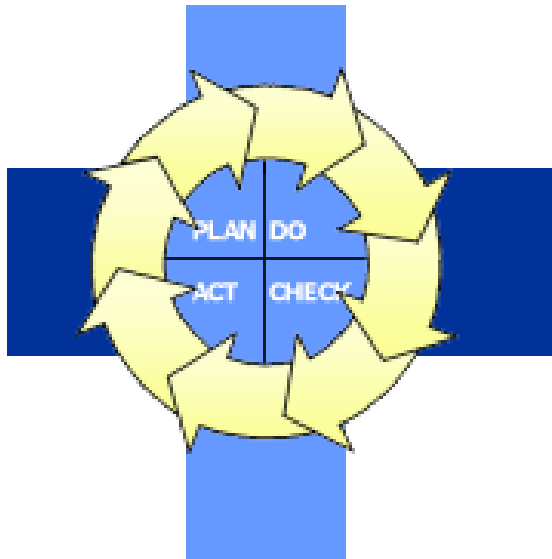
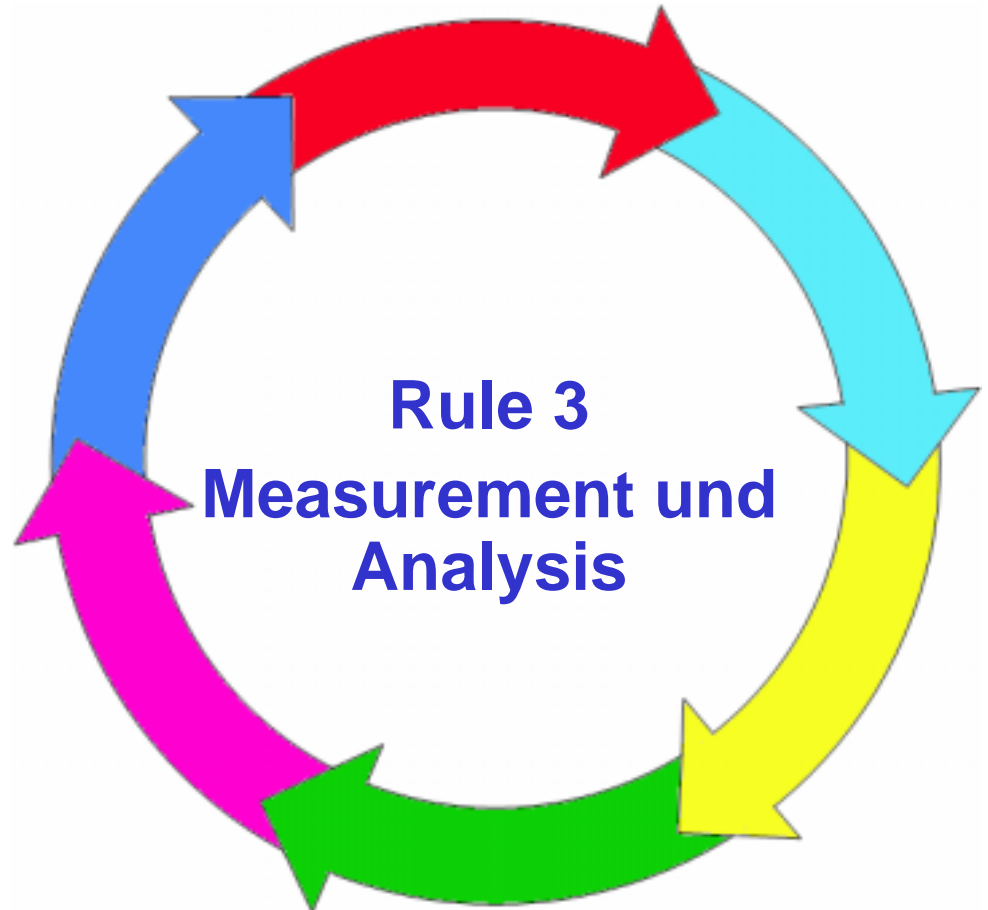


AVL Software Process Training



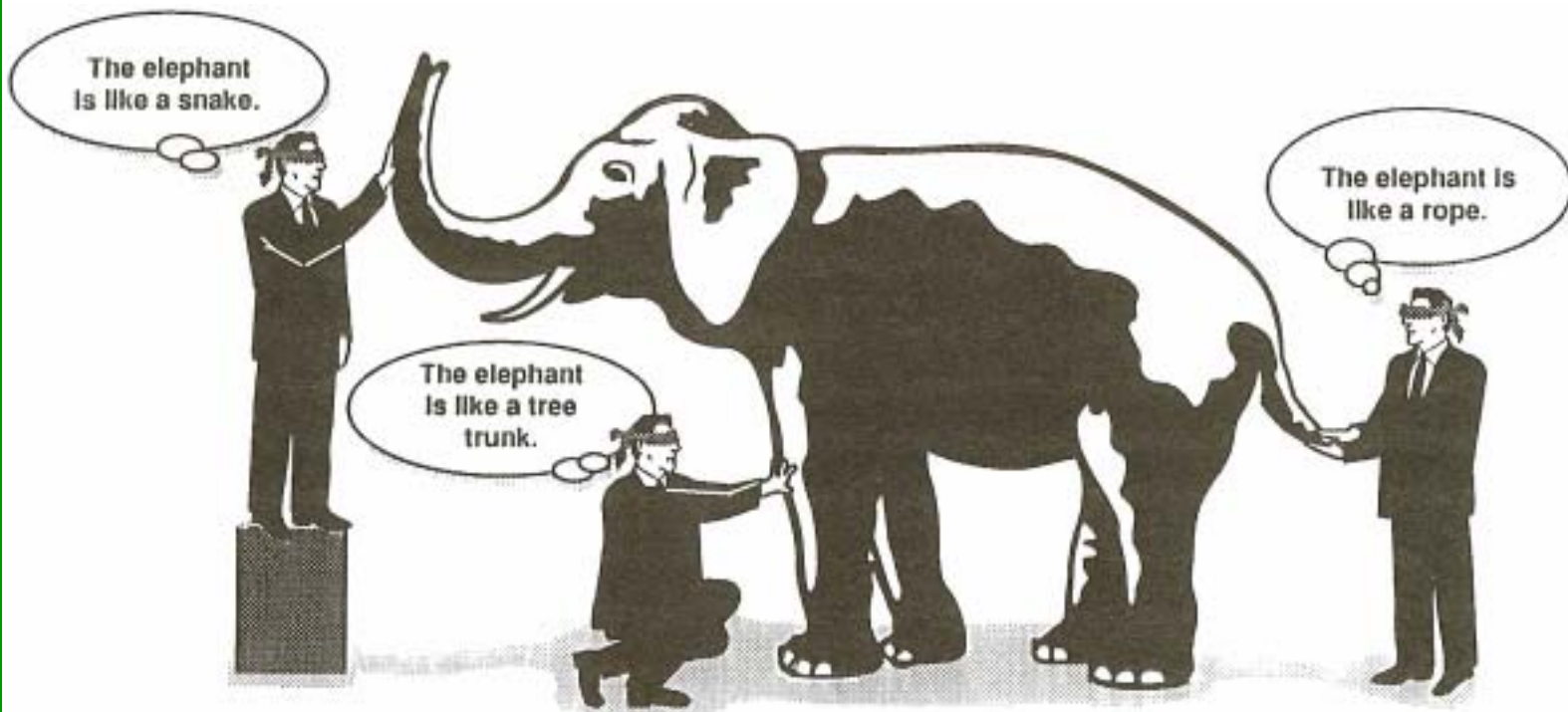
Dr. Ernest Wallmüller
Wolfgang Höh

Qualität & Informatik
www.itq.ch



The Elephant is like ...

- OPF
- OPD
- MA**
- REQM
- PP
- RD
- PMC
- CM
- PPQA
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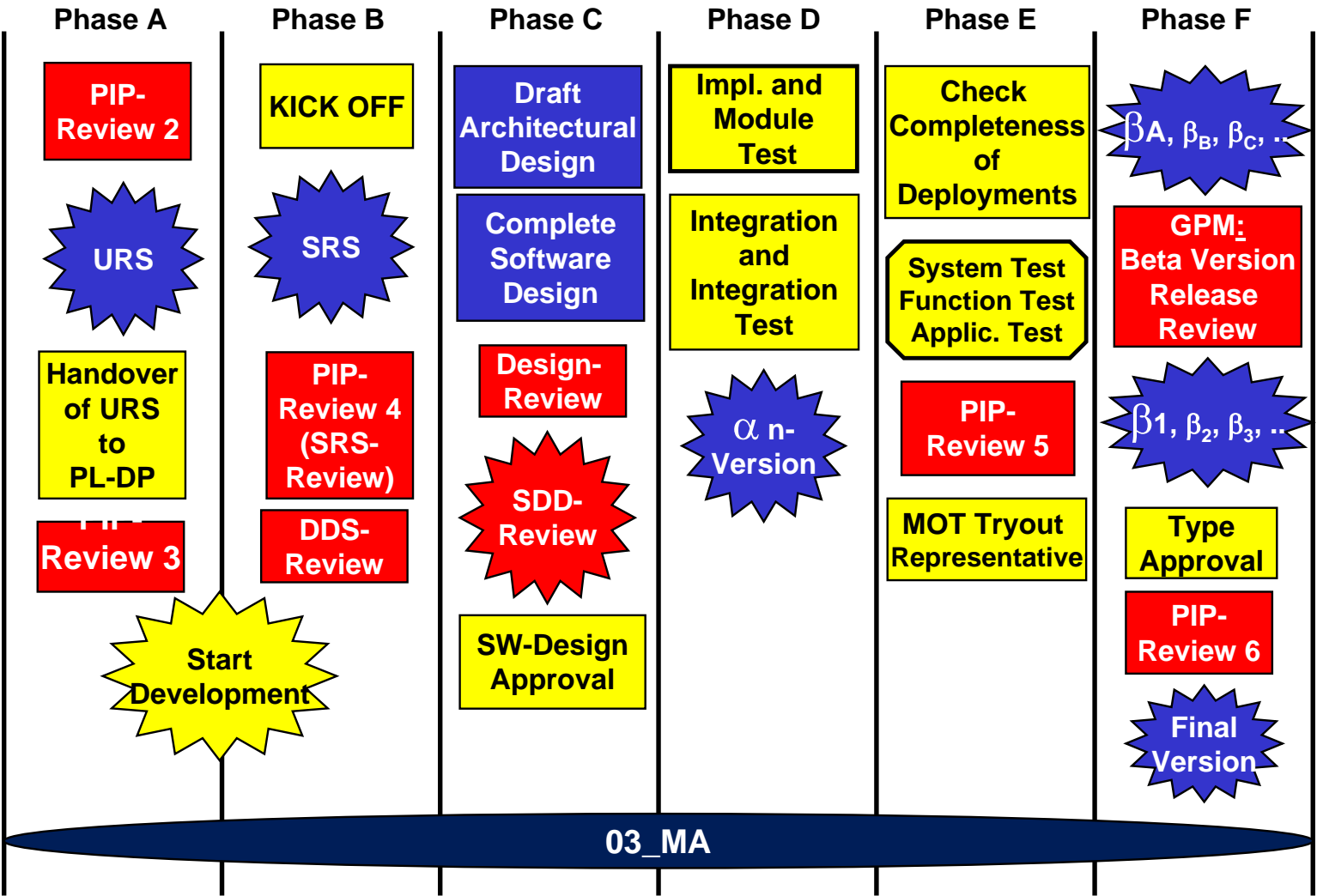


...Getting the complete story requires a
balanced set of measures

SW Development Overview: Rule 3 (MA)

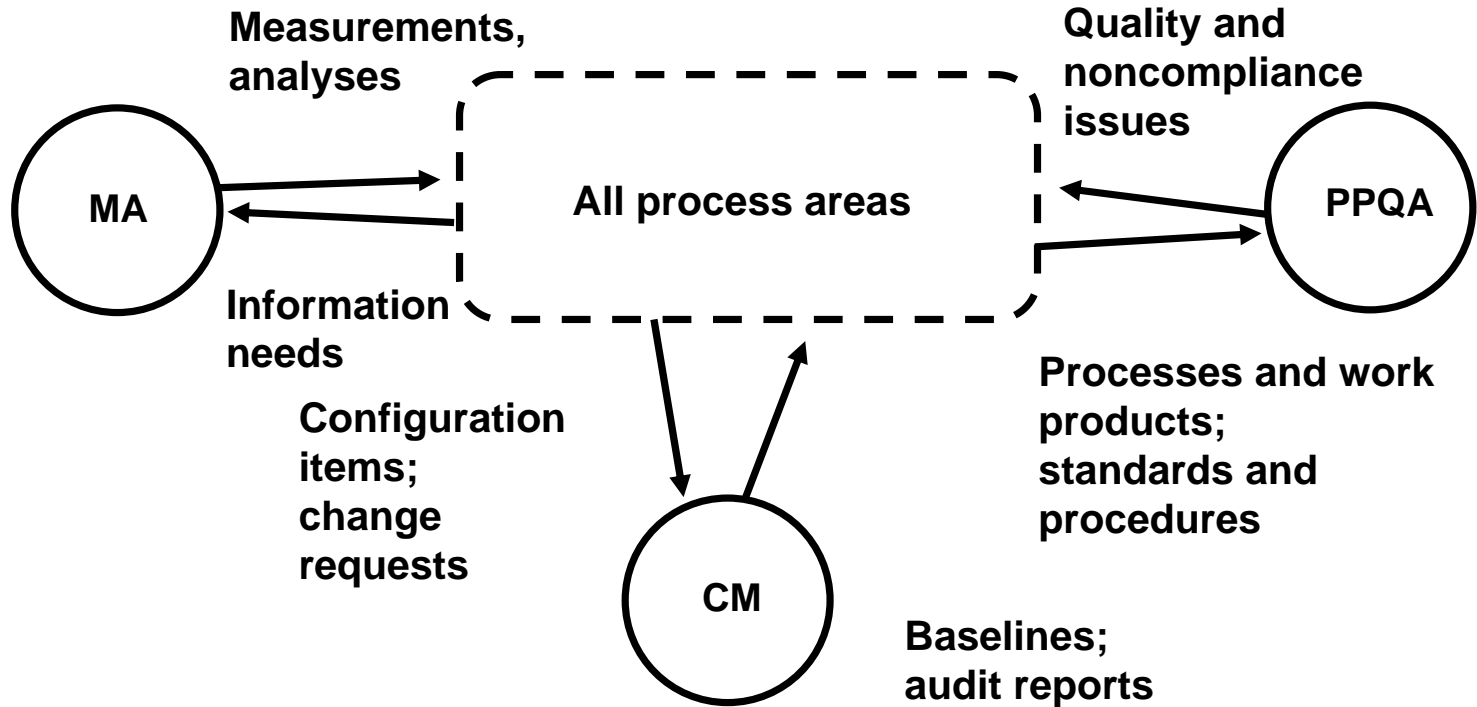


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03_MA

- OPF
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■ Policy

For AVL it is important to create metrics that support the information needs of management and control a continuous improvement of processes, projects, and products.

■ Scope

All SW development units in AVL SBU MES.

■ Purpose

AVL SW Measurement program:

- Management needs have to be specified.
- The delivered measurements are used for decisions.
- Metrics are simple to acquire and understandable.
- Integrate AVL SW Measurement program into the project management process throughout the software development life cycle.

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- **Method:** *Plenum*
- **Timing:** *10'*
- **Form:** *Brainstorming and discussion*
- **Documents:** *none*
- **Deliverable:** *Documentation on flipchart (Trainer)*

- **Questions:**

- I. What are your experiences with metrics and measurement?*
- II. What worked well in the past?*
- III. What did not work so well?*



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1. Understanding Software

- Baseline models and relationships
- Key process characteristics
- Four measurement examples



2. Managing Software Projects

- Planning and estimating
- Tracking actuals versus estimates
- Validating models



3. Guiding Process Improvement

- Understanding
- Assessing
- Packaging



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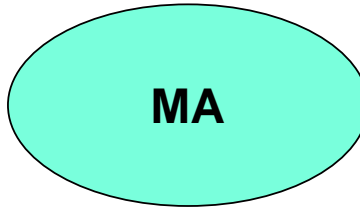
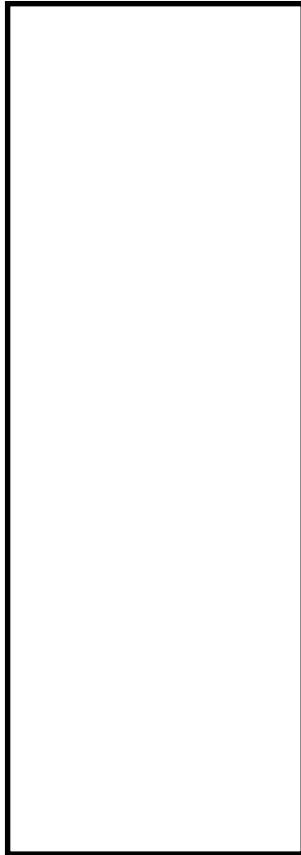
- **Method:** *Individual*
- **Timing:** *15'*
- **Form:** *Individual elaboration*
- **Documents:** *Process Rule 3; form: next foil*
- **Deliverable:** *Filled in form*

Question:

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

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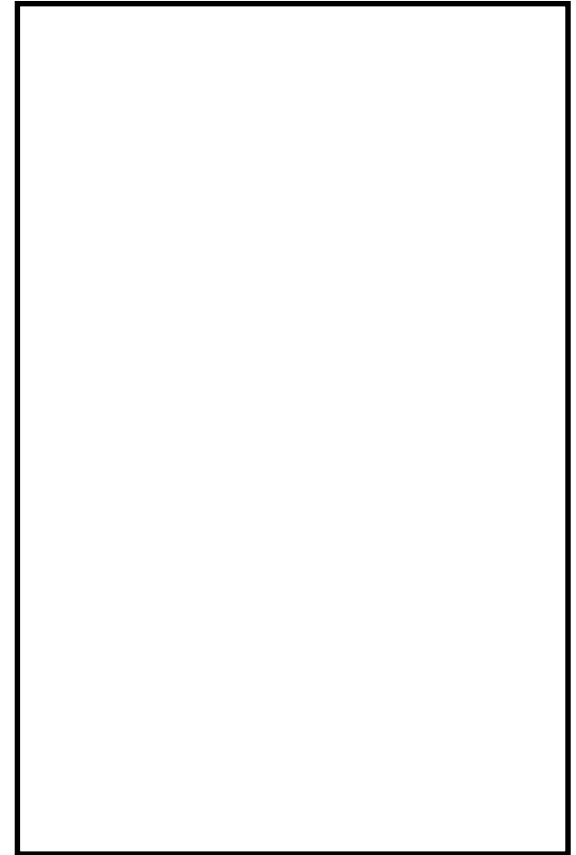
Roles



Activities



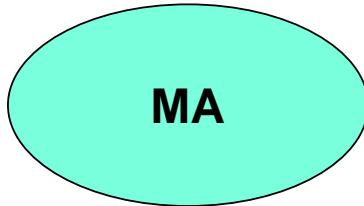
Work Products



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Roles

- CAMM
- LAMM



Activities

- Establish Measurement Objectives
- Specify measures
- Specify data collection and storage procedure
- Specify analysis procedures
- Collect Measurement Data
- Analyze, Store and Communicate Measurement Data

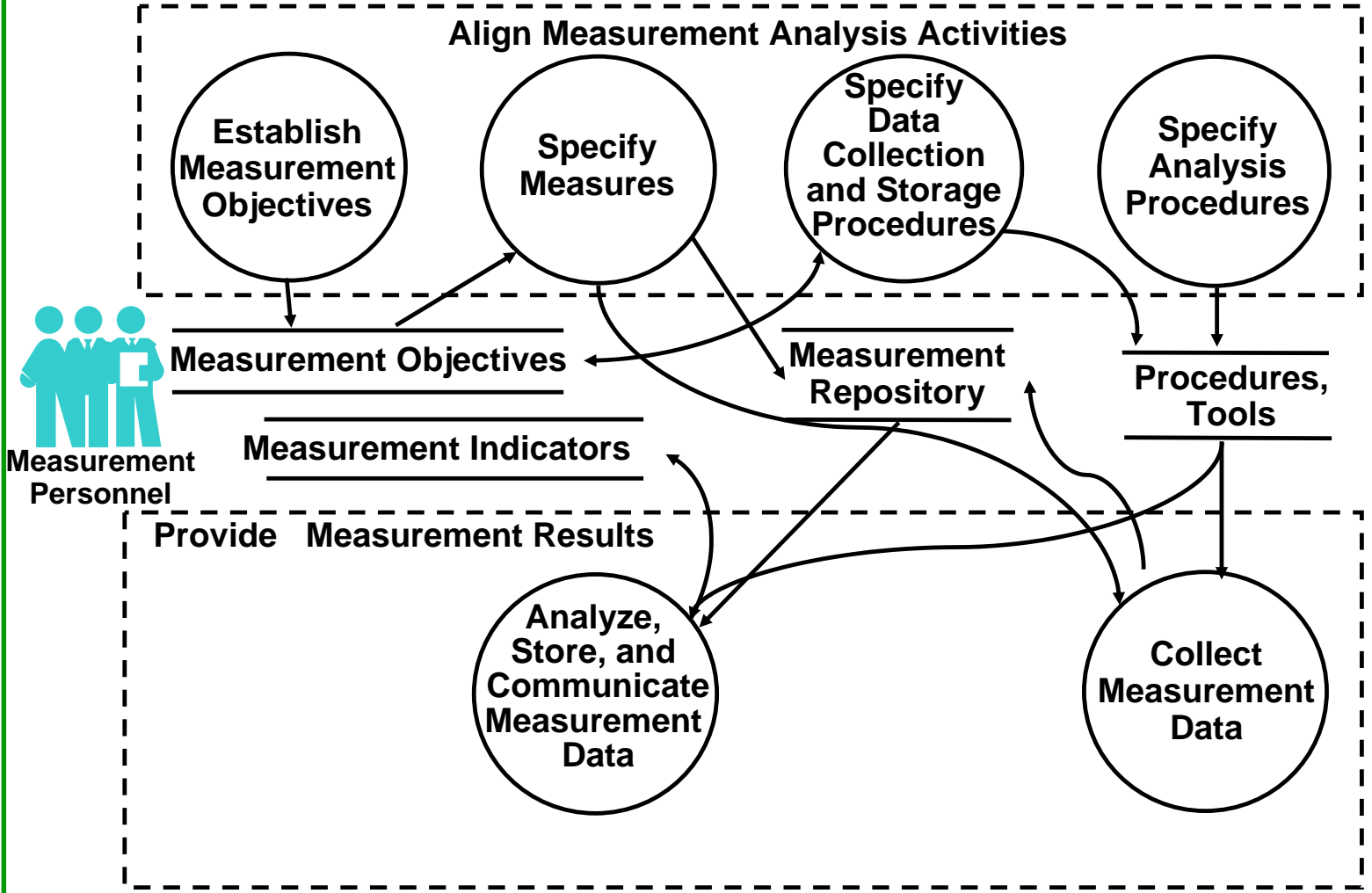
Work Products

- Central Measurement Plan
- Storage of business measurement data
- Communication of metrics analysis results (reports and diagrams)
- Improvement suggestions according lessons learned

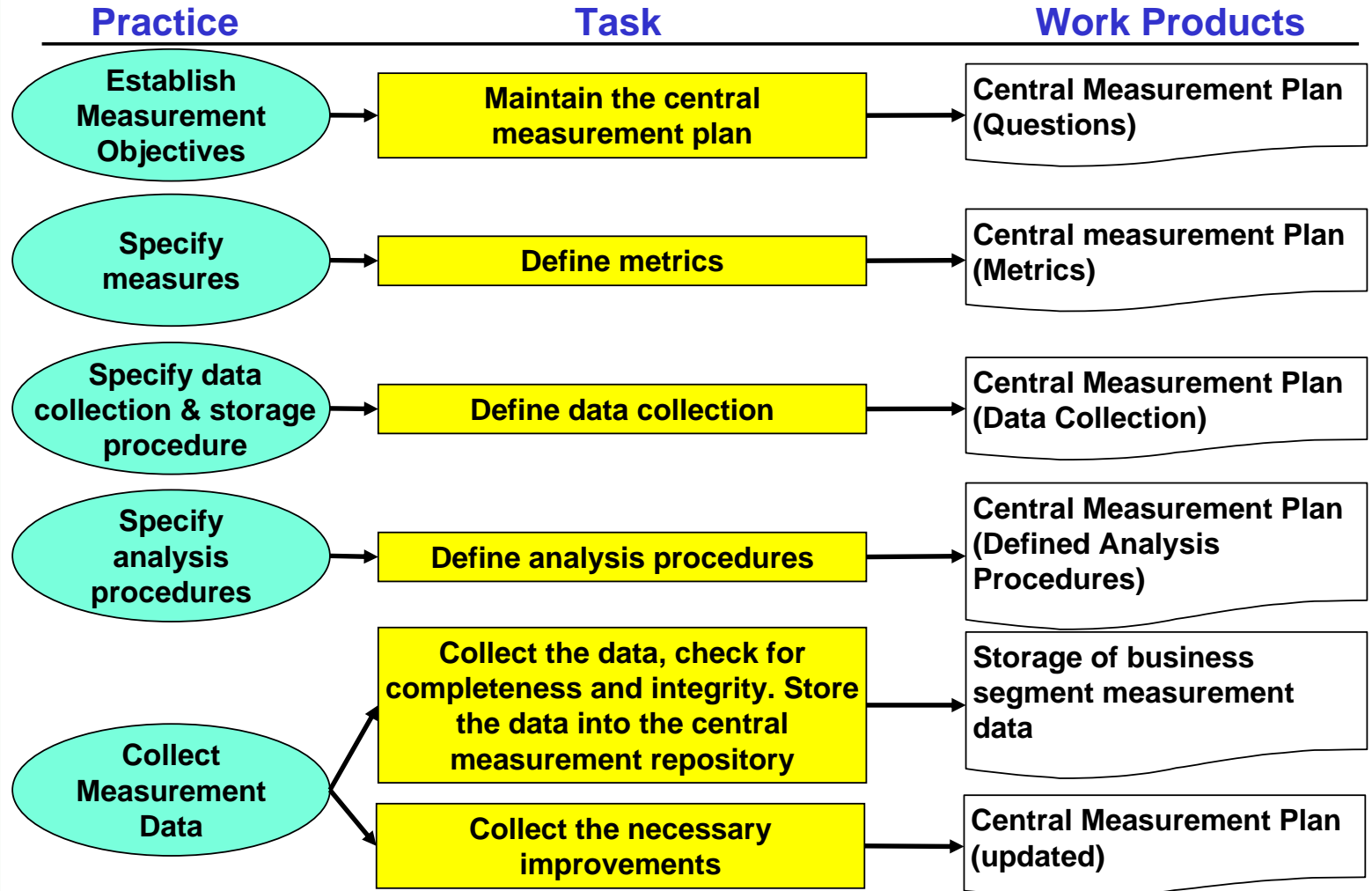
MA Process with Practices



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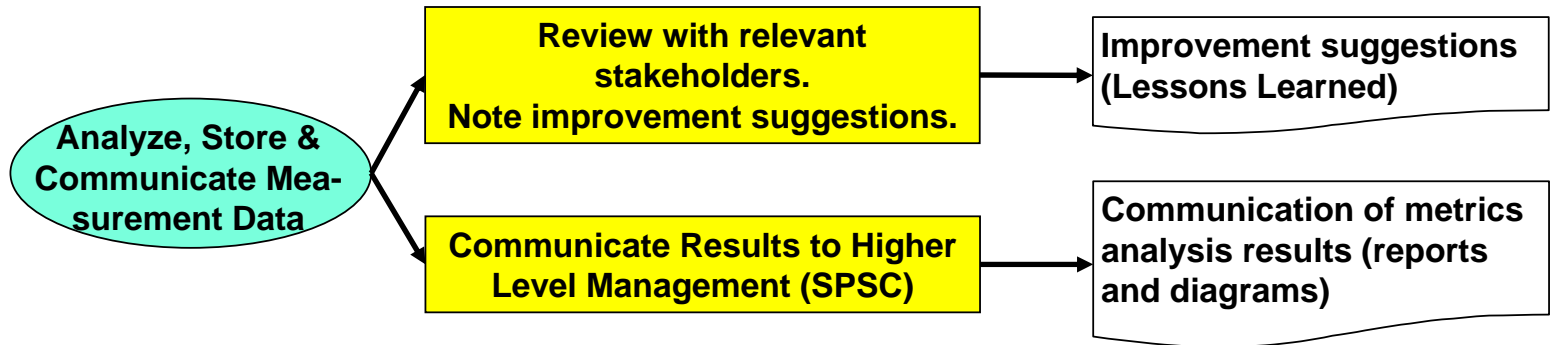


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Practice

Task

Work Products



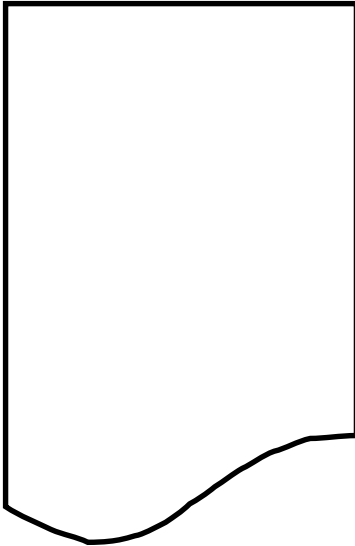
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- **Method:** *Group work*
- **Timing:** *20' group work, 15' presentation & discussion (comparative discussion of group results)*
- **Form:** *Group elaboration*
- **Documents:** *Process Rule 3: MA*
- **Deliverable:** *Task description on flipchart*

- **Question:**
 - I. *Describe the selected task 'MA_T02: Collect the data and check for completeness and integrity' using the presented description technique (→ next foil).*

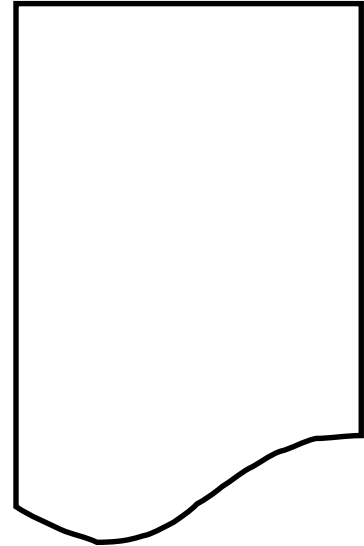
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Input



ID	Task Name
Description	
Roles	
Tools	
Method/Technique	

Output



Task Details 'Collect the data and check for completeness and integrity'

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Input

- Central Measurement Plan
- Project Data

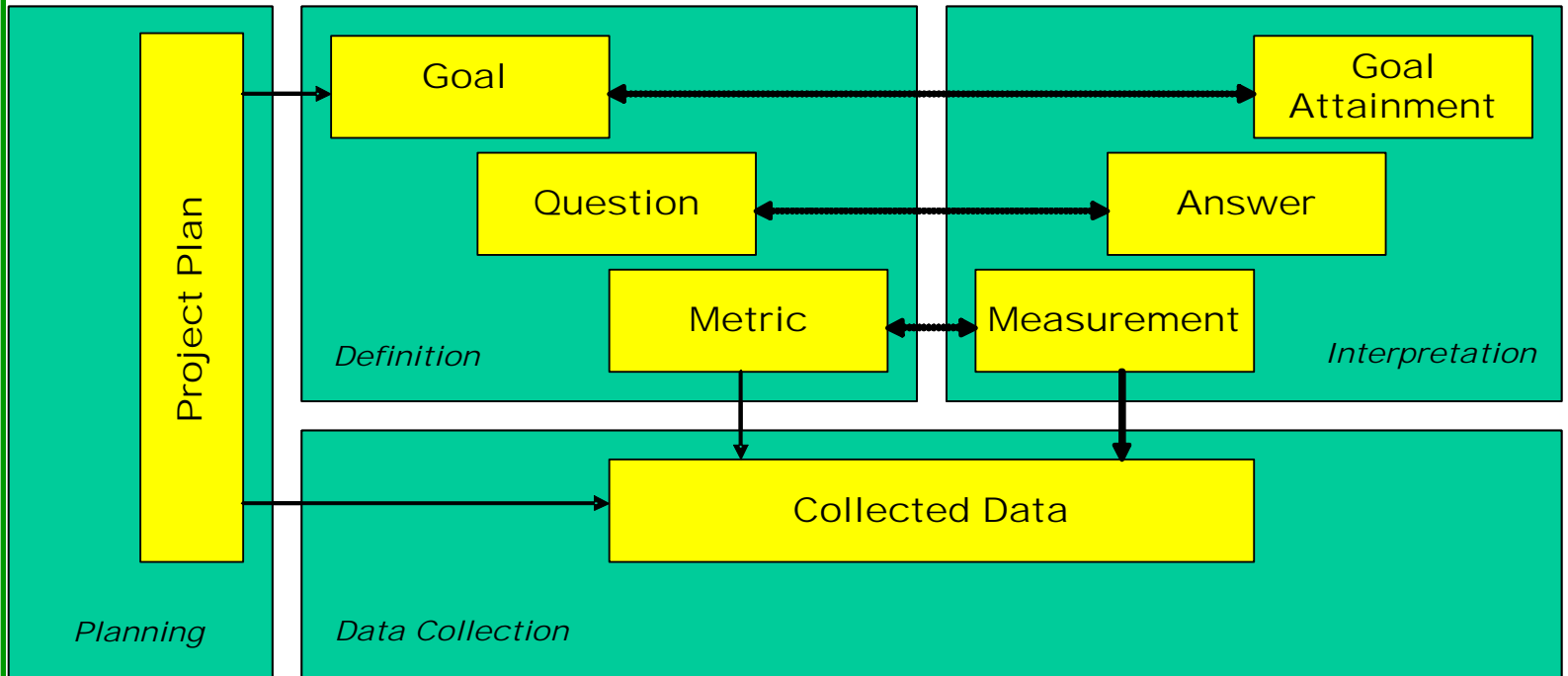
ID MA_T02	Task Name Collect the data and check for completeness and integrity
Description <ul style="list-style-type: none"> • Collect the data and check for completeness and integrity • Test for inconsistency and correct • Check the data relationships used to calculate derived measures • Analyze data for plausibility • If possible create trend charts • Review questionable results • Collect necessary improvements 	
Roles LAMM Resp. for task MA_T02	
Tools Central_Measurement_Plan.doc	
Method/Technique GQM: Goal Question Metric	

Output

Collected Data

Goal – Question - Metric

- OPF
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Analyze unit testing
For the Purpose of prediction
with Respect to effectiveness
From the Viewpoint of the tester
in the Context of Organization A

Process Definition

Process Conformance

Question D.1: How much effort was needed to define the test cases?

Question D.2: What test methods were used?

Question D.3: How closely did the testers follow the test method?

Process Domain Understanding

Question D.4: How experienced were the testers wrt. the testing tool?

Question D.5: How well did the testers understand the requirements?

Question D.6: How well did the testers understand the source code?

Quality Focus

Question Q.1: How many failures were detected?

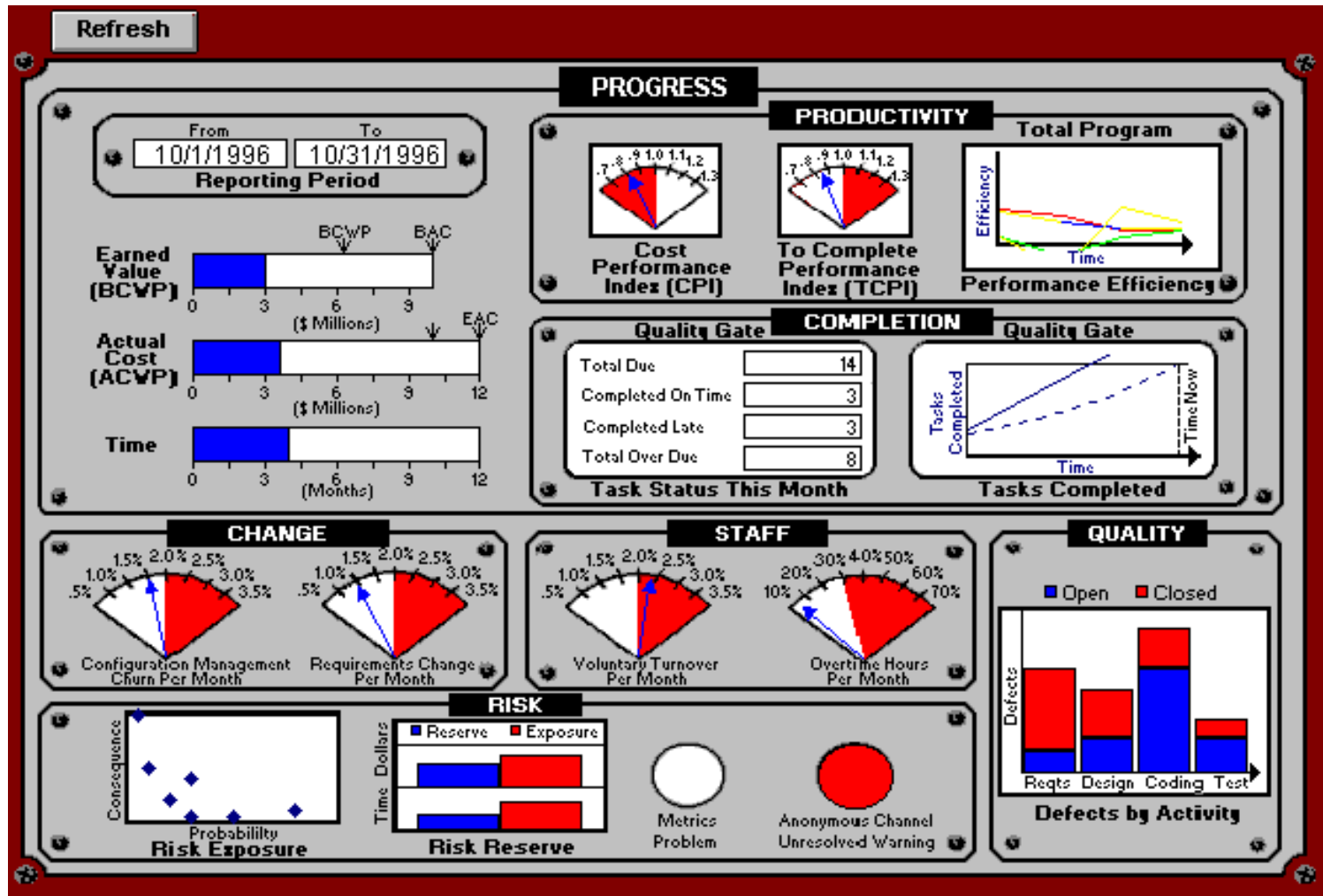
Question Q.2: What was the criticality distribution of failures?

Question Q.3: How many faults were detected?

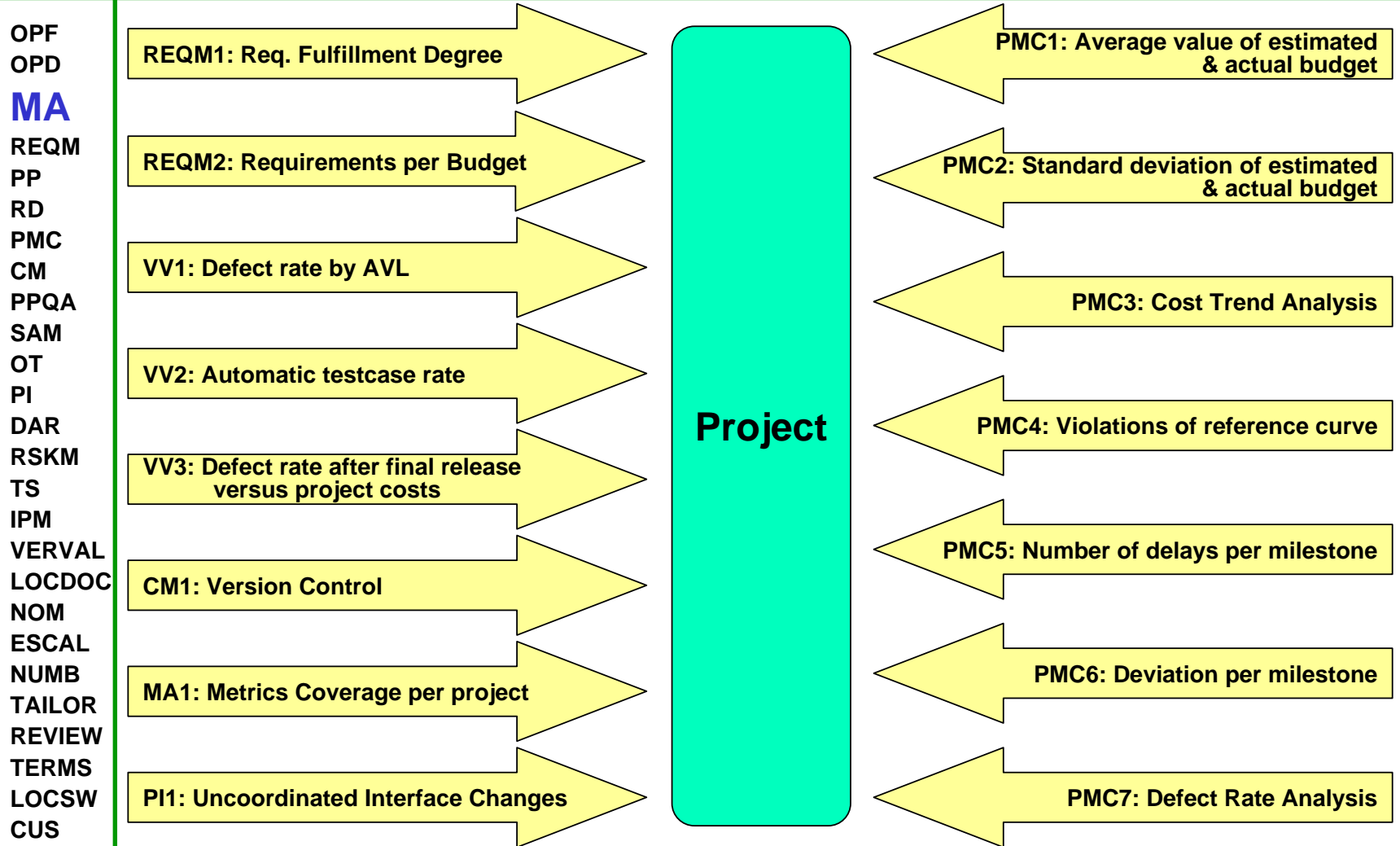
Question Q.4: What was the distribution of faults across fault classes?

Project Control Panel

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ALV Project Metrics Collected



Rule 3: Work Products and Templates



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WP Id	Type	Description	Task Id	Resp.	Link to Template
MA_W01	M	Central Measurement Plan	MA_T01	CAMM	Central_Measurement_Plan.doc
MA_W02	M	Storage of business segment measurement data.	MA_T02	LAMM	n.a.
MA_W03	M	Communication of metrics analysis results (reports and diagrams)	MA_T05	CAMM	n.a.
MA_W04	O	Improvement suggestions according lessons learned	MA_T03	LAMM	Template_IPM_Lessons_learned_and_best_practices.xlt

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*What was important for
you concerning this
Process Rule?*



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