How Sentient Ascend™ Works
The most common questions we get about Ascend, answered.

WHAT IS SENTIENT ASCEND?
Sentient Ascend is a conversion rate optimization solution (CRO) that leverages evolutionary algorithms to determine winning site experiences. Through the use of smart AI, Ascend tests all of your ideas to find the best converting designs. It’s not an A/B testing tool, but a massively multivariate testing solution that allows you to try dozens of ideas in thousands of combinations, allowing you to test in a month what would normally take years while delivering higher conversion rates.

HOW IS ASCEND DIFFERENT THAN TRADITIONAL TESTING TOOLS?
Like other CRO tools, Ascend lets you test ideas to improve conversion rates. But Ascend approaches the problem in a very different way. Instead of running tests that look at one or two changes and require tons of traffic to find winners, Ascend uses AI to accelerate testing velocity. It allows you to try dozens or even hundreds of ideas at the same time, using genetic algorithms to combine your promising ideas as your test runs through multiple generations.

WHAT CAN YOU TEST WITH ASCEND?
Essentially, anything you’d like. Ascend lets you test small stuff like button color, copy, and alternate images or big stuff like full scale layout ideas or multipage funnel concepts. What’s more? You can test all those ideas simultaneously. (We’ll get into how in a moment.)

HOW DO I IMPLEMENT IT ON MY SITE?
Implementing Sentient Ascend is easy:

1. First, just add a single line of javascript before the closing </head> tag on the pages you want Ascend to track.

2. Then, decide what you’re optimizing for, say revenue or conversions. Add the URLs of the pages you want to test into Ascend and we'll pull those pages in so you can start ideating.

3. Next, you add our testing hypotheses to Ascend’s editor (either as custom code or using the WYSIWYG).

4. Click Go. That's it!
WHAT’S THE TECH STACK?

Ascend has two primary components: a website application and a runtime server.

The website application powers the editor and test configuration; it’s where you set up your tests. The runtime server supports both the manipulation of elements on your site (with very low latency) and the tracking of clickstream data. Clickstream data is fed into our AI engine which learns what elements and ideas you input move the needle the most, then send that information back to web app which adjusts traffic and element combinations. This happens continuously, so you’re always testing and always improving.

HOW DO I QA?

Once you’ve entered your ideas into Ascend, you’ll be able to preview all of them in a single tab in the same browser. Each will appear for a few seconds on the page you’re testing in succession, one after the other. It’s sort of like watching your page mutate and evolve in real time before you get started.

HOW MANY IDEAS CAN I TRY AT ONCE?

While there’s technically no upper limit, we don’t recommend going overboard. We’ve had users who’ve tested nearly 400,000 possible designs but, to be clear, Ascend doesn’t test every single combination of changes you’ve entered. Instead, it leverages artificial intelligence and Bayesian statistics to find promising ideas and combine them into successive generations.

Now, there’s really no hard and fast rule about the amount of changes you can try and, when you start your first test, we’ll work with you to figure out an optimal amount of changes to try. It’s a matter of factoring in your traffic, the amount of elements, how long you want to run the test, and more. But you can rest assured that testing dozens or hundreds of ideas is more than possible, especially for sites who average 200,000 unique monthly visitors of more monthly. And, no matter what, the longer your test runs, the most likely it is to find the optimal combination of variables to increase the most uplift.

CAN I TEST MY ENTIRE FUNNEL?

You can! In fact, it’s one of our customers’ favorite things about Ascend. After all, in testing, it’s not so much the changes you make as the combination of those changes. With Ascend, you can test a single page or your entire funnel at once. Ascend actively finds the combination of messaging, design, and experiences that produce the most uplift.

HOW IS ASCEND STATISTICALLY SIGNIFICANT?

This is a great question, and one we get a whole lot. Let’s start with the basics: Ascend approaches testing differently than typical CROs, especially A/B testing solutions. The bottom line is we’re not concerned with statistical significance up front. We’re concerned with finding promising ideas among large search spaces.

A/B testing is, by its nature, a confirmatory approach. You have your control (A) and your test (B) and you confirm which is better with statistics. Ascend takes a different approach. We think of it as exploratory.
Instead of deciding if one idea is better, we’re interested in identifying which of many ideas are promising. Evolutionary algorithms take care of combining promising ideas into generations of children that perform better than the control versions, then combine again and again and again, purposely foregoing statistical significance (in the traditional sense) as conversions increase. Mathematically, what happens is that over generations, significance *accumulates* as better-converting experiences breed better-converting experiences.

That said, you can stop your test at any point and reach statistical significance to prove this out. We’ve had several customers do this to the variations they settled on and, in every instance, they’ve found the variation performing much better than the control.

**HOW DO ASCEND’S GENETIC ALGORITHMS WORK?**

Genetic algorithms use a lot of concepts familiar to evolutionary biologists, such as mutation and adaption. And while there’s not a hard-and-fast blueprint they follow every time, basically, they work like this:

Say you’re testing five different elements (e.g. a headline) and five different ideas in each (e.g. different copy treatments). All those variations across the five elements, when combined, make up 3,125 possible page combinations! And the numbers quickly get bigger with each idea you come up with.

Evolutionary algorithms keep you from having to test all those combinations individually. What they do is this:

First, they test each idea by itself. In this case, that’s 20 ideas (5 elements, 4 new ideas for each), plus the control combination. If an idea is promising—by which we mean it looks to be performing better than the control—it becomes a “parent” for the next generation. Its “genes” (i.e., the particular variables that may have contributed to its good performance) get combined with other promising parents in generation two. This continues, over and over, as more ideas get married to each other, finding the combinations that convert best. Ascend even uses “mutation”: it double-checks ideas it threw away originally just to make sure they don’t work better in combination with promising ones it’s already excited about.

**HOW DO YOU KNOW WHEN TO STOP TESTING?**

Technically, with Ascend, your tests can run forever. After all, with each subsequent generation, you’re getting closer to the ideal combination of your ideas.

That said, you can stop tests whenever you’d like. Many Ascend users have tests that run for a finite period because they’re part of a particular campaign or because they don’t want tests running during Black Friday or a big sale. We’ve also, as we mentioned above, seen a lot of customers stop a test once they’ve reached a particularly good KPI increase and double-check the new experience via A/B testing.

**WHERE CAN I LEARN MORE?**

Just get in touch with our team and we’ll set you up! Or visit our Ascend Resources page to download case studies and watch videos.