

Fundamentals of Requirements Engineering

by *Gerrit Muller* University of South-Eastern Norway-NISE

e-mail: `gaudisite@gmail.com`

`www.gaudisite.nl`

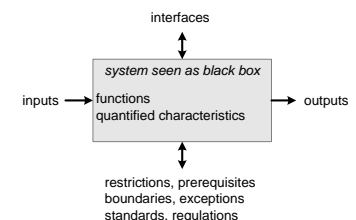
Abstract

Requirements engineering is one of the systems engineering pillars. In this document we discuss the fundamentals of systems engineering, such as the transformation of needs into specification, the need to prescribe *what* rather than *how*, and the requirements when writing requirements.

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Definition of “Requirement”

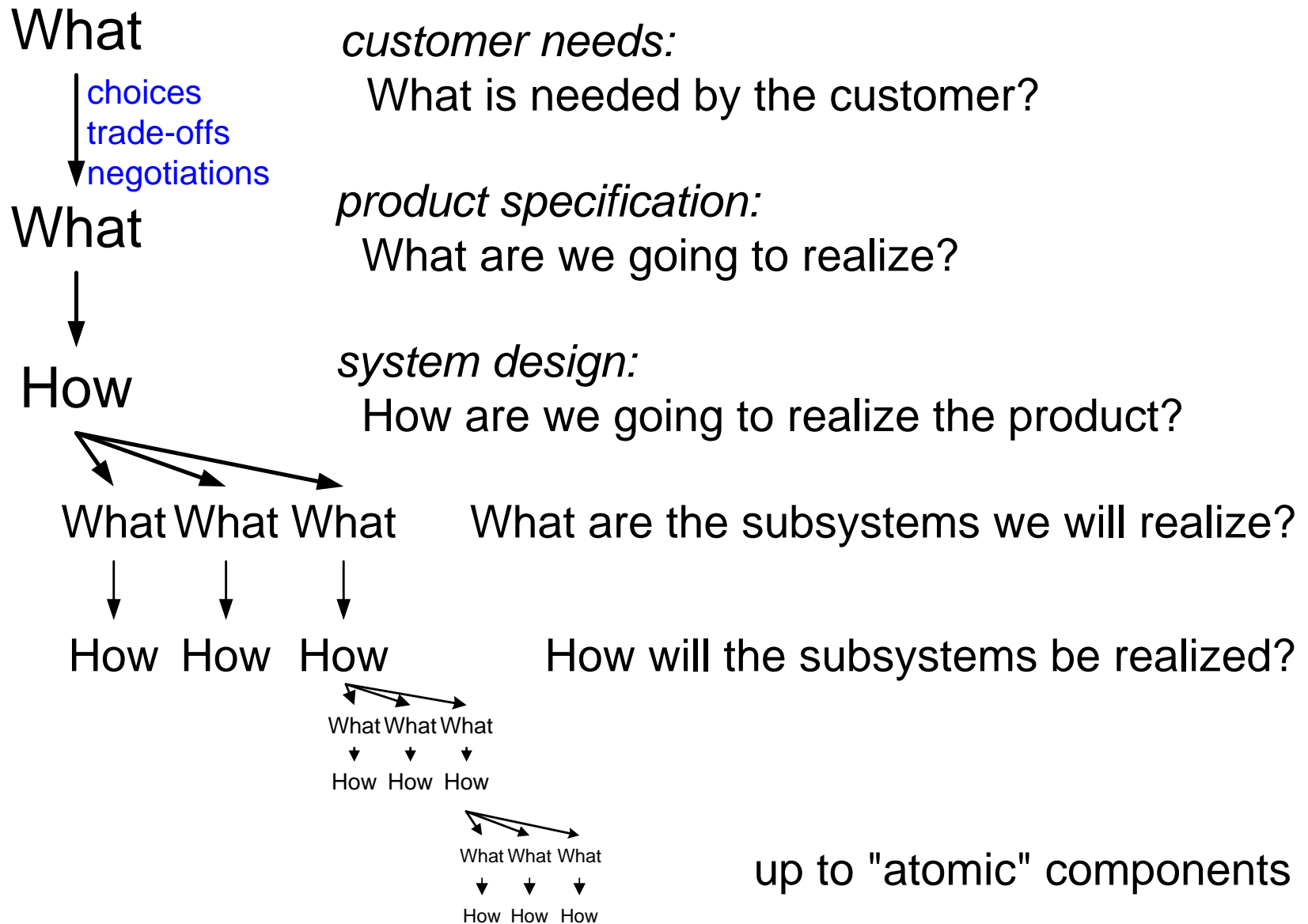
Requirements describing the needs of the customer:
Customer Needs

Requirements describing the characteristics of the final resulting product: *Product Specification*

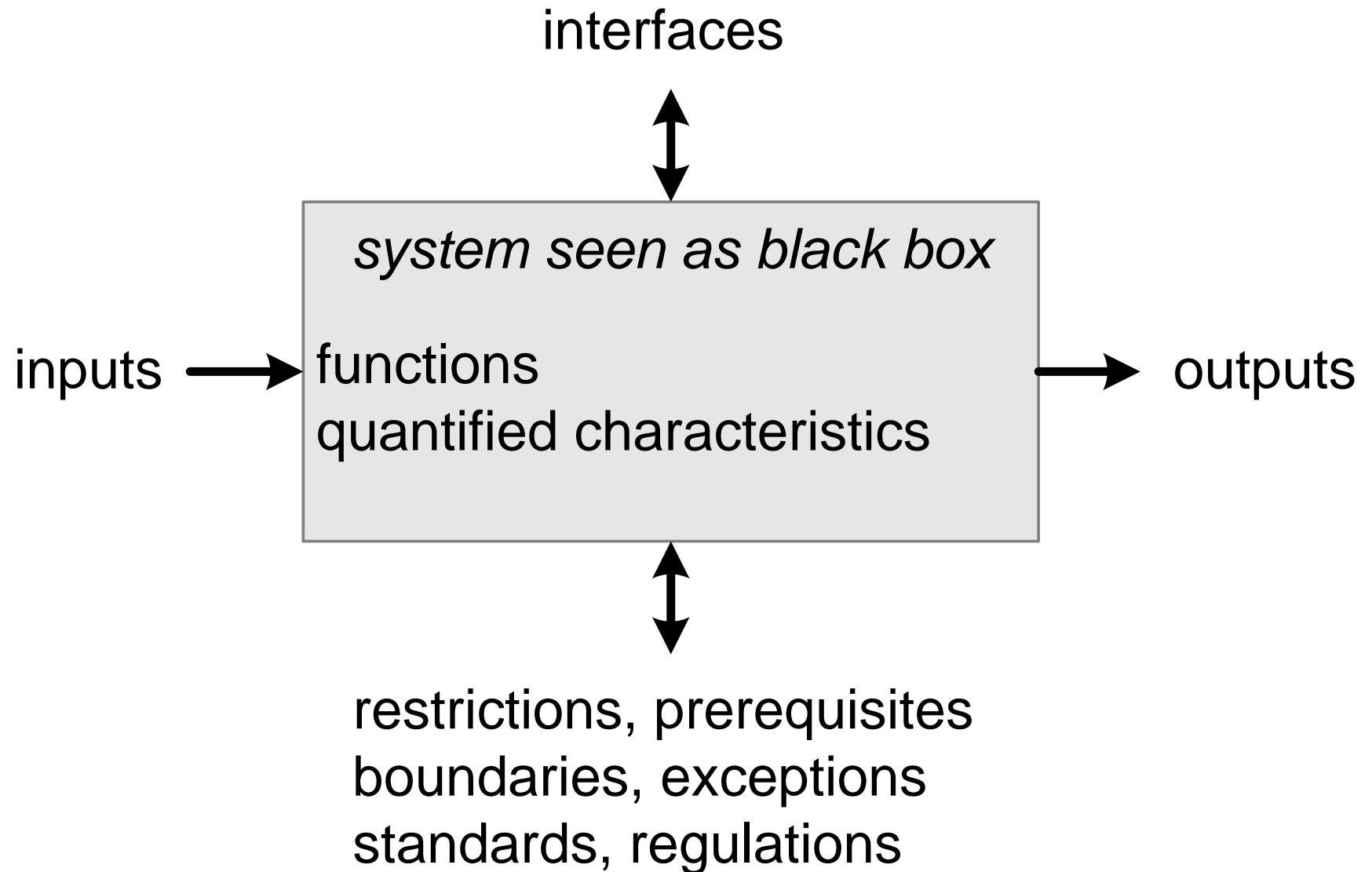
The requirements management process recursively applies definition 2 for every level of decomposition.

Requirements describing the needs of the company itself over the life cycle: *Life Cycle Needs*

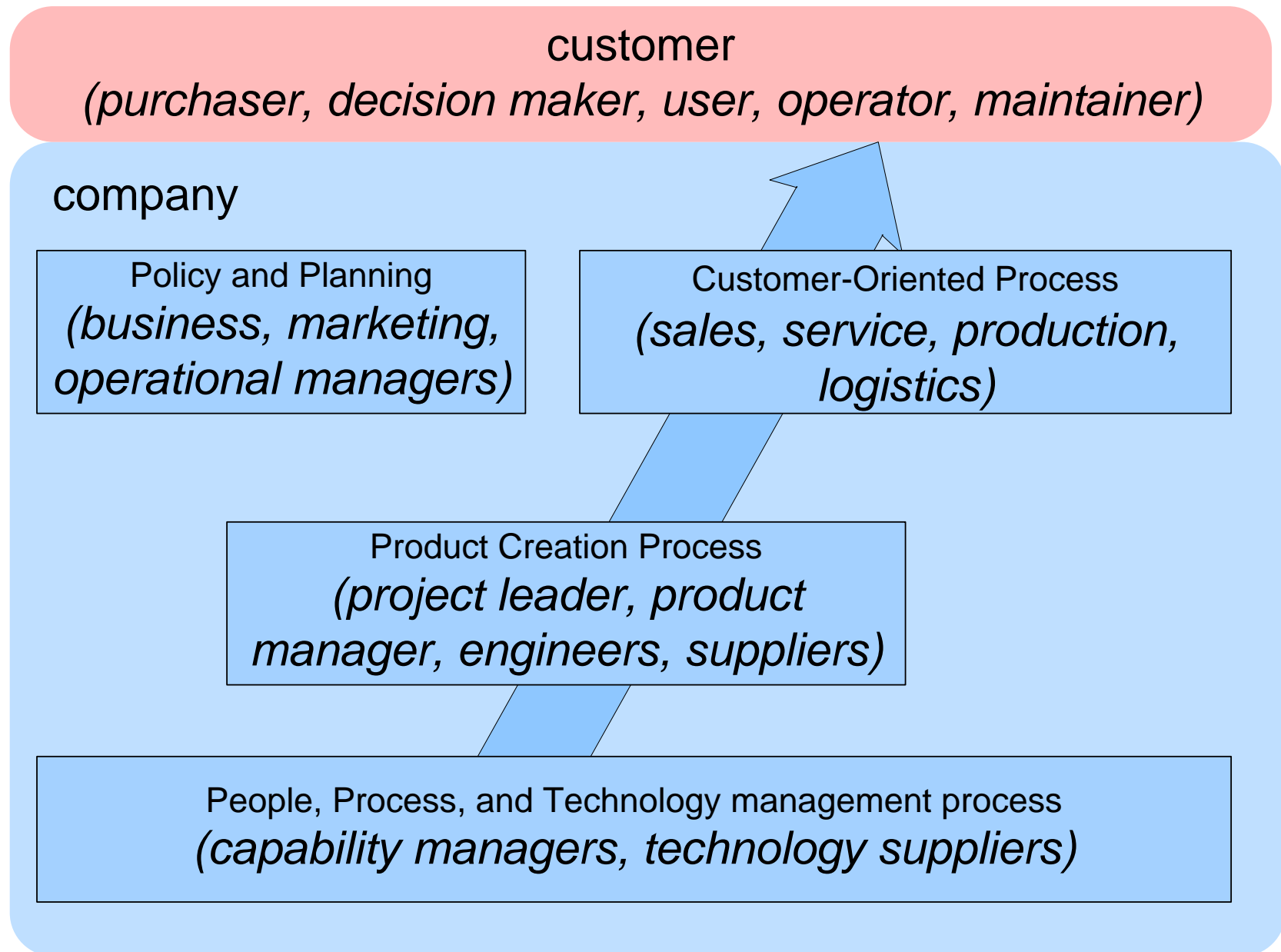
Flow of Requirements



System as a Black Box



Stakeholders w.r.t. Requirements



The “Formal” Requirements for Requirements

Specific

Unambiguous

Verifiable

Quantifiable

Measurable

Complete

Traceable

The Requirements to Enable Human Use

Accessible

Understandable

Low threshold