MyCrystalBall
A versatile Game for Innovation and Foresight

Concept, elements and game mechanics

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Learning + Research = MyCrystalBall

Learning outcomes

- Being aware of emerging technologies
- Improve systems thinking and critical thinking concerning long-term developments
- Improvement of methodological skills
- Critical handling of our future
- Experience personal consequences
- Improve discussion skills
- Caring for our society

Research outcomes

- Acquiring insights about individual knowledge and attitudes
- Predicting the future based on qualitative assessments
- Exploring expected and alternative futures
- Advice for identifying disruptive trends and technologies
- Evaluation of impacts and mutual influences for shaping the future, especially by influencing decision makers

The target groups for the game are pupils, students, professionals and decision makers

Game elements

A KISS game (Keep It Small and Simple)

- Board with six main areas (see Appendix 1)
  - Politics, Technology, Education, Individual, Economy, Society
- If needed individual rule books for teacher and participants (To be made by you!)
- Team cards (to build expert teams for each area)
- Sand clock (for time pressure)
- Chips for impact voting (first round 18 each group, second round 15 each group)

- Cards (develop your own set and extend it step by step)
  - I-cards = Innovation idea cards (for first impact on areas of inner circle)
  - E-cards = Event cards (something happens -> Consequences?)
  - S-cards = Strategy cards (improve the discussion -> think about strategies)
- Excel sheet for impact analysis and debriefing (as download with this presentation)
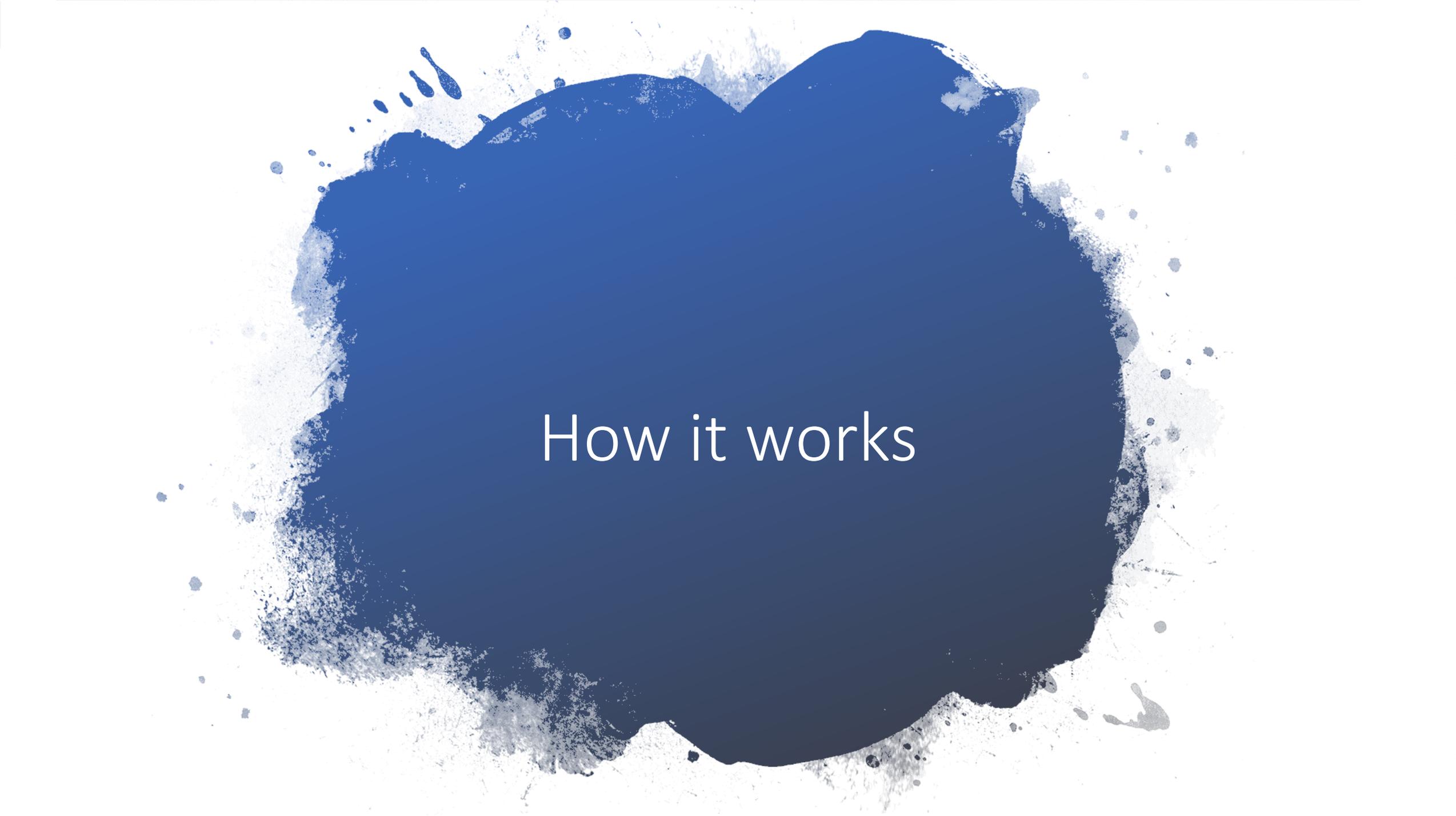
How it works

Foresight Framework of MyCrystalBall

Phase 1

Understanding the Past

Understand what´s been done before

Exchange of different backgrounds and perspectives through a diverse group of people involved in the game

Establish a shared understanding for further collaborative work

Knowledge

Phase 2

Discover the innovation potential

Create understanding about the presented idea

Inspire to think in opportunities

Building **empathy** for wants and needs in each area

Ideate opportunities that could be created today and in the future

Comprehension

Phase 3

Solution paths to innovation

Mental **prototypes** of prospective solutions (products, services etc.)

Create understanding about requirements to realize the desired future/ vision

Interdisciplinary discussion across all areas about constraints or obstacles

Analysis & Evaluation

The framework integrates **Design Thinking** principles without building real prototypes

Includes action-oriented learning

Inform — What is it about? What should be done? — Phase 1 | 2

Plan — How can it be implemented? — Phase 2

Decide — Choosing a solution — Phase 3

Execute — mental prototypes, no real implementation

Check — What is the quality of the solution? — Phase 3

Evaluate — What can be improved? — Phase 3
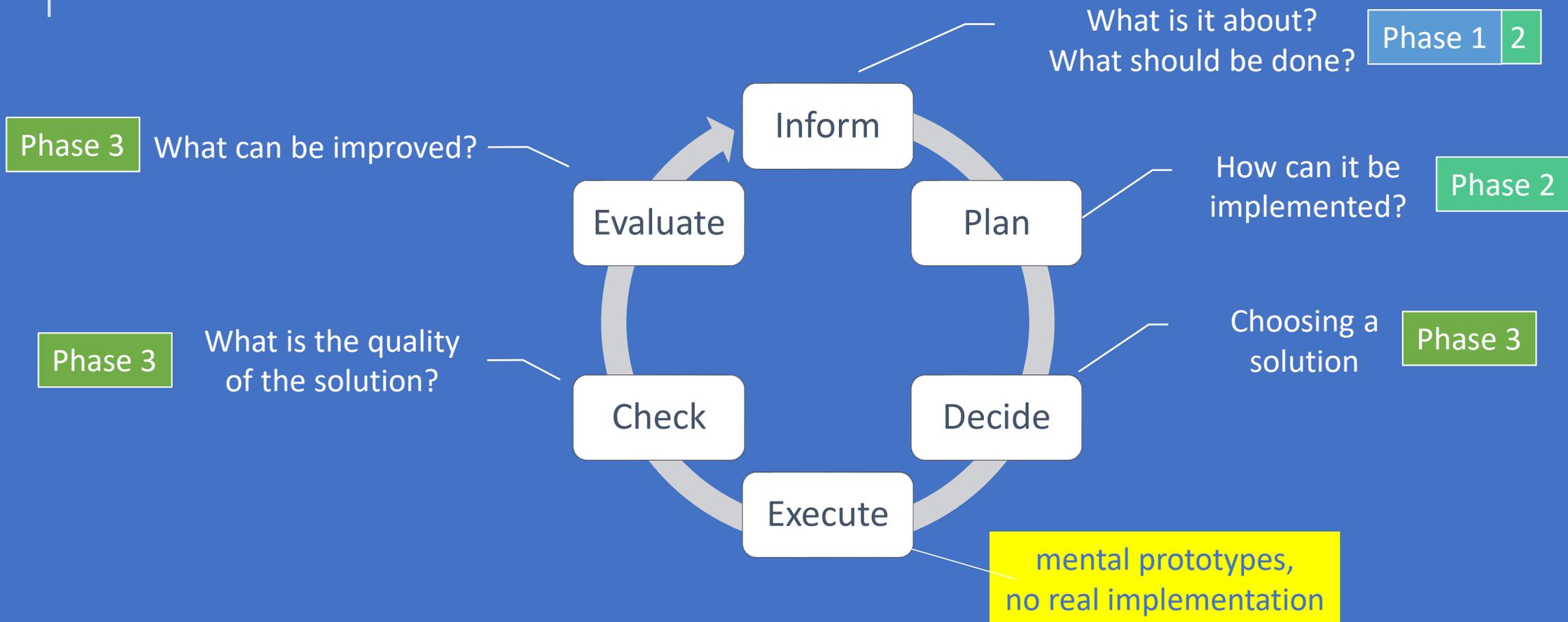
Learning activities are aligned with the „Complete Action Loop"

Possible Methods in MyCrystalBall

Phase 1

Understanding the Past

- Brainstorming
- Mind Mapping
- Historical Timelines
- Progression curves
- Janus Cones
- Milieu studies
- …

Phase 2

Discover the innovation potential

- "Voice of the customer" exercises
- Need finding
- Storytelling
- Use cases
- Role-Playing
- …

Phase 3

Solution paths to innovation

- BCG-Matrix
- Blue Ocean Strategy
- Backcasting
- Strategic inflection points
- Vision & Mission Statements
- Wayfinding
- …

The used methods depend on aim, time constraints and addressees of the game

Wide application needs simple rules

- Round based game

- 6 to 18 Persons divided into 6 expert teams (self-chosen or random)

- First round
  - Drawing an I-card
  - Joint foresight for all areas
  - Voting about the impact on different areas (placing coins on inner circle)
 - Impact: 0 coins (nothing) to 3 coins (high)

- Second round
  - Each expert team foresights the impact of their area to the other areas (outer circle)
  - The expert team votes for the outer circle of their area of expertise

- Third round
  - Each team of experts presents their results
  - Joint discussion with the other experts
  - Changes in impact by special vote of experts are allowed (adjusting the amount of coins)

- Debriefing with impact analysis and final joint discussion

one more

finish

The game board, rule books and a set of basic cards will be available for download.

Conducting Lab-Experiments with different addressees and stakeholders

Events and Strategies

Extended Scenario

First round

Basic
- Drawing an I-card
- Joint foresight for all areas
- Voting about the impact on different areas (placing coins on inner circle)
- Impact: 0 coins (nothing) to 3 coins (high)

Extension I
- Drawing one E-card
  - Joint discussion about the impact on
    - the innovation itself and
    - the different areas (inner circle)
- and/or drawing one S-card
  - Joint discussion for all areas about the application of the mentioned strategy

Second round

Basic
- Each expert team foresights the impact of their area to the other areas (outer circle)
- The expert team votes for the outer circle of their area of expertise

Extension II
- Drawing one E-card
- Discussion in each team about the impact on
  - their area of expertise (inner circle) and
  - the different following areas (outer circle)
- and/or drawing one S-card
  - Team discussion about the application of the mentioned strategy for the own area of expertise

An extension is appropriate, if you want to look more deeply into an innovation.

Examples for innovative Ideas (I-cards)

It all begins with a great idea

- Augmented reality goes mainstream.

- Phygital (physical & digital) Marketing is integrated into real-life experiences.

- The use of natural language bots will expand.

- Voice recognition assistant systems will continue to spread.

- Natural language processing is implemented in schools.

- Augmented Reality Gaming will reach the working place.

- Blockchain designs contracts autonomously

- Artificial Intelligence (AI) supports individual learning.

- Open business platforms will increase further.

- Work productivity will be increased by machine learning and intelligent automation.

- Crowdfunding becomes a common method of student financing.

- Building construction will be done by autonomous robots.

- Vehicles will only drive with water.

Joint discussion about an innovative idea. Sharpening the direction of future innovation.

Examples for Events
(E-cards)

Evaluate and consider emerging changes

↗ The creation of new companies is financially supported even more.

↘ Government issues stricter privacy policy.

- xxxx
- xxxx

↗ A new startup in Malaysia produces cheaper battery packs.

↗ Wifi is available all over the world.

- xxxx
- xxxx

- xxxx
- xxxx

- xxxx
- xxxx

Changes are mainly focused on prospective actions influencing upcoming innovations
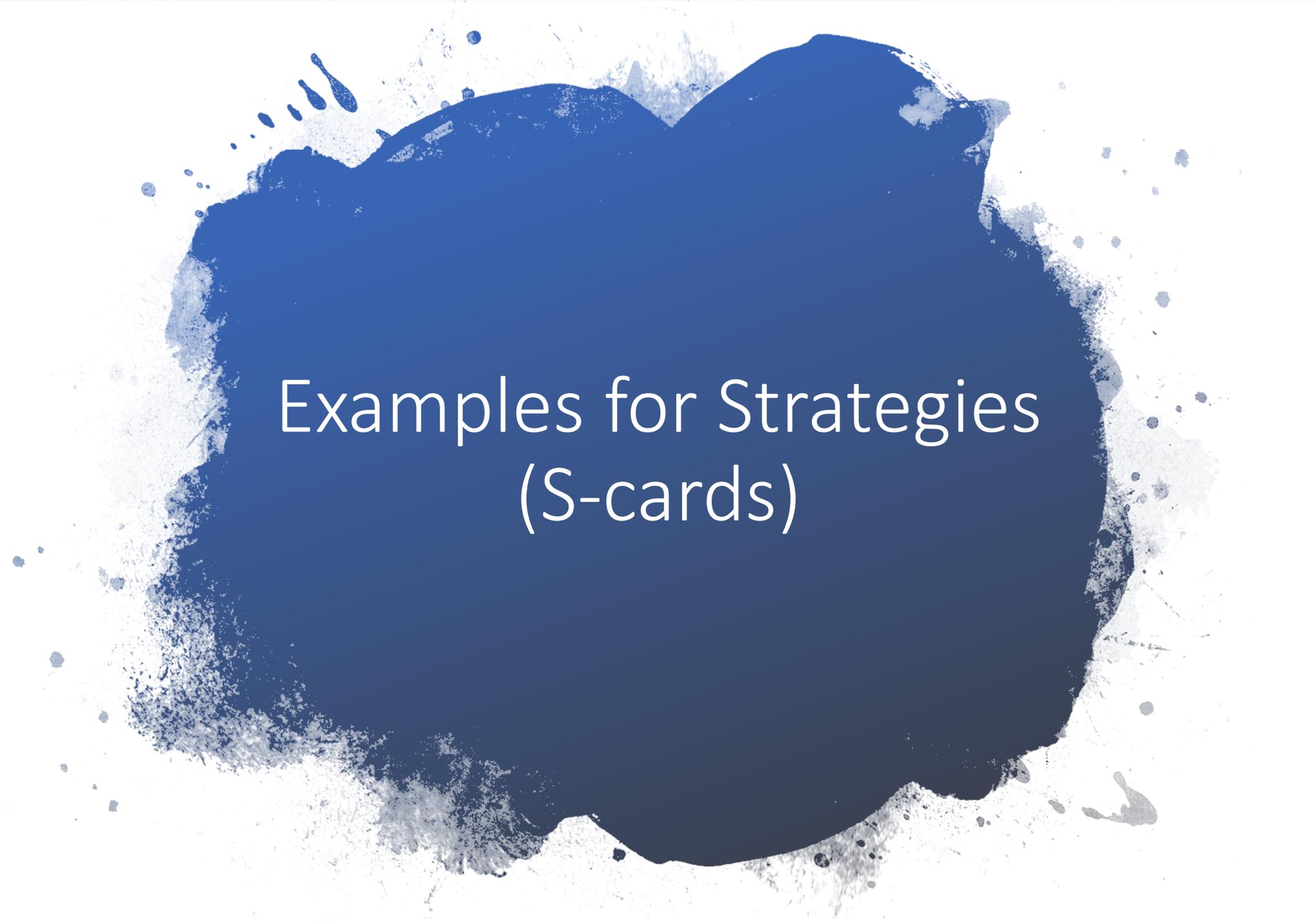
Examples for Strategies
(S-cards)

Thinking about innovation strategies
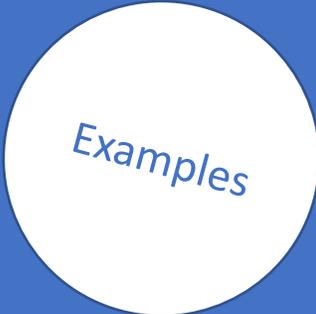
Examples

- Proactive
  - strong research orientation
  - first-mover advantage
  - technology market leader
- Active
  - defending existing technologies and markets
  - prepared to respond quickly once technologies are proven
  - broad sources of knowledge

- Reactive
  - following others
  - focus on operations
  - wait-and-see approach
  - looking for low-risk opportunities
  - copying proven innovation
- Passive
  - waiting until customers demand a change in products or services

The consideration of strategies depends on the target group and the purpose of the game

Game evaluation approach

Evaluation is twofold

Learning

Research

Depends on your aims!

- Pre-Test
  - xxx
  - xxx
- Process
  - xxx
  - xxx
- Post-Test
  - Xxx
  - xxx

- xxx
- xxx
- xxx

Evaluation of learning takes into account "Constructive Alignment"

Want to know more? Just drop me a line

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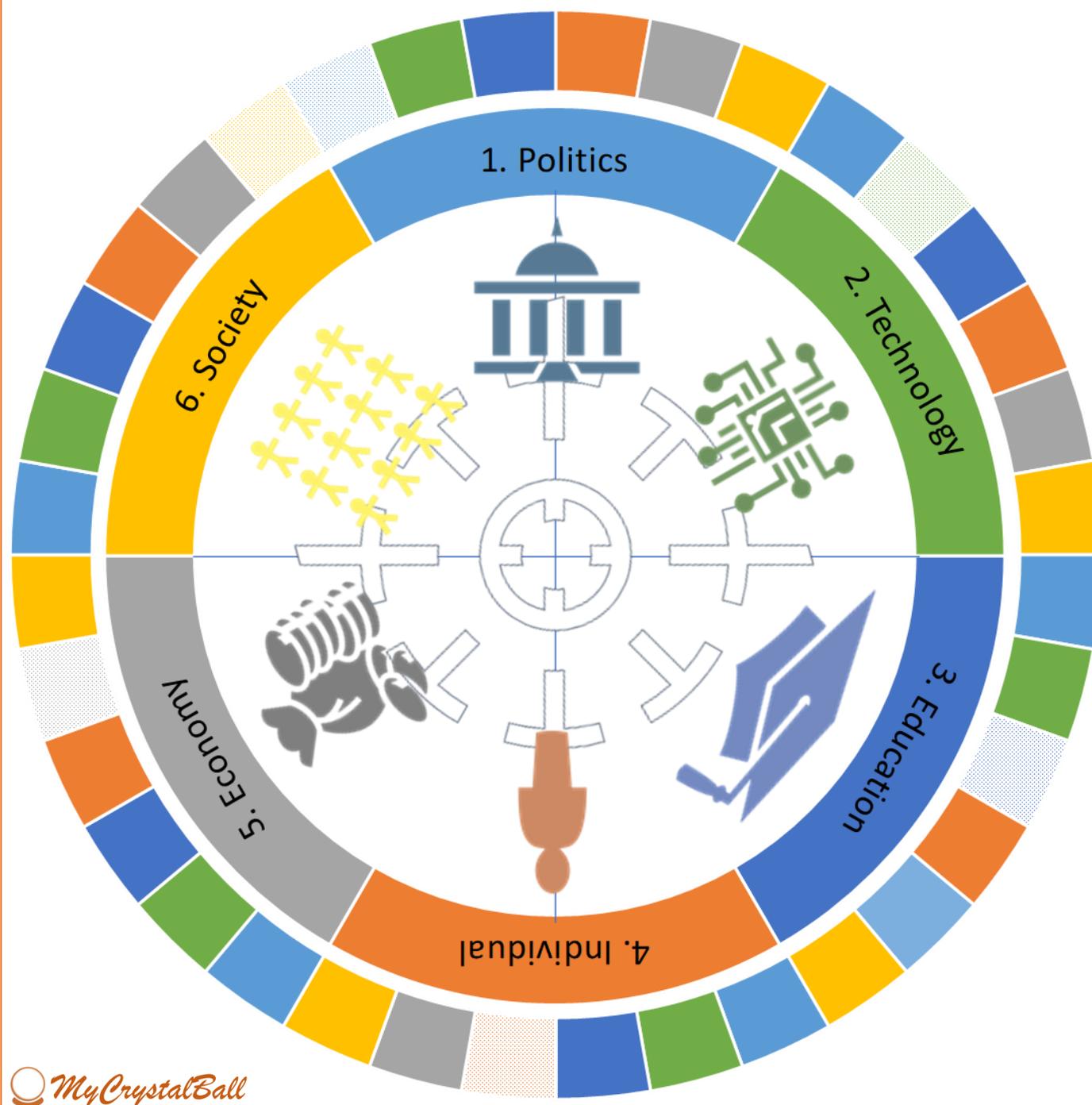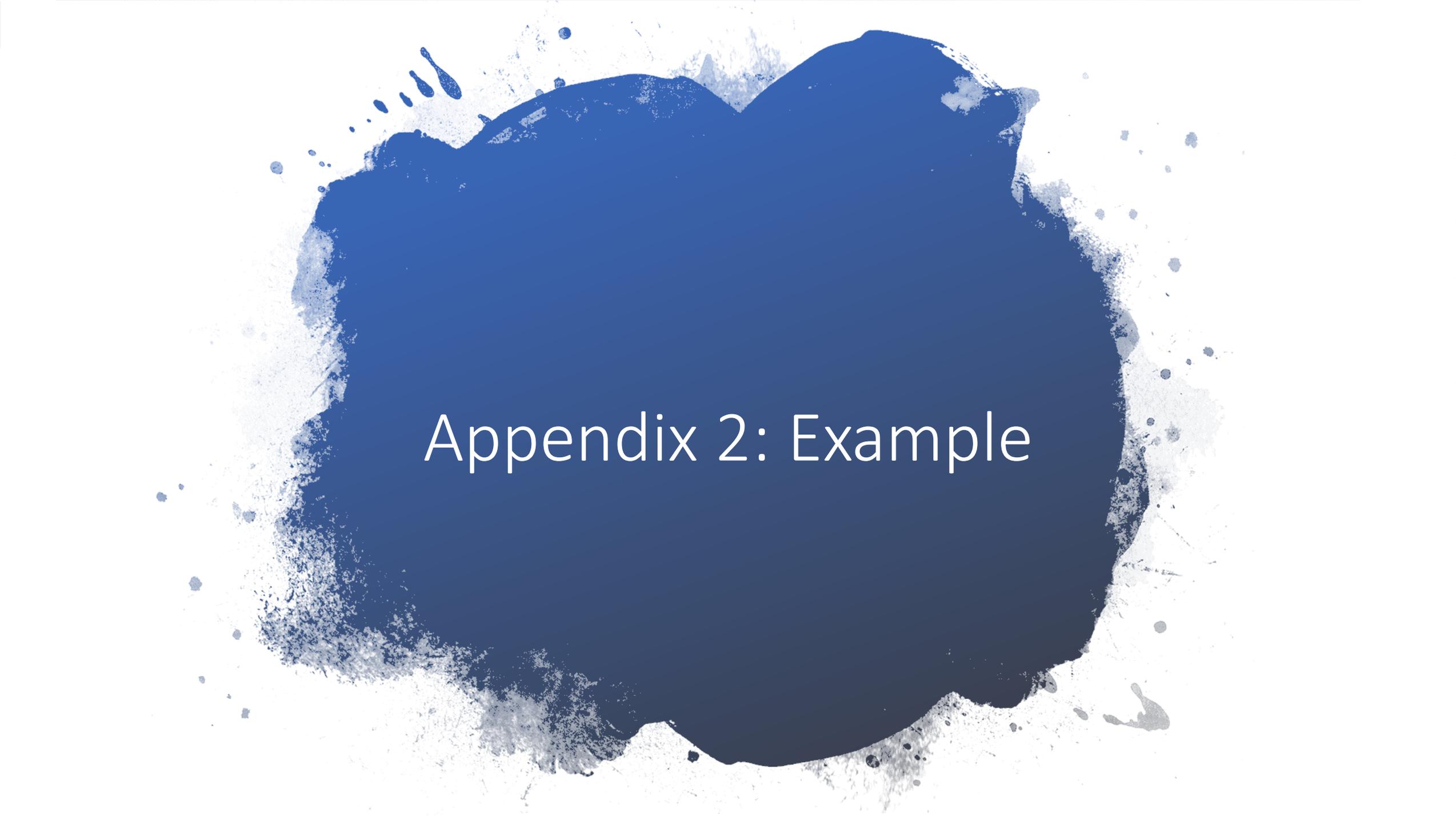
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Appendix 1: Game Board

Appendix 2: Example

Phase 1

Phase 1 – Step 1

- Form participants into six groups
- Introduce the innovative idea

The innovative idea

It all starts with an idea

The construction of buildings is carried out
only by autonomous robots.

Joint discussion about the innovative/ disruptive idea in order to derive future developments.

Phase 1 – Step 2

- Brainstorming (on blackboard)
  - Joint gathering of existing knowledge about the topic.

Phase 1 – Step 3

- Voting on the effects on the different areas (place coins in the inner circle)
- Impact: 0 coins (nothing) to 3 coins (high)
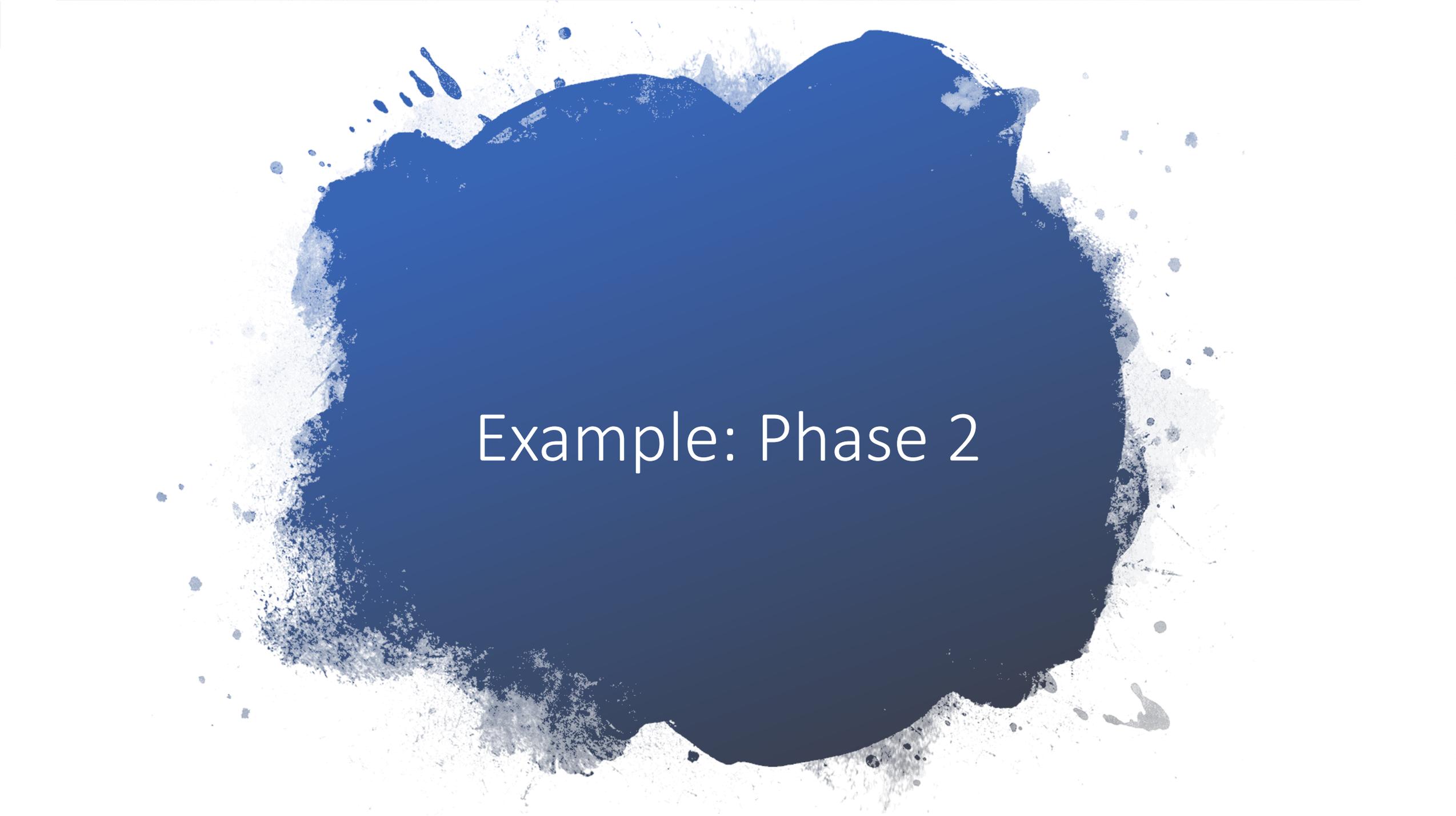
Example: Phase 2

# Phase 2 - Need finding
→ e.g. using Process mapping

- Focus on a specific user / role in your area.

- Understand the full customer / user experience in your field.

- Start with the first step of the experience you are considering (e.g. buying a house)

- Mentally go to the earliest stage of the process from the user / role point of view (e.g. thinking about owning a home or real estate as an investment, etc.).

- Go through each element of the process and record it on a map.

- Analyze your card: What happens at each of these stages? Why? How does it work? How are the individual levels dependent on each other? What opportunities do you identify?

# Phase 2 – Examples for Process Maps
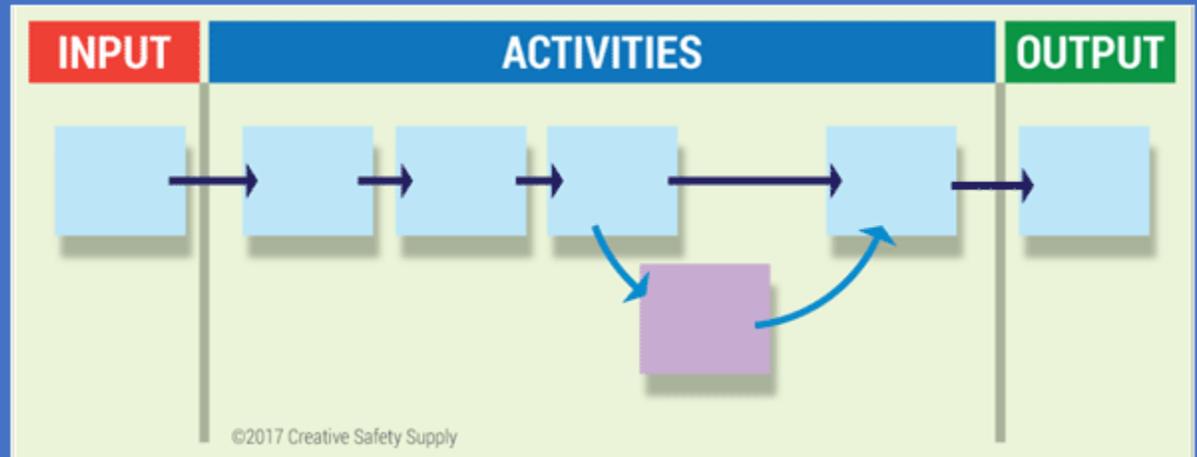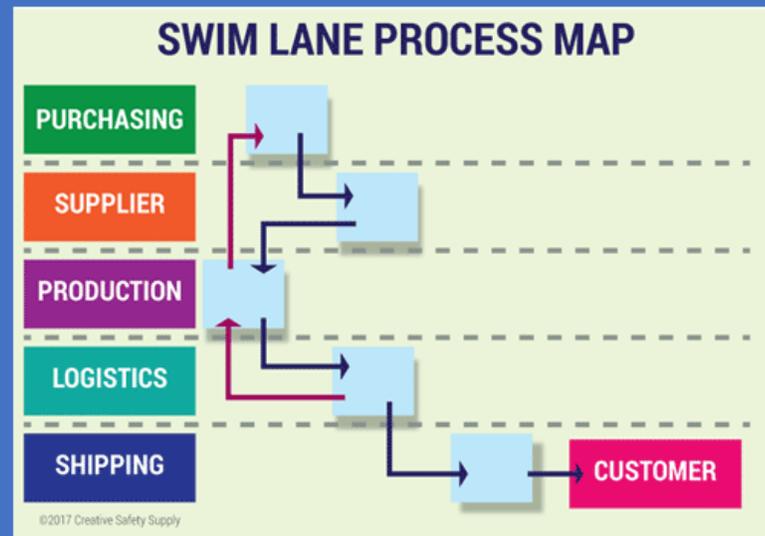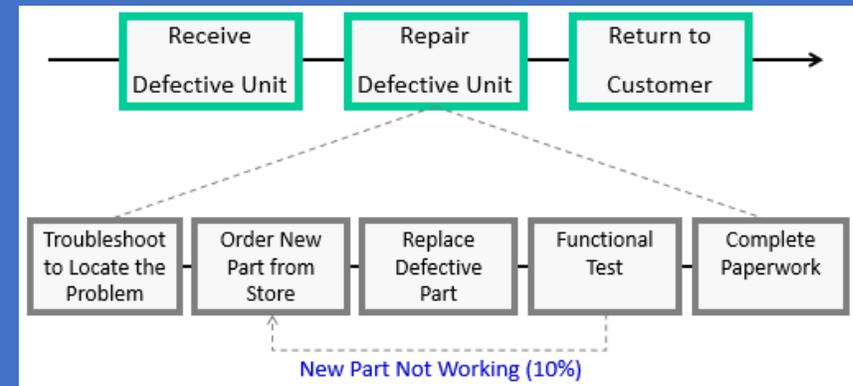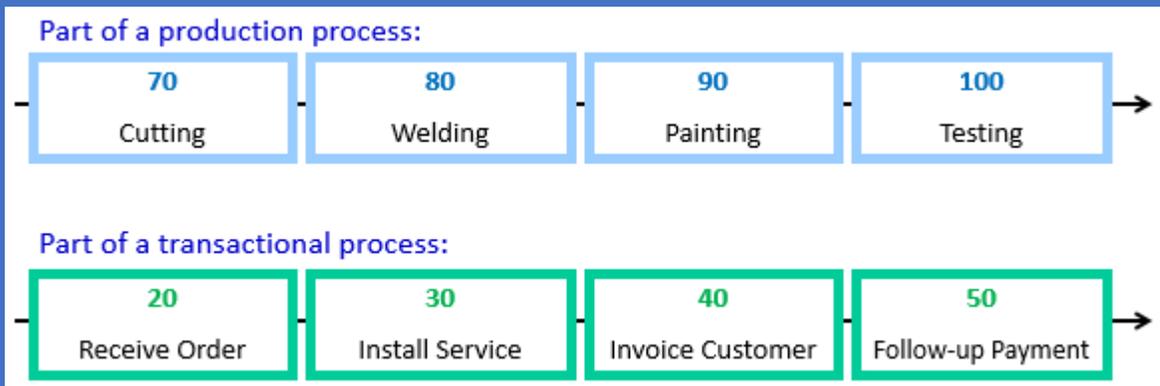
Phase 2 – Impact assessment

- On the basis of the process map, each team of experts predicts how their area could affect the other areas (outer circle).

- The team of experts votes for the outer circle of their specialist area.

- Impact: 0 coins (nothing) to 3 coins (high)
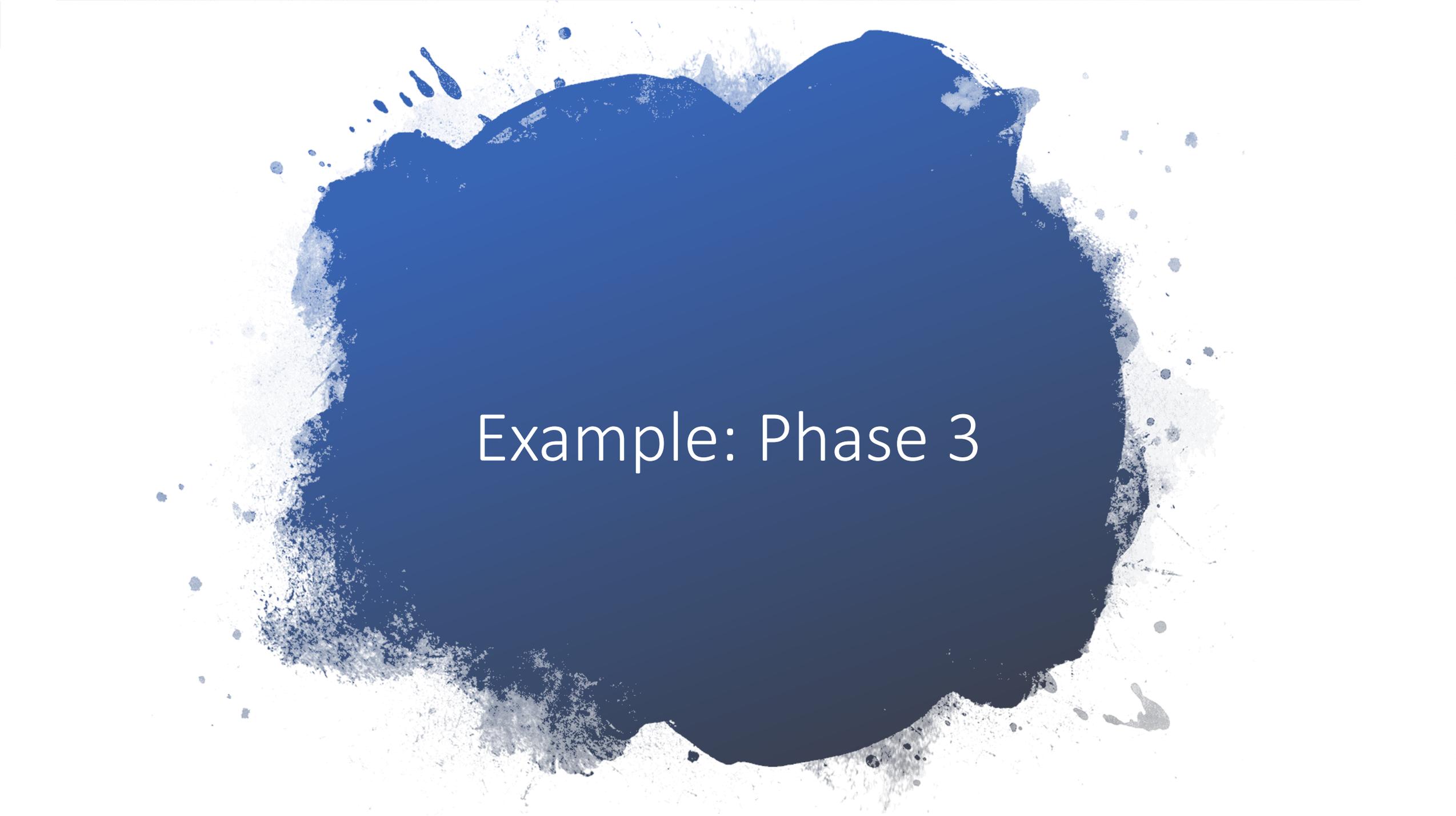
Example: Phase 3

Phase 3 – Step 1

- Vision & Mission Statements
  - Select at least one role in your group from the following people involved in the construction business:
    - Client,
    - Planners (architects and specialist engineers),
    - executing construction company,
    - Building materials supplier,
    - Construction management and supervision
    - Building permit authority,
    - Investor,
    - Users,
    - …

Phase 3 – Step 2

- Define a mission statement for the chosen role based on the results so far:

- Purpose and main objectives of the organization → "What" and "Who"

- Mission Statement focuses on "doing in the present" → The path we have chosen

What is in the mission statement?
- What are you doing today?
- Why are you doing this (with reference to vision)?
- Who are you doing this for
- What is the benefit of your actions?

What do you have to consider in your mission?
- Illustrate the values and purpose of your company.
- Describe the area in which you move and also your target or dialogue groups.
- Emphasize the responsibility you have for your target audience.
- Define your main goals.

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Phase 3 – Step 3

- Define a vision statement for the chosen role based on the results so far:
- Define the organization's values → "Why" and "How".
- The vision statement paints the "picture for the future". → The future (big) goal

What is in the vision statement?
- Where and what do you want to stand for in the future?
- How do you want to stand there?
- What do you want to do there?
- When do you want to be there?

What things do you need to consider when formulating your vision?
- Be positive, lively, clear, and reachable.
- Write clearly and with as little interpretation as possible.
- Clearly show your values / the values of your company.
- Include a period of time or a point in time.

Phase 3 – Step 4

- Presentation of the results per group.

- Each team of experts presents its results.

- Joint discussion with the other experts.

- Changes to the effect through special votes by experts are permitted (adjustment of the amount of coins)

Debriefing with impact analysis and final joint discussion

- Impact analysis using an Excel tool

- Closing discussion

- Evaluation of the event