in smaller firms were significantly more likely to have purchased in only 1 category, in 2-3 categories or in 4-5 categories, while those in larger firms are significantly more likely to have purchased in 6+ categories

By primary type of work: Firms that work primarily in CII construction are significantly more likely than those who work primarily on residential projects to have made purchases at all ("Any") and to have made purchases in multiple categories, particularly in 2+, 4+ and 6+ categories.

- Firms that work on primarily residential projects are more likely to have made purchases in 4-5 categories, while firms working primarily on CII projects are significantly more likely to have made purchases in 6+ categories.

	PURCHASE IN MULTIPLE CATEGORIES (2019)					
		Number of Employees			Work Primarily In	
		1-9	**10+**		**Residential**	**CII**
	(236)	(150)	(85)		(84)	(116)
	%	**%**	**%**		**%**	**%**
"Any" Purchase	84	83	87		76	**<91**
Purchased Only 1 Category	5	**7** >	1		5	5
Purchase in **Multiple** (2+) Categories	79	75	86		71	< **85**
Purchased in 2 – 3 Categories	13	**18** >	5		14	12
Purchase in **4+** Categories	66	57	< **81**		57	< **73**
Purchased in 4 – 5 Categories	13	**15** >	8		**25** >	4
Purchased in 6+ Categories	53	42	< **73**		32	< **69**

Bolded numbers denote significant differences at the 90% level of confidence in the direction of the arrow.

Trended Results

There are a few statistically significant differences between 2019 and 2017 in the table shown below.

- Among the total sample, there was a statistically significant drop in the percentage of firms that purchased 2-3 categories while there was a statistically significant increase in the percentage of firms that purchased 4+ and 6+ categories.

- Smaller firms tracked the total sample. Among firms with 1-9 employees, compared with two years earlier: significantly fewer firms made purchases in 2-3 categories while there was a statistically significant increase in smaller firms making purchases in 4+ and 6+ categories.

- However, in contrast to two years earlier, there were no statistically significant differences in purchase levels among firms with 10+ employees.

PURCHASE in MULTIPLE CATEGORIES (By Firm Size)

	Total Sample				**1-9 Employees**				**10+ Employees**			
	2019	**2017**	**2015**	**2013**	**2019**	**2017**	**2015**	**2013**	**2019**	**2017**	**2015**	**2013**
	(236)	(234)	(376)	(374)	(150)	(162)	(278)	(282)	(85)	(71)	(98)	(91)
	%	%	%	%	%	%	%	%	%	%	%	%
Any Purchase	84	81	79	< **84**	83	78 =	81	< **87**	87	**87** >	74	78
Only 1 Category	5	6	5	3	**7**	9 =	5	4	1	0 =	**3** >	0
In **Multiple Categories**	79	75	**74**	< **81**	75	69 =	75	< **83**	86	**87** >	71 =	78
In 2 – 3 Categories	13	< **22**	21	20	**18**	< **27** =	25	25	5	10	10	8
In **4+** Categories	**66** >	53	53	< **61**	**57** >	**42**	< **51**	58	81	**77** >	61 =	70
In 4 – 5 Categories	13	16	18	19	15	18 =	21	24	8	11	10 =	5
In 6+ Categories	**53** >	37	35	< **42**	**42** >	24 =	30	34	73	**66** >	51	< **65**

Bolded numbers denote significant differences at the 90% level of confidence in the direction of the arrow.

Percent That Rent/Lease Different Types of Tools and Equipment

In 2019, as was the case in 2017, six in ten electrical contractors (60%) *rented/leased* equipment. Note that in 2015 and 2013, the rental/lease rate was substantially and signficantly lower -- in the 37% to 40% range.

Nevertheless, as has been the case in recent Profile studies, fewer electrical contractors continue to obtain tools and equipment through rental/lease (60%)[2] than through outright purchase (84%).

Aerial Lifts/scaffolding and Digging/HDD/boring equipment continue to be the two categories that are obtained through rental/lease most often. Both are statistically unchanged compared to two years earlier.

- Compared with two years earlier, rental/lease levels increased significantly only for two categories -- Cranes (the third most leased category) and Power tools, and for one type of software – Estimating software (shown on the following page). In the case of rental/lease of Estimating software, the increase holds even when we compare the Internet samples in 2020 to that of 2018.
    - Note that in the case of Cranes, first introduced in the 2016 Profile Study – rental/ lease also increased between 2015 and 2017.

Rental/lease levels did not decline for any of the types of tools and equipment studied between 2019 and 2017.

[2] The 2020 list included three new categories – 3D printers, Fishing tools and Measuring tools (including digital)– but the level of rental/ lease was low. In fact the net without those three new categories was 59%. That is, we do not believe that the new categories had much of an effect on the 60% net.

RENTAL/LEASE OF TOOLS AND EQUIPMENT							
	In 2019		**In 2017**		**In 2015**		**In 2013**
	Total		**Total**		**Total**		**Total**
	(236)		(234)		(376)		(374)
	%		%		%		%
“Any” Lease/Rental…	60	=	**57**	>	37		40
Aerial lifts/scaffolding	45	=	**46**	>	28		29
Digging/HDD/boring equipment	34	=	**28**	>	12	=	16
Cranes	**25**	>	**17**	>	6		N/A
Mobile office space (trailers)	14	=	**12**	>	6		N/A
Portable generators	13	=	**11**	>	4		N/A
Power Tools	**12**	>	**8**	>	4	<	**7**
Trailers (to haul equipment/materials)	9	=	8	>	3		N/A
Cable pullers	8	=	**8**	>	3		4
Job-site safety equipment	7	=	**6**	>	1		4
Pipe threaders, benders, cutters	6	=	**5**	>	2		5
Hand tools	6	=	4	=	2	<	**5**
Thermal imaging	5	=	**4**	>	1	<	**3**
Temporary job-site lighting	5	=	4	=	2		N/A
Software	4.2	=	**2.6**	>	0.9		1
Electrical testers, multimeters, etc.	3	=	4	=	2		3
Phones: smart/mobile/cell or two-way radios/push-to-talk	3	=	**3**	>	0.8	<	**3**
Personal protective equipment, including apparel and accessories	3	=	2	=	0.6		1
Fishing tools	3		N/A		N/A		N/A
LAN, datacom, other low-voltage	2	=	**2.8**	>	0.6		1
3D scanner	2	=	1.6		N/A		N/A
Measuring tools (including digital)	2		N/A		N/A		N/A
3D printer	2		N/A		N/A		N/A
Tablets	1.7	=	0.4	=	1		1
Drones	1.7	=	0.4		N/A		N/A
Labeling/identification (cable/panel)	1.3	=	0.4	=	0.6		1
Estimating[3]	2.5	>	0.5				
CAD	2		2				
BIM	2		1				
Tool and inventory control	0.8		0.5				
Project management	0.8		0.5				
Scheduling sales and service	0.8		0.9				

Bolded numbers denote significant differences at the 90% level of confidence in the direction of the arrow

3 This difference holds up even when the Internet sample in 2020 is compared with Internet sample in 2018.

Rental/Lease in Multiple Categories

Among the total sample, 46% of electrical contractors rented/leased in two or more categories, statistically unchanged from the 41% observed two years ago.

RENTAL/LEASE IN MULTIPLE CATEGORIES							
	2019		**2017**		**2015**		**2013**
	(236)		(234)		(376)		(374)
	%		%		%		%
Any Lease/Rental	60	=	**57**	>	37		40
Only 1 Category	14	=	16	=	18	=	21
Lease/Rent in **Multiple/2+** Categories	**46**	=	**41**	>	19	=	19
In 2 Categories	13	=	**14**	>	8	=	10
In 3+ Categories	**33**	=	**27**	>	11	=	9

- As was the case two years ago, larger electrical contracting companies are more likely than smaller electrical contractors to have leased/rented tools and equipment at all ("any") and also in the multiple categories of 2+ and 3+ types of tools and equipment.

- As was also the case two years ago, a higher percentage of firms that work primarily on CII projects have rented/leased at all ("any") and in the multiple categories of 2+ and 3+ types of tools and equipment compared with firms working primarily on residential projects.

    - As noted in the past, we believe that this is due to the larger companies being more involved in larger, more complex and sophisticated projects that require *more different types* of tools and equipment.

- Note that 25% of the smaller companies (those with 1-9 employees) rented/leased in 3+ categories compared to 49% of firms with 10+ employees.

	In 2019				
		Number of Employees		**Work Primarily In**	
	Total	**1-9**	**10+**	**Residential**	**CII**
	(236)	(150)	(85)	(84)	(116)
	%	%	%	%	%
Any Lease/Rental	60	51	**< 75**	41	**< 76**
Only 1 Category	14	15	12	10	16
Lease/Rent in **Multiple /2+** Categories	46	37	**< 64**	31	**< 60**
In 2 Categories	13	12	14	17	10
In 3+ Categories	33	25	**< 49**	14	**< 50**

Bolded numbers denote significant differences at the 90% level of confidence in the direction of the arrow

Lease/Rental in Multiple Categories, continued

Trended: There are no statistically significant differences among the total sample or by company size compared with two years ago. However, this indicates that rental/lease levels retained the higher levels observed two years ago.

- In contrast, when 2017 is compared to 2015, there were statistically significant increases among the total sample as well as among firms with 1-9 employees and among firms with 10+ employees. This is consistent with the general level of renting/leasing increasing between 2015 and 2017.

RENTAL/LEASE in MULTIPLE CATEGORIES (By Firm Size)

	Total Sample				**1-9 Employees**				**10+ Employees**			
	2019	**2017**	**2015**	**2013**	**2019**	**2017**	**2015**	**2013**	**2019**	**2017**	**2015**	**2013**
	(236)	**(234)**	**(376)**	**(374)**	(150)	(162)	(276)	(282)	(85)	(71)	(98)	(91)
	%	**%**	**%**	**%**	**%**	%	**%**	**%**	**%**	**%**	**%**	**%**
"Any" Lease/Rental	60	**57** >	37	40	51	**47** >	33	36	75	**81** >	**48**	51
Only 1 Category	14	16	18	21	15	17	19	20	12	13	13	< **23**
Lease/Rent in **Multiple/2+** Categories	46=	**41** >	19	19	37	**30** >	14	16	64	**68** >	**35**▲	28
In 2 Categories	13	**14** >	8	10	12	12 =	8	10	14	**19** >	10	12
In 3+ Categories	33 =	**27** >	11	9	25	**18** >	6	6	49	**49** >	**25**▲	16

Bolded numbers denote significant differences at the 90% level of confidence in the direction of the arrow.

▲ **Not significant on this base size**

Before we delve into the individual types of tools and equipment, here is an overview of use of the tools and equipment measured in this survey and with the method of obtaining each in 2019. As noted a few pages earlier, there are a small number of areas, including – Cranes, Digging/HDD/boring equipment, Aerial lifts, Cranes and Mobile office space -- where a higher percentage said that they made a 2019 *purchase* and/or *rental/lease* than say that their firm *used* this type of equipment in 2019. This could be an error in reporting on the part of participants or it could be that these items were acquired in anticipation of their later use or some combination of the two.

	Use in 2019	**Purchase in 2019**	**Lease/ Rent in 2019**	**Purchase or Lease/Rent in 2019**	**Use Vs. Obtained (A minus D)**
	A	**B**	**C**	**D**	**E**
	Total	**Total**	**Total**	**Total**	**Total**
	(236)	**(236)**	**(236)**	**(236)**	**(236)**
	%	**%**	**%**	**%**	**%**
“Any” …	90	84	60	87	3
Hand tools	81	74	6	75	6
Power tools	79	68	12	69	10
Electrical testers, multimeters, etc.	78	55	3	56	22
Measuring tools (including digital)	78	49	2	49	29
Fishing tools	76	46	3	47	29
Phones: smart/mobile/cell or two-way radio/push-to-talk	71	43	3	44	27
Pipe threaders, benders, cutters	70	35	6	38	32
Labeling/identification (cable/panel)	67	36	1	36	31
Personal protective equipment, including apparel and accessories	65	43	3	43	22
Job-site safety equipment	58	34	7	38	20
Cable pullers	54	25	8	30	24
Tablets or portable reading devices	51	31	2	31	20
Portable generators	51	19	13	28	23
Aerial lifts/scaffolding	49	11	45	51	-2
Temporary job-site lighting	48	26	5	28	20
Trailers (to haul equipment/materials)	46	17	9	23	23
LAN, datacom, other low-voltage	37	22	2	22	15
Estimating software	36	15	3	16	20
Digging/HDD/boring equipment	33	9	34	39	-6
Thermal imaging	32	12	5	16	16
CAD software	24	12	2	12	12
Project management software	23	9	1	9	14
Tool and inventory control software	21	9	1	9	12
Scheduling sales and services software	21	8	1	8	13
BIM software	16	9	2	9	7
Mobile office space (trailers)	14	5	14	16	-2
Cranes	14	3	25	27	-13
3D scanner	8	5	2	6	2
Drones	8	5	2	6	2
3D printer	8	4	2	6	2

Communications and Meters

Electrical Testers and Multimeters Purchase Behavior

In 2019, 55% of respondent firms *purchased* Electrical testers and multimeters (etc.). The percentage of electrical contractors making a past year purchase rose significantly from its 2017 level of 45%. With this rise, the 2019 purchase level is now statistically comparable to what it was in 2013

- Only 2.5% *rented/leased* in this category, statistically unchanged from two years earlier.

ELECTRICAL TESTERS and MULTIMETERS (2019 vs. 2017 and Earlier)							
	In 2019		**In 2017**		**In 2015**		**In 2013**
	(236)		**(234)**		**(376)**		**(374)**
	%		%		%		%
Purchase Level	**55**	>	45	=	46	<	**60**
Rental/Lease	**2.5**		3.7				

- In a pattern that we've observed in other categories, larger firms and/or firms working primarily on CII projects are more likely to have made a *purchase* in this category compared with smaller firms and/or those that work primarily on residential construction.

- Larger firms are also more likely than smaller firms to have *rented or leased* in this category. However, there is no difference by primary type of construction work performed.

ELECTRICAL TESTERS and MULTIMETERS (2019)						
		Number of Employees			**Work Primarily In**	
	Total	**1-9**	**10+**		**Residential**	**CII**
	(236)	**(150)**	**(85)**		**(84)**	**(116)**
Purchase Level	55%	48%	**< 68%**		42%	**< 66%**
Rental/Lease	2.5%	0.7%	**< 5.9%**		1.2%	3.4%

Bolded numbers denote significant differences at the 90% level of confidence

Trended Results

Although purchases of Electrical testers, multimeters (etc.) posted a significant increase among the total sample compared with 2017, there was no difference by number of employees between 2017 and 2019. Rather, the difference was due to significantly more firms working in CII construction buying Electrical testers, multimeters (etc.) in 2019 compared to 2017.

In terms of rental/lease, there was no difference among the total sample or by either any of the subgroups.

Electrical Testers/Multimeters								
	Number of Employees				**Work Primarily In**			
	1-9		**10+**		**Residential**		**CII**	
	2019	**2017**	**2019**	**2017**	**2019**	**2017**	**2019**	**2017**
	(150)	(162)	(85)	(71)	(84)	(81)	(116)	(107)
Purchase Level	48 =	40	68 =	59	42 =	42	**66 >**	52
Rental/Lease	0.7 =	1.2	5.9 =	9.7	1.2 =	0	3.4 =	6.4

Estimates and Projections: Electrical Testers and Multimeters

ALL INDUSTRY ESTIMATE OF 2019 FIRMS PURCHASING AND RENTING/LEASING: ELECTRICAL TESTERS AND MULTIMETERS

	Percent of Respondent Firms Buying or Renting	Number of EC Firms (Source: 2018 CBP)	Projected Number Firms Buying or Renting
	%	#	#
Purchase	55	75,381	**41,460**
Rental/Lease	2.5	75,381	**1,885**

Continues on the next page

LAN, Datacom, Other Low Voltage Testing Equipment Purchase Behavior

22% of respondent firms *purchased* LAN, datacom, other low-voltage testing equipment in 2019. In 2019, purchase levels posted a significant increase versus 2017. Note that purchase levels have been increasing in this category since 2015.

- Only 1.7% rented/leased in this category, statistically unchanged from two years earlier. Because rental/lease behavior was so low, we are not including it in the remainder of the analysis.

LAN, DATACOM and OTHER LOW VOLTAGE EQUIPMENT PURCHASE (2019 Vs. 2017 and Earlier)							
	In 2019		**In 2017**		**In 2015**		**In 2013**
	(236)		**(234)**		**(376)**		**(374)**
	%		%		%		%
Purchase Level	**22**	>	**14**	>	9	<	**16**
Rental/Lease	1.7	=	2.8				

- In 2019, purchase was significantly higher among larger companies (10+ employees) vs. smaller companies (1-9 employees) and/or among firms working primarily on CII projects rather than firms working on primarily residential projects.

LAN, DATACOM and OTHER LOW VOLTAGE TESTING EQUIPMENT PURCHASE IN 2019 (By Firm Size and Primary Work Type)						
		Number of Employees			**Work Primarily In**	
	Total	**1-9**	**10+**		**Residential**	**CII**
	(236)	**(150)**	**(85)**		**(84)**	**(116)**
Purchase Level	22%	15%	**< 34%**		10%	**< 31%**

Trended Results

Purchase of LAN, datacom, other low-voltage testers posted a statistically significant increase among the total sample compared with 2017, driven by a statistically significant increase in purchase among firms with 1-9 employees. There was no difference among firms with 10+ employees, or by the primary types of work performed compared with two years earlier.

LAN, Datacom, Other Low Voltage Testing Equipment								
	Number of Employees				**Work Primarily In**			
	1-9		**10+**		**Residential**		**CII**	
	2019	**2017**	**2019**	**2017**	**2019**	**2017**	**2019**	**2017**
	(150)	**(162)**	**(85)**	**(71)**	**(84)**	**(81)**	**(116)**	**(107)**
Purchase Level	**15% >**	7%	34% =	29%	10% =	4%	31% =	22%

Bolded numbers denote significant differences at the 90% level of confidence.

Estimates and Projections: LAN, Datacom, And Other Low Voltage Testing Equipment

ALL INDUSTRY ESTIMATE OF NUMBER OF 2019 FIRMS PURCHASING LAN, DATACOM, OTHER LOW VOLTAGE TESTING EQUIPMENT

	Percent of Respondent Firms Buying	Number of EC Firms (Source: 2018 CBP)	Projected Number Firms Buying
	%	#	#
Purchase	22	75,381	**16,584**

Thermal Imaging Purchase and Rental/Lease Behavior

12% of electrical contracting firms purchased Thermal imaging in 2019, statistically unchanged compared to two years ago. The level of rental/lease, at 4.7%, is also statistically unchanged compared with 2017.

THERMAL IMAGING			
	In 2019		**In 2017**
	Total		**Total**
	(236)		**(234)**
Purchase	12%	=	10%
Rented/Leased	4.7%	=	4.1%

Larger firms and/or those that work primarily on CII projects are significantly more likely to have made a *purchase* of Thermal imaging compared with smaller firms and/or those that work primarily on residential projects.

Rental/lease is more prevalent among firms that work primarily on CII projects compared with firms that work primarily on residential projects. There is no statistically significant difference in renting/lease in this category by number of employees.

THERMAL IMAGING (2019)						
		Number of Employees			**Work Primarily In**	
	Total	**1-9**	**10+**		**Residential**	**CII**
	(236)	**(150)**	**(85)**		**(84)**	**(116)**
Purchase	12%	7%	**< 20%**		2.4%	**< 16%**
Rented/Leased	4.7%	3.3% =	7%		1.2%	**< 7%**

Trended Results

Compared with two years ago, there is only one statistically significant difference by subgroup: past year *purchase* of Thermal imaging among firms working primarily on residential projects posted a large and significant drop compared to two years earlier. There are no statistically significant differences in purchase or in rental/lease of Thermal imaging by either company size or by the primary type of work performed.

THERMAL IMAGING								
	Number of Employees				**Work Primarily In**			
	1-9		**10+**		**Residential**		**CII**	
	2019	**2017**	**2019**	**2017**	**2019**	**2017**	**2019**	**2017**
	(150)	**(162)**	**(85)**	**(71)**	**(84)**	**(81)**	**(116)**	**(107)**
Purchase	7% =	9%	20% =	15%	2.4%	**< 12%**	16% =	10%
Rental/Lease	3.3% =	3.6%	7.1% =	5.5%	1.2% =	2.2%	6.9% =	3.4%

Estimates and Projections: Thermal Imaging

ALL INDUSTRY ESTIMATE OF NUMBER OF 2019 FIRMS PURCHASING AND RENTING/LEASING OF THERMAL IMAGING

	Percent of Respondent Firms Buying or Renting	Number of EC Firms (Source: 2018 CBP)	Projected Number Firms Buying or Renting
	%	#	#
Purchase	12	75,381	**9,046**
Rental/Lease	4.7	75,381	**3,543**

Logistics and Communications

Labeling/Identification (Cable/Panel) Purchase Behavior

36% of electrical contracting firms purchased Labeling/identification (cable/panel) equipment in 2019; this is statistically unchanged from the 34% reported two years earlier.

- Only about 1% rented/leased in this category in 2019, as a result we are not including it in the analysis.

LABELING/IDENTIFICATION (CABLE/PANEL) PURCHASE (Trended)							
	In 2019		**In 2017**		**In 2015**		**In 2013**
	(236)		**(234)**		**(376)**		**(374)**
Purchase Level	36%	=	**34%**	>	22%	<	**33%+**

- Larger firms and firms working primarily on CII projects are more likely to have made a past year purchase in this category.

LABELING/IDENTIFICATION (CABLE/PANEL) PURCHASE IN 2019 (By Firm Size and Primary Work Type)						
		Number of Employees			**Work Primarily In**	
	Total	**1-9**	**10+**		**Residential**	**CII**
	(236)	**(150)**	**(85)**		**(84)**	**(116)**
Purchase Level	36%	23%	**< 59%**		18%	**< 49%**

Trended Results

As noted above, there are no statistically significant differences in purchase among the total sample compared with two years earlier. Nor are there any statistically significant differences in purchase by number of employees or by primary type of work performed compared with two years earlier.

LABELING/IDENTIFICATION (Cable/Panel) EQUIPMENT PURCHASES								
	Number of Employees				**Work Primarily In**			
	1-9		**10+**		**Residential**		**CII**	
	2019	**2017**	**2019**	**2017**	**2019**	**2017**	**2019**	**2017**
	(150)	**(162)**	**(85)**	**(71)**	**(84)**	**(81)**	**(116)**	**(107)**
Purchase Level	23% =	22%	59% =	63%	18% =	17%	49% =	49%

Bolded numbers denote significant differences at the 90% level of confidence.

Estimates and Projections: Labeling/Identification (Cable/Panel)

ALL INDUSTRY ESTIMATE OF NUMBER OF 2019 FIPRMS PURCHASING: LABELING/IDENTIFICATION (CABLE/PANEL)

	Percent of Respondent Firms Buying	Number of EC Firms (Source: 2018 CBP)	Projected Number Firms Buying
	%	#	#
Purchase	36	75,381	**27,137**

Phones: Smart/Mobile/Cell orTwo-Way Radios/Push-to-Talk Phones: Purchase and Rental/Lease Behavior

43% of electrical contracting firms *purchased* Phones: Smart/Mobile/Cell or Two-Way Radios/Push-to-Talk Phones in 2019. There is no statistically significant difference between 2019 and 2017.

- The percentage that *rent/lease* in this category is only 3.0%, statistically unchanged from the 3.4% recorded in 2017.

PHONES: MOBILE/CELL or TWO-WAY RADIOS/PUSH-TO-TALK PHONES PURCHASE AND RENTAL/LEASE (Trended)							
	In 2019		**In 2017**		**In 2015**		**In 2013**
	(236)		**(234)**		**(376)**		**(374)**
Purchase Level	43%	=	37%	=	37%	<	**47%**
Rental/Lease	3.0%	=	3.4%				

- Larger firms and/or those that work primarily on CII projects are significantly more likely to have made a past year purchase compared with smaller firms and/or those that work primarily on residential projects. The same holds true for rental/lease: larger firms and/or those that work primarily on CII projects are also more likely to rent/lease in this category, compared with smaller firms and/or those work primarily on residential projects.

PHONES: SMART/MOBILE/CELL/TWO-WAY RADIOS or PUSH-TO-TALK PHONES PURCHASE AND RENTAL/LEASE (By Firm Size and Primary Work Type)						
	In 2019					
		Number of Employees			**Work Primarily In**	
	Total	**1-9**	**10+**		**Residential**	**CII**
	(236)	**(150)**	**(85)**		**(84)**	**(116)**
Purchase Level	43%	35%	**< 58%**		30%	**< 51%**
Rental/Lease	3%	0.7%	**< 7%**		1.2%	**< 5.2%**

Bolded numbers denote significant differences at the 90% level of confidence.

Trended Results

There is only one statistically significant difference in the table shown below: Purchase in this category rose significantly among firms working primarily on CII projects. However, as noted above, both purchase levels and levels of renting/leasing are unchanged among the total sample.

PHONES: SMART/MOBILE/CELL or TWO-WAY RADIOS/PUSH-TO-TALK PHONES PURCHASE AND RENTAL/LEASE								
	Number of Employees				**Work Primarily In**			
	1-9		**10+**		**Residential**		**CII**	
	2019	**2017**	**2019**	**2017**	**2019**	**2017**	**2019**	**2017**
	(150)	**(162)**	**(85)**	**(71)**	**(84)**	**(81)**	**(116)**	**(107)**
Purchase Level	35% =	26%	58% =	63%	30% =	28%	**51% >**	43%
Rental/Lease	0.7% =	3.2%	7.1% =	3.9%	1.2% =	1.4%	5.2% =	4.5%

Estimates and Projections: Phones

ALL INDUSTRY ESTIMATE OF NUMBER OF 2019 FIRMS PURCHASING AND RENTAL/LEASING: PHONES

	Percent of Respondent Firms Buying or Renting	Number of EC Firms (Source: CBP)	Projected Number Firms Buying or Renting
	%	#	#
Purchase	43	75,381	**32,414**
Rental/Lease	3.0	75,381	**2,261**

Tablets or Portable Reading Devices Purchase Behavior

31% of electrical contracting firms reported a 2019 purchase of Tablets or portable reading devices. This is statistically unchanged from the level reported for 2017.

- The percentage that rent/lease in this category is less than 2% (1.7%); as a result we are not including it in the analysis.

TABLETS or PORTABLE READING DEVICES (Trended)					
	In 2019		**In 2017**		**In 2015**
	Total		**Total**		**Total**
	(236)		**(234)**		**(376)**
Purchase Level	31%	=	**24%**	>	16%

- Firms with 10+ employees and/or firms that work primarily on CII projects are far more likely than firms with 1-9 employees and/or those that work primarily on residential projects to have made a 2019 Tablets or portable reading device purchase.

TABLETS or PORTABLE READING DEVICE PURCHASE IN 2019 (By Firm Size and Primary Work Type)						
	In 2019					
		Number of Employees			**Work Primarily In**	
	Total	**1-9**	**10+**		**Residential**	**CII**
	(236)	**(150)**	**(85)**		**(84)**	**(116)**
Purchase Level	31%	17%	**< 54%**		18%	**< 40%**

Bolded numbers denote significant differences at the 90% level of confidence in the direction of the arrow.

Trended Results

There are no statistically significant differences in the table shown below. As noted, purchase levels are statistically unchanged among the total sample.

TABLETS or PORTABLE READING DEVICES								
	Number of Employees				**Work Primarily In**			
	1-9		**10+**		**Residential**		**CII**	
	2019	**2017**	**2019**	**2017**	**2019**	**2017**	**2019**	**2017**
	(150)	**(162)**	**(85)**	**(71)**	**(84)**	**(81)**	**(116)**	**(107)**
Purchase Level	17% =	13%	54% =	52%	18% =	13%	40% =	32%

Estimates and Projections: Tablets and Portable Reading Devices

ALL INDUSTRY ESTIMATE OF NUMBER OF 2019 FIRMS PURCHASING: TABLETS AND PORTABLE READING DEVICES

	Percent of Respondent Firms Buying	Number of EC Firms (Source: CBP)	Projected Number Firms Buying
	%	#	#
Purchase	31	75,381	**23,368**

New Technology

We've categorized three products as new technology: Drones and 3D scanners, which were first asked in the 2018 Profile Study and 3D printers which were first asked in 2020.

As of 2019, Usage for each is under 10%; Purchase is in the 5% range and rental/lease for each is in the 2% range. However, as shown below, purchase of Drones posted a statistically significant increase in Purchase compared with 2017.

	Use in 2019		**Purchase in 2019**		**Rent/Lease in 2019**
	%		%		%
Drones	8		5 ⇧		2
3D scanner	8		5		2
3D printer	8		4		2

⇧ Indicates significant increase versus 2017

Drones

5% of electrical contracting firms reported purchasing a drone in 2019, which is more than double the 2017 level and is a statistically significant increase from two years earlier.

Less than 2% reported renting/leasing a drone in 2019 (1.7%). The apparent difference from 2017 is not statistically significant. Since rental/lease behavior is so low, we are excluding it from the remainder of this analysis.

Drones (Trended)			
	In 2019		**In 2017**
	Total		**Total**
	(236)		**(234)**
Purchase Level	**5.1%**	>	1.9%
Rental/Lease	1.7%	=	0.4%

Firms with 10+ employees and/or firms that work primarily on CII projects are far more likely than firms with 1-9 employees and/or those that work primarily on residential projects to have made a 2019 Drone purchase.

DRONES PURCHASE IN 2019 (By Firm Size and Primary Work Type)						
	In 2019					
		Number of Employees			**Work Primarily In**	
	Total	**1-9**	**10+**		**Residential**	**CII**
	(236)	**(150)**	**(85)**		**(84)**	**(116)**
Purchase Level	5.1%	2%	**< 11%**		1.2%	**< 5.2%**

Trended Results

The increase in Drones purchase since 2017 among the total sample was driven by increased purchasing among larger firms.

Drones								
	Number of Employees				**Work Primarily In**			
	1-9		**10+**		**Residential**		**CII**	
	2019	**2017**	**2019**	**2017**	**2019**	**2017**	**2019**	**2017**
	(150)	**(162)**	**(85)**	**(71)**	**(84)**	**(81)**	**(116)**	**(107)**
Purchase Level	2% =	1.1%	**11% >**	4%	1.2% =	1.1%	5.2% =	1.7%

Estimates and Projections: Drones

ALL INDUSTRY ESTIMATE OF NUMBER OF 2019 FIRMS PURCHASING: DRONES

	Percent of Respondent Firms Buying	Number of EC Firms (Source: CBP)	Projected Number Firms Buying
	%	#	#
Purchase	5.1	75,381	**3,844**

Continues on the next page

3D Scanners

5% of electrical contracting firms reported purchasing a 3D scanner 2019, statistically unchanged compared with two years earlier.

About 2% reported renting/leasing a 3D scanner 2019, which is also statistically unchanged from the level reported for 2017. Since rental/lease behavior is so low, we are excluding it from the remainder of this analysis.

3D Scanners (Trended)			
	In 2019		**In 2017**
	Total		**Total**
	(236)		**(234)**
Purchase	5.1%	=	2.4%
Rental/Lease	2.1%	=	1.6%

Firms with 10+ employees and/or firms that work primarily on CII projects are far more likely than firms with 1-9 employees and/or those that work primarily on residential projects to have made a 2019 3D scanner purchase.

3D SCANNER PURCHASE IN 2019 (By Firm Size and Primary Work Type)						
	In 2019					
		Number of Employees			**Work Primarily In**	
	Total	**1-9**	**10+**		**Residential**	**CII**
	(236)	**(150)**	**(85)**		**(84)**	**(116)**
Purchase Level	5.1%	0.7%	**< 13%**		1.2%	**< 5.2%**

Although the increase in purchasing among the total sample was not significant compared with two years earlier, there was a strong and statistically significant increase in 3D scanner purchases among firms with 10+ employees.

3D Scanner Trended								
	Number of Employees				**Work Primarily In**			
	1-9		**10+**		**Residential**		**CII**	
	2019	**2017**	**2019**	**2017**	**2019**	**2017**	**2019**	**2017**
	(150)	**(162)**	**(85)**	**(71)**	**(84)**	**(81)**	**(116)**	**(107)**
Purchase Level	0.7% =	1.8%	**13% >**	3.9%	1.2% =	2%	5.2% =	3.6%

Estimates and Projections: 3D Scanner

ALL INDUSTRY ESTIMATE OF NUMBER OF 2019 FIRMS PURCHASING: 3D SCANNER

	Percent of Respondent Firms Buying	Number of EC Firms (Source: CBP)	Projected Number Firms Buying
	%	#	#
Purchase	5.1	75,381	**3,844**

3D Printers

4% of electrical contracting firms purchased a 3D printer in 2019. Purchase was statistically higher among firms with 10+ employees than among firms with 1-9 employees. There is no statistically significant difference by primary type of work performed.

2% rented/leased in this category. Since rental/lease behavior is so low, we are excluding it from the remainder of this analysis.

This category cannot be trended since 3D printers were only included in the most recent Profile study.

3D PRINTER PURCHASE IN 2019 (By Firm Size and Primary Work Type)						
	In 2019					
		Number of Employees			**Work Primarily In**	
	Total	**1-9**	**10+**		**Residential**	**CII**
	(236)	**(150)**	**(85)**		**(84)**	**(116)**
Purchase Level	4.2%	1.3%	**< 9.4%**		2.4%	4.3%

Estimates and Projections: 3D Printer

ALL INDUSTRY ESTIMATE OF NUMBER OF 2019 FIRMS PURCHASING: 3D PRINTER

	Percent of Respondent Firms Buying	Number of EC Firms (Source: CBP)	Projected Number Firms Buying
	%	#	#
Purchase	4.2	75,381	**3,166**

Use/Ownership of Computers and Electronic Devices

Certain questions in the 2020 Profile Survey were given to only a part of the sample in order to keep the overall survey shorter and more manageable. The findings in this section are based on a different set of respondents (those in V8) than those who answered the preceding questions on Tools and Equipment purchase (those in V3).

98% of respondents reported they that they or their firm uses/owns one or more of the 16 types of computers and electronic devices measured in this survey. This is a slight but statistically significant increase compared with 2017, when it was 94%.

Ownership of phones and computers are on a par, with 94% of survey participants reporting usage or ownership of *each*.

- **Use or ownership** of **Smartphones** posted a statistically significant increase compared to two years ago, while use of phones that are not smart or multifunctional posted a statistically significant decline.
    - In fact, Smartphones are now owned by about 4.8 times more electrical contractors as mobile phones that are not smart or multifunctional (90% vs. 19%).
- Computers in total—Desktop/laptop/tablets—posted an increase mostly due to a significant rise in use of laptops. Ownership of laptops, which had declined between 2015 and 2017, has now returned to the 2015 level. Two years ago, we hypothesized that the decline in computers that we were noticing between 2015 and 2017 may have been due to Smartphones taking over many of the functions that had formerly been conducted using a computer. However, as of 2019, this doesn't seem to be the case.
- At the same time, use of Tablets has been statistically stable, suggesting that rather than *replacing* computers, Tablets are being used ***in addition*** to other computing devices and not, at this point, instead of them.

In 2018, we added a category called "New Technology" to include Thermal imaging cameras, VR/AR headsets, 3D scanners, Wearable technology and Drones. In 2020, we added 3D printers.

- Almost 4 in 10 of the electrical contractors surveyed (37%) already own one or more devices in this category. Of these devices, ownership of Thermal imaging cameras, at 25%, is highest.

Note however that some of the changes between the 2020 Profile Study and the 2018 Profile Study may be due to the fact that more of the sample in 2020 was drawn from those that took the survey on the Internet (and therefore are believed to be more technically savvy). As such, we are not trending results for computer and electronic devices or for software beyond this page and the table on the next page.

USE/OWNERSHIP OF COMPUTERS and ELECTRONIC DEVICES										
(V8) Q15A	**In 2019**		**In 2017**		**In 2015**		**In 2013**		**In 2011**
	Total		**Total**		**Total**		**Total**		**Total**
	(232)		(229)		(304)		(271)		(253)
	%		%		%		%		%
"ANY" Ownership	**98**	≥	94	=	95	≤	**98**	≥	88
(Smart*) /Mobile/Cell Phones or Two-Way Radios (Net)	**94**	≥	89	=	89	≤	**94**	≥	84
Smartphones* Δ	**90**	>	73	=	79	=	74	>	**44**
Mobile phones/cell phones (not smart or multifunctional)	**19**	<	**34**	>	27	<	**55**	<	**<67**
Two-way radios	29	=	26	=	25		29		26
Push-to-talk phones	6	=	8	=	5		--		--
Desktop/Laptop/Tablet (Net)	**94**	≥	85	≤	**91**	=	**90**	≥	69
Desktop Computer (office/trailer) Δ	76	=	72	<	**82**		81	>	61
Laptops Δ	**74**	>	62	<	**74**	>	**66**	>	36
Tablets (iPad©, etc.) Δ	50	=	43	<	**54**	>	**40**	>	17
Electrical testing/diagnostic meters***	--		--		--		73		--
GPS	31	=	31	<	**38**	=	40	=	37
Time clocks or personnel tracking devices*	10	=	9	=	8	=	8	=	6
Fleet tracking*	10	=	11	=	10	=	7	=	6
New Technology (Net)	37	=	35		--		--		--
Thermal imaging camera	25	=	29		--		--		--
Drones	**8.2**	>	3.1		--		--		--
3D scanner	6.5	=	6.2		--		--		--
Wearable technology	6	=	5.7		--		--		--
VR/AR headsets or hardhats	5.2	=	8.8		--		--		--
3D printer * Δ	2.6		--		--		--		--

Bolded **numbers denote significant differences at the 90% level of confidence in the direction of the arrow.**

* Δ 3D printer was added in 2020
Δ Wording changed in 2014 from Workstations to Desktop Computer (Office/Trailer)
Δ Wording changed in 2014 from Field Laptop to Laptop
Δ Wording changed in 2014 from Smartphones or PDAs to Smartphones
Δ Wording changed in 2018 from Tablets (iPad©, etc.) to Tablets (iPad©, etc.) of any size
***Electrical testing/diagnostic meters was dropped from this question in 2016

* **Added in 2010**
*** **Added in 2014**

Use/Ownership of Computers and Electronic Devices, continued

Use/ownership of the specific types of computer and electronic equipment is significantly higher among larger electrical contracting firms compared to their smaller counterparts. The only exceptions are Push-to-talk phones, GPS, and these types of New Technology: Drones, Wearable technology, and VR/AR headsets, where there is no difference by company size. However, use/ownership is higher among larger firms in these types of computers and electronic devices: Thermal imaging camera, 3D scanner and 3D printer.

- Note that there are no categories where use/ownership is higher among firms with 1-9 employees compared with their larger counterparts.

In addition, usage and ownership tends to be higher in many categories among firms that work primarily on CII construction compared to those firms that work primarily on residential construction. The only exceptions are Smartphones, Mobile phones (not smart or multifunctional), Push-to-talk phones, GPS systems, and these types of New technology: Drones, 3D scanner, Wearable technology and VR/AR headsets or hardhats where there is no difference by primary type of construction.

- In contrast, 3D printers (a new category introduced in 2020) are significantly more likely to be used/owned by companies working primarily on residential projects. This finding is somewhat surprising because smaller firms tend to work primarily on residential projects, but in this case, it is larger firms that were more likely to use/own 3D printers.

USE/OWNERSHIP OF COMPUTERS and ELECTRONIC DEVICES (In 2019)					
(V8) Q15A		Number of Employees		Work Primarily In	
	Total	**1-9**	**10+**	**Residential**	**CII**
	(232)	(154)	(78)	(83)	(108)
	%	%	%	%	%
“ANY” Ownership	98	97	**< 100**	99	96
(Smart*) /Mobile/Cell Phones or Two-Way Radios (Net)	94	91	**< 99**	92	94
Smartphones	90	85	**< 99**	87	91
Mobile phones/cell phones (not smart or multifunctional)	19	15	< **26**	12	20
Two-way radios	29	22	**< 42**	19	**< 39**
Push-to-talk phones	6	5	8	4	7
Desktop/Laptop/Tablet (Net)	94	91	**< 100**	89	95
Desktop computer (office/trailer)	76	70	**< 90**	68	**< 82**
Laptops	74	64	**< 92**	59	**< 85**
Tablets (iPad©, etc.)	50	38	**< 74**	40	**< 57**
GPS	31	30	32	24	32
Time clocks or personnel tracking devices	10	6	**< 17**	4.8	**< 15**
Fleet tracking	10	1.9	**< 24**	2.4	**< 13**
New Technology (Net)	37	28	**< 54**	23	**< 44**
Thermal imaging camera	25	16	**< 45**	12	**< 37**
Drones	8	5.8	13	3.6	8.3
3D scanner	7	3.2	**< 13**	3.6	5.6
Wearable technology	6	4.5	9	3.6	7.4
VR/AR headsets or hardhats	5	4.5	6.4	8.4	3.7
3D printer (First asked in 2020)	2.6	1.3	**< 5.1**	**3.6 >**	0

Bolded **numbers denote significant differences at the 90% level of confidence in the direction of the arrow.**

Electronic Devices Company is Considering Adding

53% of electrical contractors are considering adding computers and/or electronic devices in the next 12 months.

Overall, 20% of the electrical contractors surveyed said that they are considering a purchase of one or more of these "New Technology" devices. In addition to Thermal imaging cameras (11%), 6% are considering the purchase of Wearable technology; 5% of a 3D scanner; 4 % of a 3D printer; 3% are considering the purchase of a Drone and 2% purchase of VR/AR headsets or hardhats.

While these numbers are still small, we will be watching their progress and expect them to increase, perhaps even dramatically over time.

In the more mature categories of Computers and Phones, 40% of those surveyed are considering the purchase of a Desktop, Laptop and/or Tablet, as a broad category. 26% are considering the purchase of one or more type of Phone or Two-way radio/ Push-to-talk phone.

As we noted two and four years ago, the wide array of computers and electronic devices that electrical contractors are considering for purchase might provide a fruitful environment to Big Box electronics vendors such as Best Buy or even Amazon or e-Bay.

The following individual product types, mentioned most often as considered additions:

Highlighting indicates considered additions over 10%	Total Considering Adding (2020 Profile Study)
	%
"ANY"	+53
Phones	+26
Smartphones	+23
Computers/Laptops/Tablets	+40
Laptops	+26
Tablets (iPad©, etc.)	+23
Desktop computer (office/trailer)	+22
New Technology	+20
Thermal imaging cameras	+11
Wearable technology	+5.6
3D scanner	+4.7
3D printer	+4.3
Drones	+3
VR/AR headsets or hardhats	+1.7

Electronic Devices Company is Considering Adding, continued

The considered additions (column E) can be further divided into two categories:

- Column C indicates the percent of the total sample that are considering purchase of a device that they or their firm do not currently own. Two categories stand out: Thermal imaging cameras and Tablets
- Column D indicates the percent of the total sample where the considered device would be an **upgrade, replacement or increasing the number of units** of a device that they or their firm already owns. Smartphones, Desktop Computers, Laptops, and Tablets are mentioned most often.
    - As was the case two years ago, purchases in the Tablets category are a mix of new category purchasers (+7, column C) and firms that are upgrading/replacing the Tablets that they already own (+16, column D). In contrast, for Thermal imaging cameras, almost all of the total is made up of purchasers that are new to the category. *Further examples of how to read this chart are shown on the next page.*

OWNERSHIP OF COMPUTERS and ELECTRONIC DEVICES (From 2020 Profile Study)					
	A	**B**	**C**	**D**	**E**
=Largest increases	**Total Own or Considering Category Purchase**	**Own**	**Don't Own But Are Considering Category Purchase**	**Upgraders/ Replacers**	**Total Considering Adding**
	Total	**Total**	**Total**	**Total**	**Total**
	(232)	**(232)**	**(232)**	**(232)**	**(232)**
	%	%	%	%	%
Smartphones	92	90	+2	+21	+23
Mobile phones/cell phones (not smart/ multifunctional)	19	19	0	+4	+4
Two-way radios	31	29	+2	+5	+7
Push-to-talk telephones	7	6	+1	0	+1
Desktop computer (office/trailer)	79	76	+3	+19	+22
Laptops	77	74	+3	+23	+26
Tablets (iPad©, etc.)	57	50	+7	+16	+23
GPS	33	31	+2	+5	+7
Time clocks or personnel tracking devices	15	10	+5	+1	+6
Fleet Tracking	12	10	+2	+4	+6
Thermal imaging camera	34	25	+9	+2	+11
VR/AR headsets	7	5	+2	0	+2
3D scanner	10	7	+3	+2	+5
Wearable technology	10	6	+4	+2	+6
Drones	10	8	+2	+1	+3
3D printer	7	3	+4	0	+4

Electronic Devices Company is Considering Adding, continued

Here is a further example of how to read the table on the previous page:

In the case of Smartphones, 90% currently own (column B), but 92% either own or are considering purchasing (column A). The difference between the two numbers, +2% is the potential new category buyers (column C). However, a total of 23% said that they are considering a purchase in this category (column E). The difference between the total considering (+21%) and those who are new to the category (+2%) is +21%. This is the percent that are replacing or upgrading in a category where they already have this type of device.

Similarly, 76% currently own a Desktop computer (column B) but 79% either own or are considering purchasing (column A). However, a total of 22% are considering a purchase in this category (column E). The difference between the total considering (+22%) and those who are new to the category (+3%) is +19%. This is the percent that would be replacing or upgrading in a category where they already have this type of device.

As was the case two years ago, purchases in the Tablets category are a mix of new category purchasers (+7, column C) and firms that are upgrading/replacing the Tablets that they already own (+16, column D). In contrast, for Thermal imaging cameras, almost the entire total is made up of purchasers that are new to the category

Extract from OWNERSHIP OF COMPUTERS and ELECTRONIC DEVICES (From 2020 Profile Study)

	A	B	C	D	E
V8 Q15a/b =Largest increase NB: all except Thermal imaging are also statistically significantly larger than two years earlier	**Total Own or Considering Category Purchase**	**Own**	**Don't Own But Are Considering Category Purchase**	**Upgraders/ Replacers**	**Total Considering Adding**
	Total	**Total**	**Total**	**Total**	**Total**
	(232)	**(232)**	(232)	(232)	(232)
	%	%	%	%	%
"ANY"					**+53**
Smartphones	92	90	+2	+21	+23
Desktop Computer (office/trailer)	79	76	+3	+19	+22
Laptops	77	74	+3	+23	+26
Tablets (iPad©, etc.)	57	50	+7	+16	+23
Thermal imaging cameras	34	25	+9	+2	+11

Use of Software

Δ Current Use of Software

Note that material in this section was also presented earlier in the report but is being presented here as a free-standing separate section.

The same group of respondents were shown a list of 13 types of business functions and asked how their firm handles these functions.

Starting in the 2018 Profile Study, we asked about respondent use of software in a different way than in previous Profile Studies. Instead of asking the participants about their use of "software", we asked if the respondents handled each of the 13 tasks "…internally, using a computer". This was done because we had concerns that the word "software" may be ambiguous to survey participants. Specifically, over the past few Profile Studies we came to believe that the use of software question did not accurately reflect the computer related activity of electrical contractors. For instance, six years ago, only 73% of those who took the survey online (where the invitation was sent by e-mail) said that they or their firm uses computer software to access the Internet!

Overall, almost 9 in 10 (86%) of the electrical contracting firms we surveyed make use of one or more of the types of software included in the 2020 Profile Study. Use of any of these types of software is substantially and significantly higher among larger firms than among their smaller counterparts (99% vs.79%).

- Larger firms are more likely than their smaller counterparts to currently use each of the different types of software shown on the next page. As a consequence, they are also more likely to currently use 4 or more types of software compared with firms with 1-9 employees.

- Similarly, firms that derive more than one half of their revenue from CII projects are also more likely than firms that work primarily on residential projects to currently use each of the types of software included in the survey. Note that firms that work primarily on CII projects tend to be larger.

  - It is interesting to note that there are relatively few differences by age.

The most frequently cited types of business functions or activities that are "handled internally, using a computer are": Estimating (68%), Accounting/Payroll (64%), Job Cost Control/Analysis (59%), Productivity Software (58%) Project Management (53%), Scheduling Service Work/Logistics (53%) Time and Attendance and Take-Off (51%).

Computer Software/Technologies Company Currently Uses (2020)								
	Based on "Handled Internally, Using a Computer" (V8), Q14A							
		Number of Employees		Firm Works Primarily In		Respondent Age		
	Total	**1-9**	**10+**	**Residential**	**CII**	**35-54**	**55-64**	**65+**
	(232)	(154)	(78)	(83)	(108)	(62)	(98)	(67)
	%	%	%	%	%	%	%	%
ANY	86	79	**<99**	75	**<94**	**92**	**90**	>74
Estimating	68	60	**<83**	60	**<77**	**76**	**69**	>58
Accounting/Payroll	64	53	**<87**	51	**<80**	**68**	**75**	>51
Job Cost Control/Analysis	59	44	**<87**	47	**<71**	-	-	-
Productivity Software	58	44	**<86**	48	**<66**	**63**	**62**	>46
Project Management	53	41	**<78**	41	**<68**	-	-	-
Scheduling Service Work/Logistics	53	44	**<71**	43	**<60**	-	-	-
Time and Attendance Software	53	41	**<76**	46	**<62**	-	-	-
Take-Off	51	38	**<78**	41	**<62**	-	-	-
Project Collaboration Software	35	16	**<73**	18	**<52**	-	-	-
Tool/Equipment Inventory Control	33	17	**<64**	22	**<44**	-	-	-
CAD	33	19	**<62**	23	**<43**	**40**	**36**	>24
Fleet Management/Vehicle Locator	28	12	**<59**	15	**<36**	-	-	-
BIM (Building Information Modeling)	22	8	**<50**	10	**<32**	**26**	**24**	>15
Only 1 Type	7	**10>**	3	5	6	-	-	-
2-3 Types	13	**18>**	4	13	10	-	-	-
4 + Types	65	51	**<92**	57	**<79**	**68**	**69**	>57
None/Don't Know/No Answer	14	**21>**	1	**25>**	6	8	10	**<25**

For age breaks: Only significant differences are shown; Empty cells indicate no difference from total

Here is a comparison of software usage when asked in two different ways – by showing a list of 6 types of software and asking if it was used in 2019 or, based on a different series of questions (asked in a different version of the survey). That is, instead of asking the participants about their use of "software", we asked if the respondents handled each of the 13 tasks "…internally, using a computer". This was done because we had concerns that the word "software" may be ambiguous to survey participants, for example, if it comes pre-loaded is it viewed as "software"?

Based on the latter way of asking the question on software use and showing a longer list of 13 rather than 6, we believe that software usage by electrical contractors is closer to 90%. Also note the difference in the percentage agreeing about specific types of software when the question is asked in terms "handled internally, using a computer" rather than when asked in terms of software used.

	Task Handled Internally, Using a Computer (V8)	Software Used in 2019 (V3)	Difference
	(232)	(236)	
	%	%	
ANY	86	50	+36
Accounting/Payroll	64		
Estimating	68	36	+32
Job Cost Control/Analysis	59		
CAD	33	24	+9
Take-Off	51		
Project Management	53	23	+30
Time and Attendance Software	53		
Tool/Equipment Inventory Control	33	21	+12
Scheduling Service Work/Logistics	53	21	+32
Fleet Management/Vehicle Locator	28		
BIM (Building Information Modeling)	22	16	+6
Project Collaboration Software	35		
Productivity Software	58		