

# CMMI: Project Monitoring and Control



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The WHAT: Project Monitoring and Control

SG 1: Monitor the Project Against the Plan

SG 2: Manage Corrective Action to Closure

The HOW (part 1): industrial practices

The HOW (part 2): real-life examples

# The WHAT: Project Monitoring and Control



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[Dev10]

# The WHAT: Project Monitoring and Control

## SG 1: Monitor the Project Against the Plan



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# SG 1: Monitor the Project Against the Plan

## SP 1.1: Monitor Project Planning Parameters

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# SG 1: Monitor the Project Against the Plan

## SP 1.2: Monitor Commitments

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# SG 1: Monitor the Project Against the Plan

## SP 1.3: Monitor Project Risks

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# SG 1: Monitor the Project Against the Plan

## SP 1.4: Monitor Data Management

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# SG 1: Monitor the Project Against the Plan

## SP 1.5: Monitor Stakeholder Involvement

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# SG 1: Monitor the Project Against the Plan

## SP 1.6: Conduct Progress Reviews



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# SG 1: Monitor the Project Against the Plan

## SP 1.7: Conduct Milestone Reviews

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# The WHAT: Project Monitoring and Control

## SG 2: Manage Corrective Action to Closure

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# SG 2: Manage Corrective Action to Closure

## SP 2.1: Analyze Issues



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# SG 2: Manage Corrective Action to Closure

## SP 2.2: Take Corrective Action



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# SG 2: Manage Corrective Action to Closure

## SP 2.3: Manage Corrective Actions



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The WHAT: Project Monitoring and Control

The HOW (part 1): industrial practices

- Extreme Programming

- SCRUM

- Rational Unified Process

The HOW (part 2): real-life examples



# The HOW (part 1): industrial practices



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# The HOW (part 1): industrial practices

## Extreme Programming



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### Overview

- ▶ **agile** software-engineering process
- ▶ strong **principles**: Pair Programming, Test-driven Development, Continuous Integration, ...

# The HOW (part 1): industrial practices

## SCRUM - what it is



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### Overview

- ▶ **agile** software-engineering process
- ▶ **iterative**: thinking in *sprints*
- ▶ **slim**: 3 *roles*, 4 *artifacts*, small set of *rules*
- ▶ **communicative**: daily meetings, planning, reviews (but less paperwork)

# The HOW (part 1): industrial practices

## SCRUM - what it is



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### Overview

- ▶ **agile** software-engineering process
- ▶ **iterative**: thinking in *sprints*
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- ▶ **communicative**: daily meetings, planning, reviews (but less paperwork)

### Differences to Extreme Programming

- ▶ **iteration length**: month (SCRUM) vs. week (XP)
- ▶ **change adaption**: not in current sprint (SCRUM) vs. always (XP)
- ▶ **work order**: team chooses (SCRUM) vs. customer chooses (XP)
- ▶ **engineering practices**: not given (SCRUM) vs. given (XP)

# The HOW (part 1): industrial practices

## SCRUM - how it supports Monitoring/Control



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### Regular meetings

- ▶ **Sprint planning meeting** (part 1: whole team):
  - ▶ clean product backlog, prioritize entries
  - ▶ choose entries for next sprint
- ▶ **Sprint planning meeting** (part 2: developers):
  - ▶ convert entries to 1-day tasks ( $\Rightarrow$  sprint backlog)
  - ▶ extract sprint-goal from entries
- ▶ **Sprint Review**:
  - ▶ present product to product owner, check sprint-goal
  - ▶ give feedback for last sprint, update product backlog
- ▶ **Sprint Retrospective**:
  - ▶ concrete improvements based on
  - ▶ feedback for the last sprint

# The HOW (part 1): industrial practices

## SCRUM

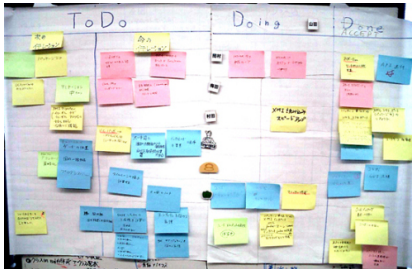


Abbildung : SCRUM Taskboard

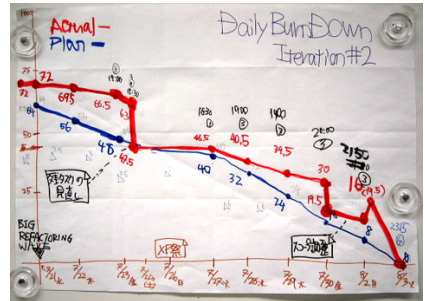


Abbildung : SCRUM Burndown Chart

# The HOW (part 1): industrial practices

## Rational Unified Process



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The HOW (part 1): industrial practices

The HOW (part 2): real-life examples  
at Hochschulrechenzentrum, TU Darmstadt  
at dimetis GmbH  
at BASF IT-Services



# The HOW (part 2): real-life examples

## at Hochschulrechenzentrum, TU Darmstadt



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# The HOW (part 2): real-life examples

## at dimetis GmbH



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# The HOW (part 2): real-life examples

## at BASF IT-Services



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