Project Management
Part 1

Introduction

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Nothing is more doubtful in terms of success and more dangerous in terms of implementation than the will to rise to the status of an innovator. For whoever does this, has the beneficiaries of the old state as enemies, while finding only weak defenders among the possible beneficiaries of the new state.

Nicoló Machiavelli
Italian philosopher, politician, diplomat, chronicler, writer and poet
1469 - 1516

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The Vasa Case

The Manhatten Project

- Started in the Second World War

- Was used to build the atomic bomb

- Many thousands of scientists and technicians had to be coordinated in the utmost secrecy

- Everyone had to work toward a goal without knowing the end result

➢ Different type of work organisation

➢ Development of new methods

➢ Many of these methods are still used today
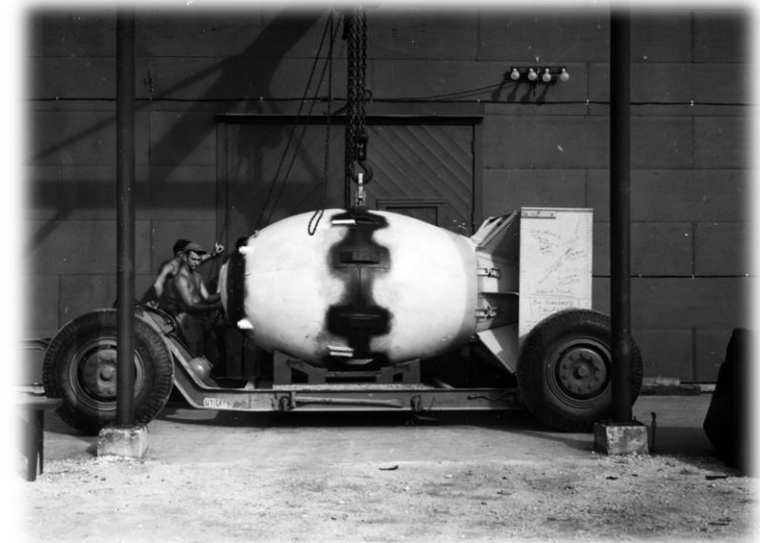
Learning Targets of the Course

- **Overview**
of project management and understanding of elementary terms

- **Human Beings**
Understanding of essential characteristics regarding human beings

- **Team**
Aspects of successful collaboration in teams

- **Methodology**
Models, working methods and techniques for professional project management

Structure of the Course

1. Introduction

2. Humans & Teams

3. Classical Project Management

4. Agile Project Management

5. Hybrid Project Management

Literature for the course

- Wysocki, R.K.: Effective Project Management: Traditional, Agile, Extreme, Hybrid, Wiley, 8. Edition, 2019

- Kerzner H.: Project Management: A Systems Approach to Planning, Scheduling and Controlling, Wiley, 12. Edition, 2017

- Sutherland, J.J.: Scrum: The Art of Doing Twice the Work in Half the Time, Random House Business, 1. Edition, 2015

- Anderson, D.J.: Kanban: Successful Evolutionary Change for Your Technology Business, Blue Hole Press, Illustrated Edition, 2010
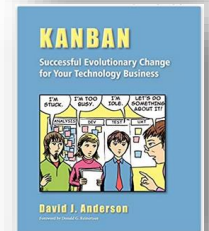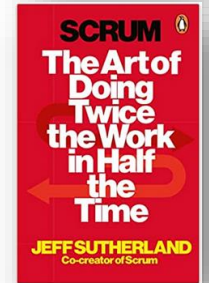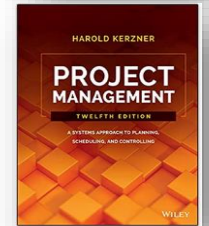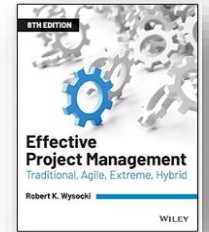
Assessment

type of knowledge test

- 90-minute written exam

- No aids allowed

- 40% application knowledge (obligatory questions)

- 60% factual knowledge (optional questions 4 of 6)

Clef:

Grade	Points from	Points to
1,0	91	100
1,3	86	90
1,7	81	85
2,0	76	80
2,3	71	75
2,7	66	70
3,0	61	65
3,3	56	60
3,7	51	55
4,0	46	50
5,0	0	45

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Brief History of Project Management

- New methods developed during the Manhattan Project

- Perfectioned during the NASA project to bring a man to the moon

- PM topic raised during the 1970s primarily by the construction industry

- PM associations like PMI (in the U.S.) and GPM (in Germany) were founded in the 1970s with the aim of establishing PM as a standard method

- PM steadily spread across all industries

- Agile PM methods were developed at the 2010s according to the agile software engineering approach

- Hybrid PM methods actual combine the classical methods with the agile methods

Why is Project Management important?

- Task:
Discuss with your neighbour and find at least 5 arguments!
(5 min.)

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The business has changed
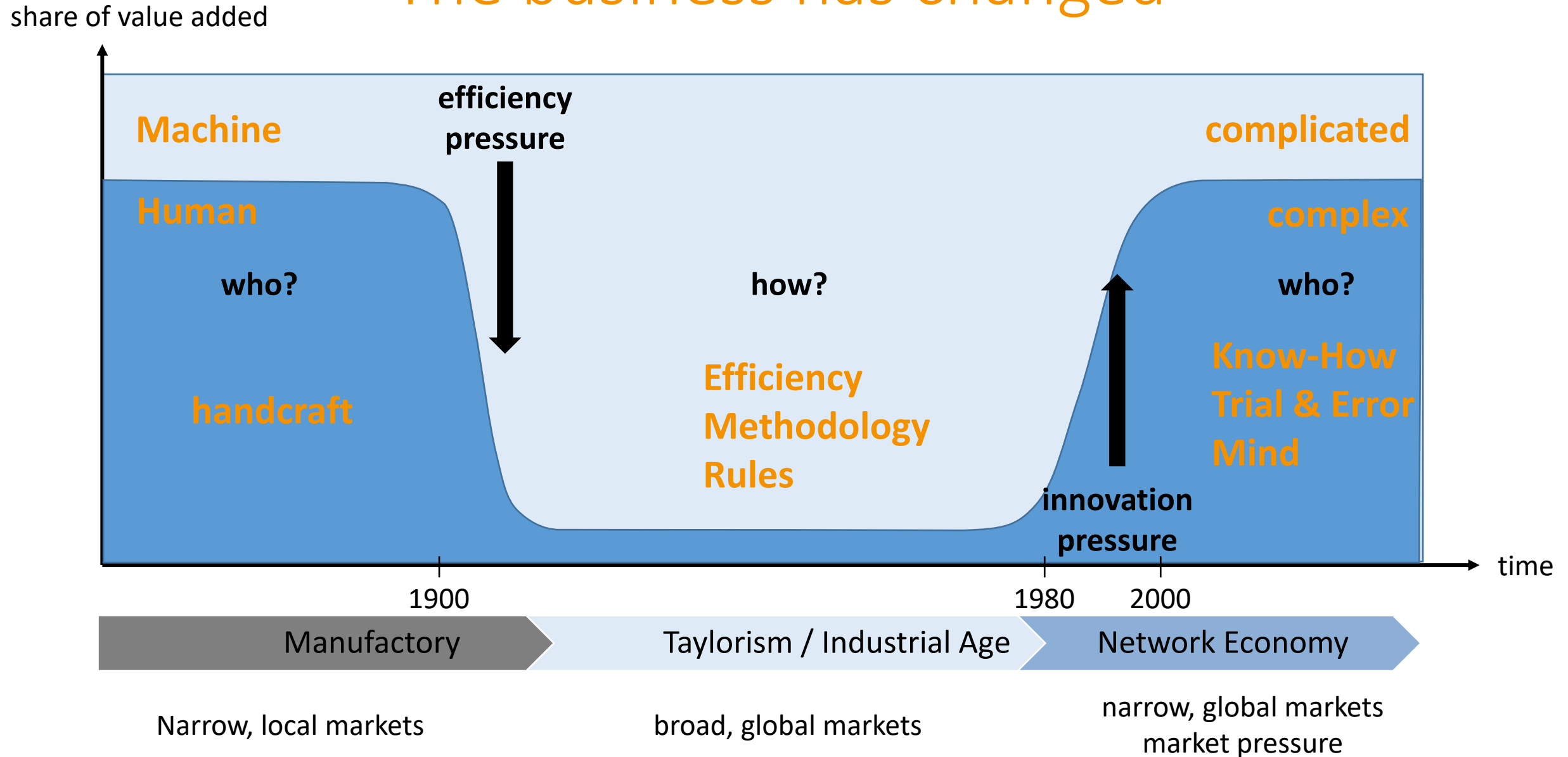
Facts of a changing world

Telephone:
70 years till
100 mio. user

Tik Tok:
2 years till
1 bio. user

everything will be fine but never again as it was

The largest companies in mobility and the hotel industry own neither cars nor hotels

20 billion networked devices (2020)

7 of the 10 most valuable companies have a digital business model

companies like ING no longer see themselves as a bank, but as a tech company with a banking licence

VUCA world: project management competence is becoming increasingly important
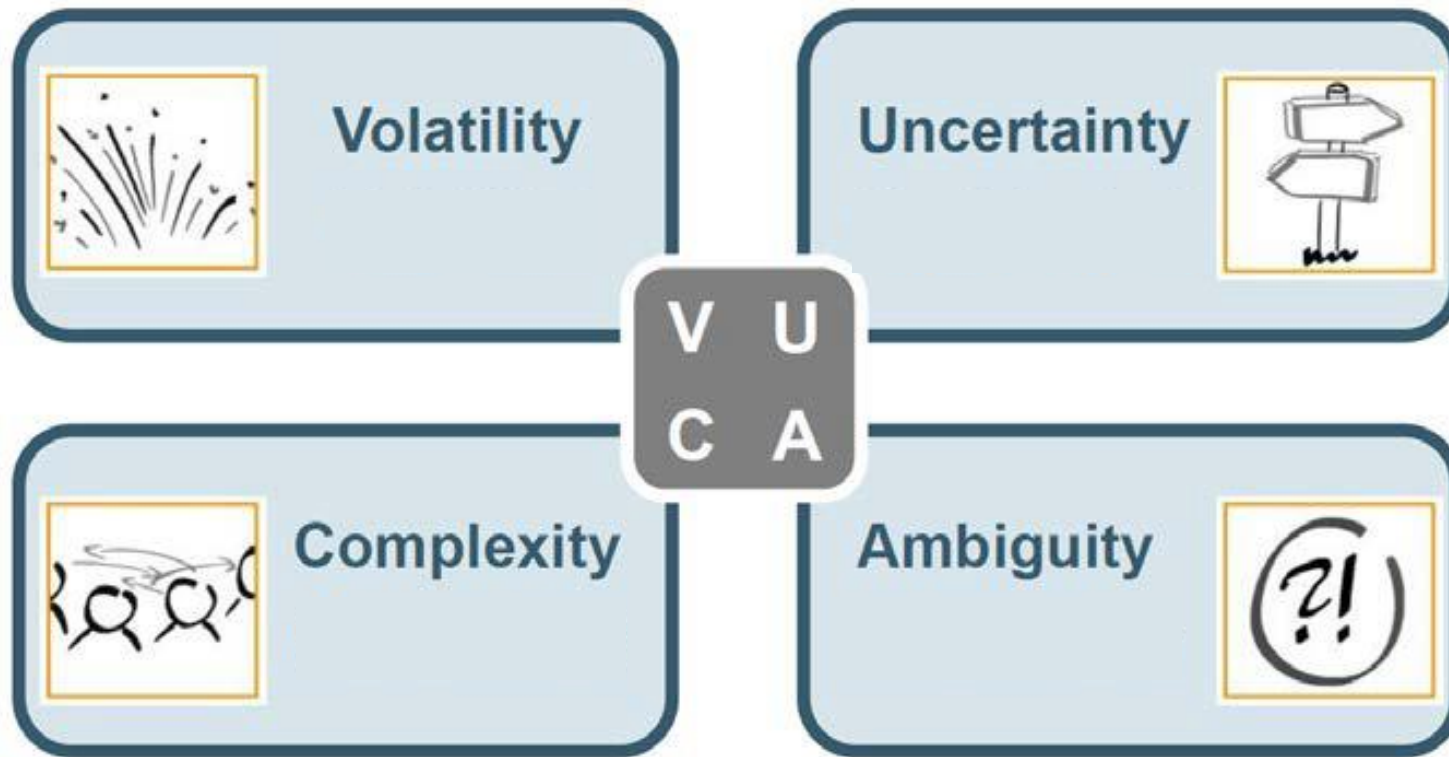
to ensure the competitiveness and viability of a company

What is a Project?

- Generally valid definition of the term has not become established
- Characteristic properties:

Target   **Time limit**

Resources   **Pressure to succeed**

unique   **Project**   **Risk**

New   **Complexity**

~~**No routine job**~~   ~~**No operating schedule**~~

~~**No line tasks**~~
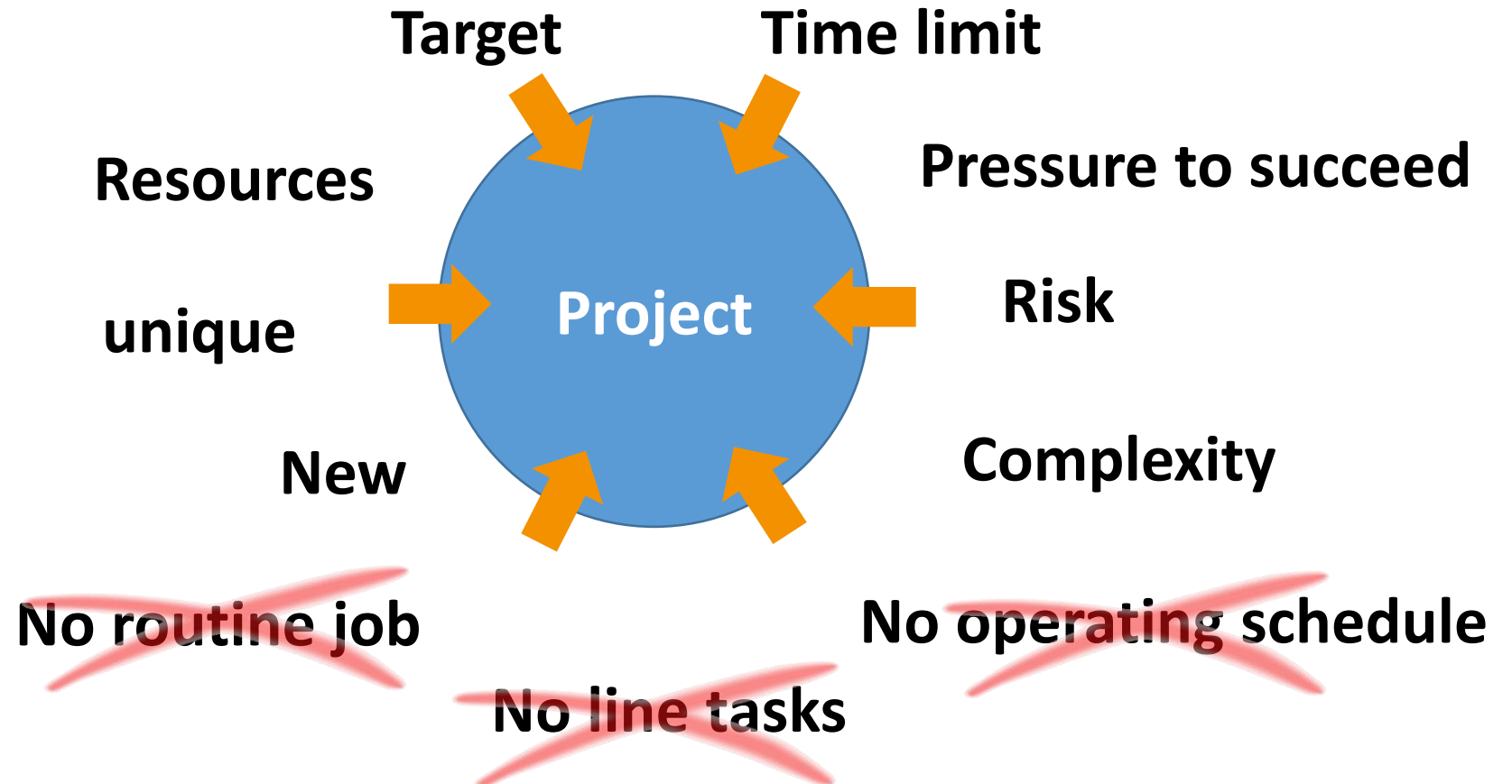
Project definitions in norms and standards

DIN 69901-5

A project is an undertaking that is essentially characterised by the uniqueness of the conditions in their entirety, e.g.

- Target
- Temporal
- Financial
- personnel or other limitations
- project-specific organisation

PMI (Project Management Institute)

A project is a temporary endeavor undertaken to create

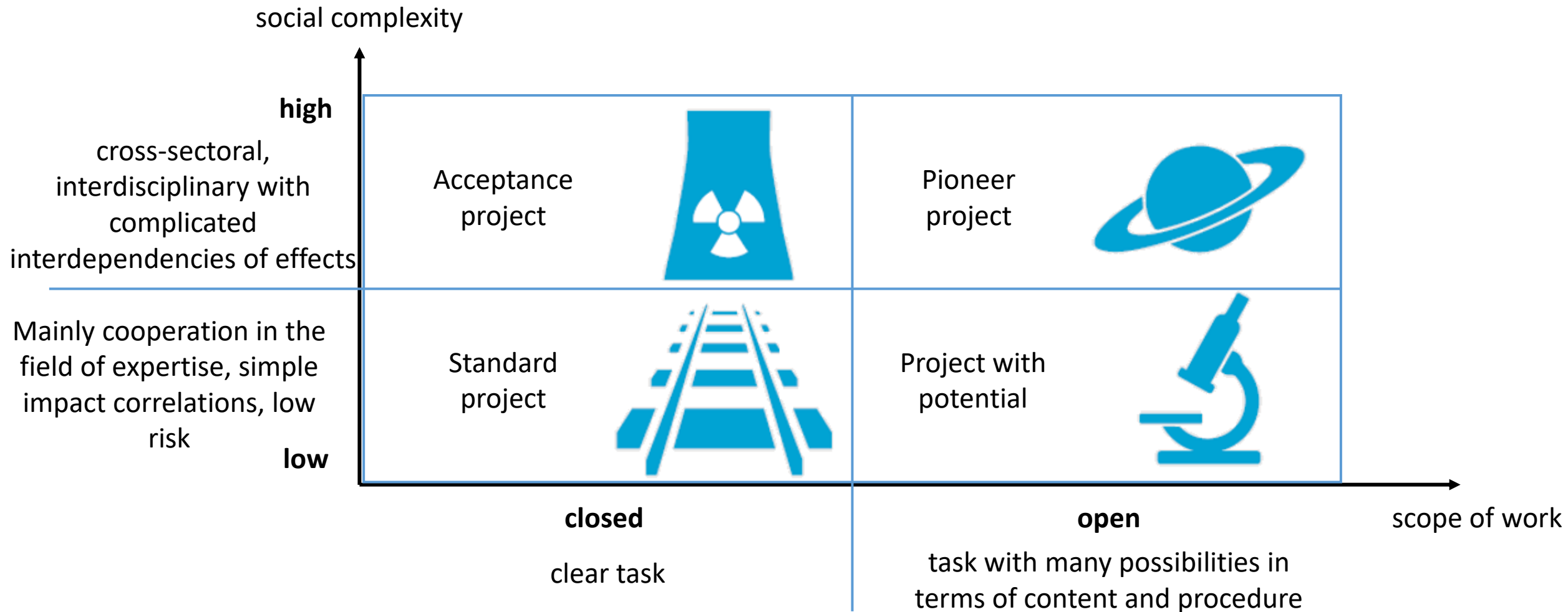- a unique product
- service
- or result.

The temporary nature of projects indicates a definite beginning and end.

IPMA (International Project Management Association)

A project is a unique, temporary, multi-disciplinary and organised endeavour to realise agreed deliverables within predefined requirements and constraints.

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Different project characteristics give indications on how to proceed in the project

social complexity

high

cross-sectoral, interdisciplinary with complicated interdependencies of effects

Acceptance project

Pioneer project

Mainly cooperation in the field of expertise, simple impact correlations, low risk

low

Standard project

Project with potential

closed

clear task

open

task with many possibilities in terms of content and procedure

scope of work

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Company-specific project classes can provide orientation

Example of a rating table:

Criterion	Subcriterion	Weight	Not developed (1 point)	Middle developed (3 points)	High developed (5 points)	Rating
Size, scope	Amount invested	1	< 25,000 €	25,000 – 250,000 €	> 250,000 €	
	Internal staff time & effort	1	< 20 person-days (PD)	20 – 60 PD	> 60 PD	
Compexity	Project duration	1	< 6 months	0.5 – 1 year	> 1 year	
	Social and political complexity	2	no conflicting interests	some conflicting interests	a lot of conflicting interests	
	Complexity of content	2	high degree of familiarity	demanding, cross-divisional	very demanding, a lot of new things	
Assignment of the categories	08 to 19 points: category C 20 to 29 points: category B 30 to 40 points: category A				Total points	
					Category	

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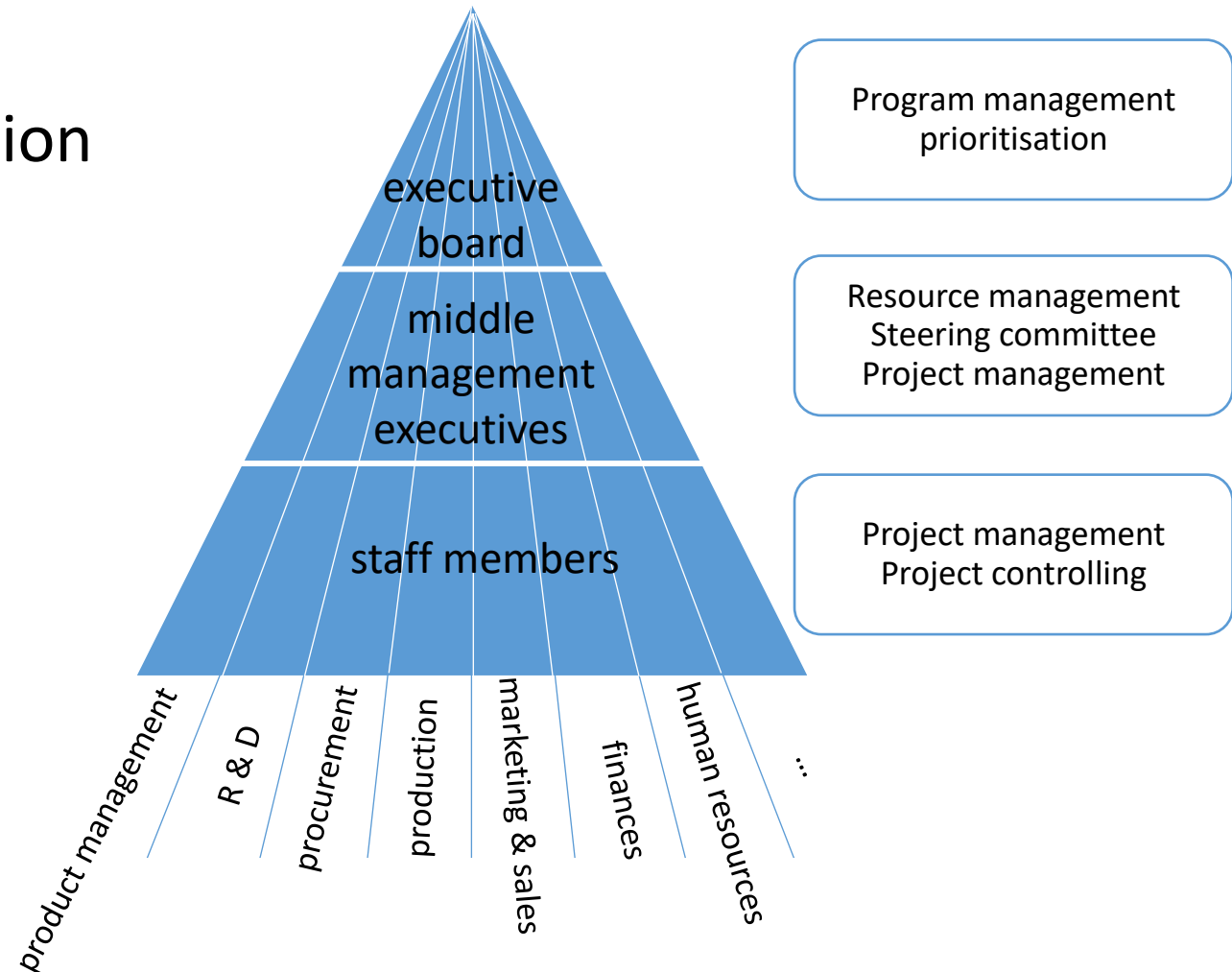
Evaluate the following projects

- Preparation of a bachelor thesis

- Selection and implementation of a new document management system at the Rosenheim Technical University of Applied Sciences

- Operation of the computer labs at the faculty of computer science

- Conception and offer of a learning workshop
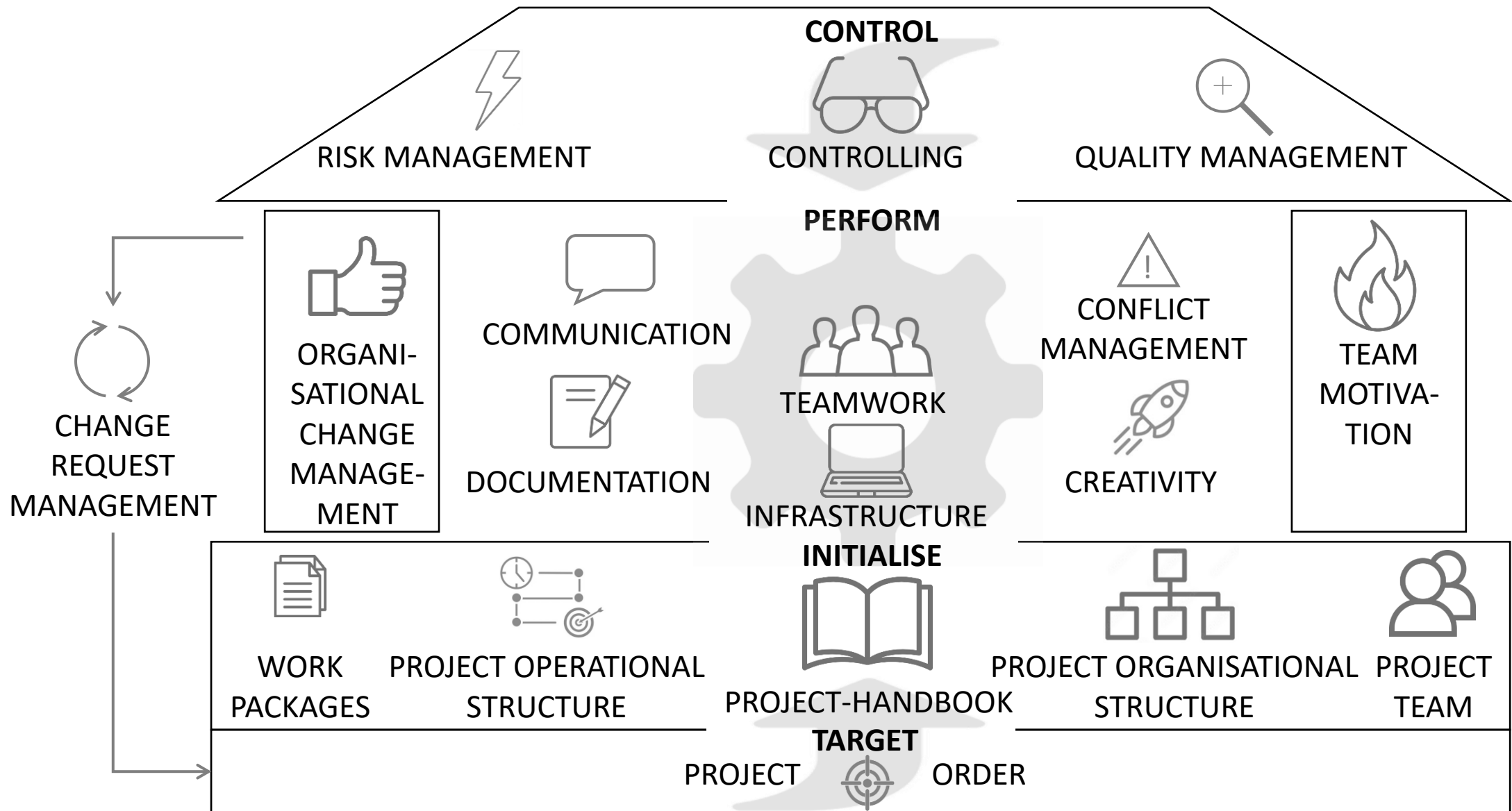
What is project management?

Project management - an extensive field of activity

- Generic term for all planning, monitoring, coordinating and controlling measures for project execution

- Penetrates the entire organisation
  - Project portfolio management
  - Program management
  - Project management

Program management
prioritisation

Resource management
Steering committee
Project management

Project management
Project controlling

executive board

middle management executives

staff members

product management

R & D

procurement

production

marketing & sales

finances

human resources

...

PM House - important areas of responsibility

Different Approaches

Traditional		Agile		Hybrid
plan-driven		vision counts		situational
compliant		feedback-driven		context-bound
Structured	**+**	flexible	**=**	colorful
constant		fast		variable
detailed		lean		complex
secure		open		mixed
monitored		free		diverse

Various process models in projects

conventional processes

Phase concept and plan-driven procedure

Examples:

Waterfall model, V-model

agile processes

Agile, nimble, process-oriented, reflexive, learning approach.

Examples:
Scrum, Kanban, Large Scale Scrum (LeSS), Scaled Agile Framework (SAFe®)

hybrid processes

Combination of both project management philosophies

Examples:

selected project phases or sub-projects are handled differently, different project management methods are combined

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Study: Distribution of project management approaches in practice

In what form do you use agile methods in your field of activity when carrying out and planning projects / development processes?
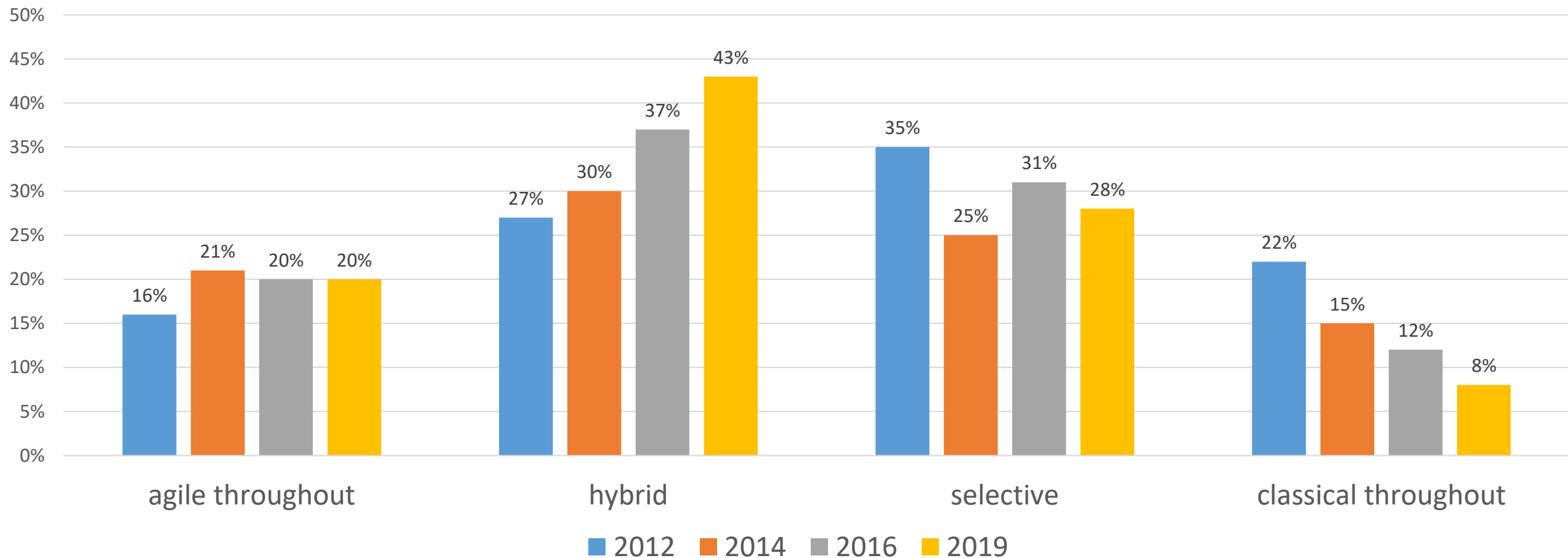
Single Choice
n = 642
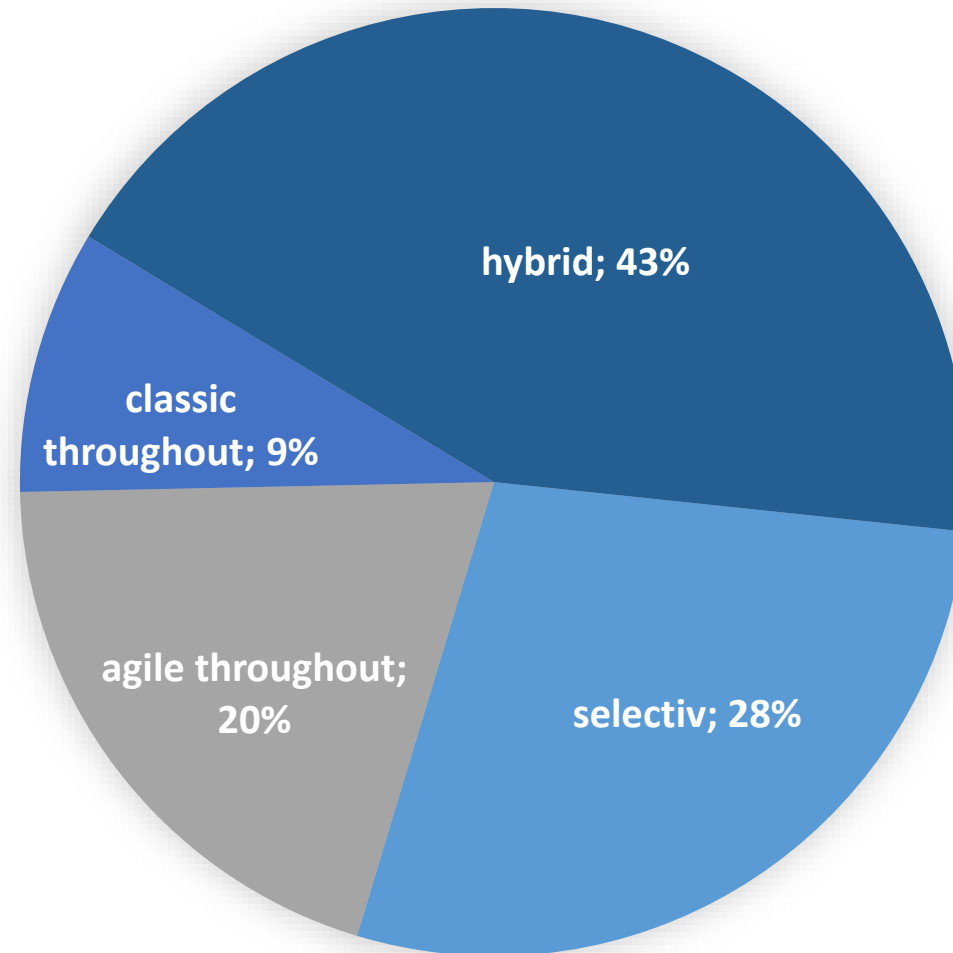
source: Abschlussbericht: Status Quo Agile 2019/2020

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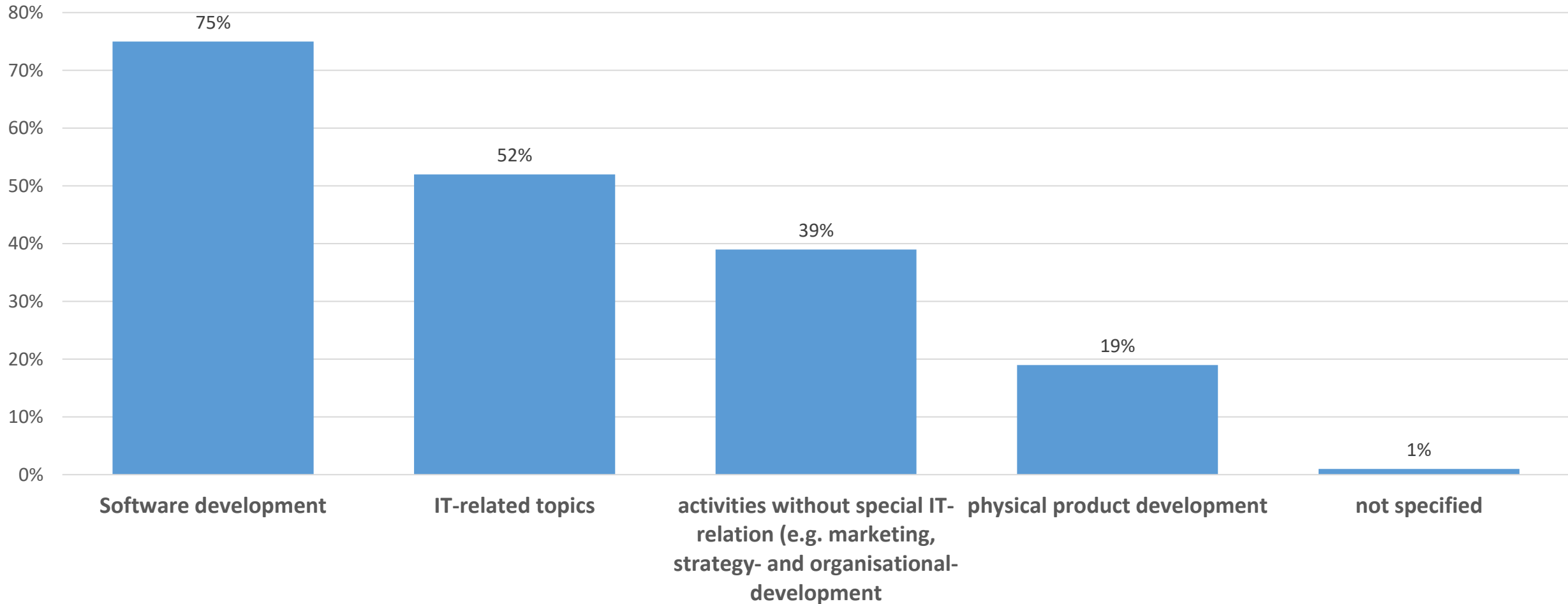Rosenheim
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Comparison of four study results

In what form do you use agile approaches in your field of activity in the execution and planning of projects/development processes?

Thematic areas of agile approaches

In which subject areas do you use agile approaches?

source: Ergebnisbericht: Status Quo (Scaled) Agile 2019/20, S. 16

Approaches in the agile context

What is the relevance of the following approaches to your area of activity?

Legend: very huge relevance | huge relevance | minor relevance | no relevance | not specified

Categories (top to bottom):
- Scrum (n = 106)
- Kanban ("IT-Kanban") (n = 104)
- DevOps (n = 105)
- Lean (n = 103)
- Feature Driven Development (n = 100)
- Design Thinking (n = 102)
- Extreme Programming (XP)* (n = 101)
- Lean Startup (n = 99)
- Theory U (n = 100)
- Effectuation (n = 100)
- Crystal (n = 102)
- Dynamic System Development Method (n = 100)
- Reframing (n = 97)
- Blue Ocean (n = 101)