

Nest Labs

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Nest Labs is an American manufacturer of smart home products including thermostats, smoke detectors, and security systems. Its flagship product, which was the company's first offering, is the Nest Learning Thermostat that was introduced in 2011. The product is programmable, self-learning, sensor-driven, and Wi-Fi-enabled – features that are often found in other Nest products. It was followed by the Nest Protect smoke and carbon monoxide detector in October 2013. After its acquisition of Dropcam in 2014, the company introduced its Nest Cam branding of security cameras beginning in June 2015. Co-founded by former Apple engineers Tony Fadell and Matt Rogers in 2010, the company quickly expanded to more than 130 employees by the end of 2012. Google acquired Nest Labs for United States dollar 3.2 billion in January 2014, when the company employed 280. As of late 2015, Nest employs more than 1,100 and has a primary engineering center in Seattle.

[self-learning](#) [smart home](#) [thermostat](#)

1. History

Nest Labs was founded in 2010 by former Apple engineers Tony Fadell and Matt Rogers.^[1] The idea came when Fadell was building a vacation home and found all of the available thermostats on the market to be inadequate, motivated to bring something better on the market.^[2] Early investors in Nest Labs included Shasta Ventures and KPCB. On January 13, 2014, Google announced plans to acquire Nest Labs for \$3.2 billion in cash. Google completed the acquisition the next day, on January 14, 2014.^{[3][4]} The company would operate independently from Google's other businesses.^[5]

In June 2014, it was announced that Nest would buy camera startup Dropcam for \$555 million.^[6] With the purchase, Dropcam became integrated with other Nest products; if the Protect alarm is triggered the Dropcam can automatically start recording, and the Thermostat can use Dropcam to sense for motion.^[7]

In September 2014, the Nest Thermostat and Nest Protect became available in Belgium, France, Ireland and the Netherlands. Initially they are sold in approximately 400 retail stores across Europe with another 150 stores to be added by the end of the year.^[8] In June 2015, a new Nest Cam, replacing the Dropcam, was announced, together with second generation of the Nest Protect.^[9]

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In August 2015, Google announced that it would restructure its operations under a new parent company, Alphabet Inc., with Nest being separated from Google as a subsidiary of the new holding company.^[10] The restructuring led to Tony Fadell, the Nest CEO, to announce in a blog post in June 2016 that he was leaving the company he founded with Matt Rogers and stepping into an "advisory" role.^[11] It culminated after months of rumors about Nest's demanding corporate culture under Fadell's leadership, and the displeasure of former Dropcam CEO Greg Duffy, who openly regretted selling his company to Nest. By June 2016, the Nest acquisition was described by some press as a "disaster" for Google.^[12]

Nest's problems in 2016 stem in a large part due to a limited market. According to Frank Gillet of Forrester Research, only 6% of American households possess internet-connected devices such as appliances, home-monitoring systems, speakers, or lighting. He also predicted this percentage to grow to only 15% by 2021. Furthermore, 72% of respondents in a 2016 survey conducted by Pricewaterhouse Coopers did not foresee adopting smart-home technology over the next two to five years.^[13]

On February 7, 2018, it was announced by hardware head Rick Osterloh that Nest had been merged into Google's hardware division, directly alongside units such as [Google Home \(/entry/33582\)](#) and Chromecast. It would retain its separate Palo Alto headquarters, but Nest CEO Marwan Fawaz would now report to Osterloh, and there were plans for tighter integration with Google platforms and software such as Google Assistant in future products.^{[5][14]} Shortly after the announcement, co-founder and chief product officer Matt Rogers announced that he planned to leave the company.^[15] On July 18, 2018, Nest CEO Marwan Fawaz stepped down. Nest was merged with Google's home devices team, led by Rishi Chandra.^[16]

2. Products

2.1. Nest Learning Thermostat

The Nest Learning Thermostat is an electronic, programmable, and self-learning [Wi-Fi \(/entry/2261\)](#)-enabled thermostat that optimizes heating and cooling of homes and businesses to conserve energy.^[17] It is based on a machine learning algorithm: for the first weeks users have to regulate the thermostat in order to provide the reference data set. Nest can then learn people's schedule, at which temperature they are used to and when. Using built-in sensors and phones' locations it can shift into energy saving mode when it realizes nobody is at home.^[18]

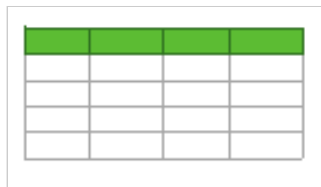


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The Nest Thermostat's front screen



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Nest Learning Thermostat showing weather's impact on energy usage

The Nest Thermostat is built around an operating system that allows interaction (/entry/6198) with the thermostat via spinning and clicking of its control wheel, which brings up option menus for switching from heating to cooling, access to device settings, energy history, and scheduling. Users can control Nest without a touch screen or other input device. As the thermostat is connected to the Internet, the company can push updates to fix bugs, improve performance and add additional features. For updates to occur automatically, the thermostat must be connected to Wi-Fi and the battery must have at least a 3.7 V charge to give enough power to complete the download and installation of the update.^[19]

The operating system itself is based on Linux 2.6.37 and many other free software components.^[20]

Nest is currently available for sale in the United States, Canada, Mexico, the United Kingdom, Belgium, France, Ireland, the Netherlands, Germany, Austria, Italy, and Spain.^[21] It is, however, compatible with many heating and cooling automation systems in other countries.^[22] Nest Labs have surveyed existing users known to be outside the areas where it is officially available. Use of the thermostat outside the United States and Canada is complicated by the software setting time and other functions based on the ZIP code. For international users this means they must either disable Wi-Fi to set the time correctly or use the nearest U.S. zipcode which may result in erratic behavior as the thermostat makes faulty assumptions about inactivity corresponding with either sleep or the home's occupants being away.^[23]

In September 2017, Nest released the Thermostat E, a lower-priced version of the original Nest Thermostat. It is similar in functionality to the standard model, except with a plastic, ceramic-like bezel ring (instead of metal) and a "frosted" overlay for its display. Unlike the original, the screen only activates when the device is being used; these design changes are intended to make the device appear more natural within a home. The Thermostat E also does not feature as many wiring connectors as the higher-end model; Nest stated that this would make it support at least 85% of homes (as opposed to 95% for the standard model).^{[24][25]}

2.2. Nest Protect



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Nest Protect

In October 2013, Nest announced its second product, the Nest Protect smoke and carbon monoxide detector. The Nest Protect is available in both black and white (the black is exclusively sold through Nest directly^[26]) and also comes in battery or AC-powered models. The Nest Protect features a multicolored light ring which is color-coded to indicate different operations, such as yellow to indicate an early warning or red if an alarm is sounding. The ring also has a motion detector which turns it white briefly when someone passes under to provide illumination. The Nest Protect is voice-activated and warns of an alarm sounding briefly before it does. It is also able to communicate with the Nest Thermostat to provide the Auto-Away feature information that someone is present in the house, as well as

to shut off the furnace in the event of a fire or carbon monoxide. The Nest Protect also features a controversial Wave Silence feature to stop an alarm from sounding with a wave in the event of a potential false alarm. It is available for sale in the United States, Canada, the United Kingdom, Belgium, France, Ireland and the Netherlands.

On April 3, 2014, sales of the Nest Protect were suspended, due to the potential for the alarm feature to be accidentally disabled.^[27] ^[28]^[29] 440,000 existing Nest Protect units were recalled because of this problem on May 21, 2014 and a software update was distributed to disable this functionality.^[30]^[31]

On June 17, 2015, Nest launched a new version of the Nest Protect. It is the first smoke alarm to bring a commercial-grade photoelectric sensor to the home; called the Split-Spectrum Sensor – it uses two wavelengths of light to spot different kinds of smoke, which helps it catch both fast and slow-burning fires quickly. Additionally, due to the long-lasting carbon monoxide sensor, the Nest Protect lasts ten years. The new Nest Protect also has a feature called App Silence which lets you silence it using your smart device if you are not in the US or Canada.^[32] Also, when you are not home, the smoke detector will test itself using a built in microphone. Safety Rewards allows Nest Protect users that have their insurance through American Family and Liberty Mutual to get savings off their bill.^[33]

2.3. Nest Cam Indoor

In June 2014, Nest acquired Dropcam, maker of the Dropcam security (/entry/28216) camera. In June 2015, Nest announced the Nest Cam, an upgraded and rebranded security camera based on the Dropcam. Features are a 1080p video resolution, a rotating, magnetic stand, night vision, two-way talk, sound and motion alerts and optional Nest Aware cloud services for an additional fee. It was renamed Nest Cam Indoor following the announcement of the Nest Cam Outdoor in July 2016.

Several security flaws with Nest Cam products were reported in March 2017, allowing a burglar to hack the camera's always-on Bluetooth signal and stop recording.^[34]^[35] Nest released a security update later that month that fixed the vulnerabilities.^[35]

2.4. Nest Cam Outdoor

Nest Cam Outdoor was announced in July 2016, and is a version of the Nest Cam adapted for outdoor monitoring. The main differences from the Nest Cam Indoor is in its design which is built to withstand outdoor conditions.^[36]

2.5. Nest Cam IQ

Nest Cam IQ was announced in June 2017, and is a more premium model of their Nest Cam Indoor. It features a 4K camera sensor with HDR. It also comes with the ability to recognize and distinguish between different faces when using the Nest Aware service. It also has several minor upgrades, such as better wi-fi connectivity, brighter infrared LEDs, a more powerful speaker in addition to added microphones, and a close-up tracking view, which zooms in on action occurring within view of the camera.^[37]

A weatherproof outdoor model was announced in September 2017.^[38] The indoor version of the Cam IQ also received an update to add Google Assistant functionality to the device in 2018.^[39]

2.6. Nest Secure

Nest Secure is a home security system announced in September 2017.^[40] The system consists of Nest Guard (an alarm, keypad, and motion sensor), Nest Detect (a door/window and motion sensor), and Nest Tag (a key chain fob).^[41] The product was released in November 2017.^{[42][43]} Nest also has a [partnership](/entry/2537) with Brinks Home Security for a monthly plan so that the Nest Protect system can be professionally monitored.^[44]

2.7. Nest Hello

Nest Hello is a hardwired smart video doorbell with facial recognition.^[45] The device was originally slated to launch in February 2018 but was delayed until March in the United States.^[46] The Hello was launched in the UK in May 2018.^[47]

3. Works with Nest

Works with Nest is a program that allows third party devices to communicate with Nest products.

3.1. Compatible Products

Nest products can be controlled with the Google Assistant and Amazon Alexa virtual assistants, along with many third-party home automation platforms.^{[48][49]} Additionally, many smart device manufactures have direct integration with the Nest platform, including Whirlpool and GE Appliances.^{[50][51]}

4. Litigation

In February 2012, Honeywell filed a lawsuit claiming that some of its patents had been infringed by Nest; Nest has said that it will fight the lawsuit.

On April 12, 2012, Nest publicly announced they will see Honeywell all the way to court as they believe that none of the seven allegedly infringed patents were actually violated. Honeywell is claiming that Nest has infringed on patents pertaining to remotely controlling a thermostat, power-stealing thermostats, and thermostats designed around a circular, interactive design, similar to the Honeywell T87. However, Honeywell held patents that were almost identical to those that expired in 2004. Nest has taken the stance that they will see this through to a patent court as they suspect Honeywell is trying to harass them, litigiously and financially, out of business.^[52]

On May 14, 2013, Allure Energy, Inc. ("Allure") was issued a patent by the USPTO titled "Auto-Adaptable Energy Management Apparatus." The very same day, Allure filed a lawsuit against Nest and two other defendants in

the Eastern District of Texas alleging Nest was infringing their newly issued patent; the lawsuit is ongoing.^[53]

On September 11, 2013, Nest announced that it entered into a patent license agreement with Intellectual Ventures. Additionally, Nest announced that it was acquiring several of Intellectual Venture's patents that will help Nest to better defend their products from patent infringement claims.^[54] It is unclear how many patents Nest licensed and purchased from Intellectual Ventures.

On November 4, 2013, BRK Brands, Inc. ("BRK"), maker of the First Alert brand of smoke detectors, filed a lawsuit against Nest in the Illinois Northern District Court alleging Nest's newly released Nest Protect product infringes claims from six of its patents.^{[55][56]}

In February of 2016, the Federal Trade Commission's Division of Advertising Practices opened an investigation into whether Nest Labs, Inc. violated Section 5 of the Federal Trade Commission Act, 15 U.S.C. § 45, in connection with Nest's decision to shut down the services necessary to operate its Revolv "Smart Home Hub" on June 19, 2016. All customers were offered full refunds and the investigation was closed On July 7, 2016.^[57]

In May 2016, an employee filed an unfair labor practice charge with Region 32 of the National Labor Relations Board against Nest and Google. In the charge, the employee alleged that he was terminated for posting information about Tony Fadell's poor leadership to a private Facebook page consisting of current and former employees. The charge also alleged that Nest and Google had engaged in unlawful surveillance and unlawful interrogation of employees in order to prevent them from discussing the work environment at Nest.^{[58][59]}

3.2. Parody after Google Acquisition

On May 7, 2014, German activist group Peng Collective released a parody website named *Google Nest*, satirizing Google's privacy policies and practices with fake products imitating Google art style, supposedly created as a result "of an intensive period of studying user behavior" in response to the "public debate around privacy and government surveillance".^[60]^[61] The site described four purported new services lampooning Google's data gathering tendencies made possible with Nest's technology: *Google Trust*, *Google Hug*, *Google Bee* and *Google Bye*, respectively a "data insurance" paid with personal data, a location service encouraging in-person emotional interactions, a "personal drone", and a memorial website created from automatically collected information.^[62]

The next day, Google trademark lawyers issued a cease-and-desist letter to Peng, asking them to change the site and to transfer the domain name to Google.^[63] The site replaced its content with a note explaining the situation, and the Electronic Frontier Foundation responded on behalf of Peng with a public letter saying that noncommercial political commentary is not prohibited under trademark law,^[63] and that the site wouldn't likely be confused after the ample press coverage received.^[64]

References

1. Winkler, Rolfe; Wakabayashi, Daisuke (January 14, 2014). "Google Pays \$3.2 Billion for Nest Labs". The Wall Street Journal: p. B1. <https://www.wikipedia.org/wiki/The%20Wall%20Street%20Journal> (<https://www.wikipedia.org/wiki/The%20Wall%20Street%20Journal>)
2. "Is Tony Fadell the next Steve Jobs.. or Larry Page?". 2014-06-15. <http://fortune.com/2014/06/12/tony-fadell-nest/> (<http://fortune.com/2014/06/12/tony-fadell-nest/>). Retrieved 2014-06-15.
3. Constine, Josh (January 13, 2014). "Who Gets Rich From Google Buying Nest? Kleiner Returns 20X On \$20M, Shasta Nets ~\$200M". TechCrunch. <https://techcrunch.com/2014/01/13/nest-investors-strike-it-rich/> (<https://techcrunch.com/2014/01/13/nest-investors-strike-it-rich/>). Retrieved January 22, 2014.
4. Oreskovic, Alexei; Gupta, Poornima (January 14, 2014). "Kleiner Perkins, Shasta Ventures make about 20x their money on Nest Labs – Reuters". PEHub. <http://www.pehub.com/2014/01/kleiner-perkins-shasta-ventures-make-about-20x-their-money-on-nest-labs-reuters/> (<http://www.pehub.com/2014/01/kleiner-perkins-shasta-ventures-make-about-20x-their-money-on-nest-labs-reuters/>). Retrieved January 22, 2014.
5. Kumparak, Greg. "Nest is being rolled into Google's hardware team" (in en). TechCrunch. <https://techcrunch.com/2018/02/07/nest-is-being-rolled-into-googles-hardware-team/>. (<https://techcrunch.com/2018/02/07/nest-is-being-rolled-into-googles-hardware-team/>);
6. Ankit Ajmera (23 June 2014). "Google's Nest to buy Dropcam for \$555 million". Reuters. <https://www.reuters.com/article/2014/06/22/us-google-nest-dropcam-idUSKBN0EW02820140622>. (<https://www.reuters.com/article/2014/06/22/us-google-nest-dropcam-idUSKBN0EW02820140622>);
7. "Here's How Nest Will Work Together With Your Dropcam Now". Gizmodo. 9 September 2014. <https://gizmodo.com/heres-how-nest-will-work-together-with-your-dropcam-now-1632364518>. (<https://gizmodo.com/heres-how-nest-will-work-together-with-your-dropcam-now-1632364518>);
8. "Nest Learning Thermostat and Nest Protect: Smoke + Carbon Monoxide Alarm Coming to France, Netherlands, Belgium and Ireland". Business Wire. 6 September 2014. http://www.businesswire.com/news/home/20140906005002/en/Nest-Learning-Thermostat-Nest-Protect-Smoke-Carbon#.VA7bovl_t8E. (http://www.businesswire.com/news/home/20140906005002/en/Nest-Learning-Thermostat-Nest-Protect-Smoke-Carbon#.VA7bovl_t8E);
9. "Nest announces Nest Cam, new Protect smoke detector". Mashable. 17 June 2015. <http://mashable.com/2015/06/17/nest-2015-refresh/>. (<http://mashable.com/2015/06/17/nest-2015-refresh/>);
10. "Google to be publicly traded under Alphabet Inc. in planned restructuring". <http://www.cbc.ca/news/technology/google-to-be-publicly-traded-under-alphabet-inc-in-planned-restructuring-1.3186244> (<http://www.cbc.ca/news/technology/google-to-be-publicly-traded-under-alphabet-inc-in-planned-restructuring-1.3186244>). Retrieved 2015-08-10.

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