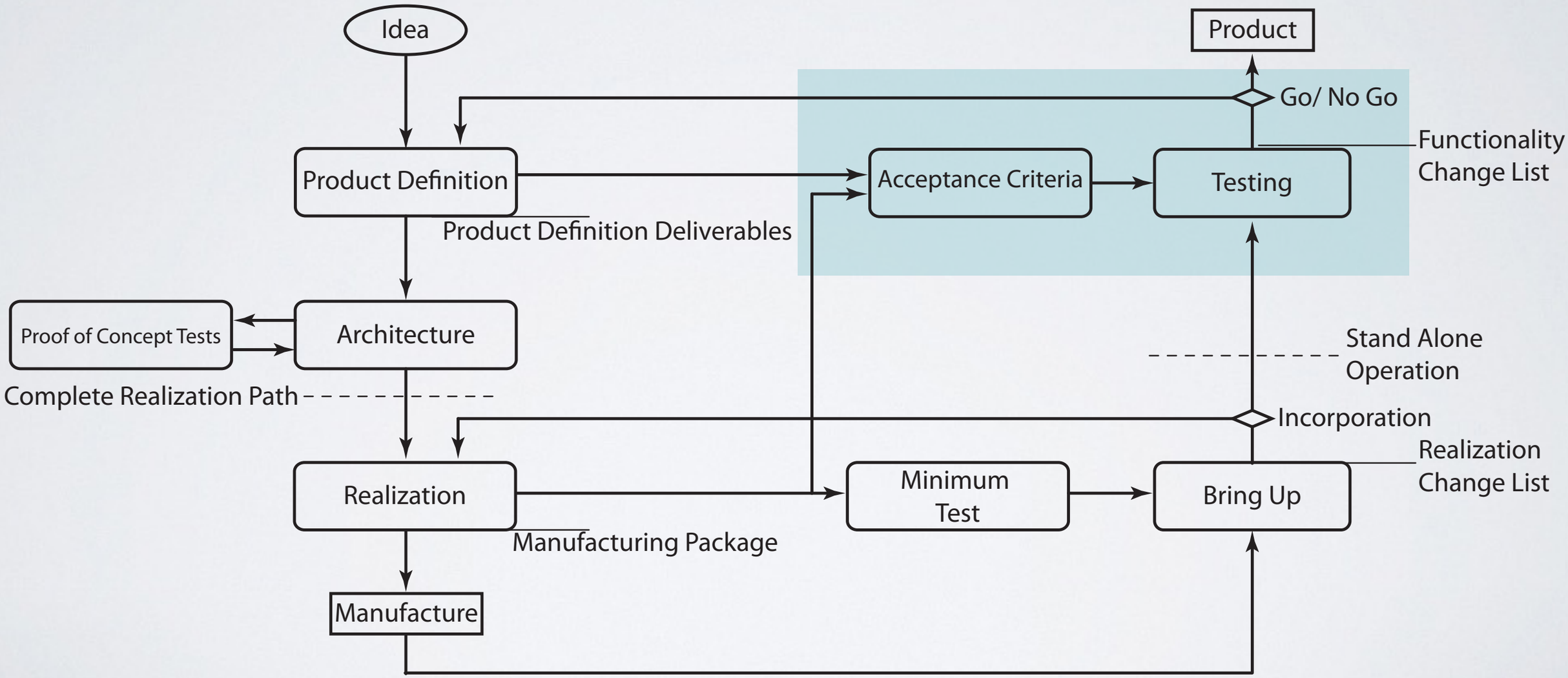
TESTING PHASE

The Engineer Accelerator
Malcolm Knapp
8/27/15

DEVELOPMENT PHASE



TESTING

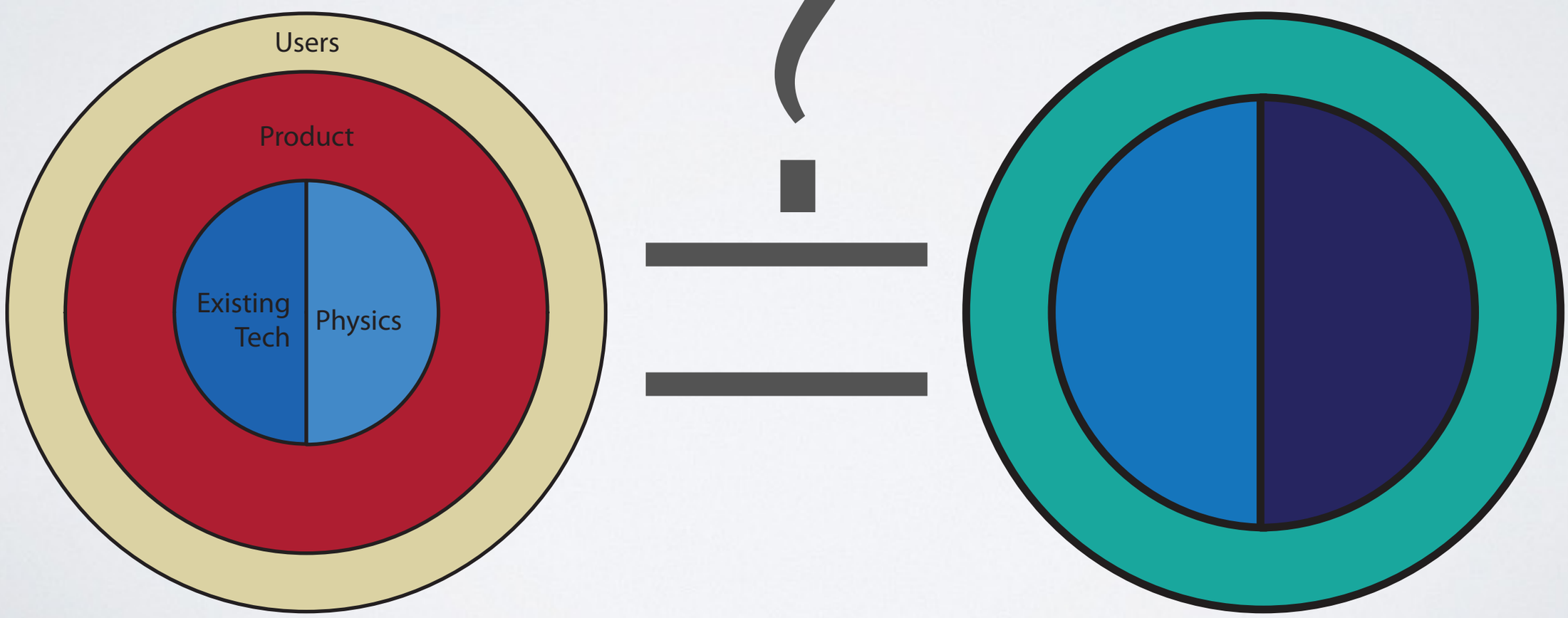
Bring Up	**Testing**
Emulated operation	Stand alone operation
Information is changing quickly	Information is changing slowly
Informal Documentation	Formal Documentation
White Box	Black Box
Unbounded	Bounded
Uncontrolled Environment	Controlled Environment

GOAL

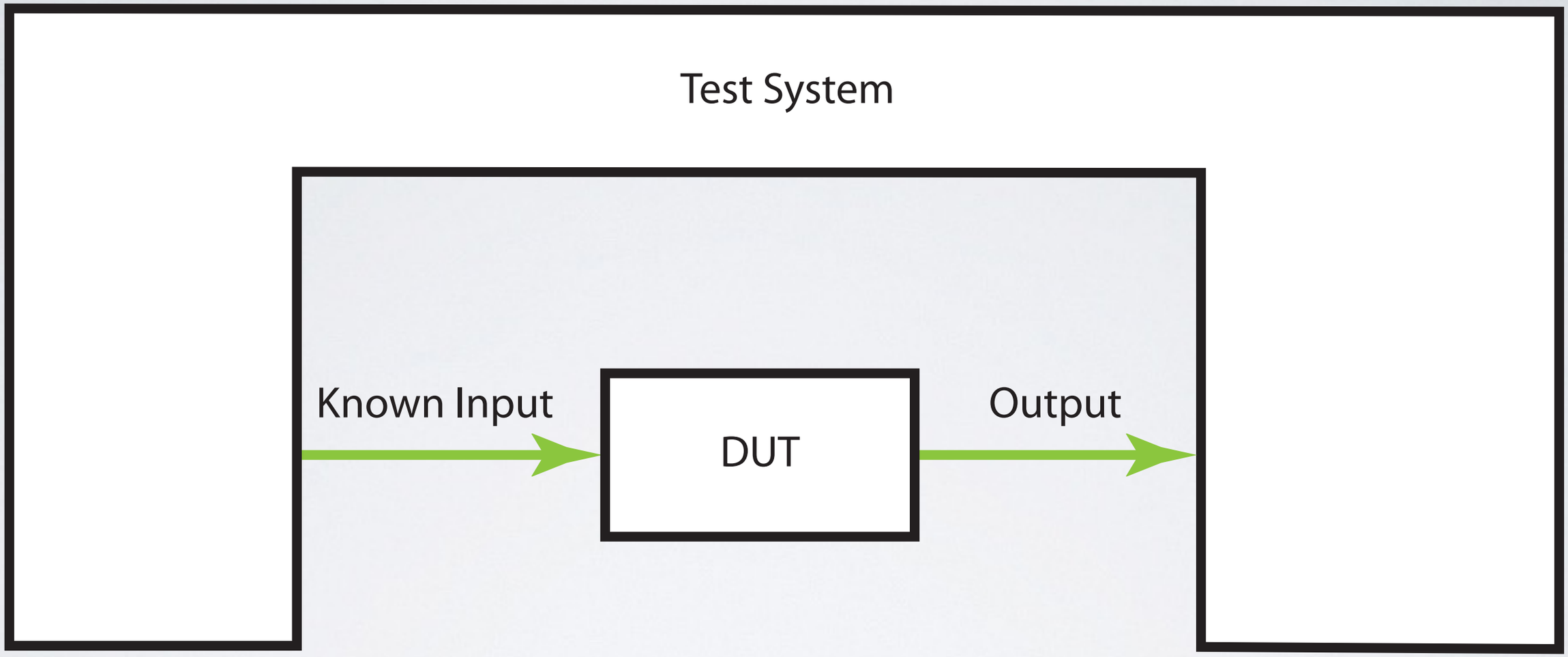
ESTABLISHMENT OF NOMINAL FUNCTIONALITY

PROCESS

Validation of Behavior and System Characterization



TESTING SYSTEM



DUT (Known Input) = Output $\stackrel{?}{=}$ Expected Output

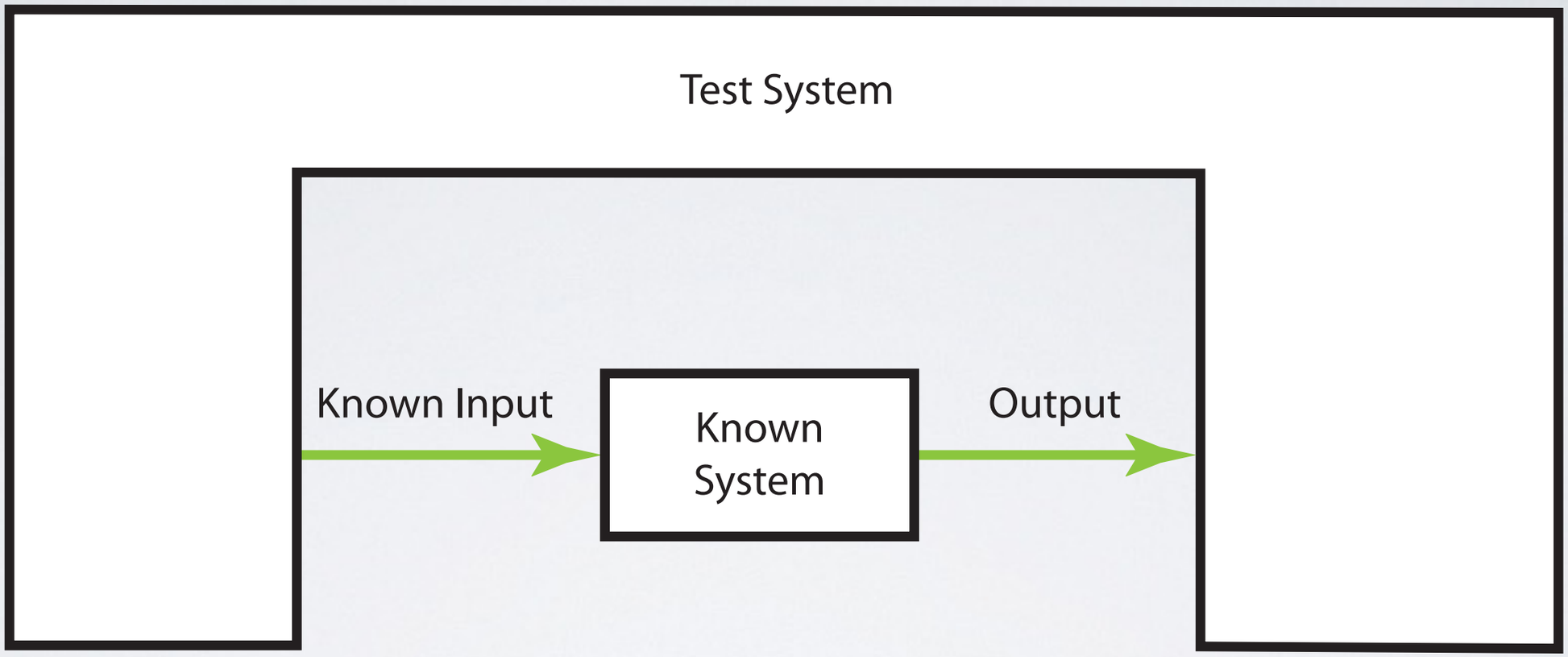
ACCEPTANCE CRITERIA

The Acceptance Criteria should be a number

TESTING ACTIVITIES

- Test Setup
- Testing the Test
- Testing
- Analysis Development
- Analysis

TESTING THE TEST (SYSTEM)



Calibration Standard

3rd Party System

Golden Board

TESTING

- Single Point Testing
- Full Range Testing
- Edge Case Testing
- Random Testing
- Regression Testing

BASELINE OPERATION

GROWING A TEST

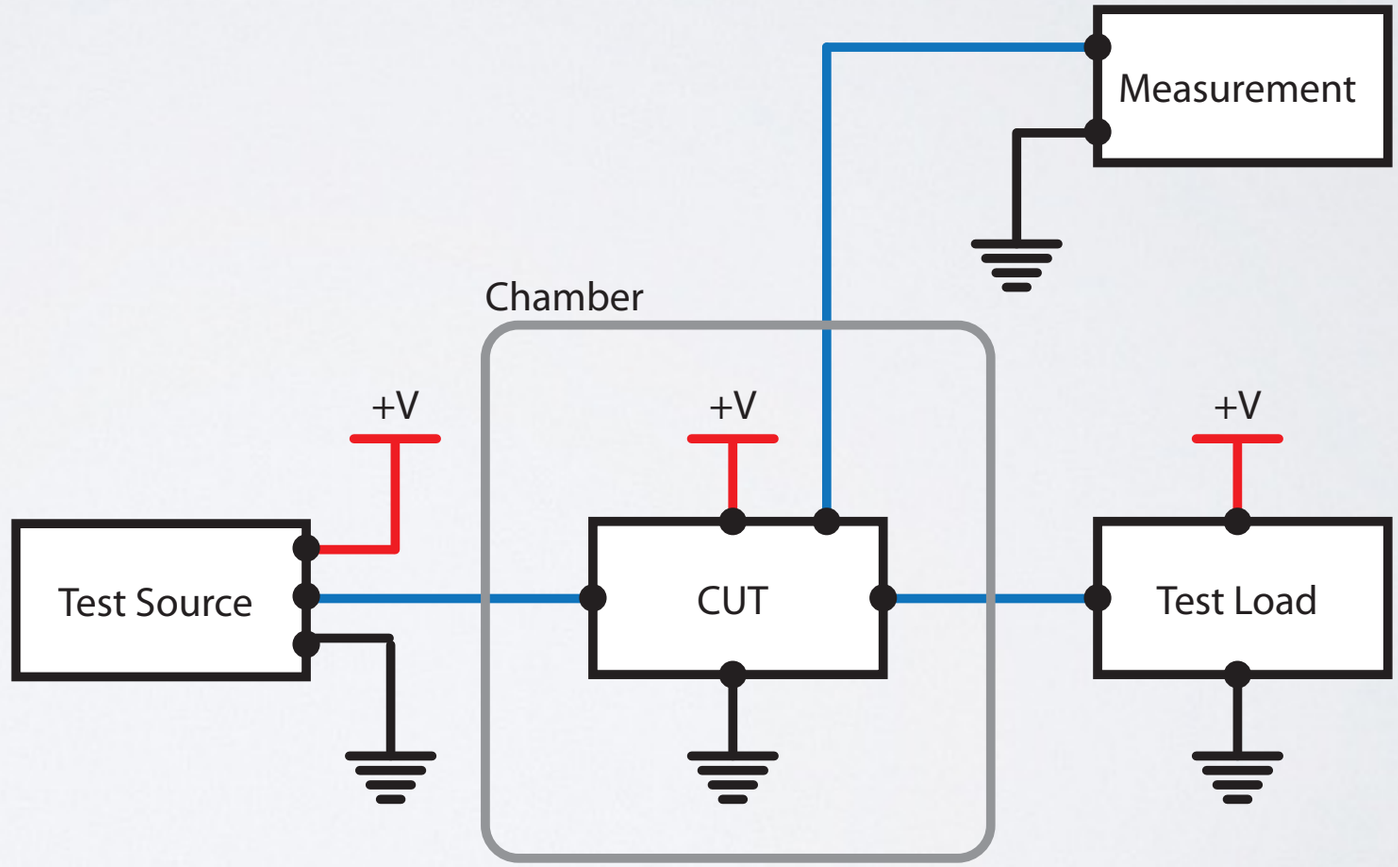
Baseline Operation

Known Input — Expected Output
Known Input — Expected Output
Known Input — Expected Output
Known Input — Expected Output
Known Input — **Unexpected** Output

CHOOSE WHICH RESULT YOU WANT TO KEEP

MEASUREMENT

- Controllability
- Observability
- Loading Effects



PERFORMANCE TESTING

- Data Acquisition
- Analysis Development
- Analysis

CHOOSE WHICH RESULTS YOU WANT TO KEEP

Self Consistency

RESTORING THE BASELINE

DELIVERABLES

- Acceptance Criteria
- Change List
- Performance Characterization

WHAT IS COMPLETE

- When the functionality of every single feature, behavior, and interface has been approved