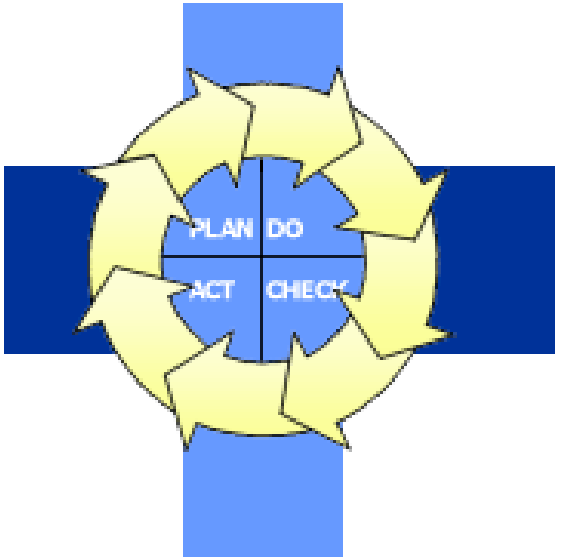
AVL Software Process Training



Dr. Ernest Wallmüller
Wolfgang Höh

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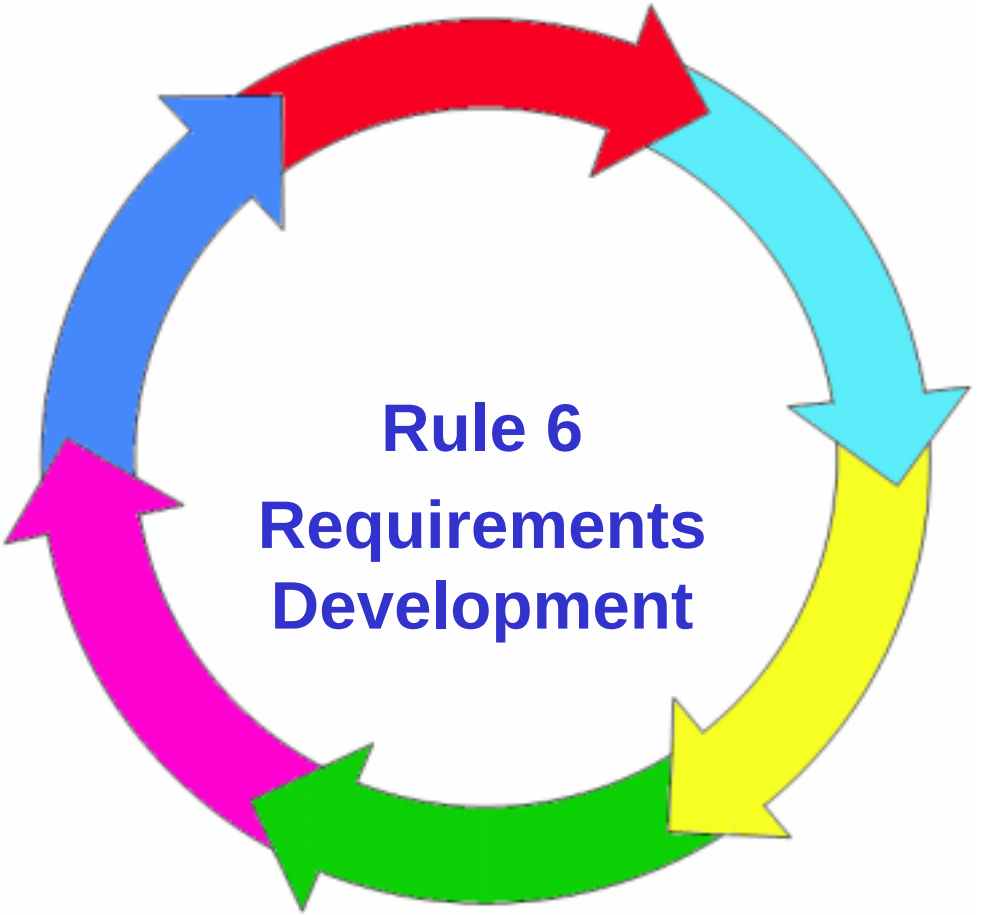

Rule 6

Requirements Development

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RD Process Context

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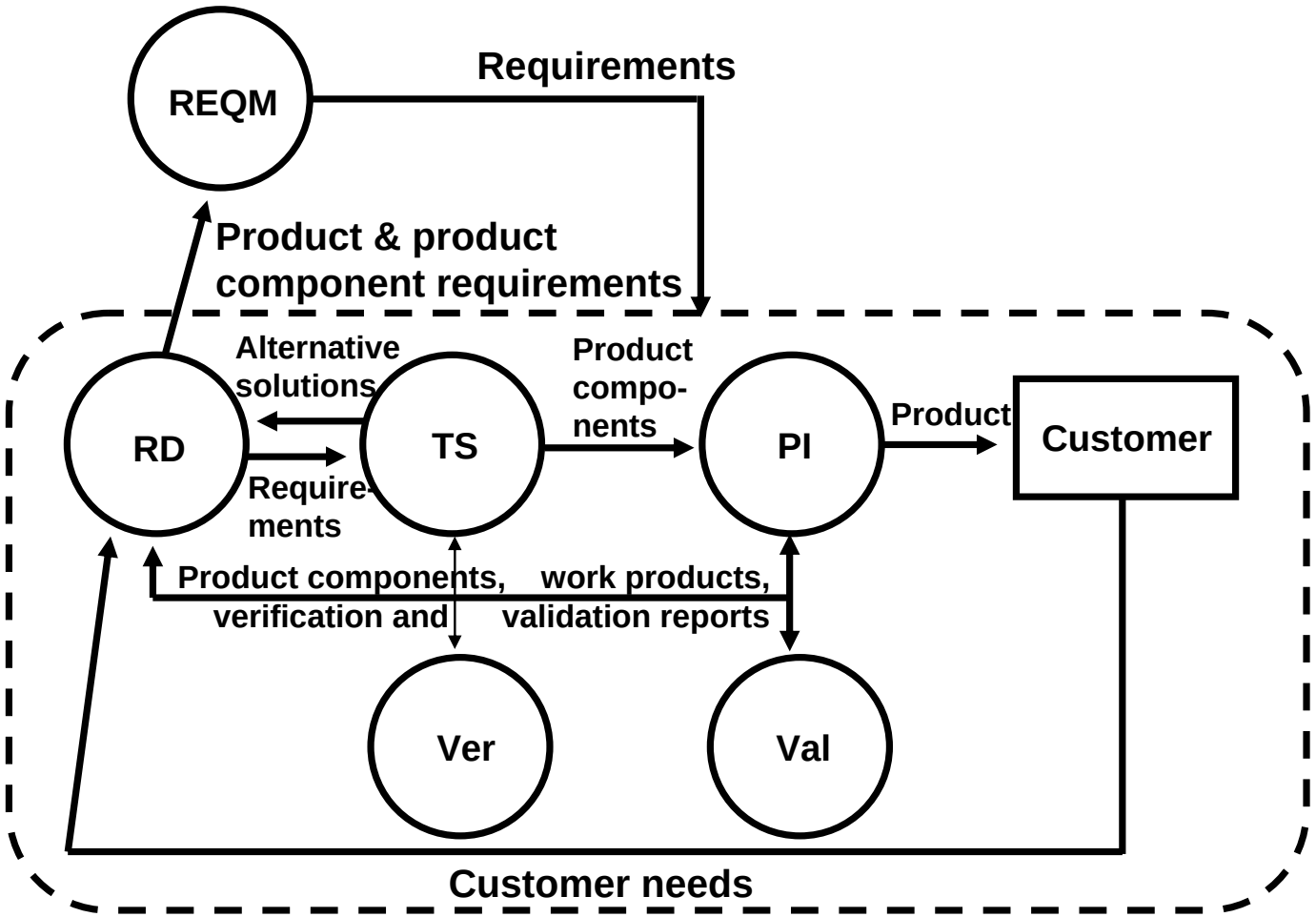

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RD - Policy / Scope / Purpose

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Policy

Produce and analyze customer, product and product-component requirements.

- **Develop Customer Requirements**

  Stakeholder needs, expectations, constraints and interfaces are collected and translated into customer requirements.

- **Develop Product Requirements**

  Customer requirements are refined and elaborated to develop product and product-component requirements.

- **Analyze and Validate Requirements**

  The requirements are analyzed and validated, and a definition of required functionality is developed.

Scope

All SW producing units in AVL SBU MES.

Affected projects are:

- **Standard SW development projects (main releases as well as sub-releases)**
- **Customer-specific SW development**

Not affected projects are:

- **Service Packs**
- **Hotfix packages, Patches**

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RD - Policy / Scope / Purpose (cont.)

- **Purpose**

  The purpose of Requirements Development is to produce and analyze customer, product, and product component requirements.

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Exercise: Process Familiarization

- **Method:** *Plenum*
- **Timing:** *20‘*
- **Form:** *Brainstorming and discussion*
- **Documents:** *none*
- **Deliverable:** *Documentation on flipchart (trainer)*

- **Questions:**

I. How do we know that the process is performing well?

II. Who of you has experiences with this process? Which one?

III. What are the most relevant work products?

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Exercise: Roles, Activities, Work Products

- **Method:** *Individual*
- **Timing:** *10‘*
- **Form:** *Individual elaboration*
- **Documents:** *Process Rule 6; form: next foil*
- **Deliverable:** *Filled in form*

Question:

I. Based on your experience, the prior discussion and the RD process definition list the involved roles, the performed activities, and the produced work products.

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Roles, Activities, Work Products

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Roles

Work Products

RD

Activities

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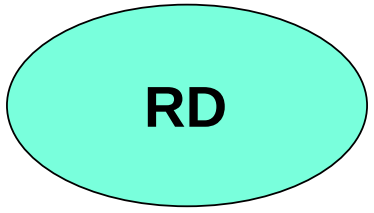
Roles, Activities, Work Products

Roles

- PL-DP
- PL-CP
- GPM
- HOD
- STL
- SPL
- WPL
- RM



Work Products

- CRS Document
  (for product dev. or customer specific dev.)
- URS
- SRS
- SAD

Activities

- Develop Customer Requirements
  - Elicit Needs
  - Develop Customer Requirements
- Develop Product Requirements
  - Establish Product and Product Component Reqmts
  - Allocate Product Component Requirements
  - Identify Interface Requirements
- Analyze & Validate Requirements
  - Establish Operational Concepts and Scenarios
  - Develop architecture requirements
  - Establish a definition of required functionality
  - Analyze Requirements
  - Analyze Requirements to achieve balance
  - Validate Requirements with comprehensive methods

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RD Process with Practices 1/3

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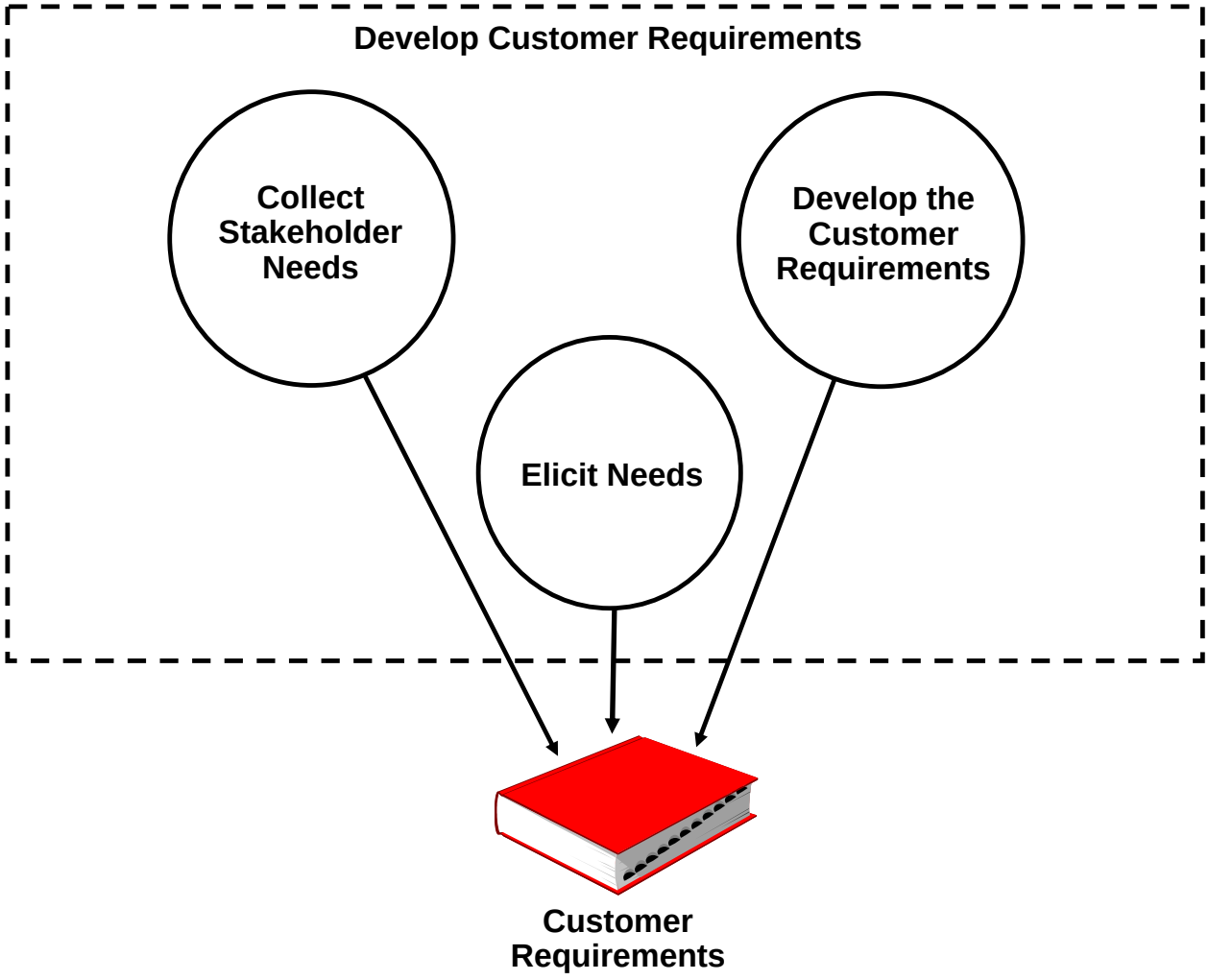

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RD Process with Practices 2/3

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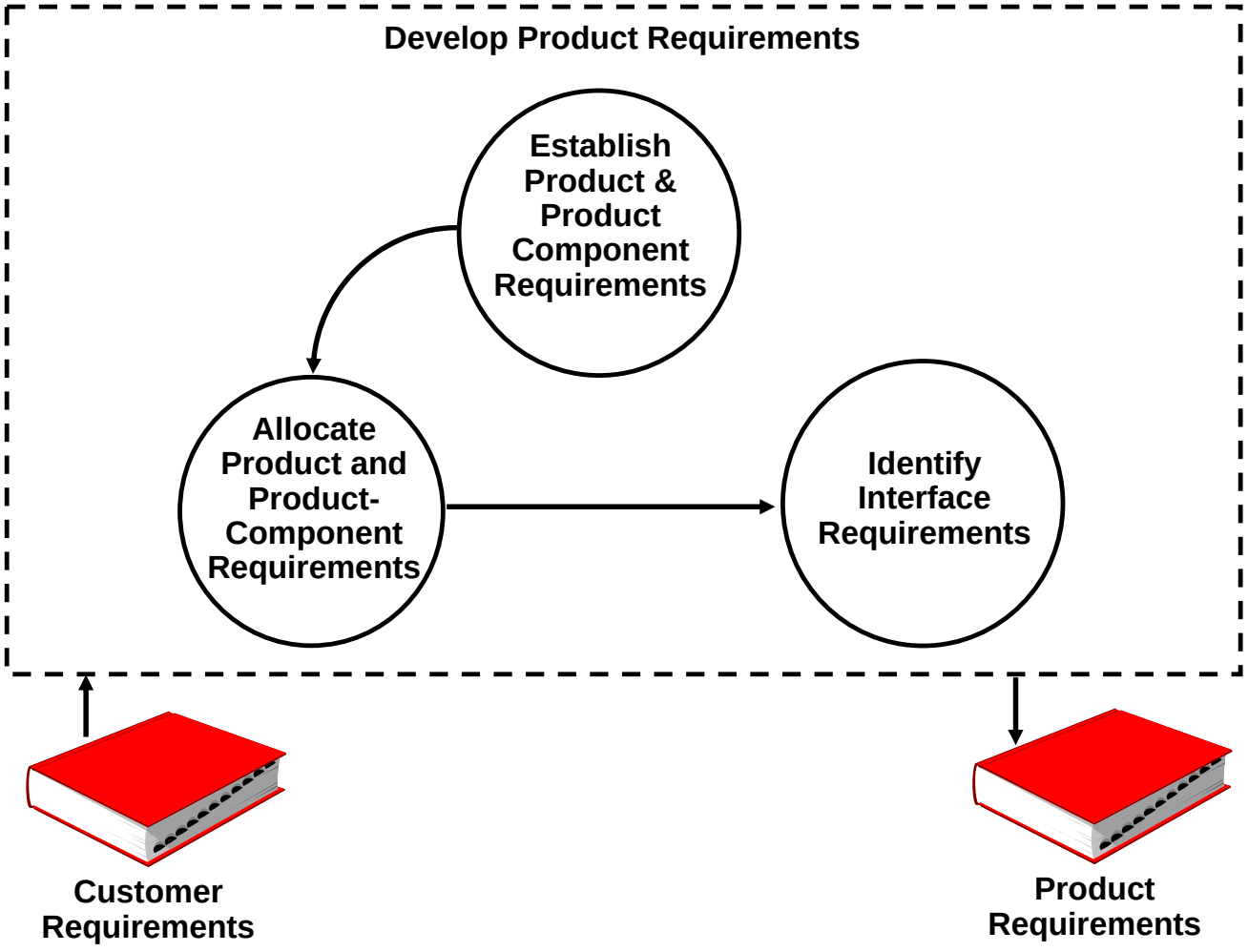

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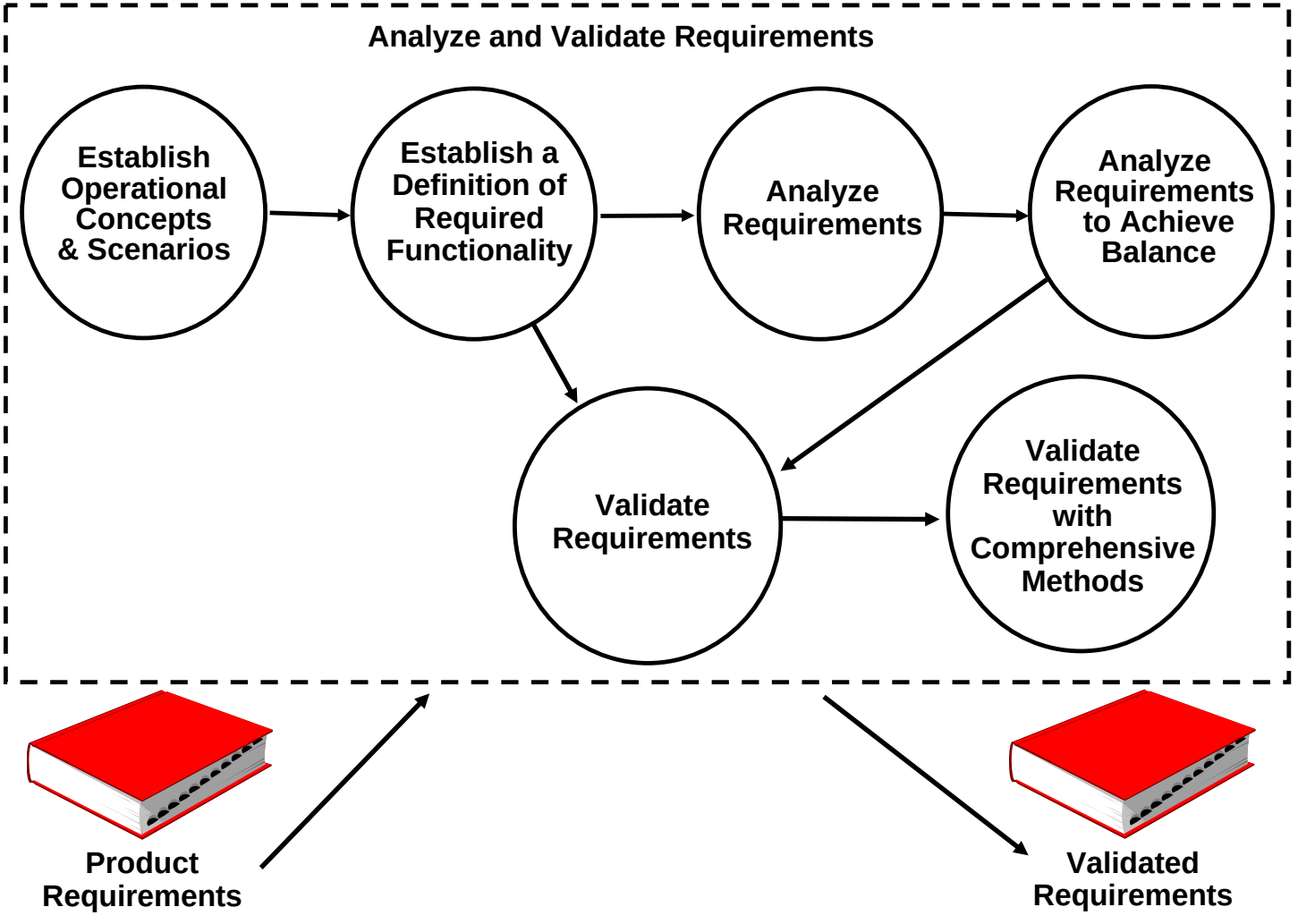
RD Process with Practices 3/3



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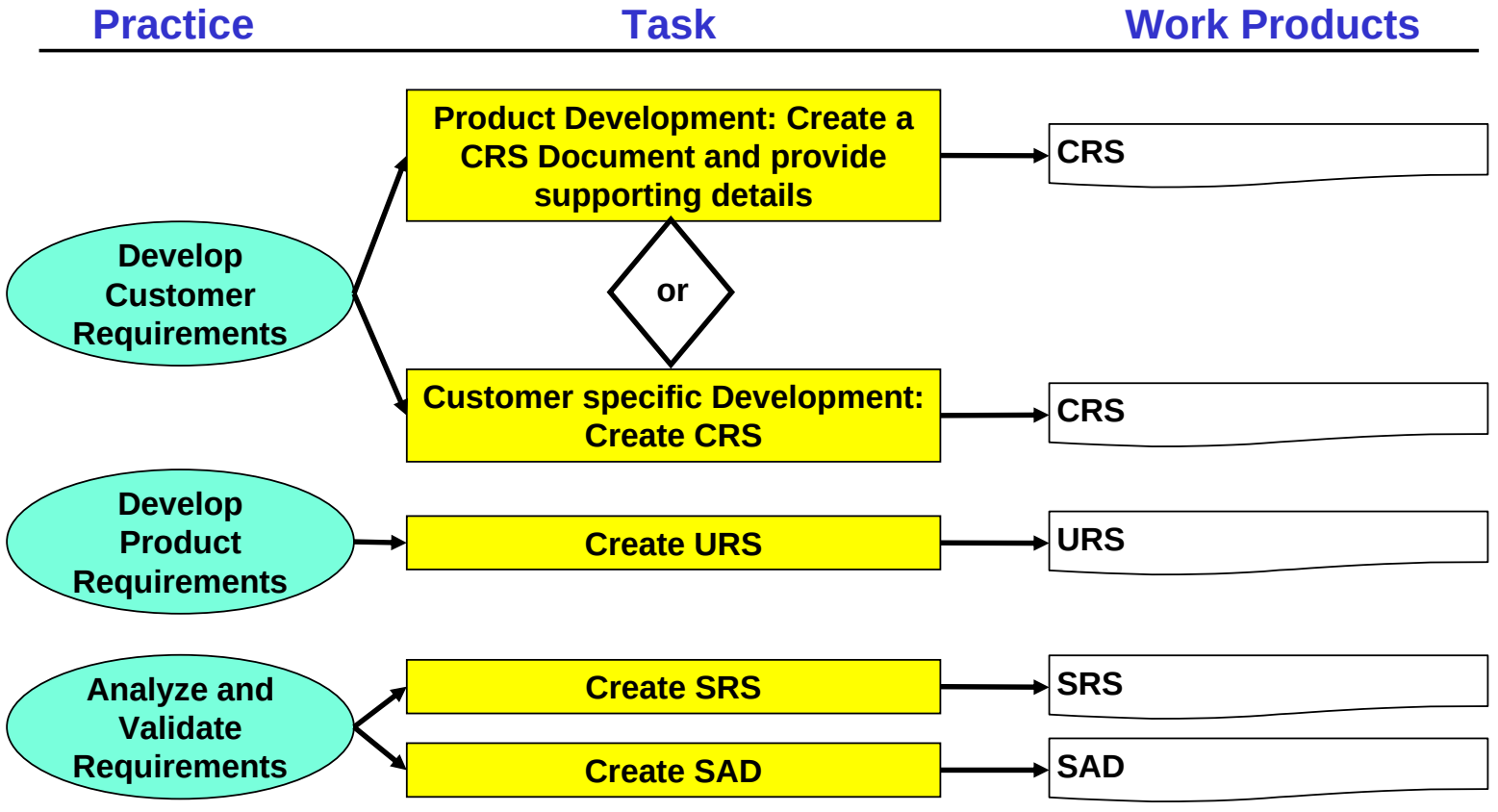
RD Process Tasks



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Exercise: Task Description

- **Method:** *Group work*
- **Timing:** *20‘ group work, 15‘ presentation & discussion (comparative discussion of group results)*
- **Form:** *Group elaboration*
- **Documents:** *Process Rule 6: RD*
- **Deliverable:** *Task description on flipchart*

- **Question:**

I. Describe the selected task
RD_T03 ‘Create URS’
using the presented description technique (➔next foil).

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Task Description Technique

OPF
OPD
MA
REQM
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PPQA
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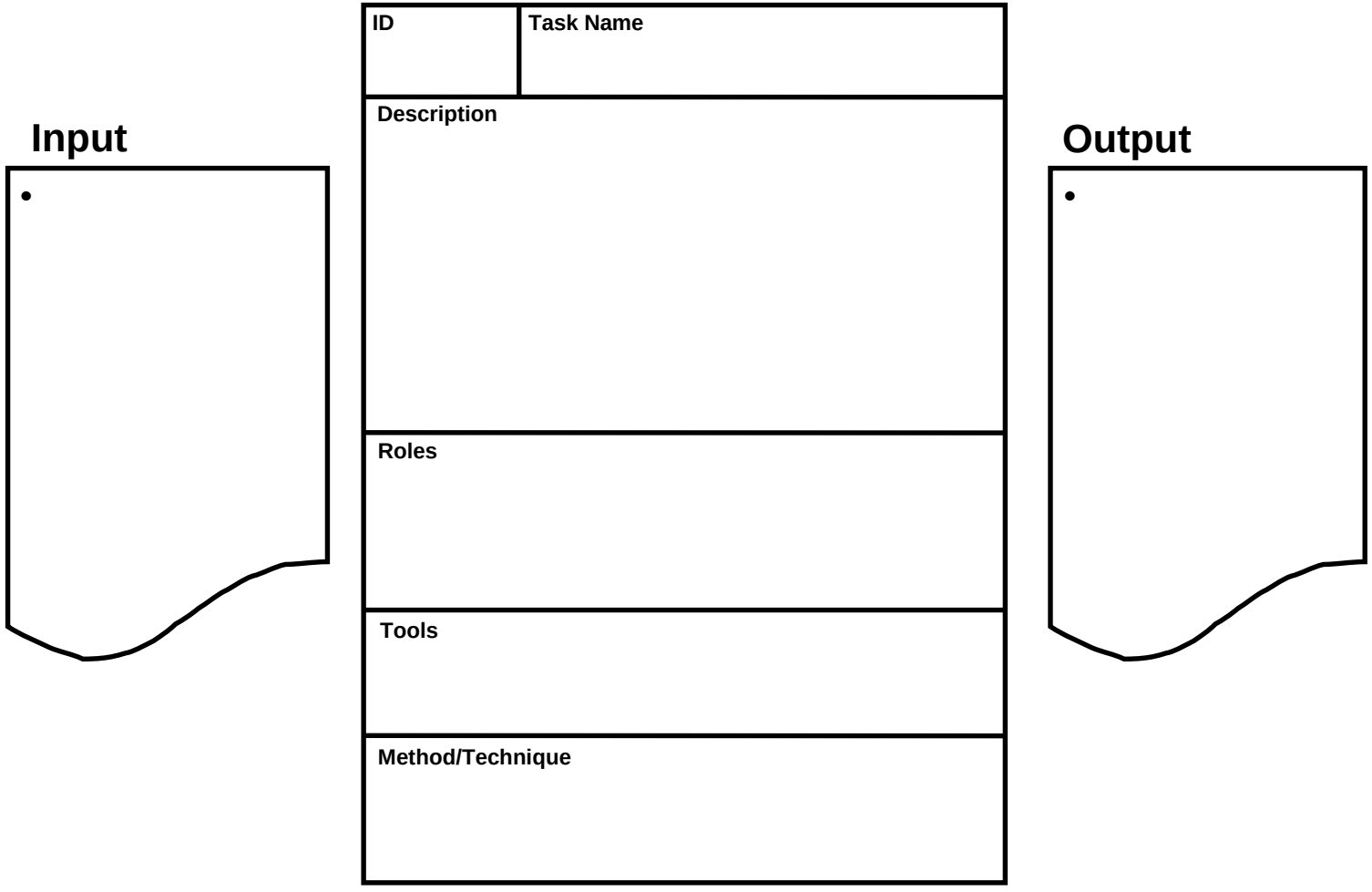

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Task Details ‘Create URS’

Input

- CRS
- Rule 24: Review

RD_T03	Create URS

Description

- Analyze customer requirements
- Derive requirements from constraints, consideration, and issues
- Establish Product and Product Component Requirements
- Allocate Product Component Requirements (to Work Packages)
- Identify Interface Requirements

Roles

PL-DP: Responsible for task T03
GPM: Responsible stakeholder
Reviewer

Tools

ClearQuest

Method/Technique

not specified

Output

- URS
- URS acceptance protocol

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Rule 6: Work Products and Templates

WP Id	Type	Description	Task Id	Resp.	Link to Template
RD_W01	M (product development)	CRS	RD_T01	GPM	Template_REQM_CRS.xls
RD_W02	M (customer specific development)	CRS	RD_T02	PLCP	Template_REQM_CRS.xls
RD_W03	M	URS	RD_T03	GPM	Template_REQM_URS.doc or Generated Output from requirements database (e.g. ReqPro, ClearQuest)
RD_W04	M	SRS	RD_T04	PLDP	Template_REQM_SRS*.doc or Template_TS_SRS-SDD (MO).dot
RD_W05	O	SAD	RD_T05	PLDP	Not yet defined

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Exercise: Manage Configuration

- **Method:** *Small groups*
- **Timing:** *10‘ group work, 10‘ discussion in plenum*
- **Form:** *Group elaboration*
- **Documents:** *none*
- **Deliverable:** *Group notes*

- **Question:**

  Work products are often developed iteratively, have a life cycle status, or are changed caused by requirements changes. According to the importance of the work product the degree of configuration management has to be defined.

  I. What degrees of configuration management do you use?

  II. When do you define the configuration management for the work products?

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GP 2.6 for Manage Configurations

GP2.7 MANAGE CONFICURATIONS

Place designated work products of the process under appropriate levels of configuration management.

Purpose:

Establish and maintain the integrity of the designated work products of the process (or their descriptions) throughout their useful life.

Practice:

- **Identify the designated work products in the plan for performing the process, along with a specification of the level of configuration management (e.g.: version control, 'baseline' configuration management).**

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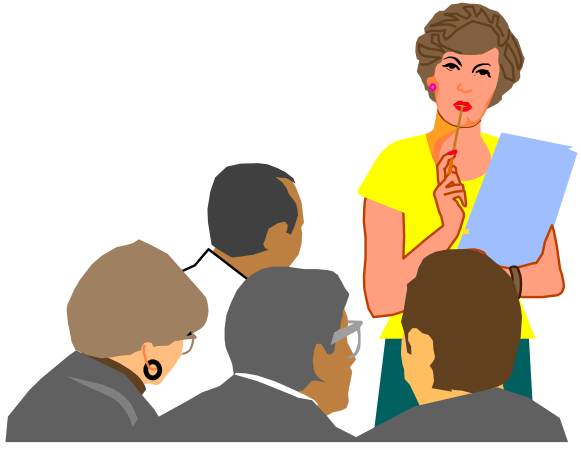
Rule 6: Concluding Discussion

What was important for you concerning this Process Rule?



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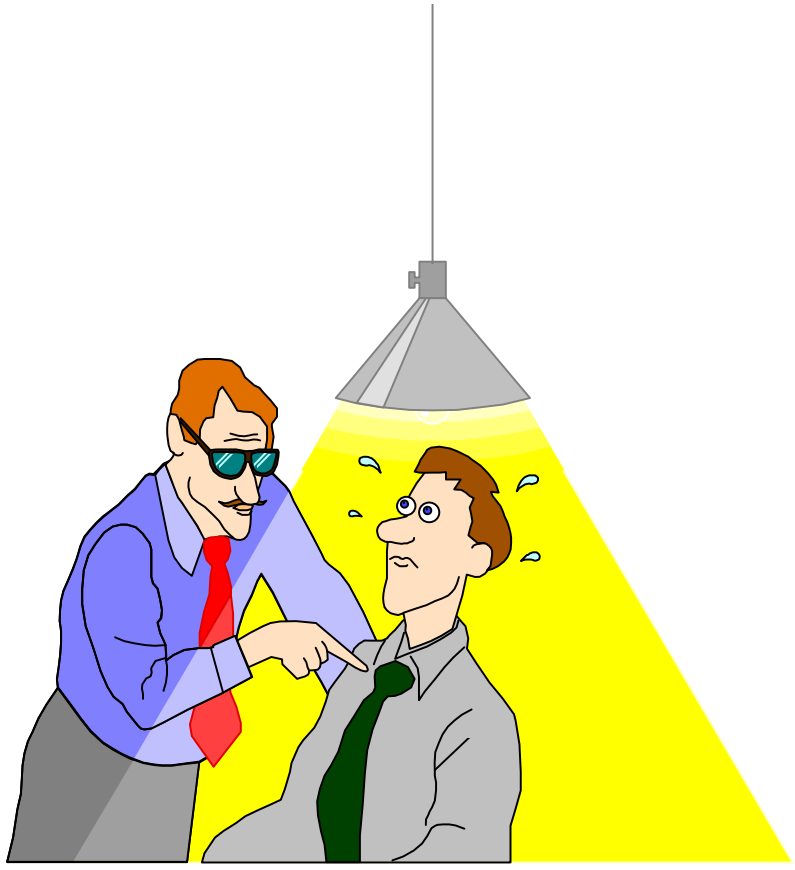
Any Questions



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