

Functions, form, and classification

Some assurance principles, using the E407 as basis

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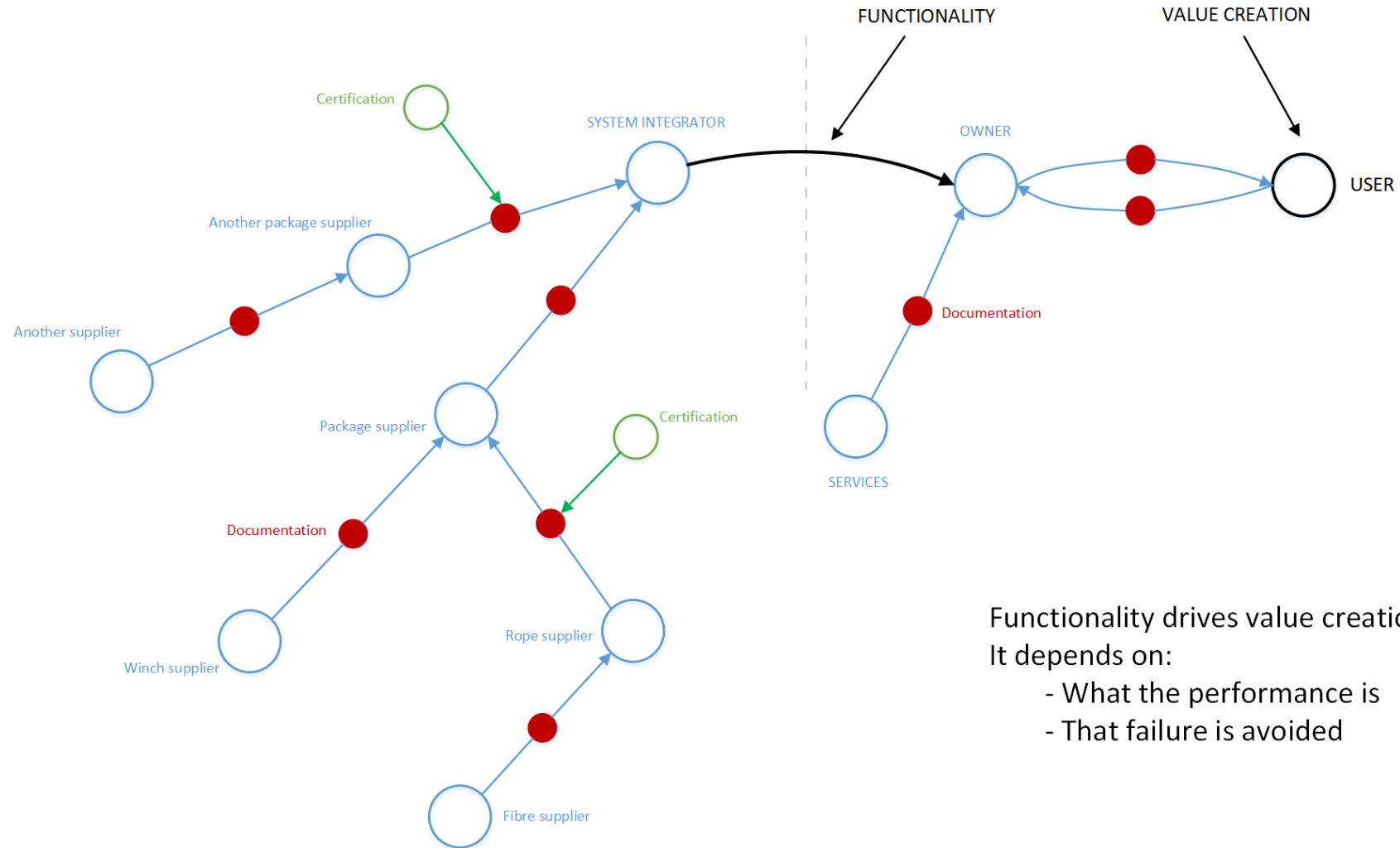
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Facing the environment; how do you define the requirements?



Describing operational expectations
Defining functions - characterising failure mechanisms
Sufficient safeguards throughout operations

Value creation is backed by a network of stakeholders



Functionality drives value creation.

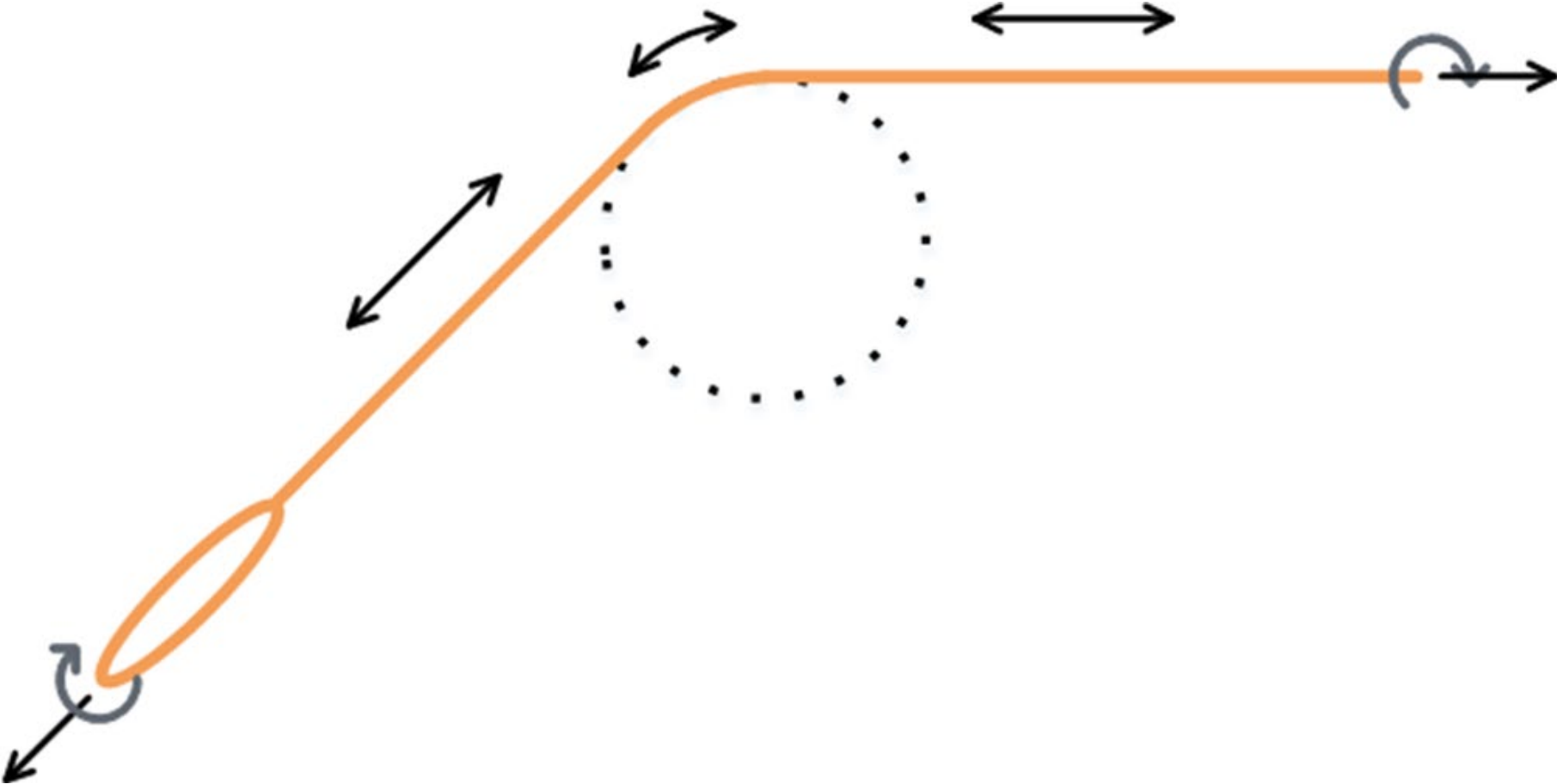
It depends on:

- What the performance is
- That failure is avoided

Words of many meanings ...

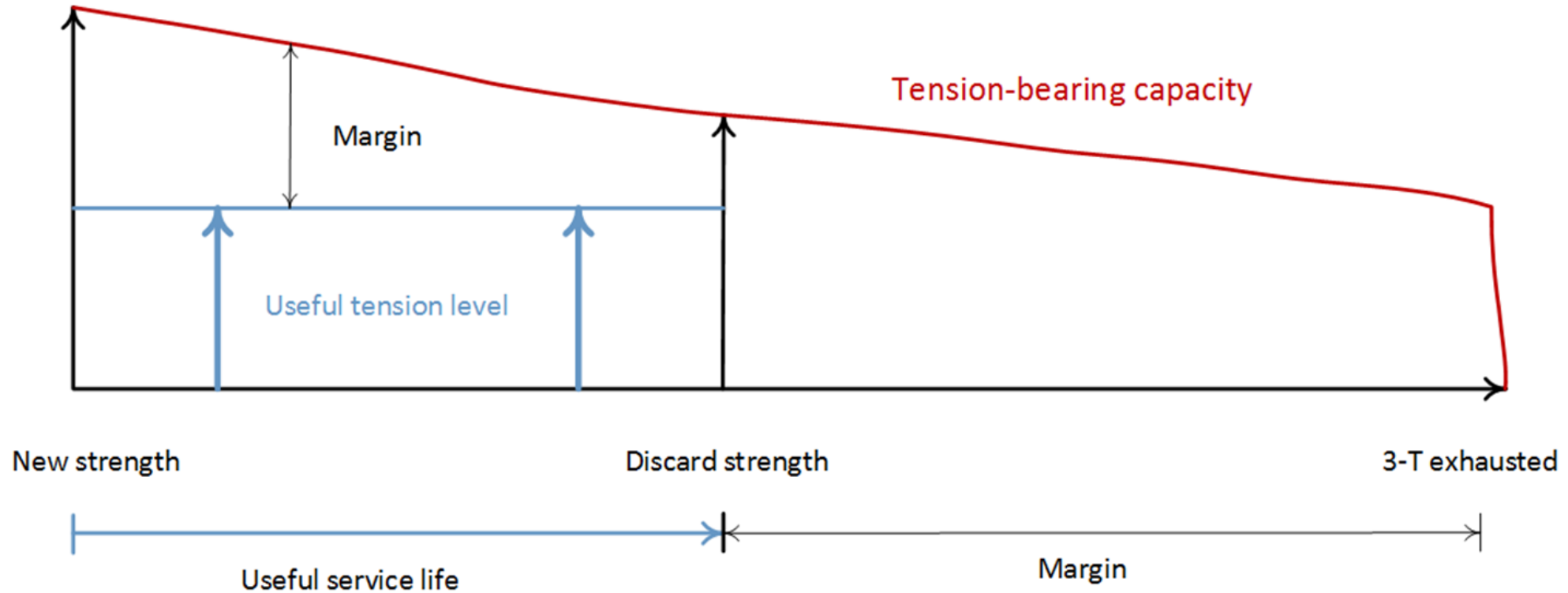
• Certification	-	Of something	-	What is being asserted?
• Classification	-	Assigning to category	-	How is the category defined?
• Approval	-	By someone	-	Who has the authority?
• Qualified	-	For something	-	What can he/she/it do?
• Proven	-	To some extent	-	What has he/she/it done?
• Tested	-	In a certain way	-	What were the conditions?
• Standard	-	A set of requirements	-	What does compliance entail?
• Assurance	-	To make sure	-	What's the explanation?

Functions



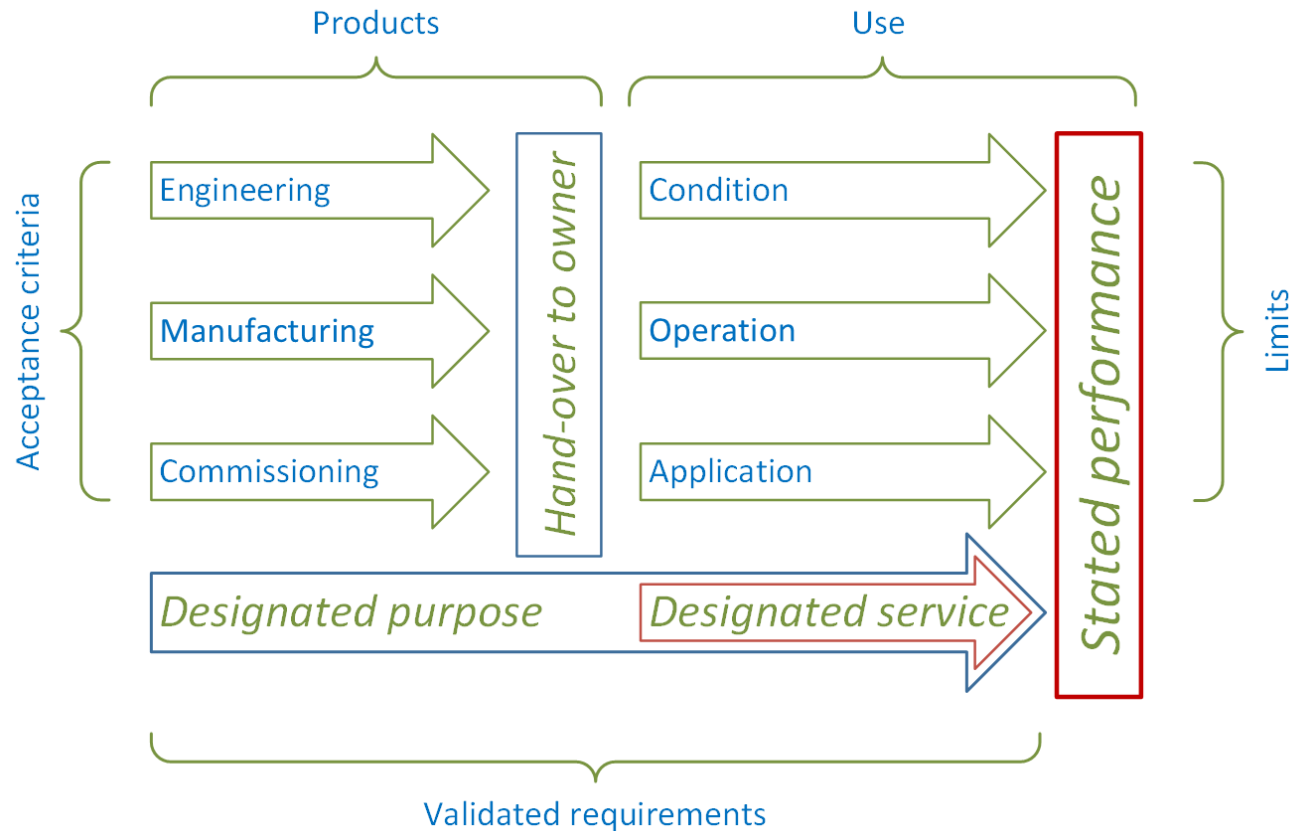
Working capability and margins

Varying loads, varying temperatures, internal and external abrasion, rope twist, rope bending



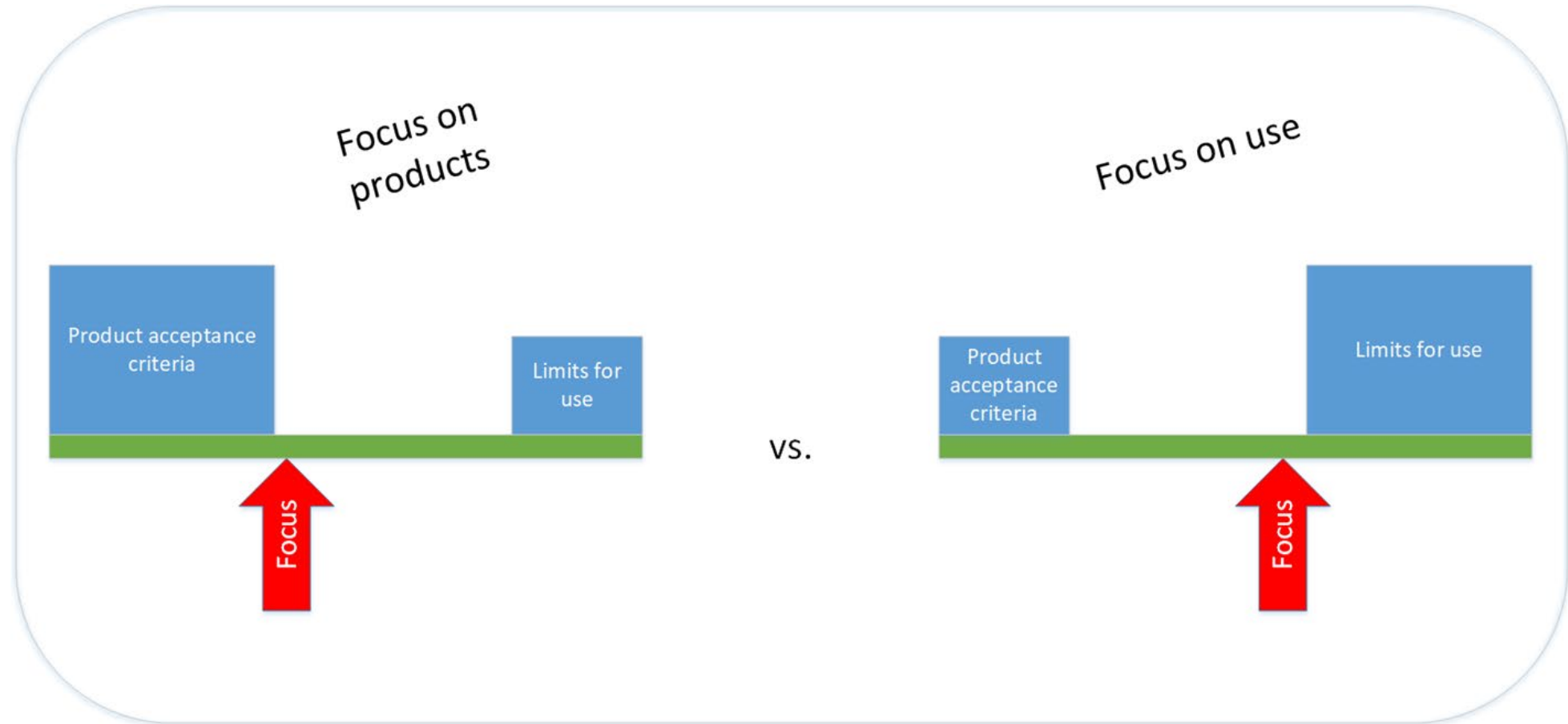
Assuring functions by setting acceptance criteria for products and limits for use

- The right thing
- Made right
- Put together right

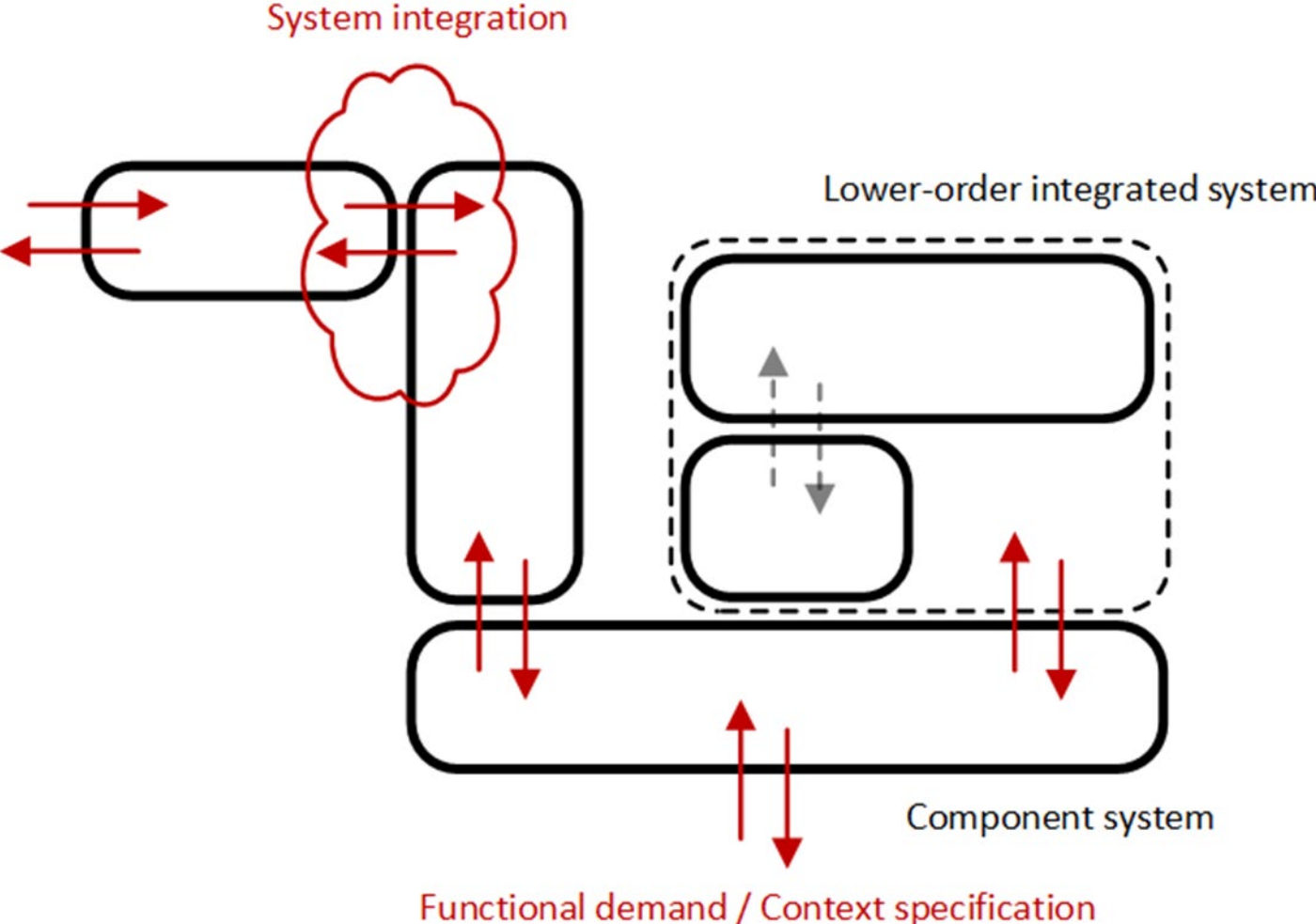


- Given the right attention
- Used in the right way
- Used for the right thing

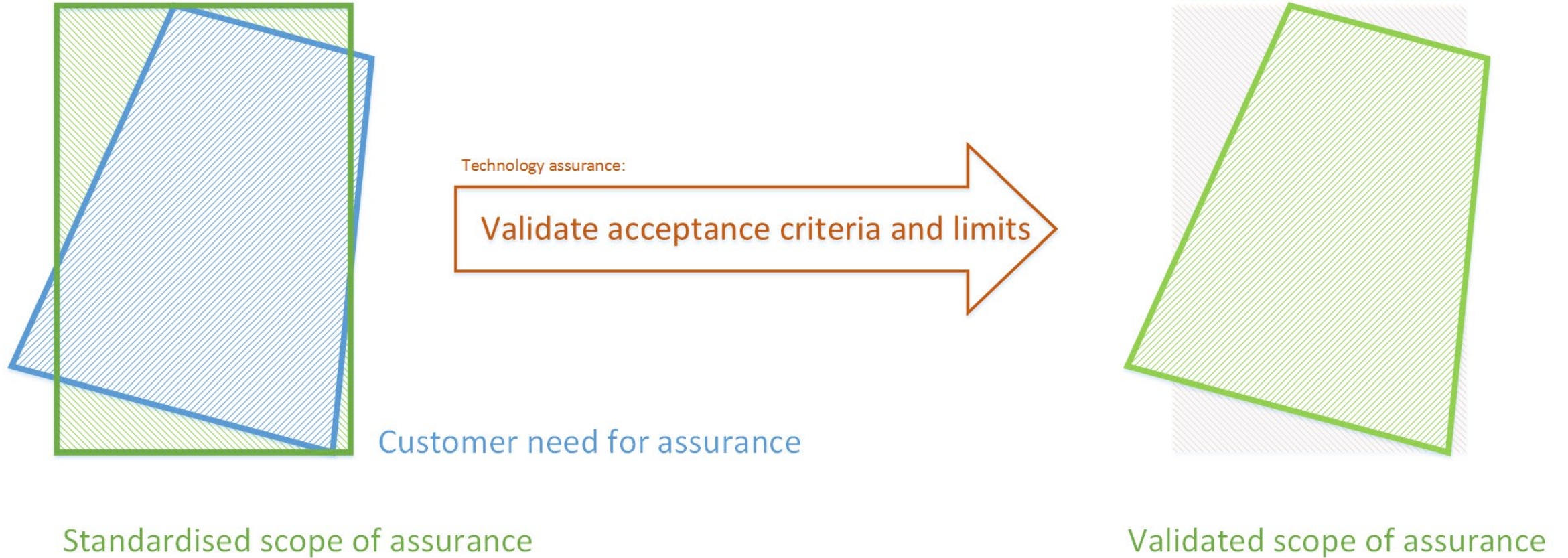
Taking knowledge and understanding into account



Form



Validating the requirements



Classification

- Define the system for which we shall say something about functions and functionality
- Apply the basic assurance principle (the six arrows) to define the (certification) criteria and the (follow-up) limits to use
 - Use available knowledge and understanding to develop valid criteria and limits
 - Validate existing requirements for the case at hand
- Classify the system - the scope of assurance - according to the degree to which
 - Stakeholders are identified
 - Functions have been identified
 - Functionality has been assured
 - Requirements and impacts to super-systems are communicated
 - Requirements and impacts to sub-systems are communicated
- The big challenge: Testing for completeness, and residual uncertainty

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