Julius-Maximilians-
**UNIVERSITÄT
WÜRZBURG**

Institute of Computer Science
Chair of Communication Networks
Prof. Dr.-Ing. P. Tran-Gia

Lecture: Modern Project Management in ICT

Prof. Dr. Harald Wehnes

HUST, 17 Mar 2020

TRƯỜNG ĐẠI HỌC BÁCH KHOA HÀ NỘI
HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

Agenda

Presentation of the solutions of task 6

7.1 Project Communication Management

- Result: Communication Plan

7.2 Project Marketing

- Result: Project Motto

7.3 Risk Management

7.4 Project Execution & Monitoring/Control

7.5 Project Closing

Task 7: Project communication plan, project motto

Final presentations

Presentations: "PM in VN" – Part 2

Homework: Task 6

1. Complete your phase-oriented **WBS**
2. Complete your **Trello Board**

Upload of the presentation Team_n-Task_6.pptx
by the project manager of day 6!
Deadline: 17th March, 8:00 am

Presentation on Tuesday morning (Duration: $\leq$ 3 min)
by the project managers of day 6

Research Tasks: Project Management in Vietnam

1. Large-size historical projects in Hanoi (result, duration, costs)
2. Large-size actual projects in Hanoi (result, duration, costs)
3. Large-size historical projects in VN (result, duration, costs)
4. Large-size actual projects in VN (result, duration, costs)
5. Industry sectors where project management is applied in VN
6. VN portals with job offers for project managers
7. **VN universities that offer project management (degree) courses for students**
8. **Books about project management in Vietnamese**
9. **Skills of project managers (analyze some pm job offers)**
10. **PM organizations and groups in VN**
11. **Software tools for project work**
12. **Software tools for virtual communication**

Presentation of the results by the team members: 16 & **17 Mar 2020**
Deadline for Upload: 17th March, 8:00 am

7.1 PROJECT COMMUNICATION MANAGEMENT

Project communication: Requirements

Definition of project communication:
more effective exchange of information between stakeholders

Requirements for (good) project communications:

▶ The right information must be passed on to the relevant stakeholders in a corresponding to their expectations and consistent form.

▶ Communication should be **purpose-oriented, clear and up to date**

▶ Bohinc: **"*The communication is the most important skill for a successful project manager*"**
(Job description: *"Communicates engaged; summarises results; asks questions to clarify facts; is a valued partner for employees and customers"*)

Rules for good (project) communication

▶ **Listen actively**

▶ **Ask questions**
„Bad leaders have all the answers;
good leaders have the best questions"

▶ **Make sure that your conversation partner has understood you**

▶ **Choose carefully what you say and**
do so that others understand you

▶ **Communicate in the I-form not in the we-form**

▶ **Note body signals**

▶ **Speak out clearly your personal**
impressions and wishes

▶ **Ensure short communication channels**

Julius-Maximilians-
**UNIVERSITÄT
WÜRZBURG**

Internal and external communication

▶ **Internal project communication**
(Information within the project team)
- All planning documents
- project team meetings
- feedback from project staff, WP managers and project managers of sub projects
- Feedback on the results of the meetings with external, steering committee meetings, etc.

▶ **Project external communication**
(Information provided to stakeholder outside of the project)
- Reports (state, completion)
- presentations
- marketing measures
- …

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Communication planning

▶ **Planning objective: to inform project stakeholders timely, appropriately, proactively and honestly about the project progress and special project events**

▶ **Components of the planning**

Information paths and responsibilities	**Types of information and media**	**Frequencies of information**
▪ Transmitter and recipient of information ▪ Information content ▪ Framework: Meeting, Press conference,	▪ Oral: Lectures, interviews and meetings ▪ Written: mail, letter, project platform, newsletter	▪ Regular intervals ▪ Specific dates (e.g. when milestones are reached)

Systematic communication planning by using the 5 key questions

Who? → Stakeholder

What? → Content

How? → style/ measures / document type

Who? → Responsible person

When? → Date

Communication kit

Who?	What ?	How ?		
Board / Owner	Start information	Intranet	Mail	Fair
Steering committee	Planning informations	Internet	Letter	Bulletin board
Customer	Reports	Flyer	Common drive	Press conference
Department manager	Decisions	Project day	Poster	Advertising
Project team member	Feedback	Telephone	Forum	Event
Staff representatives	Progress	Project portal	Presentation	Exhibition
Project controller	Results	Wikis	Hotline	Project name
Employee	Rollout	Film, video	Conversation	Motto
Society	Project close-out	Newsletter	Web Conference	Logo

Example: Communication matrix

Stakeholder	Content/ Messages	Expected impact	Medium	Responsible person	Participants	Date/ Frequency	State
Trainers	contact information, connection	cooperation, network quantity improvement	social network, email, marketing activities	MM, FM, Son K.	marketing team	Beginning of Network initialization phase/weekly	Not started
Trainees	feedback	improve system's quality	email, social network, events, surveys	MM, Son K.	technical staffs from specific sector, PM	At the end of Application Development phase/ weekly	Not started
Sponsors	fund raising, plans	budget for project	meetings, emails	FM, Nguyen V.	FM, MM, PM	At the end of Market research phase/ monthly	Not started
Technical staffs	keeping track on progress, task assignment	enhance teamwork results and speed, qualitative results for tasks	meetings, emails, discussions	PM, Tan T., Thinh D.	GD, AAD, IAD, WD, SP, DE	At the end of Fun raising phase/once in 5 days	Not started
Managers	planning, decision making	keep the fluency of the project between sectors	meetings, emails	PM, Thinh D.	PM, FM, MM	Beginning of the project/ once in 2 weeks	Not started
Sport facility owners	contact information	cooperation, network quantity improvement	emails, meetings	MM, Son K.	marketing team	Beginning of Network initialization phase/weekly	Not started

Workshop „Communication matrix"

Create a communication plan for your project.

Plan communication activities for **3** especially important stakeholder

Template: Communication_matrix.xls

Time: 15 minutes

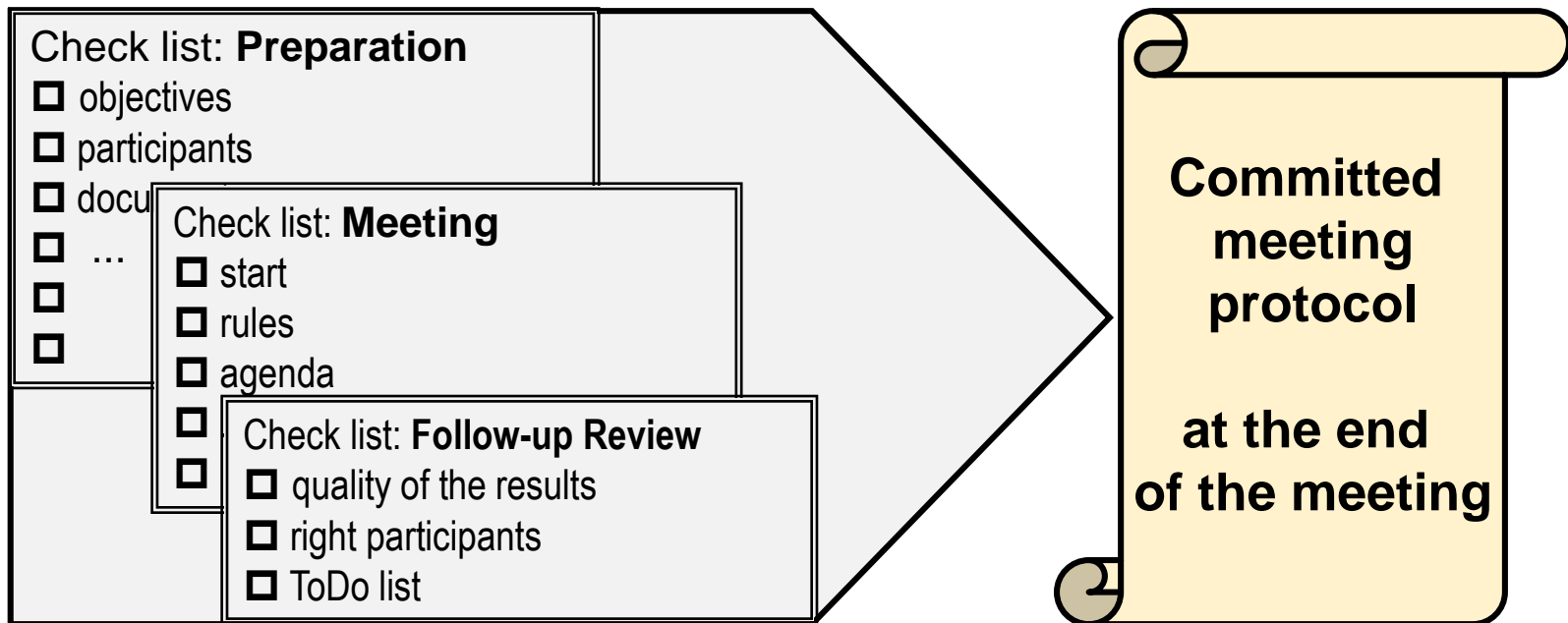| Stakeholder	Content / messages	Expected impact (wanted result)	Medium	Responsible person	Partici-pants	Date / Frequency	State

Project meetings

▶ For the direct exchange of information

▶ Basis for a systematic control of the project
  – in particular for the solution of occurring problems in the team

	Regular	Firmly agreed dates (jour fixe) for status meetings
Project meetings	**Result-driven**	Decisions on the start / completion of important phases / milestones
	Event-driven	Special topics in the course of the project; Meeting due to an unscheduled event (e.g. a crisis)
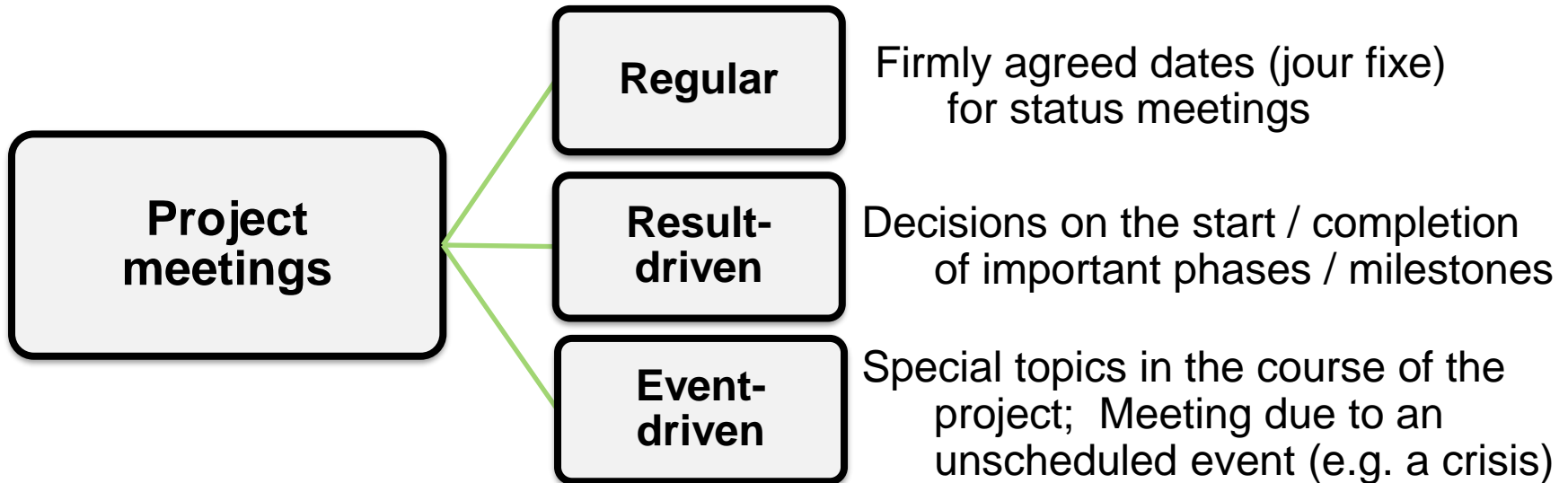
Professional meeting management

1. Careful preparation

2. Structured implementation: information, discussion, decision, result documentation

3. Effective timely review

Check list: **Preparation**
- ☐ objectives
- ☐ participants
- ☐ docu
- ☐ ...
- ☐
- ☐

Check list: **Meeting**
- ☐ start
- ☐ rules
- ☐ agenda
- ☐
- ☐

Check list: **Follow-up Review**
- ☐ quality of the results
- ☐ right participants
- ☐ ToDo list

Committed meeting protocol

at the end of the meeting

Julius-Maximilians-
**UNIVERSITÄT
WÜRZBURG**

7.2 PROJECT MARKETING

Why project marketing?

"*Even excellent project management practices are of no use
if the project is ineffectively marketed*." [Hedwig Kellner]

▶ Projects need the support of senior management to get funding

▶ They earn the respect of the line managers because they are
dependent on them to assign their best staff to the project

▶ They have to earn customer approval to get follow-up orders.

<u>Source</u>: Schelle [1], p. 405

Objectives of project marketing

▶ **Acceptance will be created for the project**
- **Basis of trust** for trouble-free work
- **Optimal support** for the project
- Tensions and conflicts are avoided proactively

▶ Value/ significance of the project is increased
- Project employee motivation is increased

▶ **Open information about the project**
- Creates trust
- Prevents rumours and uncertainty in people who do not participate in the project, but are affected by the project

Motto: "*Do good things and talk about it*"

Project marketing ensures acceptance of the project

P-marketing requires time and resources
⇨ *Appropriateness !*

0. Project marketing planning

1. Stakeholder analysis

2. Marketing planning

3. Imple-mentation

4. Controlling

List of marketing measures
with responsibilities and dates

5. Lessons learned

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG
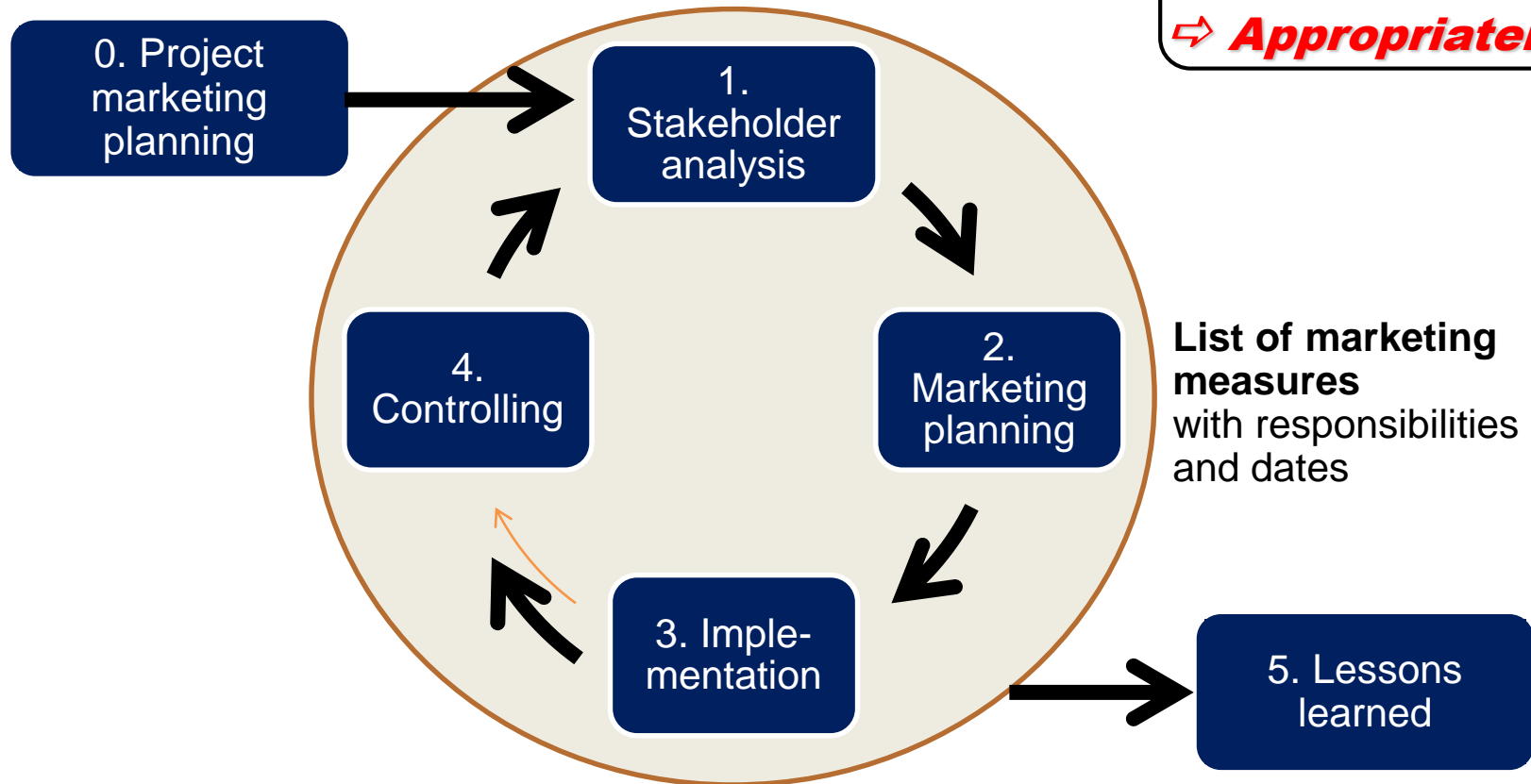
Project marketing: Content

▶ Provide motivation for the meaning and benefits of the project with enthusiasm

▶ Content of information

  ▪ **General information** on the project (project objectives, project organization, scheduling, etc.)
  ▪ What **expectations** do have the individual target groups?
  ▪ What **benefits** have the target groups?

▶ **Target group specific** presentations

▶ Open and comprehensive information!

▶ Project marketing is the responsibility of <u>all</u> team members.

Project marketing tips: Project launch marketing

▶ **Project name**: invent a catchy name for the project

▶ **Project logo, project motto**: Use the project logo and motto in all written and visual media

▶ Win supporters in top management

▶ Specifically to promote project

- Intranet

- Employee newspaper

- Information sheet or brochure about the project

▶ Information policy set out with the project team!

- Who can give information to the outside?

- Disagreements and conflicts are regulated in the team

Project marketing tips: Ongoing marketing measures

Content: Current information about the project and its progress, e.g. (for the stakeholder!) important interim results

▶ Briefings (target group-specific)

- ▪ Senior management
- ▪ Affected departments
- ▪ Works Council

▶ Always up-to-date intranet page

▶ Project information sheet, project flyer
(for large projects or programmes)

▶ Projects with high visibility: press release

**Agenda item "Marketing" of Jour Fixe meetings:
if necessary with the attendance of additional stakeholder**

Project marketing tips: Marketing project close-out

▶ **Final event** with the most important decision makers.

▶ **Presentations** about the project results

▶ **Announcement** of the project results

- Intranet

- Employee newspaper

- CD-ROM

- Journals

▶ For projects with high visibility:
Press release or press conference

Examples of good practice

Project start

Project name	Project motto	Project logo
KOS (Cost management of Output Systems)	**Save cost of materials instead of personnel costs**	
PMO (Project Management Optimisation)	**Projects have priority!**	
MAB 2006 (Employee survey**)**	**Knowing what motivates employees!**	

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Best Practice – Project Marketing

Message: "AOK Bavaria uses innovative new technologies for cost management and process optimization"

Bavaria Online Award
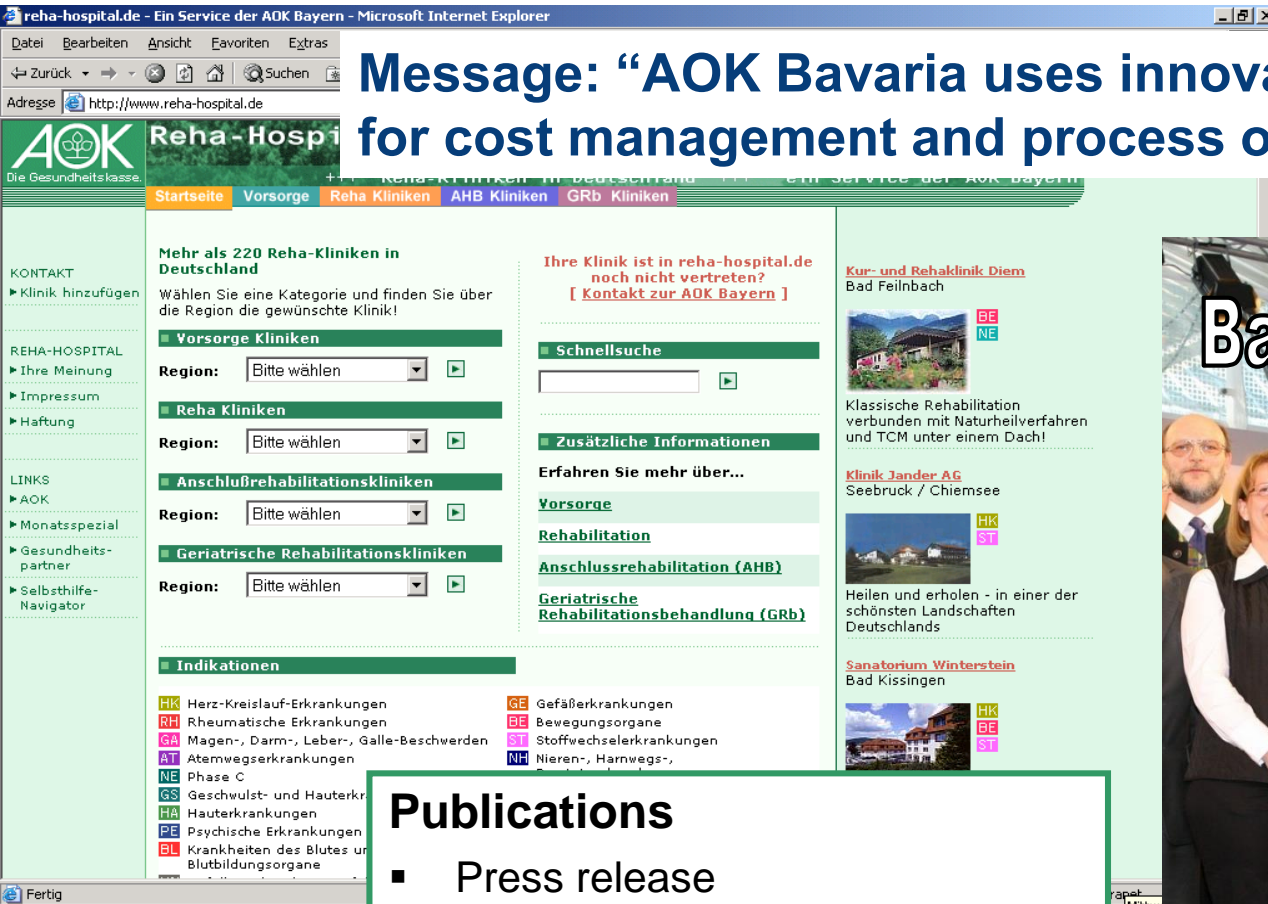
Publications
- Press release
- Intranet
- Internet
- Staff magazine
- Employers magazine
- IT journal

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Workshop: Motto (2019)

Create a **motto** (slogan) for your innovative service / app / company
Time: 10 minutes

Team 1:

Team 2:

Team 3: Think creative, wear creative

Team 4:

Team 5: You leave em, we love em

Team 6:

Team 7: Health is wealth

Team 8: Park anywhere, any-time

Team 9:

Team 10: Caring, healing, sharing

Team 11:

Team 12:

Example of practice NIMBUS (1/3)

NIMBUS
IT ohne Zauberei

Die Zukunft beginnt jetzt

Projekt Nimbus: :intro sprach mit dem Projektleiter Dr. Harald Wehnes über die neue IT-Strategie der AOK Bayern und welche Veränderung sie für die Mitarbeiterinnen und Mitarbeiter mit sich bringt

German Project Excellence Award
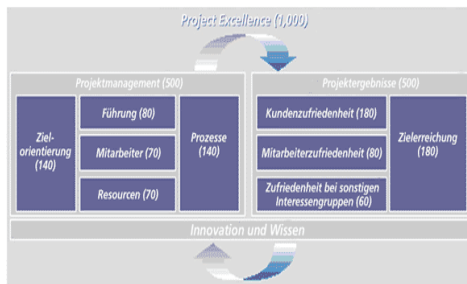
Publications
- Intranet
- Staff magazine
- PM Lectures University Wurzburg
- Project management trainings
- (Internal) Conferences
- Publications
- Case study with suppliers
- …

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Example of practice NIMBUS (2/3)

Price winner of „Deutscher Project Excellence Award" (DPEA)

Example of practice NIMBUS (3/3)

Finalist „International Project Excellence Award 2009"

> **Video Helsinki**

Talks

• Al Ain, VAE

• Bamberg

• Bonn

• Christchurch, NZ

• Frankfurt
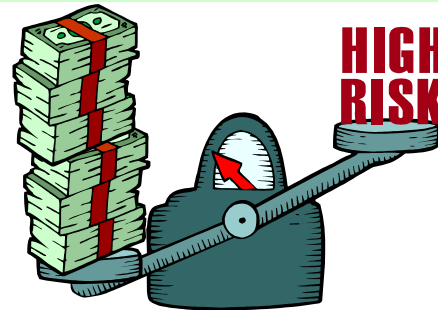
• Helsinki, FIN

• Munich

• ...

7.3 RISK MANAGEMENT

Risk management in projects

"risk management is project management for adults"
Tom De Marco

all projects include „risks" and „opportunities"

HIGH RISK

Tasks of the project manager

▶ To organising the responsibilities and the process for the treatment and monitoring of risks

▶ To secure **proactive treatment** of the main project risks

▶ To establish consciousness for project risks in the team

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Why risk management?

Half a billion for "Euro Hawk" pulverizes
n-tv, 15.05.2013

Risk management costs money.
No risk management is more expensive!

Risks are uncertain events
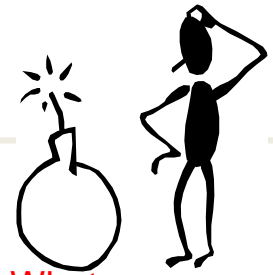
What can go wrong?

risk := **uncertain event** that endangers the project objectives, with the two dimensions
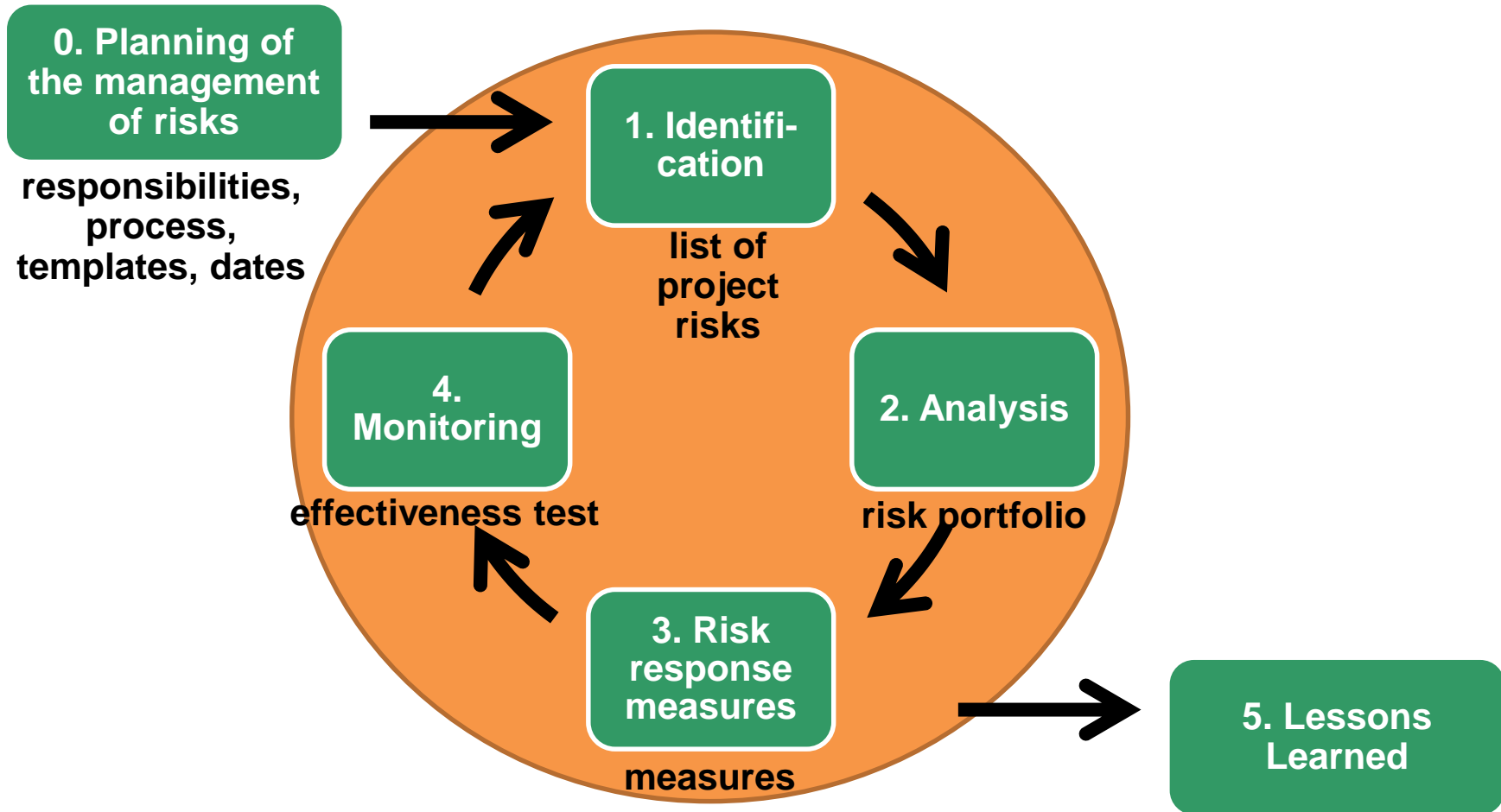
- **probability of an event occurring (P)**
  := the probability of occurrence is expressed in percent %
- **impact if it does occur (I)**
  := Consequences on the occurrence of the event
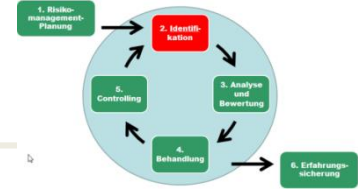 (on project results, time, budget)

> **risk value (RV) := P * I**

risk management := systematic process for the management of risks with the sub processes

- planning of the risk management
- risk identification
- risk analysis
- dealing with risks
- monitoring risks
- Lessons learned concerning risk management

Systematic risk management process secures an efficient dealing with the project risks

0. Planning of the management of risks

responsibilities, process, templates, dates

1. Identifi-cation

list of project risks

2. Analysis

risk portfolio

3. Risk response measures

measures

4. Monitoring

effectiveness test

5. Lessons Learned

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

1. Identification

goal: complete list of the project risks
   *„You can't manage, what you don't know about"*

▶ **Alternatives**

- Workshop „risk identification" using creativity techniques, i.e. brainstorming, mind mapping

- Using risk identification checklists;
  using the experience from former projects

- Interviews with experts

- SWOT analysis

- Scenario method

- Simulation methods

▶ **Cooperation with qualified executives from all affected business units**

▶ **The "skeptics" in the project provide great services**

> ⇨ **documentation of the risks in a risk table**

Types of risks: check list (1)
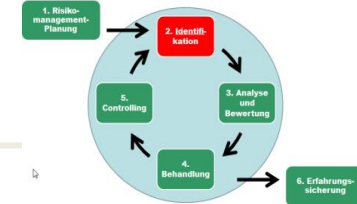
Technical risks

- Use of new technologies; Technology changes during runtime
- Lack of availability of important hardware and/or software components
- Lack of experience with development environment
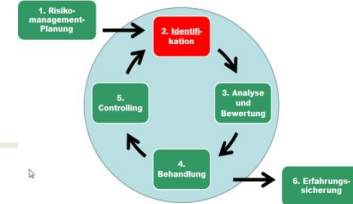- Lack of compatibility of interfaces

Personnel risks

- Inadequate training/experience of the project manager
- Human resources: staff are not sufficiently available or have not the required qualifications
- Lack of motivation of the project staff
- Team conflicts
- Misconduct by employees
- Staff turnover during the project period

Commercial risks

- Customer become insolvent
- Suppliers are unreliable, failing or deliver products of inferior quality
- Dependencies of exchange rates
- Budget cut

Political risks

- Legal changes during the project period
- Resistors in the society against the project

Competitive risks

- Competitive product comes on the market
- No or low customer acceptance of the new product or service

Contract risks

- Incomplete project contract
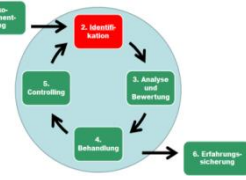- Unreliability of sub companies
- Liability

Project environmental risks

- Acts of God (fire, flood, lightning strike)
- Management is not behind the project
- Low importance of the project in the company

Risks in project management

- Resource related risks
- Time related risks
- Budget related risks
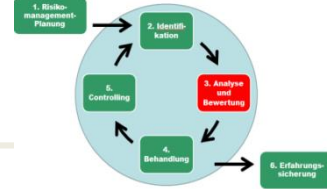- Quality risks

1. Identification: risk table

The identified risks are recorded in the risk table (syn. risk list, spreadsheet, catalogue, register or directory) and described

Example:

#	Risk	Type	Cause of risk	Consequences
R1	Application crashing	Technical	Lack of time for quality assurance activities	Low users' rating
R2	Members' health	Personnel	Accident	Affect to human resource
R3	Team conflicts	Personnel	Each member has different ideas	Too much time to negotiate
R4	Budget cut	Commercial	Sponsors do not believe in our application's bright future	Project is delayed
R5	Other applications	Competitive	Many applications with theis USPs	Reduce number of users

The type of risk arises from the cause

2. Risk analysis

2.1 Qualitative risk analysis

- Probability of occurrences and impact on the project are classified: high – medium – low
- Advantage: Fast classification of the risks
- Results can be displayed in a risk matrix

2.2 Quantitative risk analysis

- An additional qualitative risk analysis is done for the risks with high priority
- The **monetary risk value** is calculated from the **numerical probability of occurrence** and **the monetary value of the damage**

2.1 Qualitative risk analysis
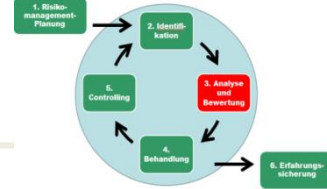
The risks are assessed in terms of their **probability of occurrence (P)** and their **impact** (I) using a multi-tiered scale

Example: **3-tiered scale**: *high - medium - low*

About this categorization, prioritization can be derived

Example:

#	Risk	Type	Cause of risk	Conse-quences	Probability (P)	Result	Time	Budget	Priority
R1	Application crashing	Technical	Lack of time for quality assurance activities	Low users' rating	m	h			4
R2	Members' health	Personnel	Accident	Affect to human resource	l		m		2
R3	Team conflicts	Personnel	Each member has different ideas	Too much time to negotiate	h		l		3
R4	Budget cut	Commercial	Sponsors do not believe in our application's bright future	Project is delayed	m			h	4
R5	Other applications	Competitive	Many applications with theis USPs	Reduce number of users	h	m			4

7.4 PROJECT EXECUTION & MONITORING/CONTROL

Project execution, monitoring and control

**Board of Management
Steering Committee
Sponsor, PMO**

Reporting

Control of the project portfolio

**Project manager /
Project controller
Subproject leaders**

Control of the project
(Checking the progress and informing
the sponsor and stakeholders)
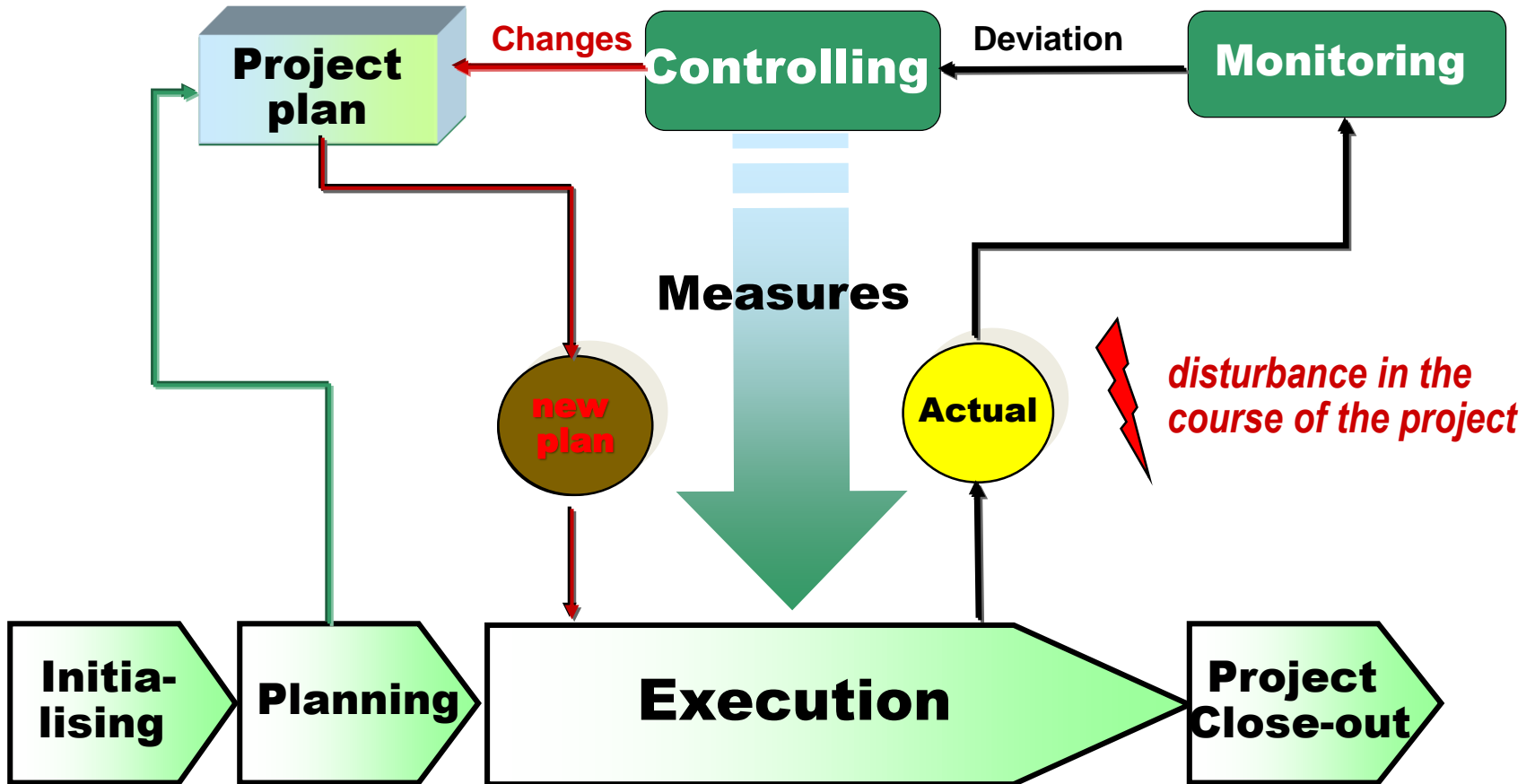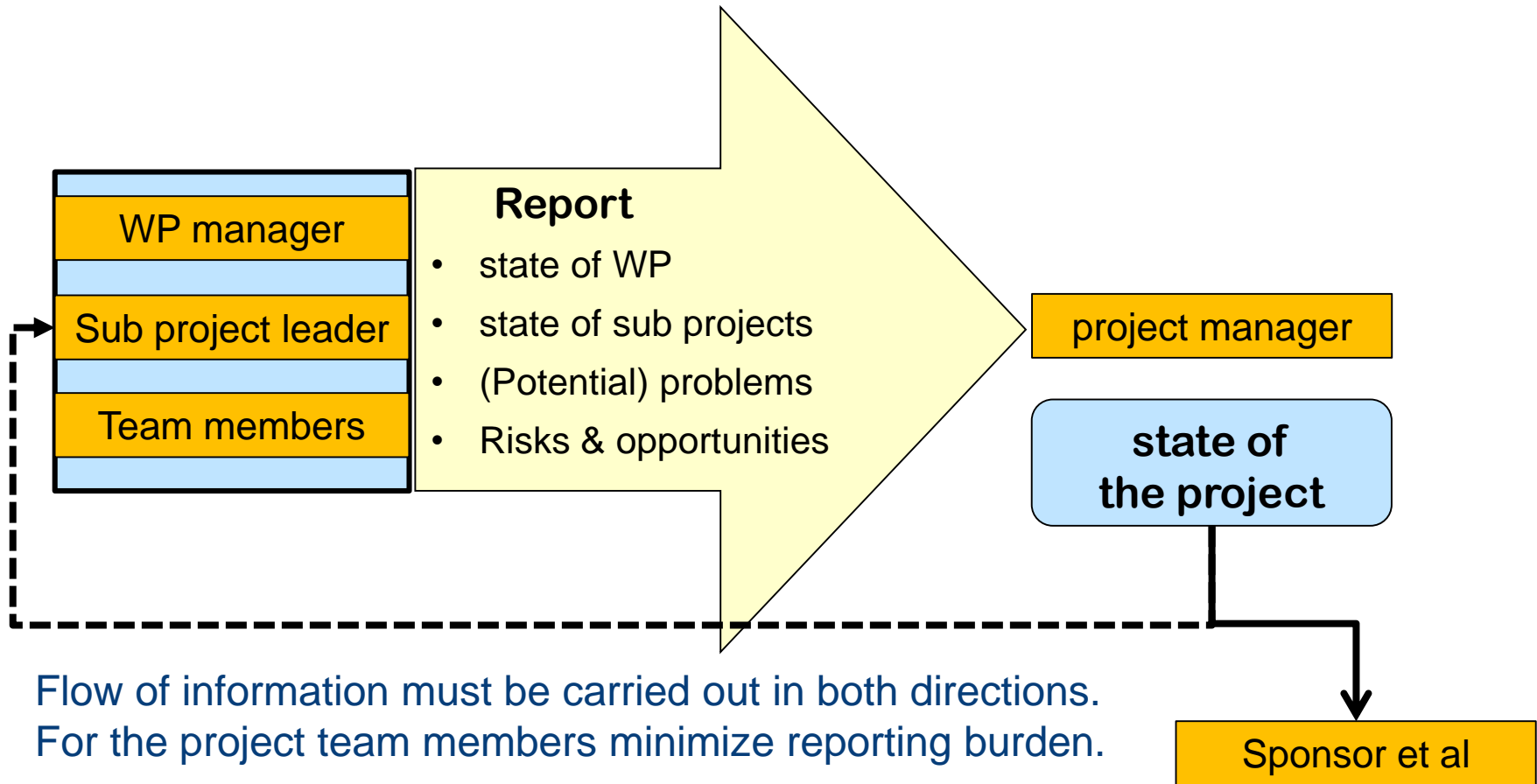
Reporting

Project team member

Executing of the WP
and reporting about progress,
problems, results

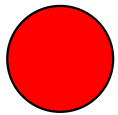Progress measurement is the main focus during project execution/control phase

UNIVERSITÄT
WÜRZBURG

Cycle of project control

Monitoring and Reporting inside the project team

WP manager

Sub project leader

Team members

Report

- state of WP
- state of sub projects
- (Potential) problems
- Risks & opportunities

project manager

state of the project

Sponsor et al

Flow of information must be carried out in both directions.
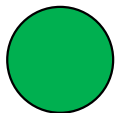For the project team members minimize reporting burden.

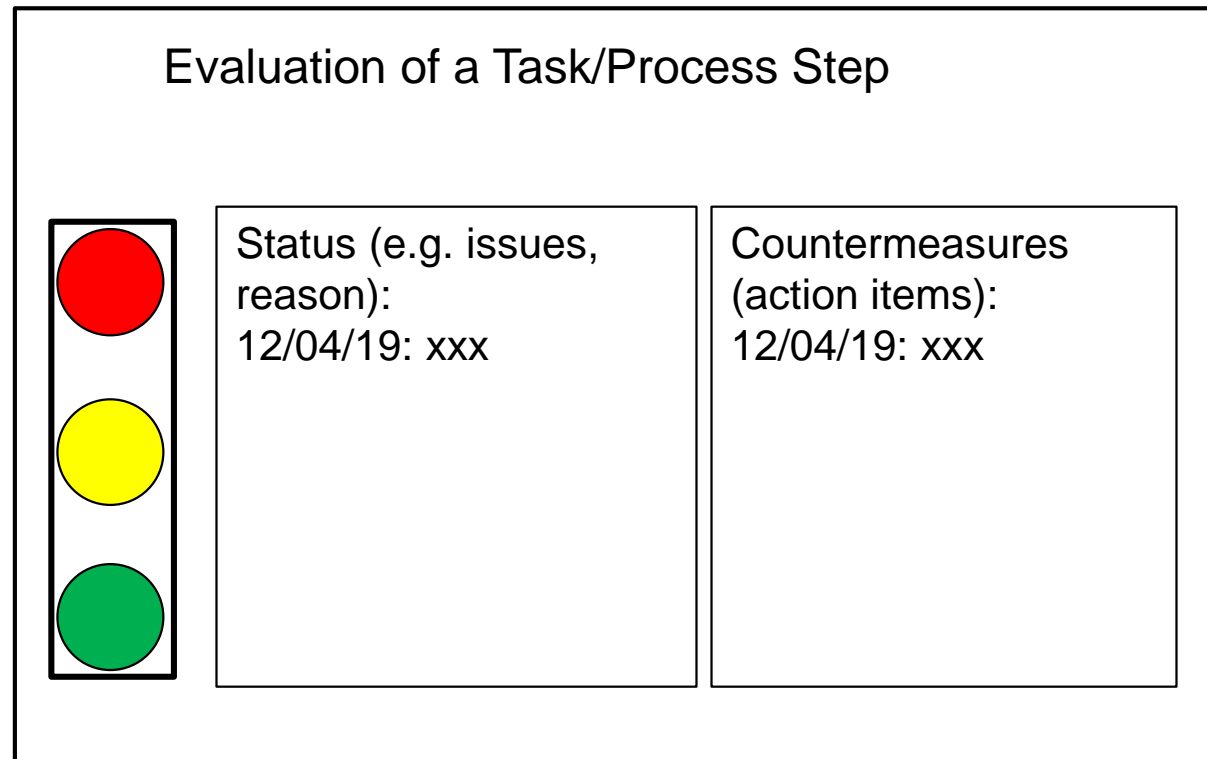# Monitoring and Reporting: Traffic light definitions

1. Red: As-is value of the criteria/goal deviates significantly from the should-be (planned) criteria/goal, no confirmed countermeasures are defined + replanning
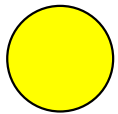
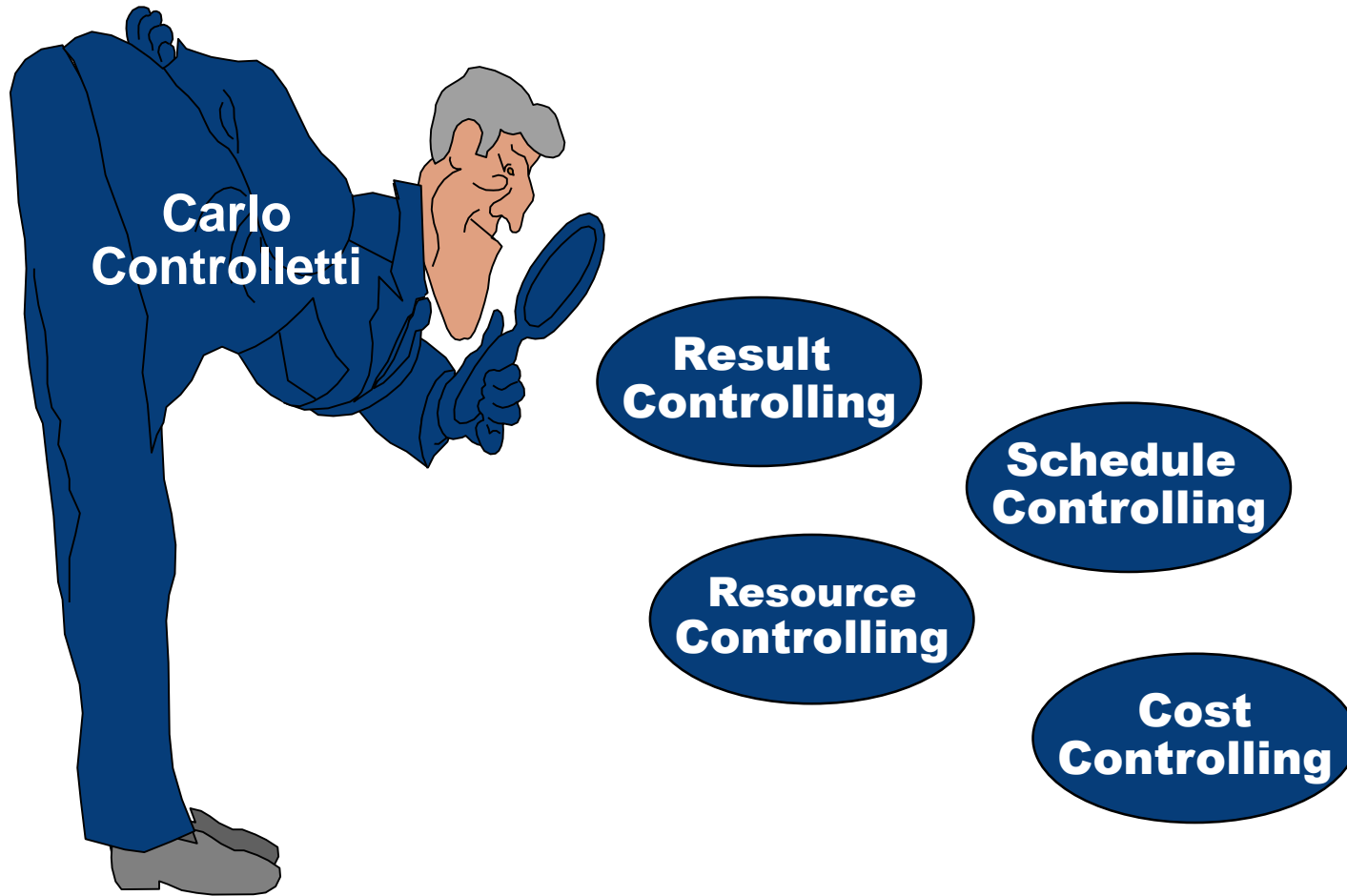**2. Yellow**: As-is value of the criteria/goal deviates from the should-be (planned) criteria/goal, confirmed counter-measures are defined

3. Green: As-is value of the criteria/goal complies with the should-be (planned) criteria/goal

Evaluation of a Task/Process Step

Status (e.g. issues, reason): 12/04/19: xxx	Countermeasures (action items): 12/04/19: xxx

Tasks of project control

Carlo Controlletti

Result Controlling

Schedule Controlling

Resource Controlling

Cost Controlling

Project culture

▶ A **trust-based cooperation** is required for the implementation of the project

- between project manager and project team
- between project management/team and stakeholder (sponsor!)
- in the team with each other

▶ Responsibility of the project management (project manager and sub project leaders) to create and maintain an appropriate atmosphere

▶ Important for an effective controlling: **timely message of "real" data**

Not a time delay is a major annoyance – but its concealment
All project team members have the obligation to report problems automatically and immediately!

Julius-Maximilians-
**UNIVERSITÄT
WÜRZBURG**

Controlling methods and their application in practice
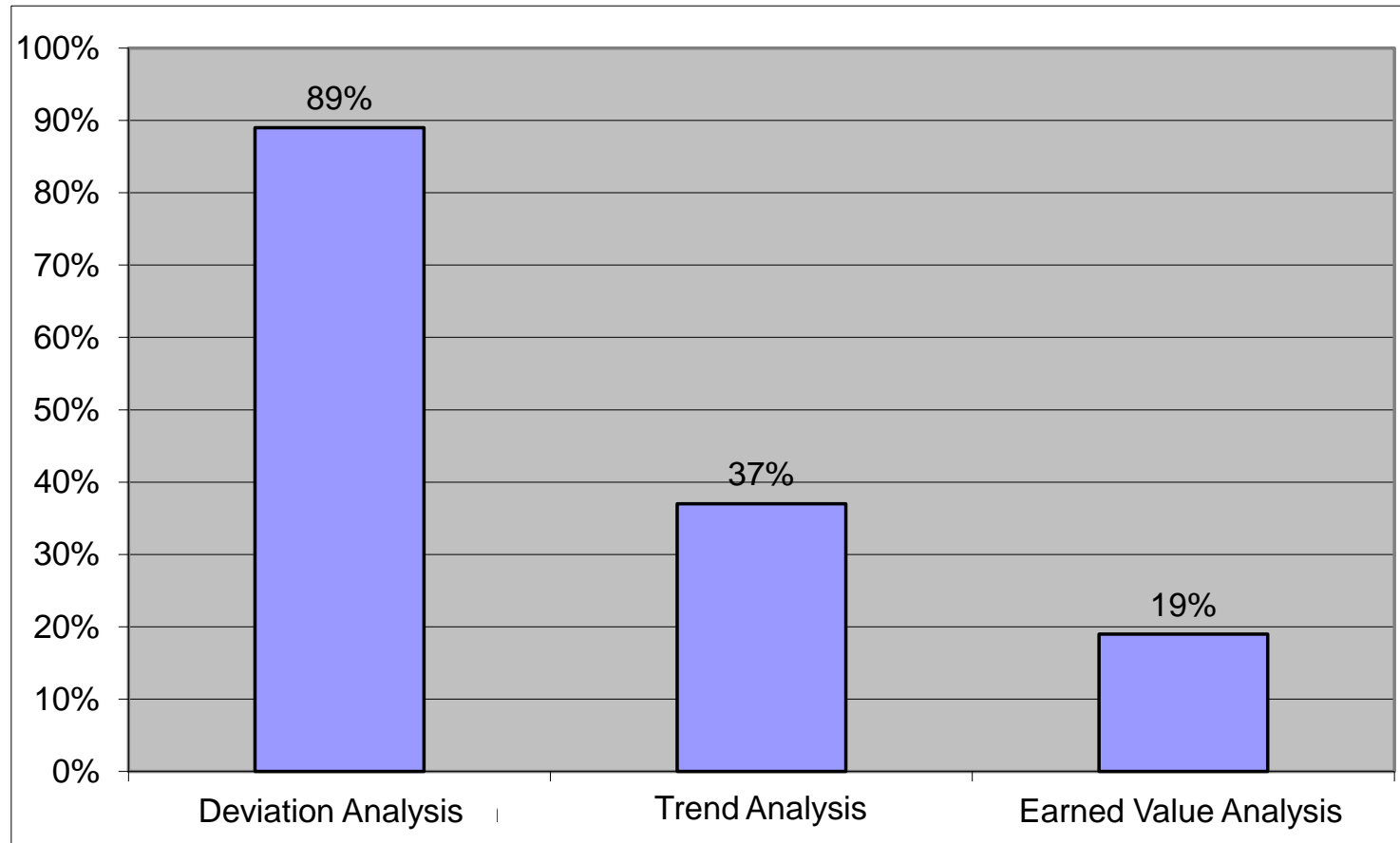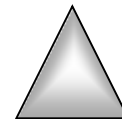

Source: N. Kauba, CSC: Projektportfoliomanagement, Vortrag vom 14.09.2006, München, slide 42

Plan/ Actual Comparison

Costs

Actual

Plan

Time
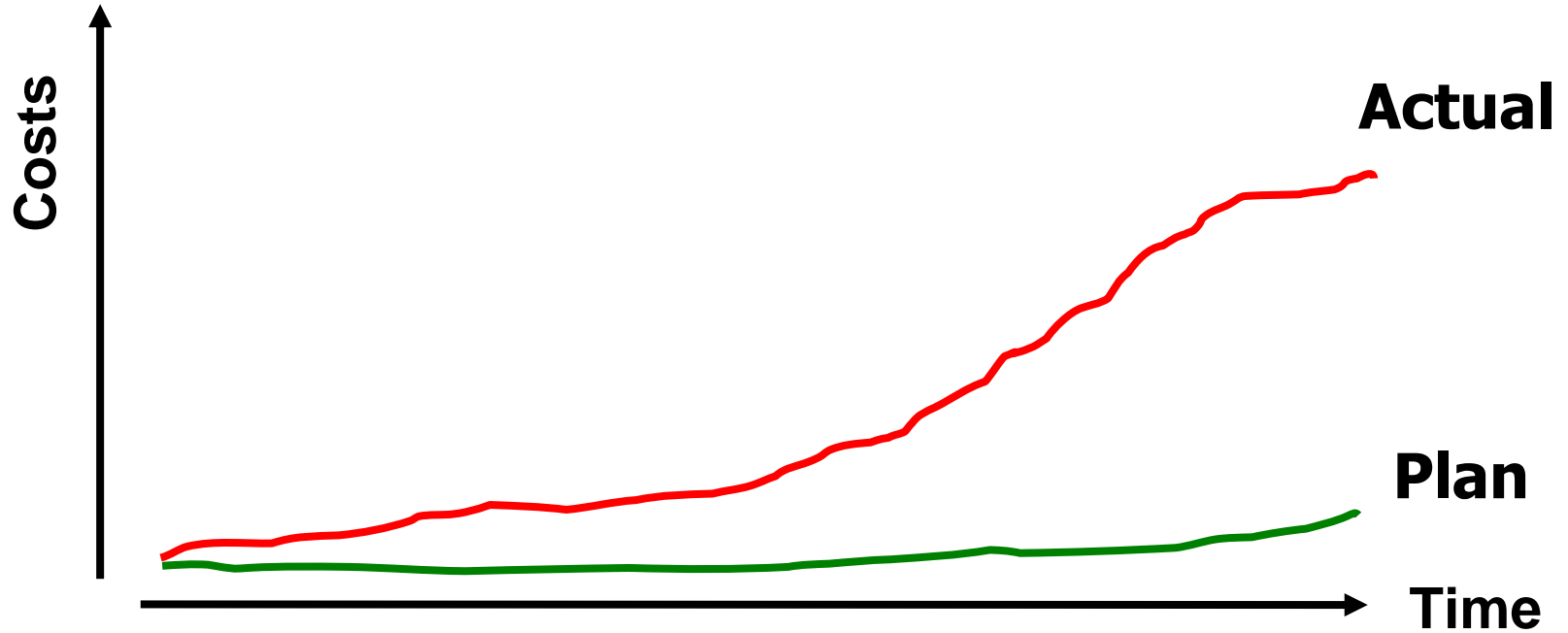
Crucial is the consideration of the „magical" triangle

Deviation Analysis

1. Determinate the actual performance data

2. Compare the "performance delivered to date" to the "performance which should have been delivered according to the plan"

3. Analyse deviations

Questions

- *What are the possible causes?*

- *What will happen if we do something or do nothing?*

- *Will a trend continue?*

Causes of deviations

▶ Planning errors
- Lack of planning experience, works were forgotten
- Wrong (too optimistic) cost estimate
- Acquisition of the time and cost pressures of the job boar in the planning
- Complexity overwhelmed staff

▶ Unpredictables in the course of the project
- New requirements in the course of the project.
- Technical, human or organisational problems.
- Retirement of employees.
- Bankruptcy of a supplier.

▶ Execution errors
- Errors in the execution of the plan.
- Missing employee qualification.
- There have been unnecessary work.

Countermeasures

1. **Corrective measures**

   - Staff capacity
     - Extra hours: Overtime weekend
     - Substitution of team members
     - Integration of additional team members
   - Productivity
     - Redistribution of work load
     - Improved tool and method usage
     - Information, motivation
   - Shorten the duration of the work packages on the critical path
     - Eliminate dependencies
     - Use rationalization potential

Countermeasures

2. Reactive measures (if there are no other ways)

- Adjust project planning
  - Consistent updating of the planned dates
    - Start and end date, task duration, dependencies
  - Outsourcing of tasks
  - Project scope / functionality / quality
    - change of priorities, versioning
  - Resource expansion and increase in budget

Changes of the objectives of the project must be approved by the sponsor and the steering committee!

7.5 CLOSE OUT

Project completion: Content

Goal: Successful completion of the project

▶ **Formal project completion**

- Transfer of the project results to the line
- Project closure meeting
- Survey of the satisfaction of its stakeholders: e.g. customer feedback, employee feedback, suppliers feedback
- Project acceptance by the sponsor and steering committee → discharge of the project manager
- Release of project members and resources
- Termination of the project organisation
- Publication of the project final report
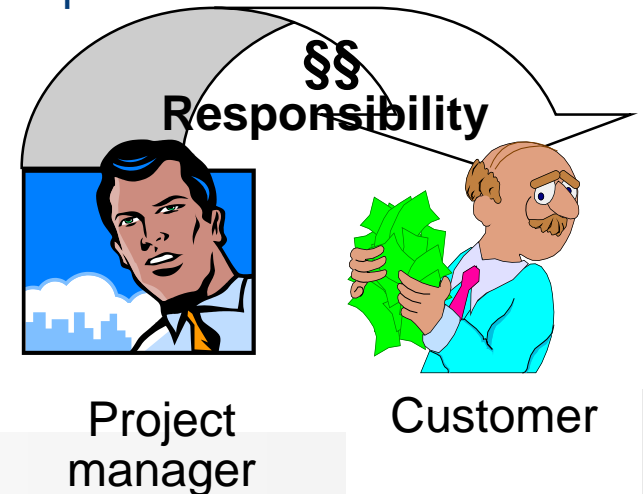
▶ **Project learning**

- Analysis project history & project results
- Experience backup for future projects

Lessons learned

Julius-Maximilians-
**UNIVERSITÄT
WÜRZBURG**

Acceptance procedure

▶ **The acceptance procedure must be defined already at the beginning of the project**

- ▪ Establishment of the procedure and the acceptance criteria
- ▪ Project final phase: Implementation of the acceptance

▶ **Alternatives**

- ▪ Recommendation: stepwise acceptance
- ▪ But often 'Big bang' acceptance is unavoidable

▶ **Project Manager**

- ▪ Organises a handover to support and maintenance
- ▪ Formally passes the results (products) to the sponsor

▶ **Sponsor**

- ▪ Is responsible for building and operating the test environment
- ▪ Is responsible for test cases and test data
- ▪ Checks, whether project objectives have been achieved

§§ Responsibility

Project manager

Customer

Project learning

▶ **Objective: Knowledge management / continuous improvement**

- Opportune moment

- Experiences are still "fresh"

- "Lessons Learned": collect, evaluate and secure essential experiences for future projects (avoid "to reinvent the wheel in the future")

- Optimize used templates and checklists

▶ **Useful questions**

- *What was particularly good, and should be applied to future projects?*
- *What were the causes for changes of the plans?*
- *What checklists / templates shall be supplemented?*
- *What should be done differently in a similar future project with the knowledge of today ?*

Close out party

▶ **Critical evaluation and appreciation**

- Teamwork

- The results of the project

- The project process

- Identification of residual tasks and solutions for the time after the project

- Joint analysis of difficulties and deviations of the plan

▶ "Feedback query" of the project team

▶ **Close-out party**

Lessons learned

Homework: Task 7

Complete the **communication plan!**

Upload of the presentation (communication plan plus motto)
Team_n-Task_7.pptx
by the project manager of day 7 – only teams 11 and 12
Deadline: 18th March, 8:00 am

Presentations on Wednesday morning (Mar 18)
by the project managers of day 7

Duration: $\leq$ 3 min

Final presentations (Mar 18)

Presentation by 3 (4) team members

Total duration: < 15 minutes

<div style="border: 1px solid red; color: red;">

Concentrate on the essentials

</div>

Part 1: Presentation of the project management

- Summing up of the project
  – Short description with the main project design data:
    purpose, customer, result and quality

- Story map and MVP
- Project plan
  – Phase plan with milestones (graphic)
  – Phase-oriented WBS
- Stakeholder & Communication plan
- Project review
  – Lessons Learned for future projects

Part 2: Presentation of the project product (prototype)

- Demo of the product **(pptx)**

Schedule tomorrow

▶ Hybrid project management

▶ 9.20 am
  ▪ Teams 7-12

▶ 1.20 pm
  ▪ Teams 1-6