



# NATE Impact Study

**CONFIDENTIAL**

**Prepared For:**



**[www.natex.org](http://www.natex.org)**

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## BACKGROUND

NATE, North American Technician Excellence Inc., is an independent, third-party certification body for HVAC/R technicians. NATE tests technicians; others train. Testing validates the technician's knowledge and a training program's instruction. NATE-approved testing organizations throughout the U.S. and Canada offer NATE tests. Candidates can earn installation and/or service certification in five specialty areas: air-conditioning, air distribution, heat pumps, gas heating & oil heating.

During a NATE strategic planning meeting, a breakout session with Craig Drabenstadt from Secco (an air conditioning contractor in Camp Hill, Pennsylvania), Matt Michel from the Service Roundtable (a contractor alliance), and Dave Pannier from the Trane Company (an air conditioning manufacturer) identified the need to quantify the value of NATE certification. The necessary measurements were identified in the breakout session, a survey instrument was later developed and reviewed by the breakout group and NATE staff, contractors were surveyed, and this report was prepared.

## OBJECTIVES

The objectives of this project were:

1. Quantify the benefits of NATE technician certification to contractors,
2. Identify whether contractors perceive differences between NATE certified technicians and uncertified technicians,
3. Identify whether NATE certified technicians are paid more than uncertified technicians, and
4. Identify technician expectations regarding pay following certification.

## **METHODOLOGY**

### **Sample**

Invitations to participate were sent to members of ACCA, the PHCC, RSES, and the Service Roundtable.

Only one survey per company was allowed. Each participating company employed at least one NATE certified technician who had worked for them since January 1, 2005 and one technician that was not NATE certified, who had also worked for them since January 1, 2005.

Eighty technicians were evaluated with forty comparative pairs of NATE certified technicians and uncertified technicians.

The survey was conducted online, through by a third party website.

## SUMMARY

## SUMMARY

The survey was designed to compare NATE certified and uncertified technicians from the same companies over the same time periods. This eliminated bias resulting from differing company training, policies, etc.

The research revealed that:

- NATE certified technicians generate fewer callbacks than uncertified technicians.
- NATE certified technicians generate less warranty expense than uncertified technicians.
- NATE certified technicians are more experienced than uncertified technicians.
- NATE certified technicians are higher paid than uncertified technicians.
- NATE certified technicians are much more likely than uncertified technicians to be highly valued by their employers.

Based on the research, the value of NATE certification for the typical contractor was determined to be \$10,040 per year, for each technician.

NATE presents a quintuple win. 1. Manufacturers face less warranty expense. 2. Distributors process fewer claims. 3. Contractors reduce direct expenses and enhance call capacity. 4. Homeowners face fewer hassles from callbacks. 5. Technicians receive better pay and are more highly valued by their employers.

A lack of knowledge or belief about the financial rewards of certification may inhibit some uncertified technicians from pursuing NATE. According to the contractors employing them, uncertified technicians are either unaware of the higher pay enjoyed by NATE certified technicians or do not believe technicians earn more after attaining certification.

The NATE Consumer-Contractor Connection service, when not utilized, tends to be unknown to the contractor employing the NATE certified technicians.

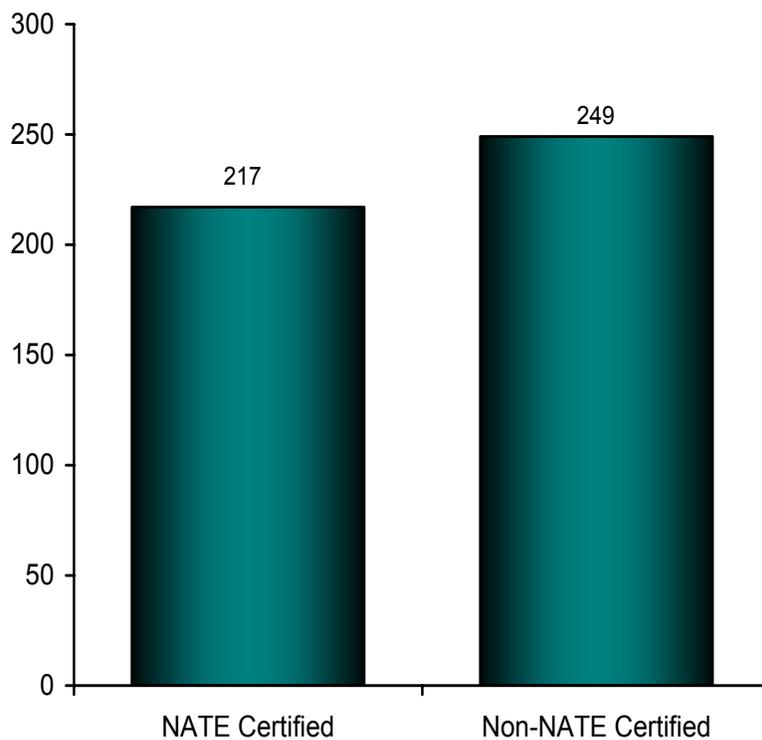
# DETAILED FINDINGS

## Certified technicians have 12.9% fewer callbacks.

The direct cost of a callback is the direct cost of dispatching a service vehicle, the fully burdened cost of paying a technician, and the cost of any material. The indirect cost is the opportunity cost of missing a revenue call during peak season when the company is at capacity and a technician is servicing a callback. An additional indirect cost is the loss of goodwill and damage to the contractor's reputation from the callback.

Contractors can calculate the savings potential of a NATE certified team by multiplying 12.9% times the average revenue per service call, times the number of callbacks from uncertified technicians during peak season, plus 12.9% times the direct cost (i.e., the average revenue per service call multiplied by the cost of sales, which is one minus the gross margin), times the number of callbacks from uncertified technicians during the off season and shoulder season. For many contractors, the lack of a NATE certified team costs thousands in callbacks alone.

### Number of Callbacks During Examination Period



Sample: n = 80: (40 NATE certified technicians; 40 non-NATE certified technicians)

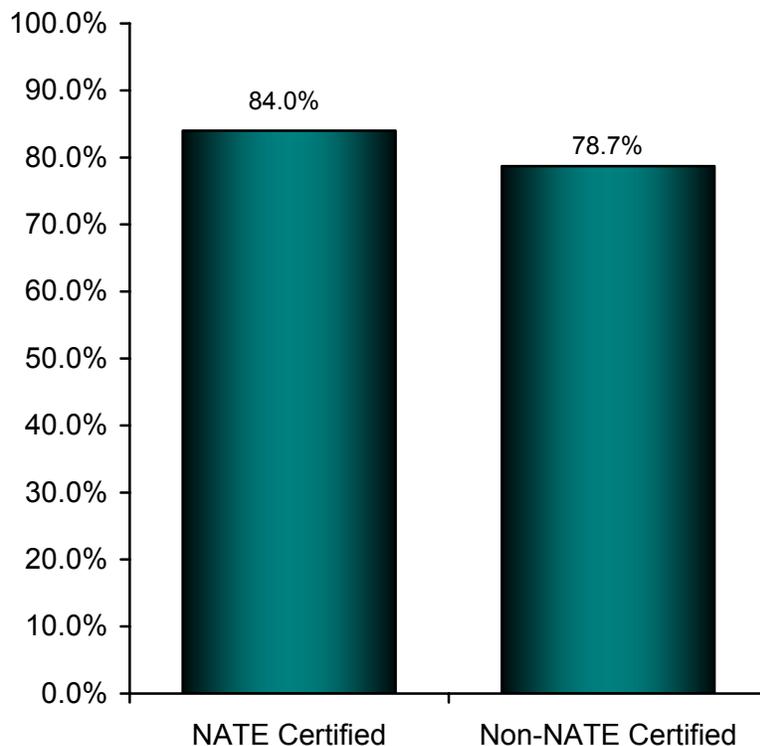
Question: "How many callbacks has this technician had since January 1?" (Please Type in Below)

## Certified technician billing efficiency is 6.8% higher.

Billable efficiency is the hours billed divided by the hours paid under time & materials pricing. It is book hours divided by hours paid under flat rate. While the difference is not statistically significant, NATE certified technicians bill nearly 7% more than uncertified technicians. Identifying and repairing root problems would result in a lower incidence of callbacks.

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### Billing Efficiency During Examination Period



Sample: n = 80: (40 NATE certified technicians; 40 non-NATE certified technicians)

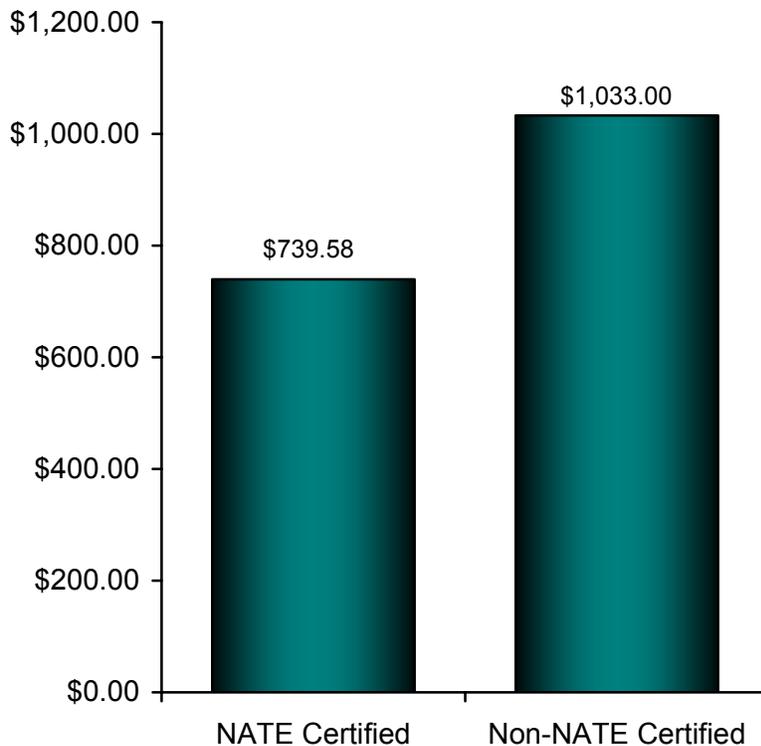
Question: "Since January 1, what is the billable efficiency of this technician (hours billed ÷ hours paid)?" (Please Type in Below)

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## Warranty expense is 28.4% lower with certified technicians.

The warranty cost on installations and service is nearly one third less with NATE certified technicians than uncertified technicians. NATE technicians appear more likely to do the job right the first time, reducing warranty and callback expense.

### Warranty Expense During Examination Period



Sample: n = 80: (40 NATE certified technicians; 40 non-NATE certified technicians)

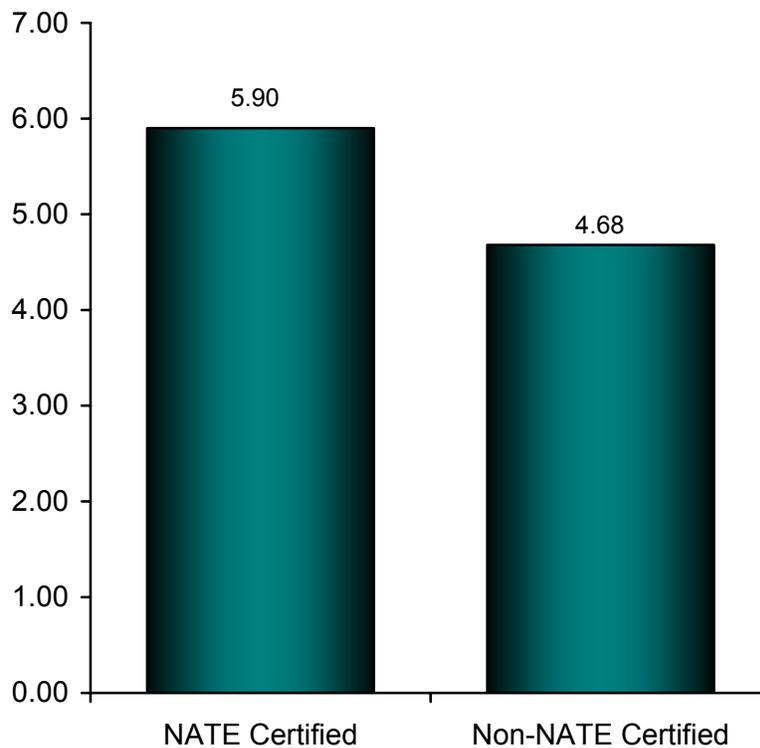
Question: "What is the warranty expense incurred following work performed by this technician since January 1?"  
(Please Type in Below)

## Certified technicians have 25.9% more experience.

One reason NATE certified technicians appear to outperform uncertified technicians is experience. More experienced technicians may be more likely to seek NATE certification in the first place. Once they seek it, more experienced technicians may be more likely to draw on their depth of experience to achieve certification. Whatever the reason, NATE technicians have over 25% more experience than uncertified technicians.

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### Average Experience of Technicians



Sample: n = 80: (40 NATE certified technicians; 40 non-NATE certified technicians)

Question: "How long has this employee worked for you, in years?" (Please Type in Below)

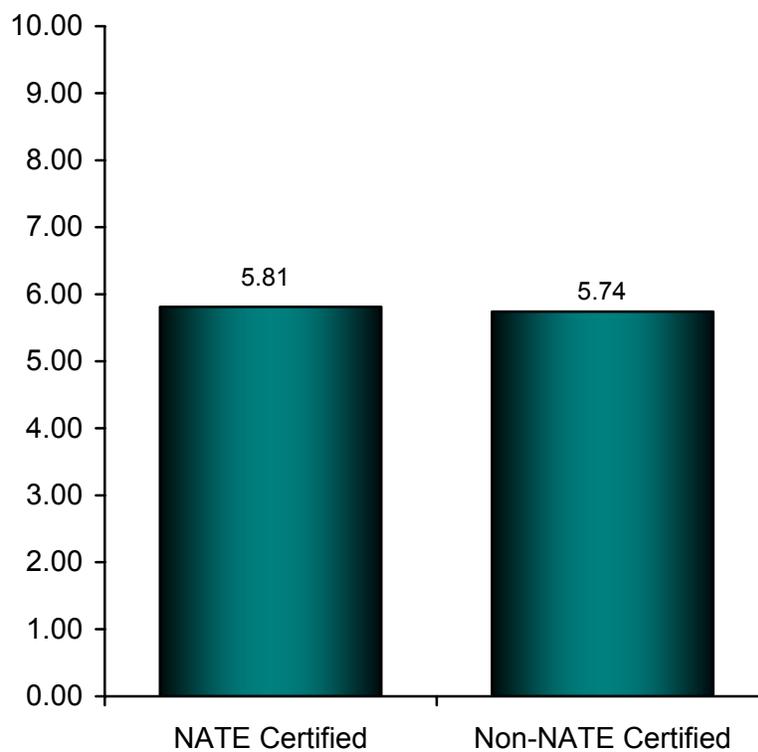
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## Certified and uncertified technicians perform roughly the same number of jobs per day.

NATE certified technicians are not dispatched to more calls than uncertified technicians.

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### Jobs Per Day During Examination Period



Sample: n = 80: (40 NATE certified technicians; 40 non-NATE certified technicians)

Question: "What is the average number of jobs per day performed by this technician since January 1?" (Please Type in Below)

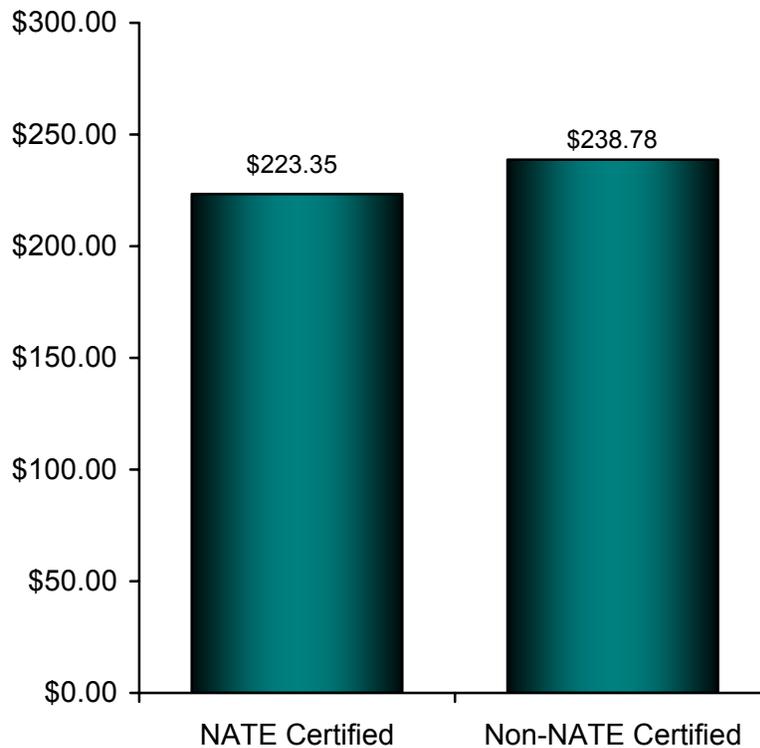
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## Certified technicians bill slightly less per job than uncertified technicians.

While certified technicians billed slightly less per job than uncertified technicians, the difference is statistically insignificant. Statistically, the revenue per job is virtually identical.

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### Average Revenue Per Job During Examination Period



Sample: n = 80: (40 NATE certified technicians; 40 non-NATE certified technicians)

Question: "What is the average ticket sale for this technician since January 1?" (Please Type in Below)

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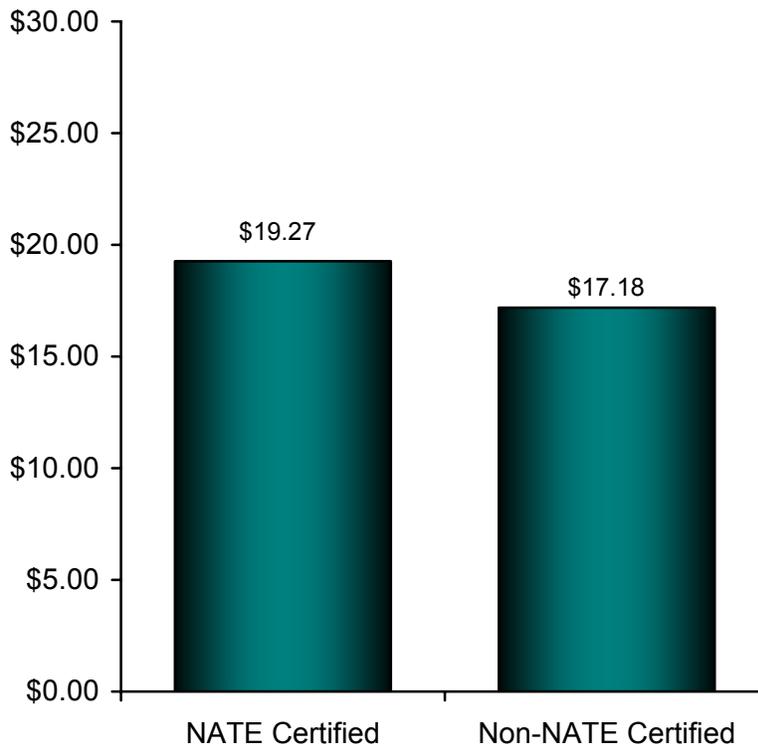
## Certified technicians are paid 12.2% more.

The financial benefits to employers from certified technicians are somewhat offset by the higher pay NATE certified technicians receive vis-à-vis uncertified technicians. This is also expected for more experienced technicians. It is not sufficient to overcome the savings from reduced callbacks and warranty expense.

The higher pay for NATE certified technicians should be an incentive for technicians to seek certification.

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### Average Hourly Pay



Sample: n = 80: (40 NATE certified technicians; 40 non-NATE certified technicians)

Question: "How much is this technician paid per hour?" (Please Type in Below)

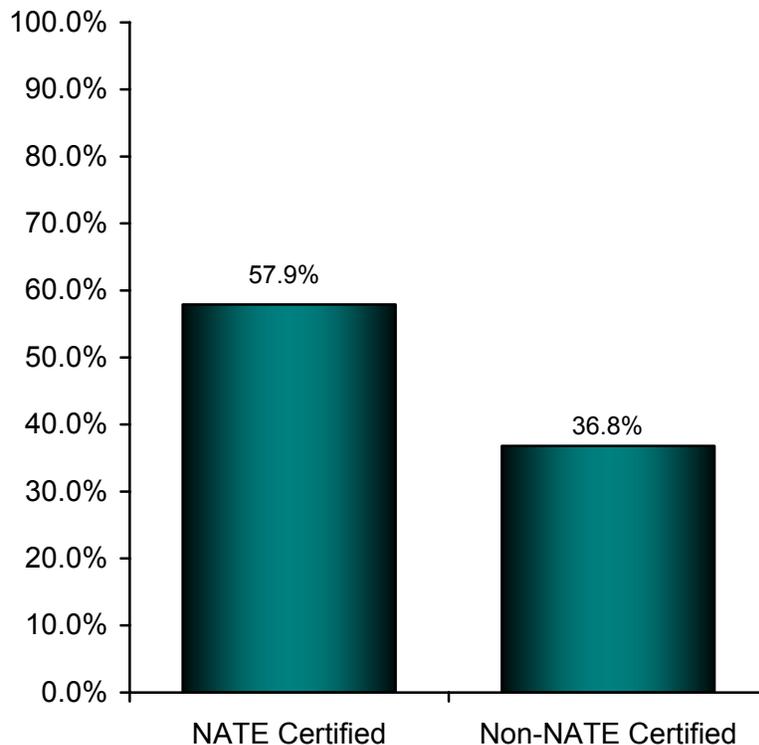
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## Certified Technicians are much more likely than uncertified technicians to be considered “Extremely Valuable” Employees.

If NATE certified technicians are more experienced, have fewer callbacks, less warranty expense, and greater billable efficiency than uncertified technicians, then they should be considered more valuable to their employers. They are.

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### Percentage Considered Extremely Valuable



Sample: n = 80: (40 NATE certified technicians; 40 non-NATE certified technicians)

Question: “Using a scale of 1 to 5, how valuable do you consider this technician to your company?” (Please Type in Below)

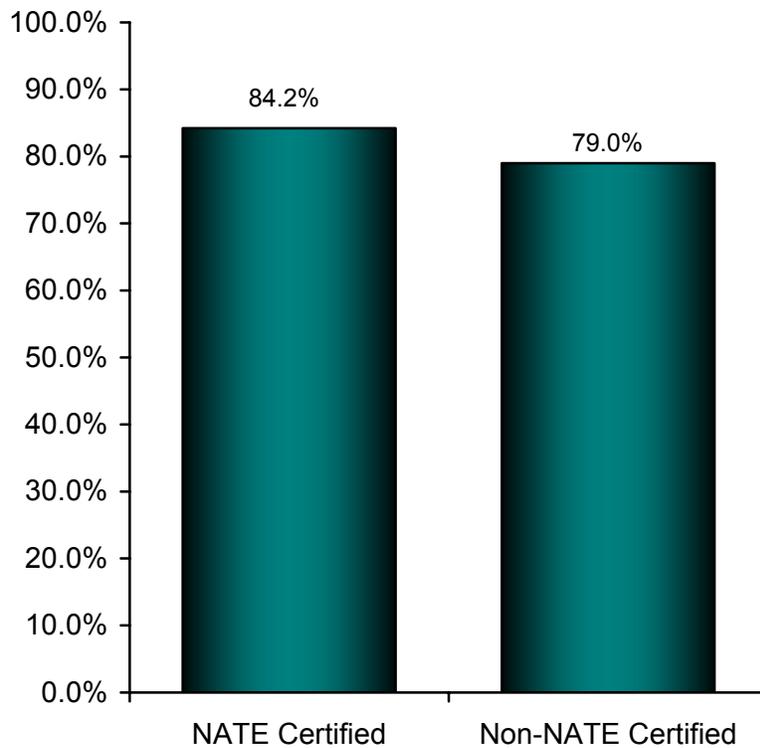
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## Certified and uncertified technicians both take pride in their work.

Whether they have attained NATE certification or not, HVAC technicians take pride in their work. High levels of pride is further evidence that high school guidance counselors should consider HVAC an attractive career choice for graduates.

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### Percentage Who Take Pride in Their Work



Sample: n = 80: (40 NATE certified technicians; 40 non-NATE certified technicians)

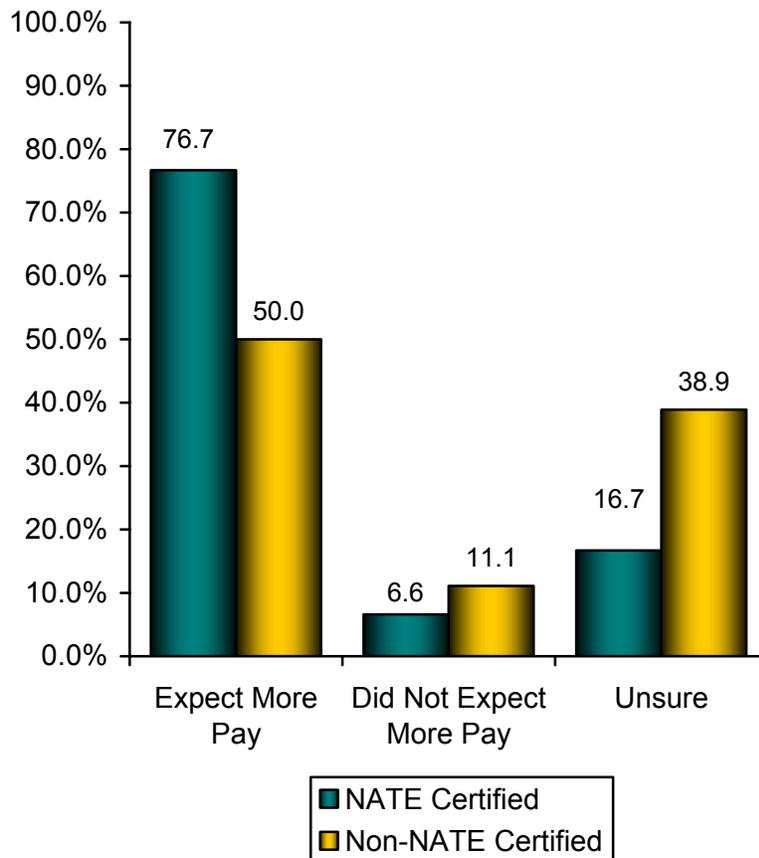
Question: "Using a scale of 1 to 5, how much pride does this technician take in his work?" (Please Type in Below)

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## Certified technicians are more likely than uncertified technicians to connect certification with increased pay.

According to the contractors employing them, NATE technicians are more likely than uncertified technicians to associate NATE certification with greater pay. This suggests that the industry should make more of an effort to broadcast the financial benefits of certification to uncertified technicians.

### Expect More Pay With NATE Certification



Sample: n = 80: (40 NATE certified technicians; 40 non-NATE certified technicians)

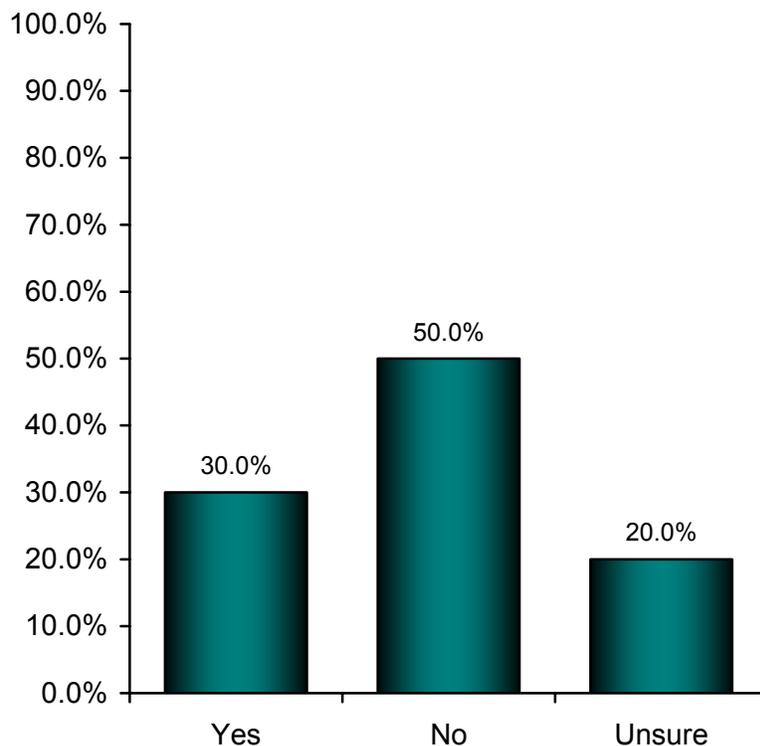
Question: "In your opinion, did this technician expect to be paid more as a result of his or her NATE certification?"  
(Please Type in Below)

## The owners or managers of 70% of the companies that do not participate in NATE's Consumer-Contractor Connection were unaware of its existence.

NATE offers a lead generation service for contractors employing NATE certified technicians. Usually, when a contractor fails to take advantage of the service, it's because he or she is unaware of it.

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### Participation In NATE's Consumer-Contractor Connection



Sample: n = 40

Question: "Is your company listed on the NATE Consumer-Contractor Connection Website?" (Choose One Answer) "Why not?" (Choose One Answer)

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## FIRMOGRAPHICS

Contracting companies participating in the survey tended to be relatively large, averaging nearly \$2.5 million in sales, and well established, with nearly 30 years of tenure.

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Average Revenue of Participating Companies .....\$2.434,210

Average Time in Business of Participating Companies .....29.0 years

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## **CALCULATING THE VALUE OF CERTIFICATION**

**The value of certification for the typical contractor is \$10,040 per year for each technician.**

Based on the research, it is possible to estimate the value of certification. The following assumptions were used. These are believed to be conservative.

- 800 calls / technician / year
- Callbacks = 2% of calls
- Average revenue / call = \$230
- Gross margin = 45%
- Direct labor burden = 25%
- Warranty expense
  - Direct cost = 2% of sales
  - Indirect cost = direct cost
  - Opportunity cost = half of direct cost
- 2,000 paid hours / year

Based on these assumptions, the following monetary differences were calculated. The bottom line is that contractors come out ahead by more than \$10 thousand per year, for each technician.

	<u>Uncertified Technician</u>	<u>Certified Technician</u>	<u>Monetary Difference</u>
Callbacks .....	16	14	\$261
Billing Efficiency .....	78.7%	84.0%	\$12,391
Direct Warranty Cost .....	\$3,680	\$2,635	\$1,045
Indirect Warranty Cost + Opportunity Cost .....	\$5,520	\$3,952	\$1,568
Pay .....	\$17.18	\$19.27	-\$4,180
Labor Burden .....	\$4.30	\$4.82	<u>-\$1,045</u>
Net .....			<u>\$10,040</u>

## APPENDIX

# NATE Impact Survey

Thank you for agreeing to participate in this survey on NATE. This survey will be offered by several organizations. We are limiting the responses to one survey per company. If anyone from your company has already completed this survey, thank you for your participation. You do not need to continue.

## Before You Begin:

You must employ at least one NATE Certified Technician who has worked for you since January 1 and one technician who is not NATE Certified, but who has also worked for you since January 1. You will need to gather certain data on a selection of your technicians. The data needed is:

- Callbacks
- Billable efficiency (hours billed  hours paid)
- Warranty expense
- Employee retention in years
- Average jobs per day
- Average ticket sales
- Pay scale

If you track some, but not all of these metrics, please proceed with the information you do have. Your individual responses are confidential and will be combined with the responses from other contractors. By completing this questionnaire, you will receive an advance copy of the report by email if desired.

### 1. How many technicians do you employ? (Choose One Answer From Each Drop Down Box)

**Service:**  (0 to More Than 30)  
**Installation:**  (0 to More Than 30)

### 2. How many NATE certified technicians do you employ? (Choose One Answer From Each Drop Down Box)

**Service:**  (0 to More Than 30)  
**Installation:**  (0 to More Than 30)

**TECHNICIAN PERFORMANCE:**

Please select up to two NATE certified technicians who have worked for you since January 1 and up to two technicians who have also worked for you since January 1, but who are not NATE certified. To make the selection random, pick the first and last technicians alphabetically by first or last name.

Please answer the following questions about **NATE Certified Technician 1.**

**3. How many callbacks has this technician had since January 1?** (Please Type In Below)

\_\_\_\_\_

**4. Since January 1, what is the billable efficiency of this technician (hours billed  hours paid)?**  
(Please Type In Below)

\_\_\_\_\_

**5. What is the warranty expense incurred following work performed by this technician since January 1?** (Please Type In Below)

\_\_\_\_\_

**6. How long has this employee worked for you, in years?** (Please Type In Below)

\_\_\_\_\_

**7. What is the average number of jobs per day performed by this technician since January 1?**  
(Please Type In Below)

\_\_\_\_\_

**8. What is the average ticket sales for this technician since January 1?** (Please Type In Below)

\_\_\_\_\_

**9. How much is this technician paid per hour?** (Please Type In Below)

\_\_\_\_\_

10. Using the scale below, how valuable do you consider this technician to your company?  
(Choose One Answer)

<b>Not</b>				<b>Extremely</b>
<b>Valuable</b>				<b>Valuable</b>
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<input type="radio"/>				

11. Using the scale below, how much pride does this technician take in his work? (Choose One Answer)

<b>Little</b>				<b>Extreme</b>
<b>Pride</b>				<b>Pride</b>
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<input type="radio"/>				

12. In your opinion, did this technician expect to be paid more as a result of his or her NATE Certification? (Choose One Answer)

- Yes
- No
- Unsure

Please answer the following questions about **NATE Certified Technician 2**. (Leave responses blank if you do not have two NATE certified technicians)

**13. How many callbacks has this technician had since January 1?** (Please Type In Below)

\_\_\_\_\_

**14. Since January 1, what is the billable efficiency of this technician (hours billed  hours paid)?**  
(Please Type In Below)

\_\_\_\_\_

**15. What is the warranty expense incurred following work performed by this technician since January 1?** (Please Type In Below)

\_\_\_\_\_

**16. How long has this employee worked for you, in years?** (Please Type In Below)

\_\_\_\_\_

**17. What is the average number of jobs per day performed by this technician since January 1?**  
(Please Type In Below)

\_\_\_\_\_

**18. What is the average ticket sales for this technician since January 1?** (Please Type In Below)

\_\_\_\_\_

**19. How much is this technician paid per hour?** (Please Type In Below)

\_\_\_\_\_

**20. Using the scale below, how valuable do you consider this technician to your company?**  
(Choose One Answer)

Not Valuable					Extremely Valuable	
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>		
<input type="radio"/>						

21. Using the scale below, how much pride does this technician take in his work? (Choose One Answer)

Little Pride				Extreme Pride
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<input type="radio"/>				

22. In your opinion, did this technician expect to be paid more as a result of his or her NATE Certification? (Choose One Answer)

- Yes
- No
- Unsure

Please answer the following questions about **NON-NATE Certified Technician 1**.

23. How many callbacks has this technician had since January 1? (Please Type In Below)

\_\_\_\_\_

24. Since January 1, what is the billable efficiency of this technician (hours billed  hours paid)?  
(Please Type In Below)

\_\_\_\_\_

25. What is the warranty expense incurred following work performed by this technician since January 1? (Please Type In Below)

\_\_\_\_\_

26. How long has this employee worked for you, in years? (Please Type In Below)

\_\_\_\_\_

27. What is the average number of jobs per day performed by this technician since January 1?  
(Please Type In Below)

\_\_\_\_\_

89. What is the average ticket sales for this technician since January 1? (Please Type In Below)

\_\_\_\_\_

29. How much is this technician paid per hour? (Please Type In Below)

\_\_\_\_\_

30. Using the scale below, how valuable do you consider this technician to your company?  
(Choose One Answer)

Not Valuable				Extremely Valuable
<u>1</u> ○	<u>2</u> ○	<u>3</u> ○	<u>4</u> ○	<u>5</u> ○

31. Using the scale below, how much pride does this technician take in his work? (Choose One Answer)

Little Pride				Extreme Pride
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<input type="radio"/>				

32. In your opinion, would this technician expect to be paid more if NATE Certified? (Choose One Answer)

- Yes
- No
- Unsure

Please answer the following questions about **NON-NATE Certified Technician 2**. (Leave responses blank if you do not have two NATE certified technicians)

**33. How many callbacks has this technician had since January 1?** (Please Type In Below)

\_\_\_\_\_

**34. Since January 1, what is the billable efficiency of this technician (hours billed  hours paid)?**  
(Please Type In Below)

\_\_\_\_\_

**35. What is the warranty expense incurred following work performed by this technician since January 1?** (Please Type In Below)

\_\_\_\_\_

**36. How long has this employee worked for you, in years?** (Please Type In Below)

\_\_\_\_\_

**37. What is the average number of jobs per day performed by this technician since January 1?**  
(Please Type In Below)

\_\_\_\_\_

**38. What is the average ticket sales for this technician since January 1?** (Please Type In Below)

\_\_\_\_\_

**39. How much is this technician paid per hour?** (Please Type In Below)

\_\_\_\_\_

**40. Using the scale below, how valuable do you consider this technician to your company?**  
(Choose One Answer)

<b>Not Valuable</b>				<b>Extremely Valuable</b>
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
○	○	○	○	○

41. Using the scale below, how much pride does this technician take in his work? (Choose One Answer)

Little Pride				Extreme Pride
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<input type="radio"/>				

42. In your opinion, would this technician expect to be paid more if NATE Certified? (Choose One Answer)

- Yes
- No
- Unsure

## YOUR COMPANY

Please complete the following about your company. Again, all answers are confidential.

**43a. Is your company listed on the NATE Consumer-Contractor Connection Website?** (Choose One Answer)

- Yes (SKIP TO Q44)
- No
- Unsure (SKIP TO Q44)

**43b. Why not?** (Choose One Answer)

- I am unfamiliar with the NATE Consumer-Contractor Connection Website
- I have never got around to listing my company
- I do not know how to list my company
- Other (Please Specify: \_\_\_\_\_) [200 character limit]

**44. What is your annual sales?** (Choose One Answer)

- Less than \$250,000
- \$250,000 but less than \$500,000
- \$500,000 but less than \$1,000,000
- \$1,000,000 but less than \$2,000,000
- \$2,000,000 but less than \$5,000,000
- \$5,000,000 or more
- Prefer not to answer

**45. What year was your company started?** (Please Type In Below)

\_\_\_\_\_

**46. In what state is your company located?** (Choose One Answer From Each Drop Down Box)

(All States)

**47. Would you consider your primary market to be...?** (Choose One Answer)

- Urban
- Suburban
- Rural
- Prefer not to answer

**48. Which trade groups are you a member of...? (Choose ALL Correct Answers)**

- ABC
- ACCA
- Airtime 500
- Excellence Alliance
- IHACI
- International Service Leadership
- MCAA
- MSCA
- National Comfort Team
- Nexstar Network
- PHCC
- RSES
- Service Roundtable
- SMACNA
- Other state/local association
- Other private contractor group
- None

**49. To ensure we are only recording one questionnaire per company, please enter your company name and zip code. (Please Type In The Information Below)**

Company Name: \_\_\_\_\_ (50 character limit)

ZIP Code: \_\_\_\_\_ (5 character limit)

**50. If you would like to receive a copy of the report, please provide an email address. This email address will only be used to send the report. It will not be shared. (Please Type In The Information Below)**

Email: \_\_\_\_\_ (50 character limit)

**If you have any questions about the survey, please contact Carl Smith by email at [csmith@natex.org](mailto:csmith@natex.org).**

**Thank you for your participation.**