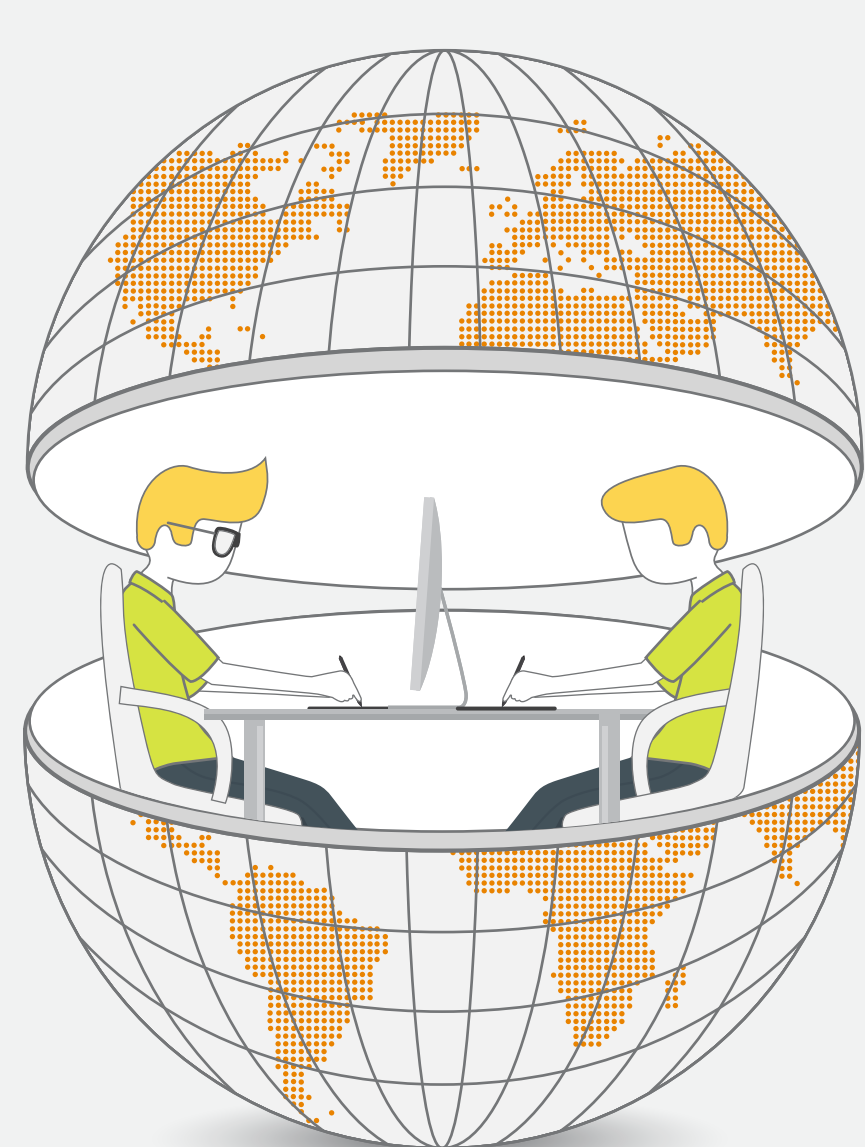


# FIVE QUESTIONS TO ASK YOURSELF WHEN MEASURING OVER 50 G



When it comes to researching, developing, and testing products in harsh and complex environments, accelerometers can provide invaluable data.

## INSIDE THIS REPORT

We'll examine five questions you can ask yourself when you're planning to measure over 50 g:



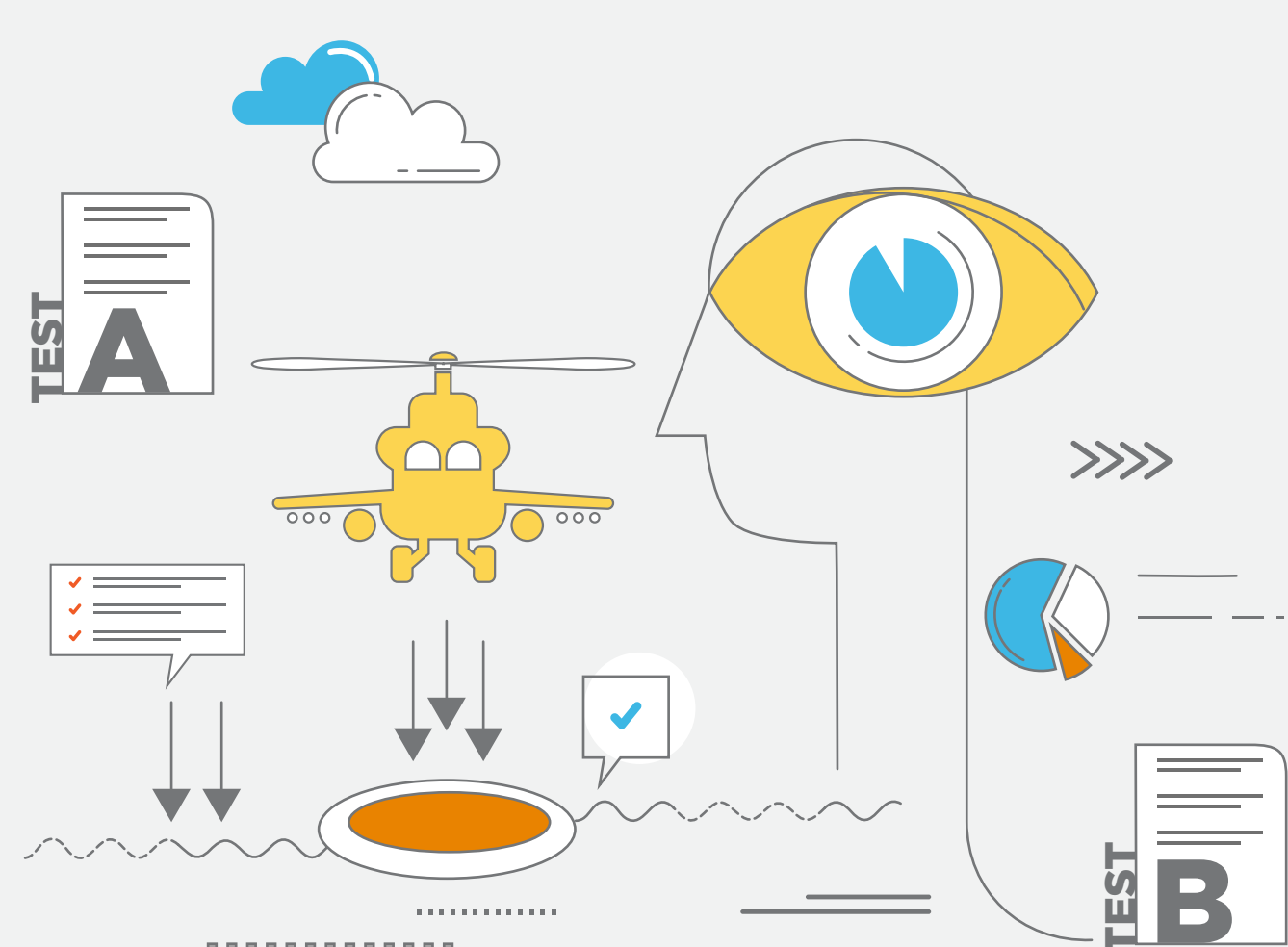
## 1 WHAT IS THE EXPECTED DYNAMIC RANGE YOU WILL BE MEASURING OR TESTING?

When using an accelerometer, you want to give yourself enough of a margin to ensure your test results are useable and the measurement range does not exceed the FS output of the accelerometer. If you don't, and your g-force is higher than your accelerometer's upper limits, you may end up clipping your signal and render your test results useless.



By best practice standards, you'll want to plan for your results to fall within 30-40% of the device's full-scale range, and never less than 10%.

## 2 WHAT IS THE MEASUREMENT BANDWIDTH?



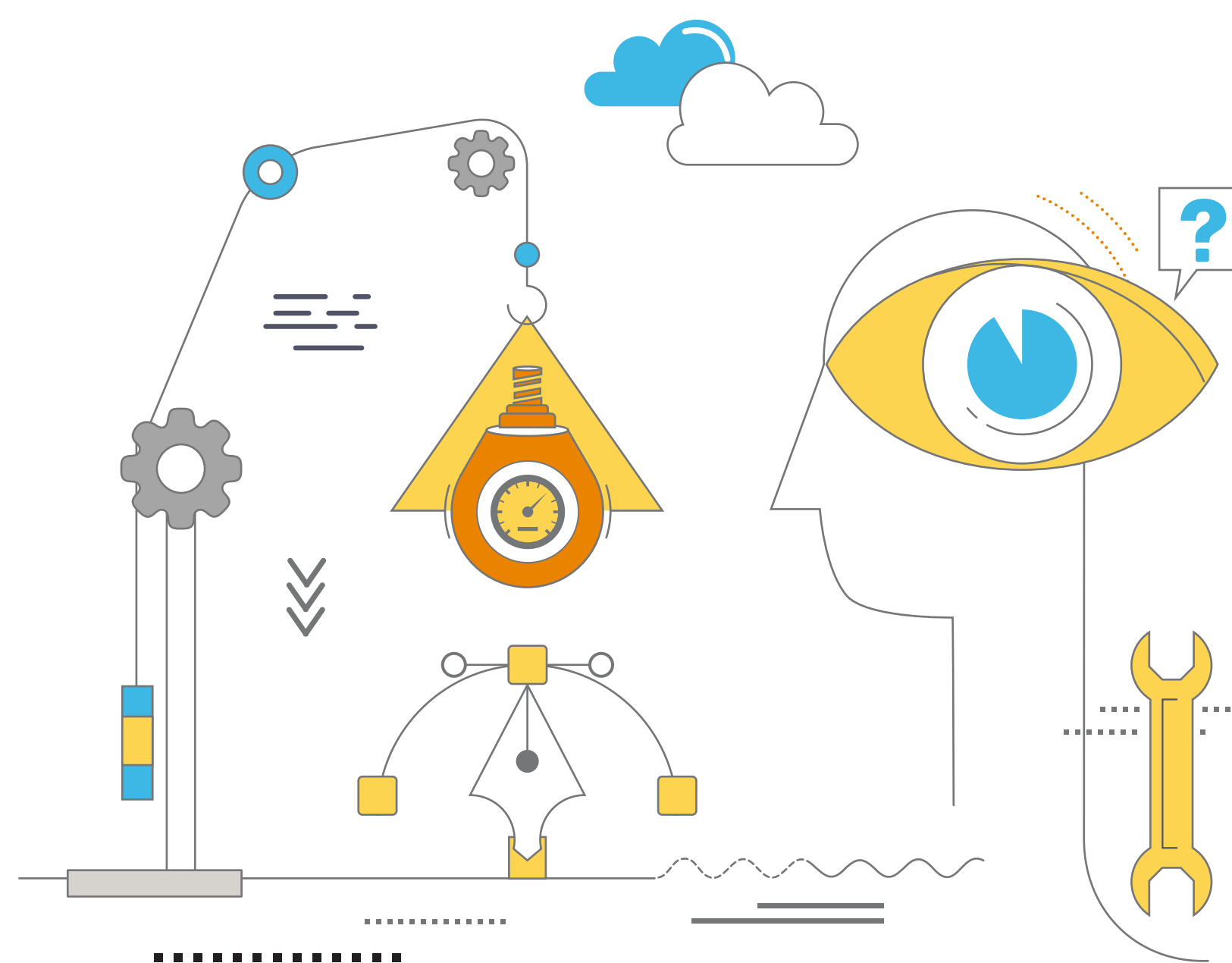
The measurement bandwidth you choose will depend on many factors, specifically the type of test and the impact surface.

If you're looking to measure a drop on a soft landing, for instance, a narrow bandwidth may be fine. But if you're looking to measure peak g's in high-impact tests, like munitions and automotive crashes, you'll need a wider bandwidth.

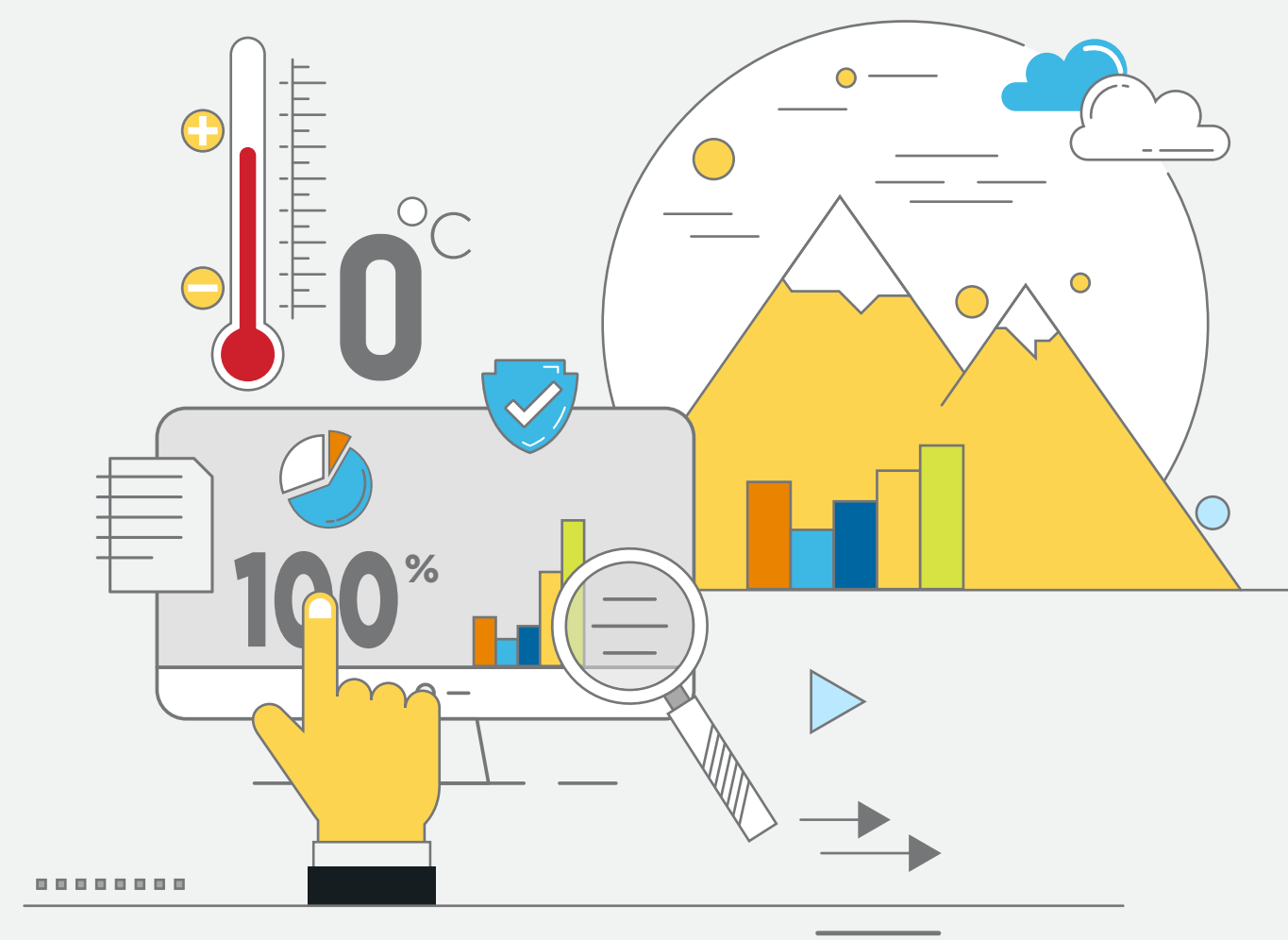
## 3 HOW WILL THE SENSOR BE MOUNTED DURING TESTING?

It's important to know how you'll install the accelerometer, as well as where you'll place it.

For best results, accelerometers should be mounted rigidly to the apparatus. And while there are some materials, like cyanoacrylate that can be used to adhere an accelerometer to a device, most epoxies and glues should be avoided, as they'll serve as extra dampening agents and absorb energy before it can be registered by the accelerometer.



## 4 WHAT CONDITIONS WILL YOU BE CONDUCTING YOUR TEST IN?



All accelerometers are compensated to a certain temperature range tolerance, so you'll need to know your testing conditions for an accurate reading.

Conditions such as humidity, snow, altitude, and underwater submersion can play a role in determining what type of accelerometer will hold up best under the conditions it will be exposed to.

## 5 WHAT MEASUREMENT PARAMETER DO YOU NEED?

While an accelerometer's function is to measure acceleration in g-forces, it can also be used to determine velocity and displacement.

If you're looking to measure either of those data points, you'll need a DC device.



To learn more and read the full report click [here](#).