

A decorative graphic consisting of several overlapping, rounded rectangular bars in various colors (red, cyan, yellow, green, blue) arranged in a vertical stack on the left side of the slide. A horizontal cyan bar crosses through the middle of the vertical bars.

Validation

Have you built your castles in the air?
Good, that's where they should be built.
Now, go to work and build foundations
under them.

- Henry David Thoreau



What is Validation?



The process of evaluating a system or component during or at the end of the development process to determine whether it satisfies specified requirements.



Validation Methods



- Demonstration
- Inspection
- Analysis
- Similarity
- Testing



Testing



- Development tests
 - Useful for gaining and determining the feasibility of design ideas
- Prototype testing
 - Tests stress the product up to and beyond specified uses
- Proof testing
 - Tests product to failure to identify where eventual failures might occur (ABT and/or CDT)
- Acceptance testing
 - Non-destructive testing on production units
 - Conducted on initial production units or random specified samples
- Regulatory Compliance testing
 - As necessary for type of product
 - May be done in house or by certified testing facility
 - May take a very long time!





Follow-Up

We have perhaps a natural fear of ends. We would rather be always on the way than arrive. Given the means, we hang on to them and often forget the ends.

- Eric Hoffer



What Happens after “Implementation”?

- Production troubleshooting
- Process efficiency studies/improvement
- Ongoing product quality analysis and improvement
- Customer feedback assessment
- Warranty return tracking and analysis
- “Value Engineering” – cost reduction or efficiency improvement
- Documentation – transition records, failure avoidance, project “post-mortem”



The Project “Post-Mortem”



- Review project since its inception
- Review includes team activities, communication, collaboration, process, technical issues, and more
- It is critical to assess errors, delays, technical, cost, and implementation problems
- Objective is to avoid blame and determine root cause and opportunity for future improvement

