

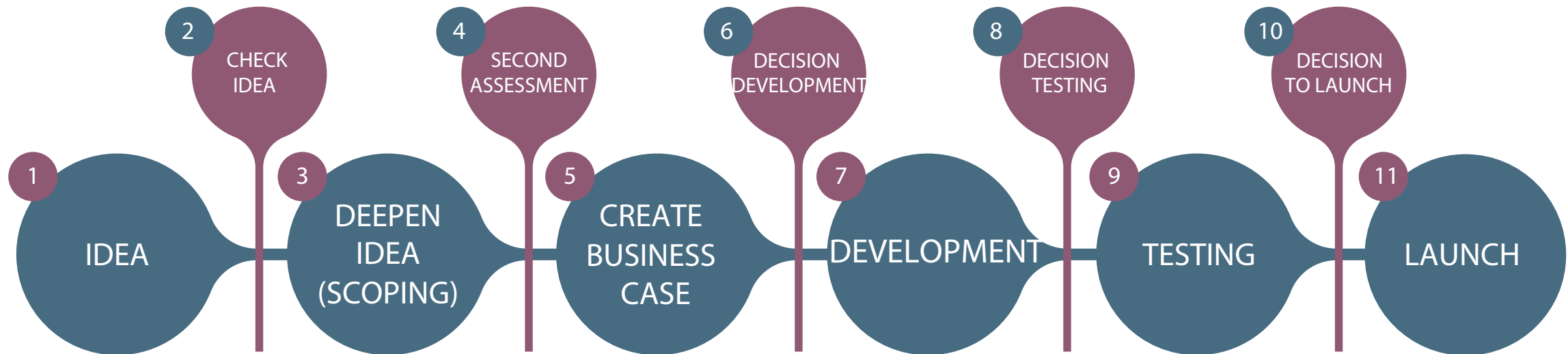
4 INNOVATION PROCESSES IN A NUTSHELL

Stage-Gate® Process
Design Thinking
Lean Startup
Scrum

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The Stage-Gate® Process in a Nutshell



Duration of one session:

6 - 36 months

Number of iterations:

After one iteration the project is finished

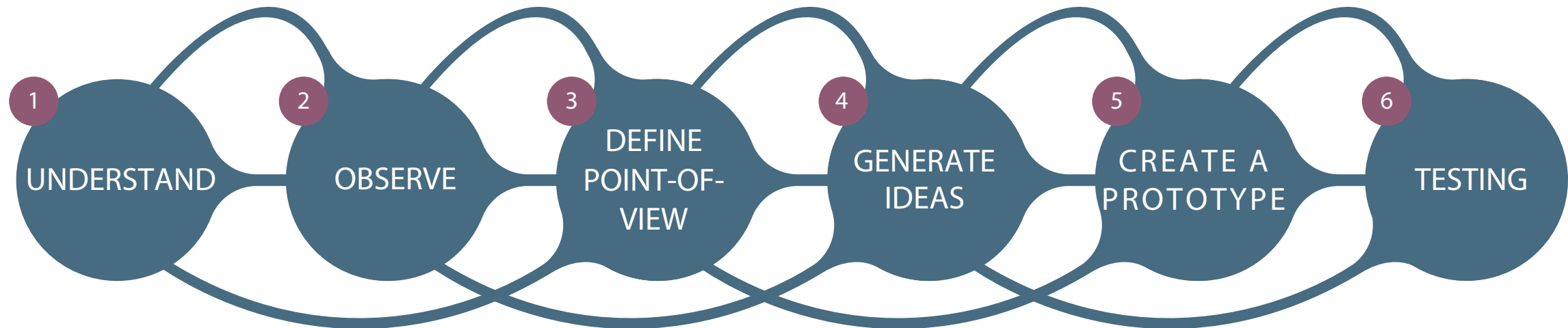
Roles:

Idea generator, gatekeeper (supervisor, management, interdisciplinary project team)

Stage-Gate® is a protected EU trademark of the Innovation Management U3 and Product Development Institute Inc. and was developed by Robert G. Cooper.

In the Stage-Gate process, different phases of innovation are strung together. The project team can only start a new phase after the gatekeepers have given the green light. In the gates, the preceding phase (Stage) is evaluated according to transparently defined criteria. The idea behind the stage-gate process is to check an idea in the early project phase for its technical and economic feasibility before investing a lot of money and time in its development. A major difficulty of this approach is the frequent fact that many technically and economically feasible ideas are developed far from the customer's needs.

1. Idea provider describes the idea in a (often one-page) document
2. Gatekeepers (in this early phase often superiors of different departments) roughly assess the idea with a scale of points in different strategic points
3. With green light by the gatekeeper the idea giver is requested to collect further information concerning the idea: Market size, similar ideas, feasibility, rough cost estimate etc.
4. The same gatekeepers as in step 2 now decide whether the investment of more time and money in this idea is worthwhile
5. Idea giver creates a business case (simple business plan) and a project plan together with the future project manager of this project
6. This possibly most important decision on whether the idea should be implemented is often taken by members of the management. This often involves large investment sums.
7. The longest phase: the project team implements the idea
8. Gatekeepers decide whether a test – and thus a first revelation to the public – should be carried out
9. Testing the innovation in a closed circle of potential customers
10. Gatekeepers use test results to decide on a market launch
11. The innovation is introduced to the market with marketing campaigns



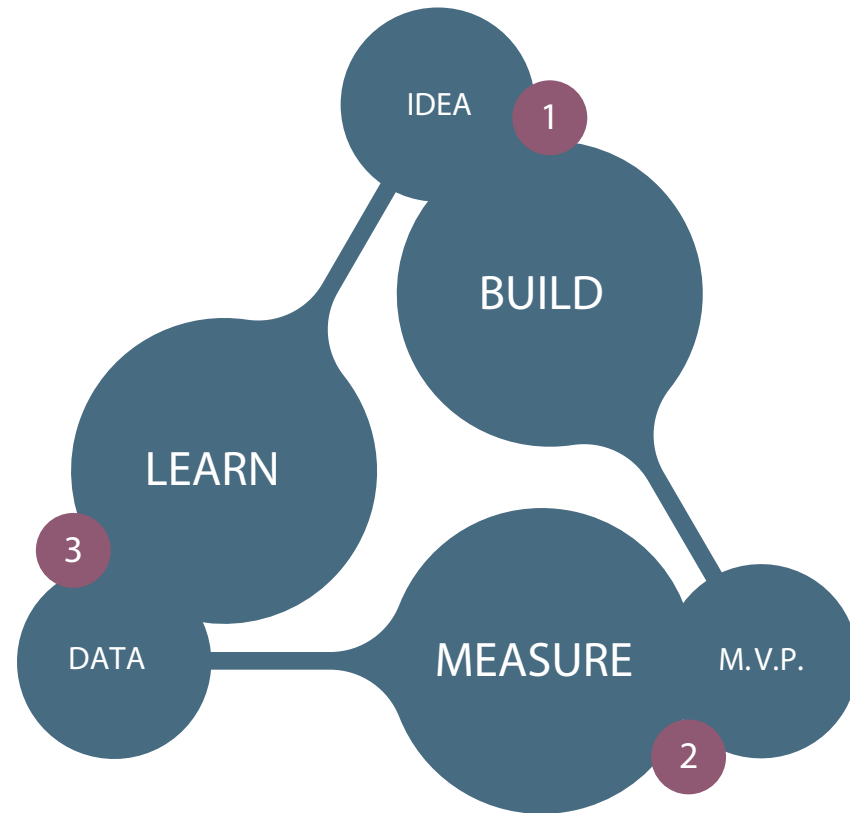
Duration of one session: 1 - 12 weeks
Number of iterations: 3 - 6, followed by the long development phase
Roles: Interdisciplinary project team, potential customers/users

Although more in the context of architecture and engineering, early insights and references to Design Thinking go back to the 1950s and 1960s, when the rapidly changing environment of that time was being addressed. Design Thinking finally became really popular through the design and innovation agency IDEO from Silicon Valley, among others. Since 2005 Design Thinking has been taught in the so-called „d.school“ at Stanford University.

In Design Thinking, the composition of an interdisciplinary project team and the physical creative space in which innovation takes place are almost as important as the six-step process itself. The idea behind Design Thinking is to tailor innovative solutions to the needs of users and therefore to work closely with potential users from the very beginning. Unlike the stage-gate process, there is no finished solution at the end of a process run. The process is repeated several times and there is often a jump back and forth between the individual process steps. This jumpy process is called „iterative“ and „agile“.

1. The project team does its utmost to become „instant experts“ as quickly as possible. They do this by interviewing experts, doing research on the Internet, and searching not only for the „What?“ and „How?“, but understanding the „Why?“ The findings are visualized and shared with the whole team.
2. Empathy with the user is the goal here. Using various methods, including anthropological methods, the team gains a deep understanding of the target group. Be it with observations, interviews or the so-called „shadowing“, in which a person is accompanied like a shadow in his or her everyday life, the team collects information and then develops a persona (fictitious person who is representative for the whole target group).
3. The team distills the actual needs of the target group with the insights gained and formulates a problem question.
4. The team searches widely for solutions to this question. Different creativity methods help to think completely new.
5. With the simplest of means such as paper, cardboard, aluminium foil or Role play makes the best ideas „understandable“.
6. These prototypes are tested with potential users.

Lean Startup in a Nutshell



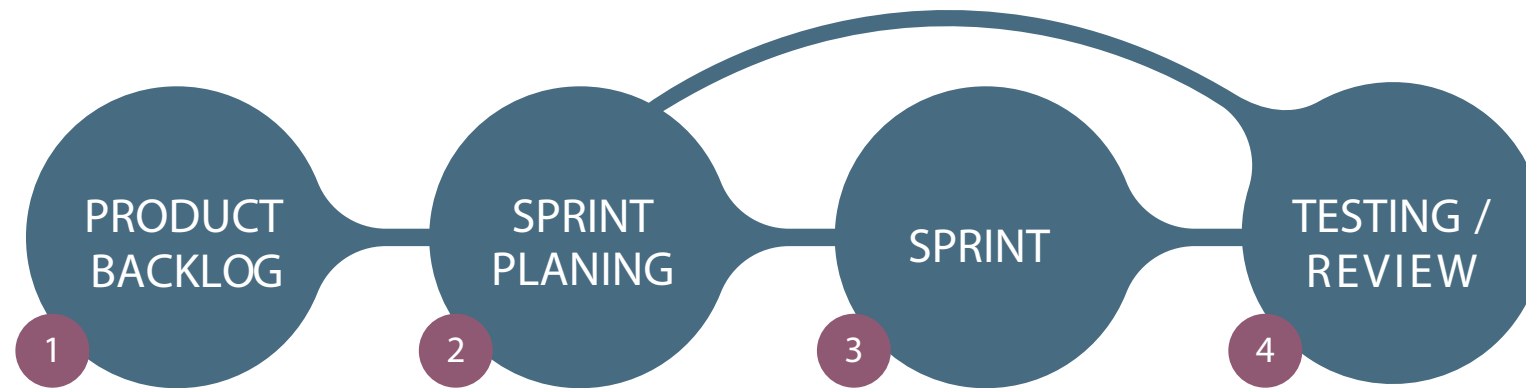
Duration of one session:	1 - 12 weeks
Number of iterations:	at least 3, but open at the top
Roles:	Interdisciplinary project team, real customers

Lean Startup was developed by the American investor Steve Blank, further developed by his former student Eric Ries and made famous in 2011 by Ries' book of the same name.

Like Design Thinking, the Lean Startup process is iterative, i.e. repetitive. Similar to Design Thinking, Lean Startup is about avoiding developing and marketing an innovation that has no market acceptance. However, unlike design thinking, lean startup is not about finding a new type of solution that meets the customer's needs, but about continuously fine-tuning, adapting or fundamentally changing

it with the help of data. A central element of Lean Startup is the M.V.P. (Minimum Viable Product). The M.V.P. is not a prototype, but a finished product or a service offered. Only this product or service is reduced to the absolute minimum. No additional features, no „we-can-do-yet“, no complex software connections or product refinements. The co-founder of LinkedIn, Reid Hoffman, once aptly said: „If you are not ashamed of the first version of your product, then you have launched too late“. After each process step, this minimal product can then be further developed step by step. Thus, only those functions and additions that are really appreciated by the customers become part of the product.

1. The project team first visualizes the business model behind the new idea. Since every forecast is based on assumptions, it is next essential to determine which assumptions must be absolutely correct in order for this business model to work. The two most important assumptions are: „We know who our target group is“ and „Our product solved a problem relevant to this target group“. If either the target group is wrong or the addressed problem is not of great relevance to the target group, the entire business model is in danger of failing. The project team then builds the minimally functional product with as few resources as possible and determines which measurement data can be used to verify the important assumptions.
2. The product is offered specifically to the defined target group. After a short period of time, interviews are conducted with individual potential customers on the benefits and value of the product.
3. The data from the product sales (e.g. reached persons vs. number of prospective customers vs. number of buyers) and from the interviews are evaluated and lessons are drawn. These results show either which enhancements are next, which corrections need to be made or – in the worst case – whether a complete change (so-called „pivoting“) is appropriate. The goal of Lean Startup is to make each cycle faster than the previous one.



Duration of one session (sprint): 2 - 4 weeks

Number of iterations (sprints): 10 - 20, then the product is finished

Roles: Product Owner, Scrum Master, Team

Scrum is probably the oldest of the known agile innovation processes. It has its origin in software development and was first discussed in a conference paper in 1995.

Scrum is based on few but firmly defined rules. These define the so-called artifacts, the activities, and three roles and make the process appear very institutionalized. An artifact is for example the product backlog (a list of prioritized requirements of the project). The project initiator or client has the role of Product Owner and is crucial at the beginning and end of each process run. The project leader is called Scrum Master and makes sure that the general conditions for the team are right, that the deadlines are met and acts as a trouble shooter when the team has a large workload. In Scrum, the client defines at the beginning which functions the result must have and the team implements these in sub-packages ready for use.

1. The product backlog is a list of all requirements for the product and is maintained by the product owner. The requirements are not formulated technically, but user-oriented. For this purpose, they are often recorded and prioritized as small stories, so-called user stories. In contrast to the classic requirements specification, the product backlog is dynamic and is constantly being developed.
2. Here it is all about answering the questions of what can be developed in the next sprint and how these tasks are to be completed. For the first question the Product Owner is present, for the second question the Scrum Master only discusses with the team.
3. The entire sprint is made up of daily sprints. The Scrum Master and the team meet at the beginning of each day for a 15-minute „Stand-up Meeting“ in which each person tells what they did the day before and what they intend to do on that day.
4. At the end of a sprint the team presents the results to the Product Owner (and possibly other stakeholders). In this test it is decided which requirements have been met and which have to be addressed again in a new sprint.