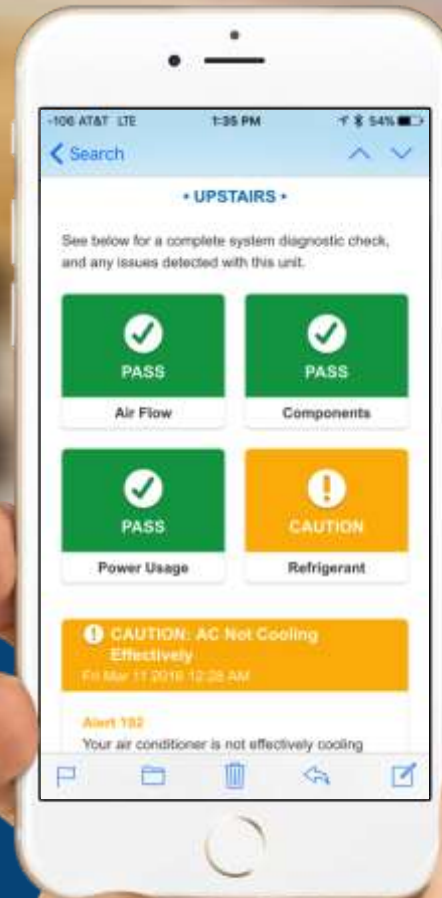




SMART INSTALL  
SMART MAINTENANCE



## The industry today.



### HVAC TECH SHORTAGE

Conservative estimates put the industry HVAC tech shortage at 20,000



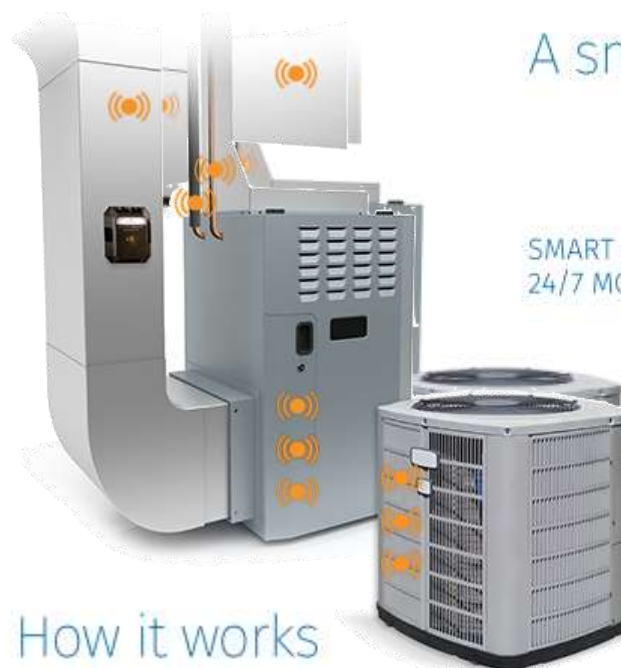
OVER 40% of newly installed residential systems are not installed correctly



OVER 70% of home systems are inefficient or heading for a breakdown



UNDER 10% of maintenance agreement systems are properly serviced



## A smarter solution.

SMART HVAC WITH 24/7 MONITORING.

## How it works



### SMART SENSORS OFFER A TOTAL SENSE OF COMFORT.

Custom sensors gather vital, never before seen information every time a system runs. The data is sent to our monitoring center's secure cloud over your customer's home Wi-Fi network.



### 24/7 MONITORING FOR UNPRECEDENTED INSIGHT.

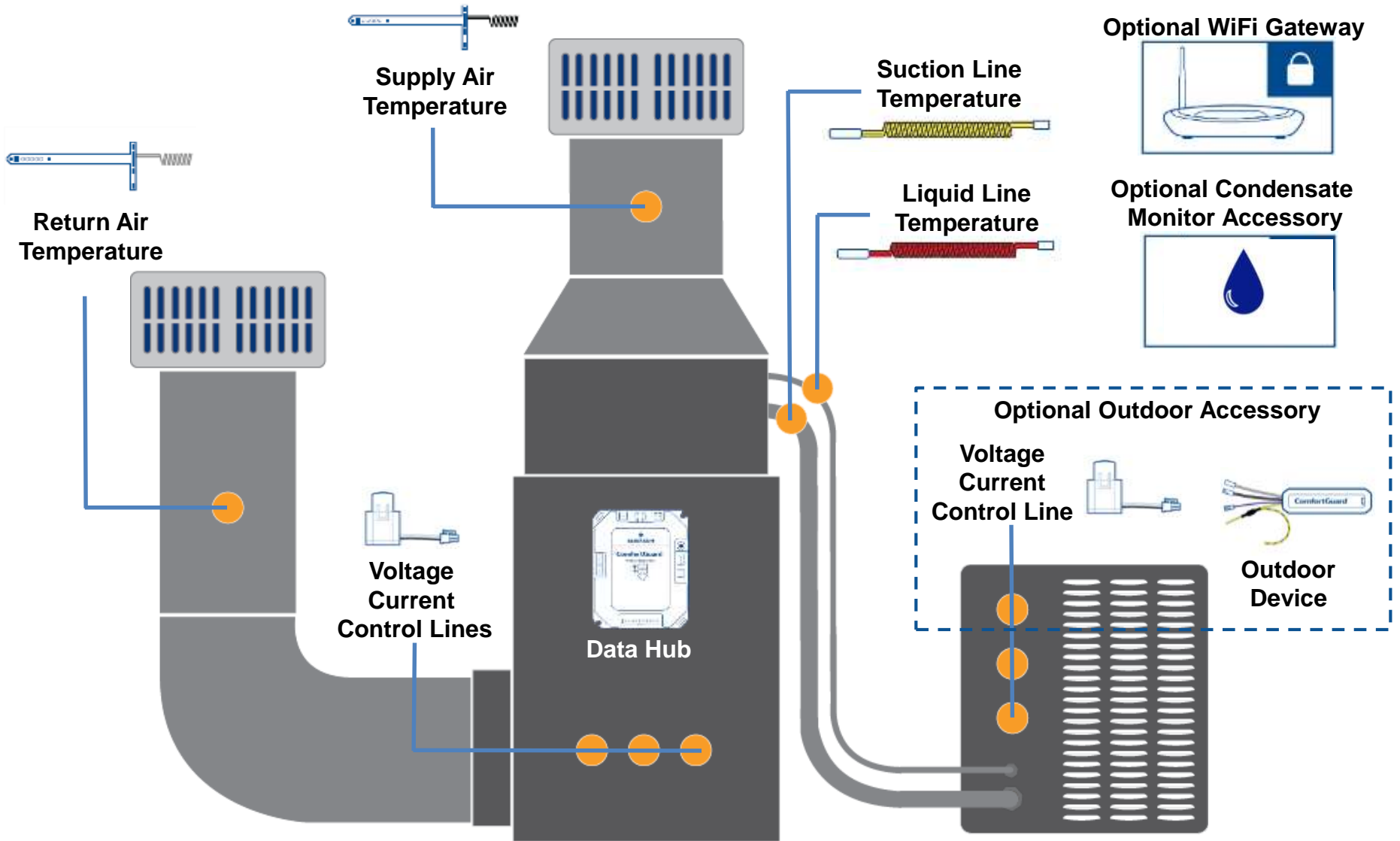
Our team carefully monitors data every time a system runs. In most cases, we detect an issue before it becomes a problem.



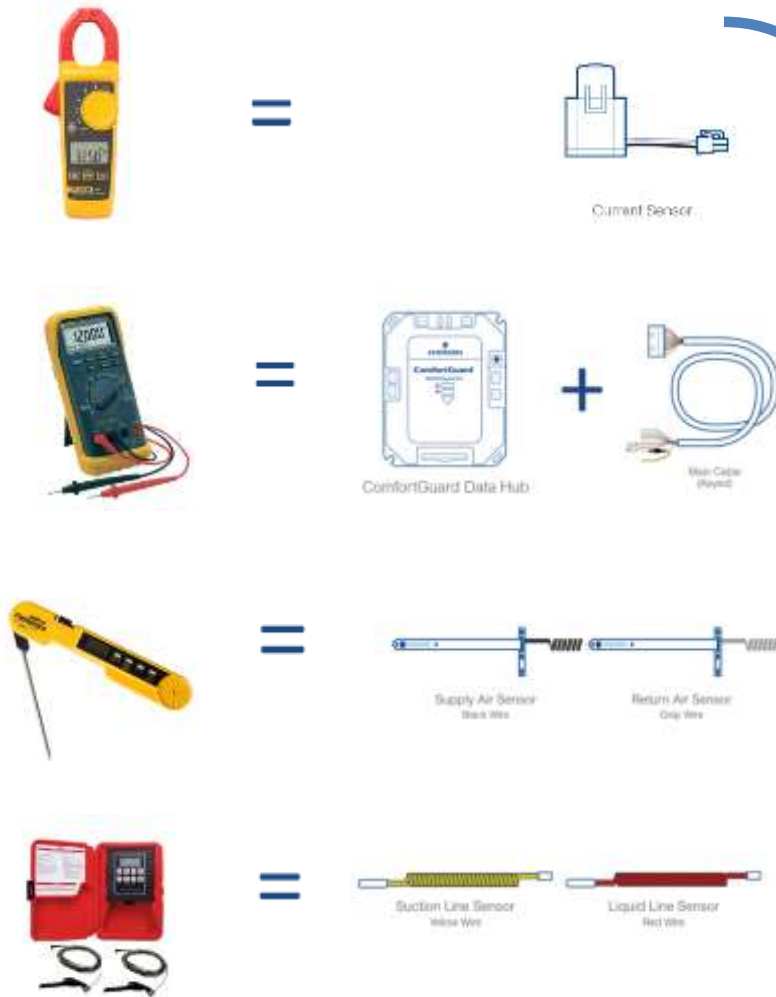
### STAY IN THE KNOW AND KNOW WHAT TO DO.

By sending you and your customers timely communications including system reports, actionable alerts and repair verifications, you differentiate yourself from your competition.

# ComfortGuard Hardware Consists of 10 Sensors Plus Data Hub and Optional Gateway



# Point in Time vs Time Series Measurement



Actionable Alerts

Time Series Data Log



**THERMOSTAT**

**INDOOR VOLTAGE** 123  
**OUTDOOR VOLTAGE** 247

**THERMOSTAT LINES:**  
 Y W Y2 W2 G DR  
 ● ○ ○ ○ ● ○

Outdoor device communicating: Yes  
**OUTSIDE AIR TEMPERATURE** 39

# Diagnostics Landscape



Sensi

Nest/Ecobee

Honeywell

Sensi





## CONTRACTOR

## HOMEOWNER

### Problems with today's model

### Smart HVAC Benefits

### Problem with today's model

### Smart HVAC Benefits

## QUALITY INSTALL

- Difficult to validate proper install
- Callbacks
- No differentiation between contractors

- Instant quality install validation
- Callbacks eliminated
- Increased close rate and average ticket

- Frustration around improper install
- Reduced lifetime of system
- Higher energy cost from poor install

- Assurance of proper install
- Maximize lifetime of system
- Lowest possible energy cost

## MAINTENANCE AGREEMENT

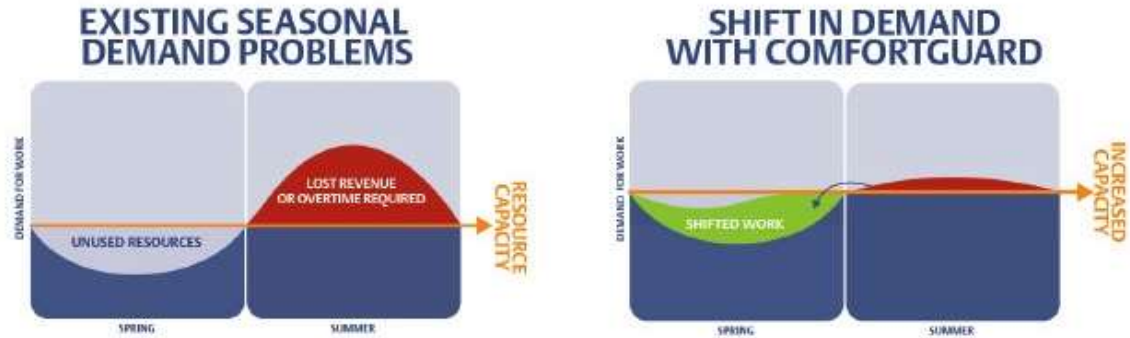
- Most agreements lose money
- Cancellation rates of 20-40%
- Non-revenue-generating truck rolls

- All truck rolls are revenue-generating
- Decrease average time on site
- Increased renewal rates

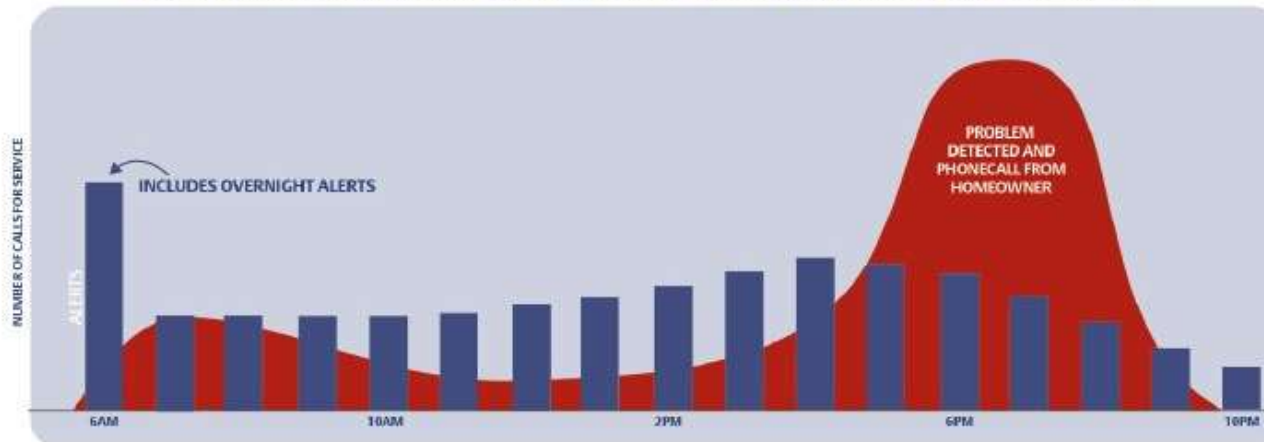
- Need to schedule two inconvenient in-home visits per year
- Perception of technician pushing repairs and upgrades

- 24/7 monitoring
- In-home visits only when needed
- Trusted transparency on repairs and upgrades

# Alerts Received Through ComfortGuard Enable Overall Demand Shaping



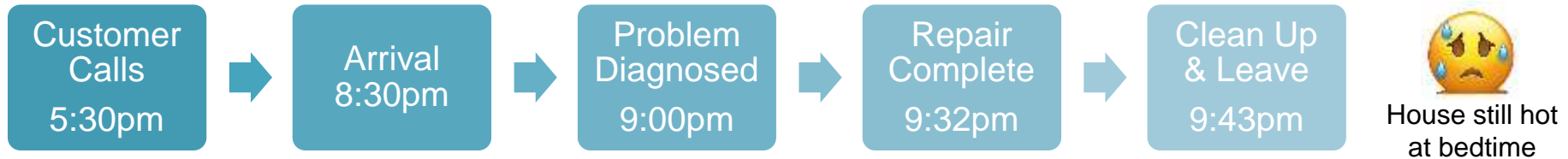
## COMFORTGUARD IMPROVES DAILY DISTRIBUTION OF DEMAND



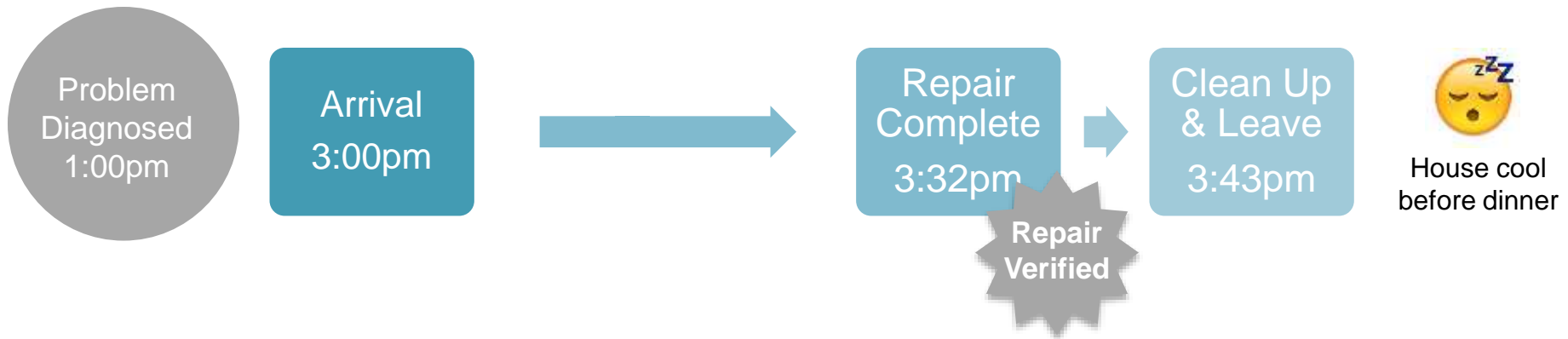


# Typical Customer Experience: Older Equipment

## Without ComfortGuard – 73 Minutes onsite



## With ComfortGuard – 43 Minutes onsite



# Majority of Alert Activity is Predictive, Allowing for Efficient Scheduling and Diagnosis

	ALERT	QUANTITY
<b>ALERT <u>AFTER</u> BREAKDOWN</b>  OLD MODEL: Wait for Call  NEW MODEL: Alert with Cause	No Heating	1.9%
	No Cooling	3.3%

	ALERT	QUANTITY
<b>ALERT <u>BEFORE</u> BREAKDOWN</b>  OLD MODEL: Does not Exist  NEW MODEL: Proactive Alert with Cause	Charge / Refrigerant Issue	5.0%
	Component Breakdown Detected	2.1%
	Component Degradation	1.2%
	Low Efficiency From Baseline	2.1%
	Low Efficiency From Specs	7.1%
	Filter Alert	41.2%
	Intermittent Cooling / Heating Loss	17.7%
	Indoor / Outdoor Air Flow Issue	4.8%
	Start / Trip Problems: AC/HP	3.3%
	Start / Trip Problems: Furnace	9.6%



The simple choice for energy efficiency.

ENERGY EFFICIENT  
products

ENERGY SAVINGS  
at home

ENERGY EFFICIENT  
new homes

ENERGY STRATEGIES FOR  
buildings & plants

Home > Home Improvement > Heat and Cool Efficiently > ENERGY STAR Verified HVAC Installation (ESVI)

## ENERGY STAR Verified HVAC Installation (ESVI)

NEARLY HALF OF ALL HVAC SYSTEMS ARE INCORRECTLY INSTALLED.

Choose ENERGY STAR Verified HVAC Installation and be sure your new system is installed correctly.



### WHY ENERGY STAR VERIFIED HVAC INSTALLATION?

- BETTER COMFORT
- BETTER QUALITY
- BETTER PERFORMANCE
- BETTER ENERGY SAVINGS



You'll have real assurance that your new HVAC system has been installed correctly and that the installation has been third-party verified. That means increased comfort, lower energy bills, reduced risk of equipment failure, and much more. >> [LEARN MORE](#)

## How it works



### Locate a Program

See if a program is offered in your area.



### Design Your System

Your contractor will design a system that is right for you and your home.



### Installation Matters

Your contractor will follow national installation standards to maximize system performance.



### Receive Verification Certificate

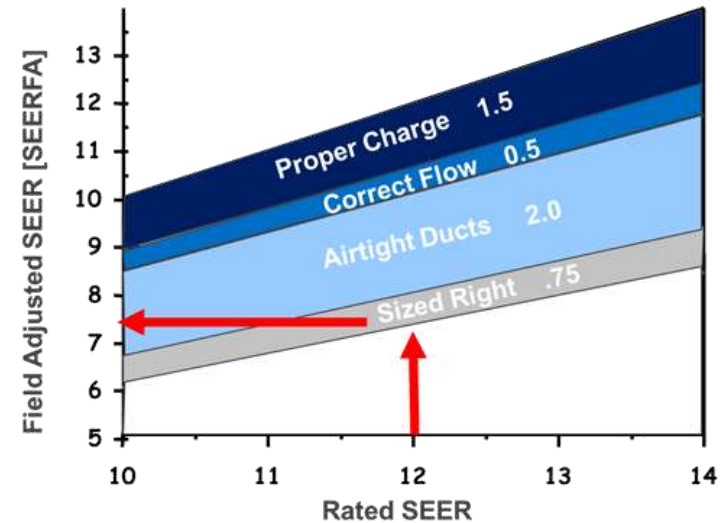
All verified installations earn an ESVI certificate.

## What It Is

The ESVI Program requires that HVAC system installations are verified to meet quality installation standards. These requirements are based on the ANSI / ACCA Standard 5, ensuring that equipment is:

- Correctly sized to meet the home's needs
- Connected to a well-sealed duct system
- Operating with sufficient airflow
- Installed with the proper amount of refrigerant

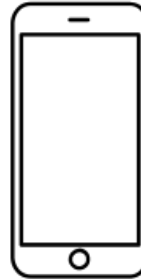
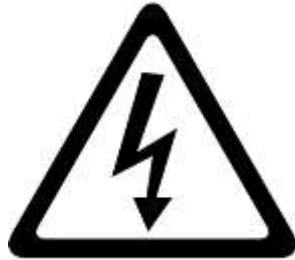
## What It Does



## What The Customer Sees



ComfortGuard Issued the 1<sup>st</sup> ESVI Certificate in the Country in Feb 2017



## Electricity

- Indoor Equipment
- Outdoor Equipment
- Charger for Mobile Phone (Recommended)
- Charger for Hotspot (Recommended)



## Smart Phone

- iOS Device (Apple)
- Android Device
- Windows phone currently not supported
- This will be used to set up the ComfortGuard device



## Cellular Wi-Fi Hotspot

- Most smart phones have a hotspot feature
- Can only do voice and data simultaneously on GSM carriers (AT&T, T-Mobile, Etc)
- Hotspot only required for install verification

# Install and Service Verification New Feature Helps to Address New System Install Problems (40% of Installs)

## Connectivity



## Fan



## Heat



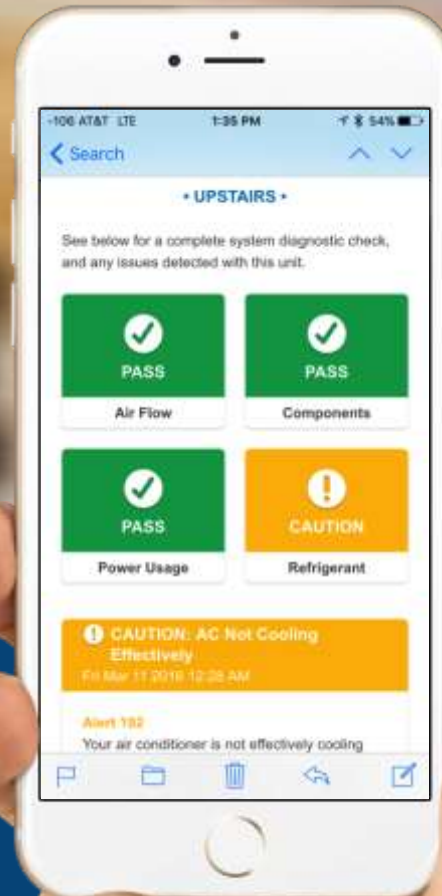
## Cool





SMART MAINTENANCE

*Customer Journey*



# 1. Customer is presented concept

## How it works.



Custom sensors gather vital, never-before-seen information every time your system runs. The data is sent to our monitoring center's secure cloud over your home's Wi-Fi network.



Our team carefully monitors your data every time your system runs. In most cases, we detect an issue before it becomes a problem.



By sending you timely communications including system reports, actionable alerts and repair verifications, you get the real-time insights you need to better manage your HVAC.

## Keeping you in the know.

INSTALL VERIFICATION	ALERTS	SYSTEM REPORTS
<p>Installation done right. You never have to wonder if your system was installed correctly. We will verify your quality installation and send a confirmation to let you know when it's all systems go.</p>	<p>No surprises. If potential issues are detected, we'll alert you and your contractor immediately with straightforward explanations and recommended actions to prevent problems.</p>	<p>Complete system insight. With anytime access to monthly reports, system runtime and operational costs, you can stay in-the-know to proactively maintain and maximize the life of your equipment.</p>

## Predict. Prevent. Protect.™

Until now there was no way to verify if your HVAC system was installed correctly or performing efficiently.

### LOOKING FOR A NEW SYSTEM?



We provide third-party verification that your new system was installed correctly and meets performance specifications set by the manufacturer. Plus, stay in-the-know with one year of 24/7 monitoring. So you get the most out of your system from day one and enjoy true comfort all year.

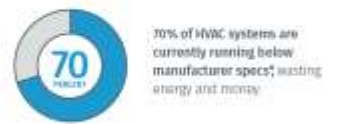
**FREE** ON ELIGIBLE NEW SYSTEMS  
• FIRST YEAR OF MONITORING FREE

### LOOKING TO MAXIMIZE YOUR CURRENT SYSTEM?



Make your system smart and maximize performance with 24/7 monitoring featuring predictive alerts to address issues before they become problems. You'll also receive priority benefits – including discounts on repairs, no diagnostic fees and maintenance on demand. See big-time savings and convenience now and down the road.

**\$299** • FIRST YEAR OF MONITORING FREE  
When you're ready, we'll credit the cost of your 24/7 monitoring installation toward your new system.



\*Based on U.S. Environmental Protection Agency



# 2. Customer Chooses Smart Maintenance

## Smart Maintenance Plan FOR YOUR HVAC

How it works.



Custom sensors gather vital, never-before-seen information every time your system runs. The data is sent to our monitoring center's secure cloud over your home's Wi-Fi network.



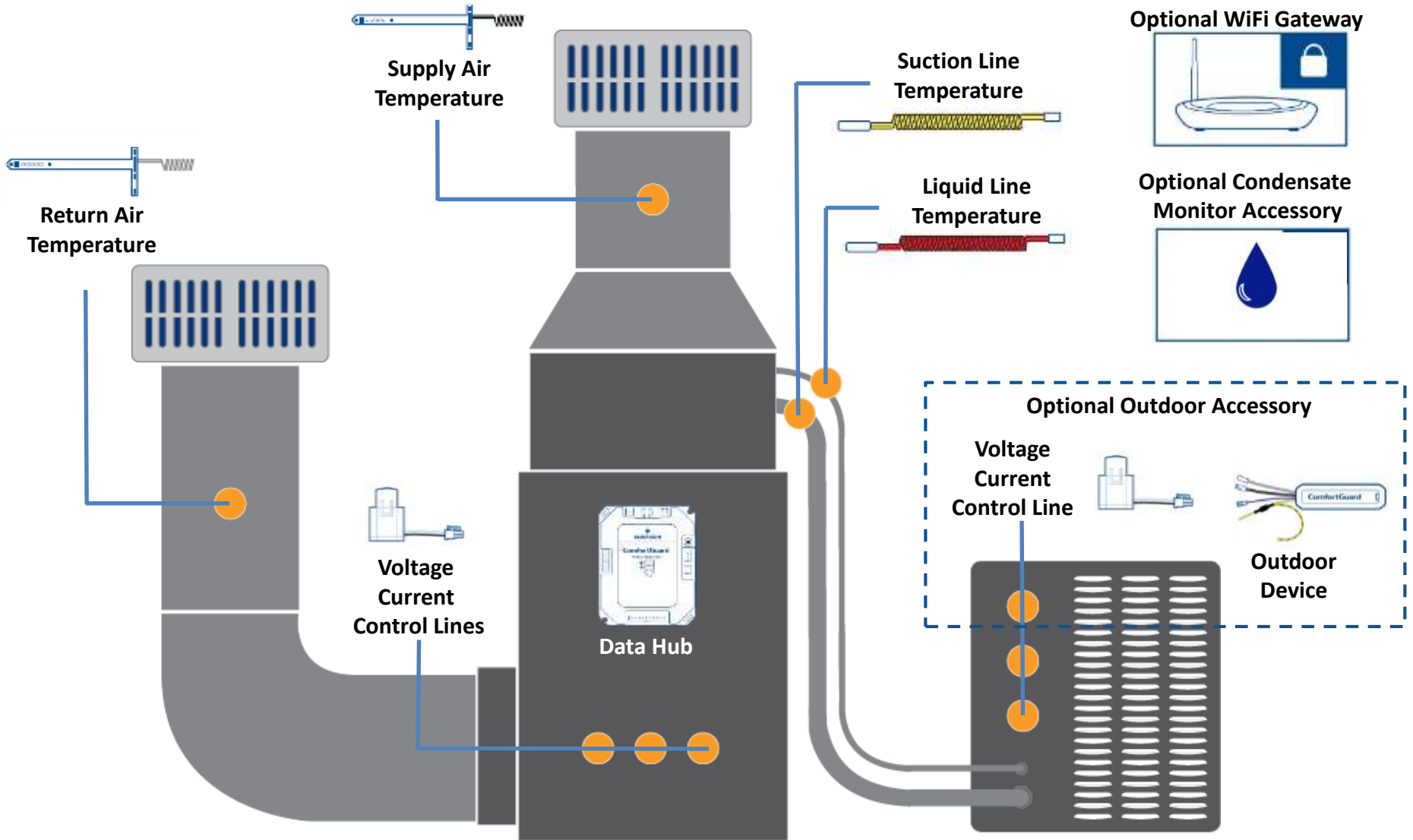
Our team carefully monitors your data every time your system runs. In most cases, we detect an issue before it becomes a problem.



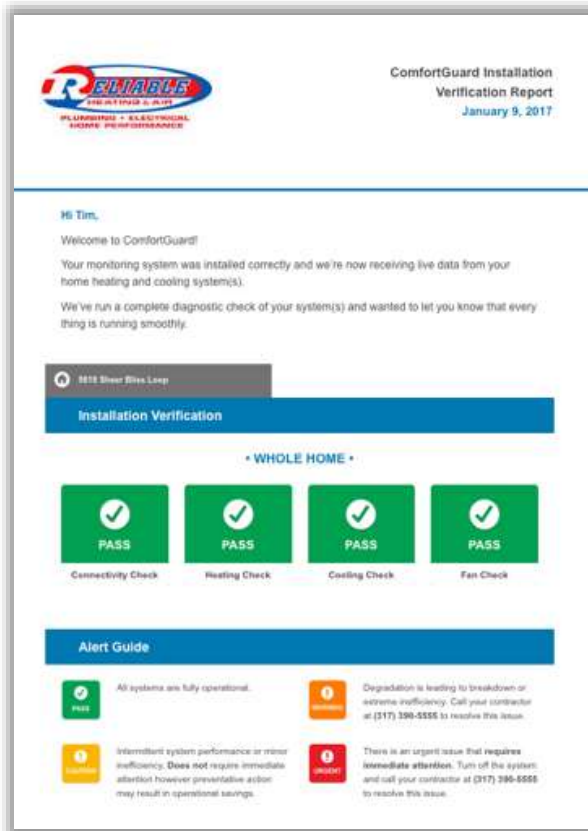
By sending you timely communications including system reports, actionable alerts and repair verifications, you get the real-time insights you need to better manage your HVAC.

	Standard maintenance plan	Smart maintenance plan with existing HVAC system	New install with smart maintenance
Number of Maintenance Visits/Year	1-2	1	1
Discounts On Parts And Labor			
Waived Repair Trip Fee		✓	✓
24/7 Monitoring		✓	✓
Custom Sensors		✓	✓
New Equipment Verification		✓	✓
Monthly System Report		✓	✓
Actionable Alerts		✓	✓
Expert Insight		✓	✓
Verified Repairs		✓	✓
	\$199/year	<b>\$49/year</b>	\$199/year

# 3. Sensors Installed



# 4. Install Report and Severity Explanation



All systems are fully operational.



Intermittent system performance or minor inefficiency. **Does not** require immediate attention however preventative action may result in operational savings.




Degradation is leading to breakdown or extreme inefficiency. Call your contractor at [555-555-5555](tel:555-555-5555) to resolve this issue.



There is an urgent issue that **requires immediate attention**. Turn off the system and call your contractor at [555-555-5555](tel:555-555-5555) to resolve this issue.

# 5. Customer Receives Their Install Report



ComfortGuard Installation  
Verification Report  
January 9, 2017

Hi Tim,

Welcome to ComfortGuard!





Your monitoring system was installed correctly and we're now receiving live data from your home heating and cooling system(s).

We've run a complete diagnostic check of your system(s) and wanted to let you know that every thing is running smoothly.





8818 Silver Blinn Loop

### Installation Verification

• WHOLE HOME •

 <p>PASS</p> <p>Connectivity Check</p>	 <p>PASS</p> <p>Heating Check</p>	 <p>PASS</p> <p>Cooling Check</p>	 <p>PASS</p> <p>Fan Check</p>
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### Alert Guide

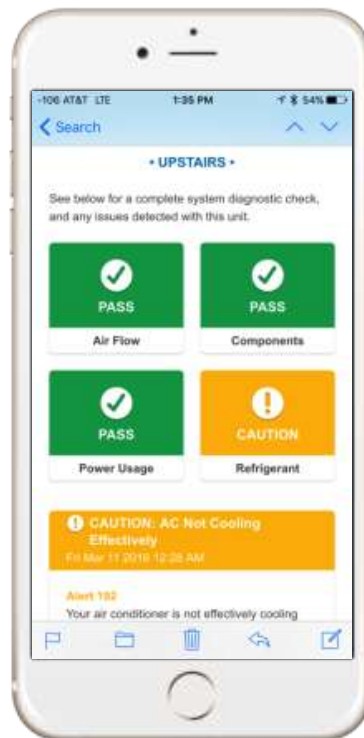
 <p>PASS</p> <p>All systems are fully operational.</p>	 <p>DEGRADATION</p> <p>Degradation is leading to breakdown or extreme inefficiency. Call your contractor at (317) 390-5555 to resolve this issue.</p>
 <p>INTERMITTENT</p> <p>Intermittent system performance or minor inefficiency. <b>Does not</b> require immediate attention however preventative action may result in operational savings.</p>	 <p>URGENT</p> <p>There is an urgent issue that <b>requires immediate attention</b>. Turn off the system and call your contractor at (317) 390-5555 to resolve this issue.</p>

# 6. Customer Receives First Monthly Report

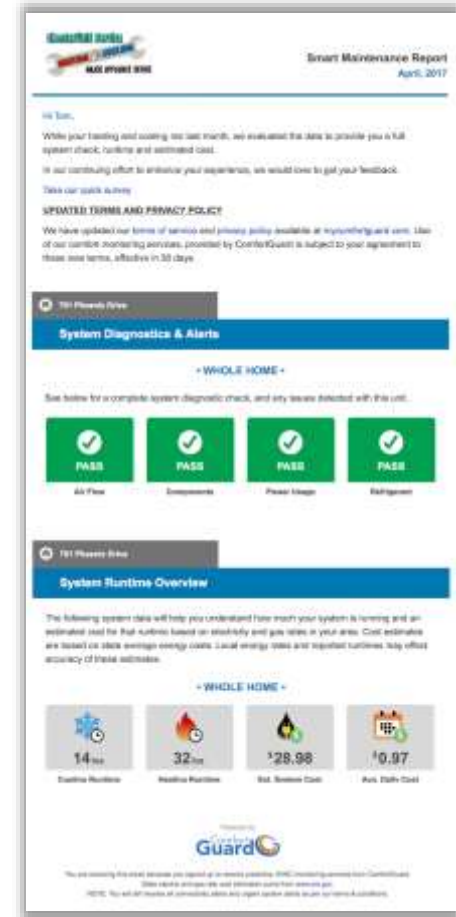
## Runtime & Cost



## Alert Details



## Desktop Version



Attention - Filter Should Be Checked Or Replaced

Inbox x



 **ComfortGuard** Support@mycomfortguard.com via icloud.com  
to tomkoby ▾

Jun 27



Tom,

Based on your system's filter size and run time, it's time to check your filter.

Recommendation: Turn your equipment off at the thermostat and remove the filter. If it looks dirty or clogged, follow the manufacturer's instructions to clean or replace it.

Filter Size: 20 x 25 x 1

Once you've replaced your filter, [click here](#) to tell us about your experience. The information you share will be used to provide even better filter detection!



Alert Date/Time: 5/28/2017 2:48:05 PM

Area served by System: Whole Home air conditioner

Reference Number: 72727

ComfortGuard delivers the worry-free solution you need to protect your home comfort.

## Warning - AC Evaporator Coil Has Frozen

Inbox x



**ComfortGuard** Support@mycomfortguard.com via icloud.com  
to tomkoby

May 28



Tom,

Ice has accumulated on your indoor cooling equipment, preventing it from working effectively. Action is required to prevent harm to your equipment and protect your home from possible water damage as ice melts.

Recommendation: Turn your equipment off at the thermostat and contact your service professional for an evaluation.

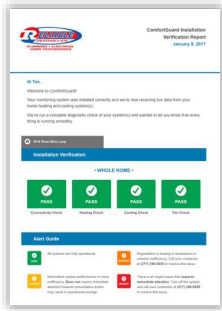
Your Service Professional: Reliable Heating and Air  
Call your local contractor for service: 770-594-9969



Alert Date/Time: 5/28/2017 2:48:05 PM  
Area served by System: Whole Home air conditioner  
Reference Number: 72727

ComfortGuard delivers the worry-free solution you need to protect your home comfort.

# Customer Journey – Older Equipment



Install

Jan

First Monthly Report



First Month w/ AC



Filter Reminder

June

System Getting Worse



Filter Reminder



Real time Alert



Repair or Replace

Repaired or Replaced



Filter Reminder

Dec

Renewal



Filter Reminder