

A&D Technology: Application Engineer

Is a Career at ADT as an AE for Me?

An A&D Technology (ADT) Application Engineer (AE) is a member of an ADT Team that works to provide an automated product testing solution for our customers. An AE is usually either a degreed Mechanical, Electrical, Computer, or Chemical engineer. The reason why the position can cross so many engineering disciplines is because the role of the AE can involve different engineering disciplines. Most products today require mechanical, electrical, and computer engineering development teams. ADT's AE team reflect our customers product development teams.

A&D Solutions

ADT creates products and services specifically to solve our customers' automated product testing requirements. Customer products can be a car, an engine, a transmission, a battery, a valve, or an electric motor to name a few. Automated Test is a broad category, it can be a simple machine that that an operator manually connects to a product, presses the start test button and waits for the machine to report pass or fail or it can be a very complicated machine.

One of the functions of the EPA is to evaluate the mileage and emissions of a newly designed car. The EPA's building, and everything in it, has the purpose of automating the testing of mileage and missions. In this example, ADT provided the entire control system, created all the control software that is used to perform an exact test sequence, captured the performance data, and created test reports for our customer. ADT AE's are a key part of the effort involved in the development, delivery, and maintenance of testing solutions for our customers.

A&D AE Teamwork & Training

Most AE's gain knowledge/skills while being mentored or working with the supportive AE team. ADT has a weeklong formal training class teaching AE's how to use the ADT iTest software. The ADT iTest language is a relatively simple, proprietary language designed to be a Data Acquisition Application (think Excel for calculations or Word for writing). After that, the ADT AE training program is largely self-directed; training expectations are laid out to prepare the new AE to be "ready to take on projects". New AE's are given a lot of time to work on training materials. Their first value-added assignments tend to be checking newly manufactured project hardware (Verification of Hardware System). New AE's will shadow the more experienced AEs in the office and at customer sites.

A Challenging & Rewarding Career

AE's need to develop, maintain and expand their engineering skill sets. They will be involved with all stages, tasks, people, and engineering disciplines of the project.

AEs get the opportunity to work with customers' new products before they are released.

AE's create solutions to solve customers' problems. In most cases, AE's understand the customers product as well or better than the customers' engineers do. Communication can be as important as engineering in solving customer problems.

A Day in the Life of an AE

AE's solve problems using engineering knowledge and skills; every day. AE's are part of a project team which is run in stages. AE's can be involved in every stage of a project. Depending on the complexity of the project, each stage of the project can take days, or sometimes months to complete.

Some of the project stages that AE's are involved with are:

Test Procedure Definition: In a perfect project, the customer would know the exact testing requirements; procedures, steps, engineering conditions, evaluation criteria and report structure. For a variety of reasons, this is rare; AE's typically work with our customers to develop the project Test Procedures.

Test Application Creation: Using the customer approved Test Procedures and the ADT hardware design, the AE will create a software solution that will control the test machine/test cell.

Configure/Verify the Hardware System: Once ADT finishes building the hardware system for the project, the AE will install the Test Application on the system PC and then verify that the computer software can control all the hardware.

Installation Verification: When all the hardware is delivered and installed at the customer's testing facility, the AE will again verify that the computer software can control all the hardware and any new customer provided/installed equipment.

Site Commissioning: The AE will verify that the entire ADT project system performs to the design specification. Using the Test Application, running the test machine/test cell, and controlling the customers product, the AE will run and verify that the product can be tested and generate the information defined in the test procedures.

Project Acceptance: The AE will perform an acceptance test on the system to demonstrate that the delivered system meets the original customer requirements.

Every day, AE's enjoy a variety of different tasks involving different skills; tasks are similar but there are different problems that need to be solved.

An AE is a versatile engineering position because the AE will be involved with every department allowing them to learn how we function as a business. ADT has multiple different career opportunities that AE can shift into: Project Engineers, Project Managers, Product Managers, Business Development Managers, Account Managers, and more.