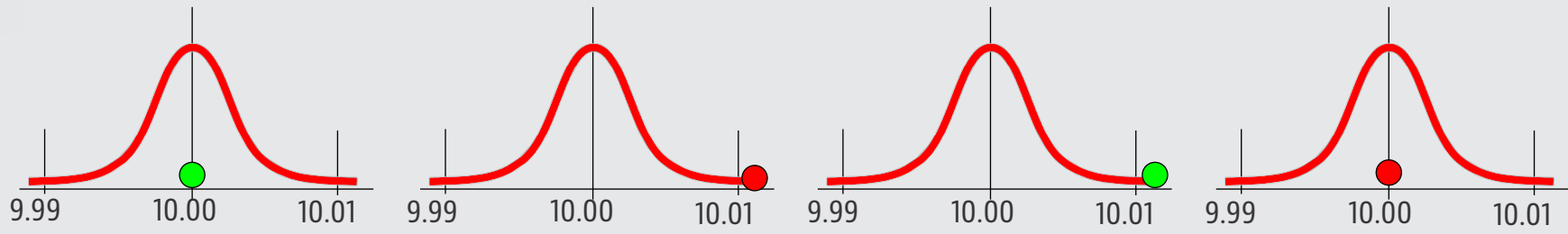




01

Metrology decisions have 4 possible outcomes, each with its own economic consequences:



1. Accept a good part

The system works!

Producing maximum value return to the organization

2. Reject a bad part

The system works!

Loss of time & material costs to complete the part to the inspection point. Downstream risks avoided

3. Reject a good part

The system fails!

Loss of time and material costs to complete a good part and then adding it to scrap and rework

4. Accept a bad part

The system fails!

Will the failure be detected during final assembly and test resulting in rework costs and delivery delays?

Will the failure be detected in the field with warranty costs?

Will the failure result in product liability costs and possible litigation costs?

If it never fails, the design specification fails because a failing part functions properly

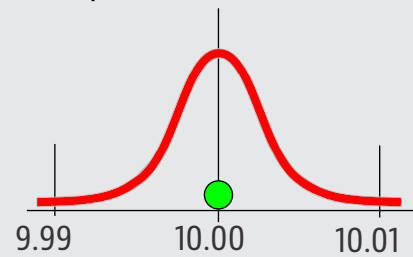
02

A valid and capable measurement system can be confidently relied on to make decisions 1 and 2. A measurement system that allows decisions 3 and 4 exposes the organization to potentially devastating losses

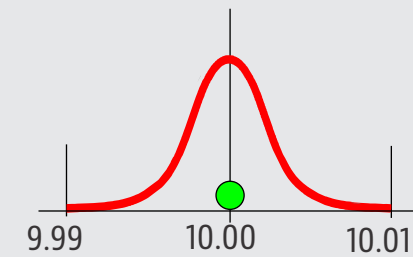
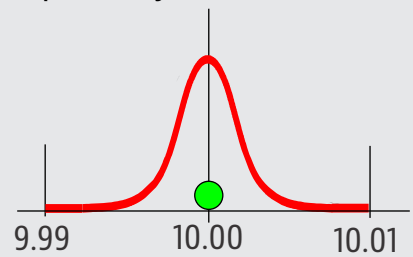
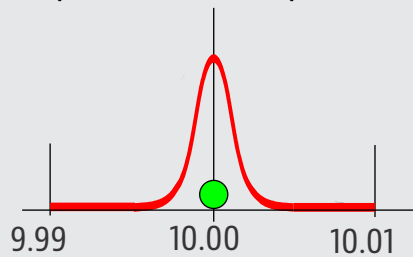
03

A valid and capable measurement system enables us to both:

Make good part acceptance decisions



Make good decisions about manufacturing process capabilities and expectations of process yield



Process Capability = 2

Expected failures less than 1 PPM

Process Capability = 1.33

Expected failures 63 PPM

Process Capability = 1

Expected failures 2700 PPM

Without a valid and capable measurement system, decisions on accept/reject and manufacturing process control cannot be relied on.

04

The path to GOOD DECISIONS:

