Validation and Verification Terminology

by Gerrit Muller    Buskerud University College

  e-mail: gaudisite@gmail.com
  www.gaudisite.nl

Abstract

Brief explanation of the terms used in Validation and Verification, e.g. validation, verification, qualification, and certification.
Validation and Verification in the V-model

**validation** does the system fit the needs and match expectations?

**verification** did we build what we specified and according the design?
Functional Model of Verification

- **test specification**
- **system-of-interest**
- requirements
- **test**
- **result**
- **report**
- **review**
- **assess**
- **conclusion**
- **references**
- **report**
- **problem reports**
- **deviations**
- **qualification**
- **documentation**

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Certification: an independent agency (e.g. DNV) certifies the quality of the system-of-interest

Self-certification: the company has been accredited by the agency to do the certification themselves.

- check qualification data
- check process and organization
- optional audit
- certify
Development and (repeated) Production

- System specification
- Test specification
- Qualification documentation
- Development; only after design changes

- Acceptance test procedure
- FAT
  - Factory FAT report
- SAT
  - Site SAT report

Production and delivery once per system
Can all down-stream stakeholders do their job?

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VVTstakeholders

engineering

- parts data base
- production procedures
- qualification procedures
- system documentation

- procurement
- production
- installation
- quality assurance
- lifecycle support

- CAD: mechanical electrical design database
- SCM: source code management
- ERP: resource planning, e.g. SAP
- PDM: product data management