

The Scrum Guide—Reordered

By Stefan Wolpers

Based on the 2017 US-Version of the Scrum Guide
Version 1.03



Introduction

The Scrum Guide—Reordered resulted from my preparation to pass Scrum.org’s [Professional Scrum Master III certification](#).

It is based on about 90 percent of the text of the 2017 Scrum Guide, extending its original structure by adding an extended categorization. For example, you will find all quotes that can be attributed to the role of the Scrum Master in one place. While the Scrum Guide is mainly focused on the three roles, five events, and three artifacts, I aggregated quotes on specific topics as well, for example, on self-organization, finance or technical debt.

The Scrum Guide—Reordered allows you to get a first understanding of Scrum-related questions quickly. For example, it is good at relating a specific topics — say “stakeholder” — with Scrum first principles such as Scrum Values, or empiricism.

While the Scrum Guide—Reordered does not answer all questions you might have immediately, I found it very helpful to identify the patterns and principles used throughout the Scrum Guide. Moreover, it is a great tool to start meaningful discussions with your peers. If you like to give it a try, I recommend, for example, the issue of [technical debt and Scrum](#).



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Content

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Part I: Scrum Team, Roles

Introduction to Scrum

- 4 Scrum (n): A [process] framework within which people can address complex adaptive problems, while productively and creatively delivering products of the highest possible value.
- 4 The essence of Scrum is a small team of people. The individual team is highly flexible and adaptive.
- 4 Scrum employs an iterative, incremental approach to optimize predictability and control risk.

Scrum Team

- 4 The essence of Scrum is a small team of people. The individual team is highly flexible and adaptive.
- 6 The Scrum Team consists of a Product Owner, the Development Team, and a Scrum Master.
- 6 Scrum Teams are self-organizing and cross-functional.
- 6 Self-organizing teams choose how to best accomplish their work, rather than being directed by others outside the team.
- 6 Cross-functional teams have all the competencies needed to accomplish the work without depending on others not part of the team.
- 6 The team model in Scrum is designed to optimize flexibility, creativity, and productivity.
- 6 Scrum Teams deliver product iteratively and incrementally, maximizing the opportunity for feedback.
- 6 Incremental delivery of “Done” products ensures a potentially useful version of working product is always available.
- 7 The Scrum Master is a servant-leader for the Scrum Team.
- 7 The Product Owner and Scrum Master roles are not included in this count [of team size] unless they are also executing the work of the Sprint Backlog.



- 7 Fewer than three Development Team members decrease interaction and results in smaller productivity gains. Smaller Development Teams may encounter skill constraints during the Sprint.
- 7 Having more than nine members requires too much coordination. Large Development Teams create too much complexity for an empirical process to be useful.
- 8 SM services to the Organization: Causing change that increases the productivity of the Scrum Team.
- 9 Each sprint maybe considered as a project with no more than a one-month horizon.
- 10 The work to be performed in the Sprint is planned at the Sprint Planning. This plan is created by the collaborative work of the entire Scrum Team.
- 11 During the Sprint Planning the Scrum Team also crafts a Sprint Goal.
- 13 During the Sprint Review, the Scrum Team and the stakeholders collaborate about what was done in the Sprint.
- 14 The Sprint Retrospective in an opportunity for the Scrum Team to inspect itself and create a plan for improvements to be enacted during the next Sprint.
- 14 The purpose of the Sprint Retrospective is to: inspect how the Scrum Team went with regard to people, relationships, process, and tools.
- 14 The Scrum Master encourages the Scrum Team to improve, within the Scrum process framework, its development process and practices to make it more efficient and enjoyable for the next Sprint.
- 14 During each Sprint Retrospective, the Scrum Team plans ways to increase product quality by improving work processes or adapting the definition of “Done”, if appropriate and not in conflict with product or organizational standards.
- 15 The Scrum Team decides, how and when the refinement is done. [Product Backlog] Refinement usually consumes no more than 10% of the capacity of the Development Team.
- 17 At the end of a Sprint, a new Increment must be “Done,” which means it must be in a usable condition and meet the Scrum Team’s definition of “Done.”
- 17 The Scrum Master’s job is to work with the Scrum Team and the organization to increase the transparency of the artifacts. Transparency does not occur overnight, but it is a path.
- 18 The purpose of each Sprint is to deliver Increments of potentially releasable functionality that adhere to the Scrum Team’s definition of “Done.”
- 18 If there are multiple Scrum Teams working on the system or product release, the Development Teams of all Scrum Teams must mutually define the definition of “Done.”



Product Owner

- 6 The Product Owner is responsible for maximizing the value of the product resulting from work of the Development Team.
- 6 The Product Owner is the sole person responsible for managing the Product Backlog.
- 6 Product Backlog management includes: Clearly expressing Product Backlog items.
- 6 Product Backlog management includes: Ordering the items in the Product Backlog to best achieve goals and missions.
- 6 Product Backlog management includes: Optimizing the value of the work the Development Team performs.
- 6 Product Backlog management includes: Ensuring the Product Backlog is visible, transparent, and clear to all, and shows what the Scrum Team will work on next.
- 6 Product Backlog management includes: Ensuring the Development Team understands items in the Product Backlog to the level needed.
- 6 The Product Owner may do the above work, or have the Development Team do it.
- 6 The Product Owner is one person, not a committee. The Product Owner may represent the desires of a committee in the Product Backlog [...].
- 6 ...but those wanting to change a Product Backlog item's priority must address the Product Owner.
- 6 For a Product Owner to succeed, the entire organization must respect his or her decisions. The Product Owner's decisions are visible in the content and the ordering of the Product Backlog.
- 6 No one can force the Development Team to work from a different set of requirements [than the Product Backlog].
- 7 The Product Owner and Scrum Master roles are not included in this count [of team size] unless they are also executing the work of the Sprint Backlog.
- 9 During the Sprint: Scope may be clarified and re-negotiated between the Product Owner and Development Team as more is learned.
- 10 A Sprint can be canceled before the time-box is over. Only the Product Owner has the authority to cancel a Sprint.
- 10 [Sprint cancellation] If part of the work is potentially releasable, the Product Owner typically accepts it.
- 10 The Product Owner discusses the objective that the Sprint should achieve and the Product Backlog items that, if completed in the Sprint, would achieve the Sprint Goal.
- 11 The Product Owner can help to clarify selected Product Backlog items and make trade-offs.
- 11 If the Development Team determines it has too much or too little work, it may renegotiate the selected Product Backlog items with the Product Owner.



- 11 If the work turns out to be different than the Development Team expected, they collaborate with the Product Owner to negotiate the scope of the Sprint Backlog within the Sprint.
- 13 [Sprint Review] Attendees include the Scrum Team and the key stakeholders invited by the Product Owner.
- 13 [Sprint Review] The Product Owner explains what Product Backlog items have been “Done” and what hasn’t been “Done.”
- 13 [Sprint Review] The Product Owner discusses the Product Backlog as it stands. He or she projects likely target and delivery dates based on progress to date (if needed).
- 15 The Product Owner is responsible for the Product Backlog, including its content, availability, and ordering.
- 15 [The Product Backlog refinement] is an ongoing process in which the Product Owner and the Development Team collaborate on the details of Product Backlog items.
- 15 However, Product Backlog items can be updated at any time by the Product Owner or at Product Owner’s discretion.
- 15 The Product Owner may influence the Development Team by helping it understand and select trade-offs, but the people who will perform the work make the final estimate.
- 16 The Product Owner tracks this total work remaining at least every Sprint Review.
- 16 The Product Owner compares this amount with the work remaining at the previous Sprint Review to assess progress toward completing projected work by the desired time for the goal. This information is made transparent to all stakeholders.
- 17 The increment must be in a useable condition regardless of whether the Product Owner decides to release it.
- 17 The Scrum Master must work with the Product Owner, Development Team, and other involved parties to understand if the artifacts are completely transparent.
- 18 This increment is usable, so a Product Owner may choose to immediately release it.



Development Team

- 6 The Product Owner may do the above work [Product Backlog management], or have the Development Team do it.
- 6 No one can force the Development Team to work from a different set of requirements [than the Product Backlog].
- 7 The Development Team consists of professionals, who do the work of delivering a potentially releasable Increment of “Done” product at the end of each Sprint.
- 7 A “Done” increment is required at the Sprint Review.
- 7 Development Teams are structured and empowered by the organization to organize and manage their own work.
- 7 [Development Teams] are self-organizing. No one (not even the Scrum Master) tells the Development Team how to turn Product Backlog into Increments of potentially releasable functionality.
- 7 Development Teams are cross-functional, with all the skills necessary to create a product Increment.
- 7 Scrum recognizes no titles for Development Team members, regardless of the work being performed by the person.
- 7 Scrum recognizes no sub-teams in the Development Team, regardless of domains that need to be addressed like testing, architecture, operations, or business analysis.
- 7 Individual Development Team members may have specialized skills and areas of focus, but accountability belongs to the Development Team as a whole.
- 7 Optimal Development Team size is small enough to remain nimble and large enough to complete significant work within a Sprint.
- 7 Fewer than three Development Team members decrease interaction and results in smaller productivity gains. Smaller Development Teams may encounter skill constraints during the Sprint.
- 7 Having more than nine members requires too much coordination. Large Development Teams create too much complexity for an empirical process to be useful.
- 7 The Product Owner and Scrum Master roles are not included in this count unless they are also executing the work of the Sprint Backlog.
- 10 [Sprint Planning] The Development Team works to forecast the functionality that will be developed during the sprint.
- 10 The input to [the Sprint Planning] meeting is the Product Backlog, the latest product Increment, projected capacity of the Development Team during the Sprint, and the past performance of the Development Team.



- 10 The number of items selected from the Product Backlog for the Sprint is solely up to the Development Team. Only the Development Team can assess what it can accomplish over the upcoming Sprint.
- 11 The Sprint Goal is an objective that will be met with the Sprint through the implementation of the Product Backlog, and it provides guidance to the Development Team on why it is building the Increment.
- 11 Having set the Sprint Goal and selected the Product Backlog items for the Sprint, the Development Team decides how it will build this functionality into a “Done” product Increment during the Sprint.
- 11 The Development Team usually starts by designing the system and the work needed to convert the Product Backlog into a working product Increment.
- 11 However, enough work is planned during the Sprint Planning for the Development Team to forecast what it believes it can do in the upcoming Sprint.
- 11 Worked planned for the first days of the Sprint by the Development Team is decomposed by the end of this meeting, often to units of one day or less.
- 11 The Development Team self-organizes to undertake the work in the Sprint Backlog, both during Sprint Planning and as needed throughout the Sprint.
- 11 By the end of the Sprint Planning, the Development Team should be able to explain to the Product Owner and the Scrum Master how it intends to work as a self-organizing team to accomplish the Sprint Goal and create the anticipated product Increment.
- 11 The Sprint Goal gives the Development Team some flexibility regarding the functionality implemented within the Sprint.
- 11 The Sprint Goal can be any other coherence that causes the Development Team to work together rather than on separate initiatives.
- 11 If the work turns out to be different than the Development Team expected, they collaborate with the Product Owner to negotiate the scope of the Sprint Backlog within the Sprint.
- 12 The Daily Scrum is a 15-minute time-boxed event for the Development Team.
- 12 The Daily Scrum is held every day. At it, the Development Team plans the work for the next 24 hours.
- 12 The Daily Scrum is optimizes the probability that the Development Team will meet the Sprint Goal.
- 12 Every day, the Development Team should understand how it intends to work together as a self-organizing team to accomplish the Sprint Goal and create the anticipated Increment at the end of the Sprint.
- 12 The structure of the meeting is set by the Development Team and can be conducted in different ways if it focuses on progress toward the Sprint Goal.



- 12 The Development Team members often meet immediately after the Daily Scrum for detailed discussions, or to adapt, or replan, the rest of the Sprint's work.
- 12 The Scrum Master ensures that the Development Team has the meeting, but the Development Team is responsible for conducting the meeting.
- 12 The Scrum Master teaches the Development Team to keep the Daily Scrum within the 15-minute time-box.
- 12 The Daily Scrum is an internal meeting for the Development Team. If others are present, the Scrum Master ensures that they do not disrupt the meeting.
- 12 Daily Scrums improve communications, eliminate other meetings, identify impediments to development for removal, highlight and promote quick decision-making, and improve the Development Team's level of knowledge. This is a key inspect and adapt meeting.
- 15 [The Product Backlog refinement] is an ongoing process in which the Product Owner and the Development Team collaborate on the details of Product Backlog items.
- 15 The Scrum Team decides, how and when the refinement is done. Refinement usually consumes no more than 10% of the capacity of the Development Team.
- 15 Product Backlog items that will occupy the Development Team for the upcoming Sprint are refined so that any one item can be reasonably "Done" within the Sprint time-box.
- 15 Product Backlog items that can be "Done" by the Development Team within one Sprint are deemed "Ready" for selection in a Sprint Planning.
- 15 The Development Team is responsible for all estimates.
- 15 The Product Owner may influence the Development Team by helping it understand and select trade-offs, but the people who will perform the work make the final estimate.
- 16 The Sprint Backlog is a forecast by the Development Team about what functionality will be in the next Increment and the work needed to deliver that functionality as a "Done" Increment.
- 16 The Sprint Backlog makes visible all the work that the Development Team identifies as necessary to meet the Sprint Goal.
- 16 This emergence occurs as the Development Team works through the plan and learns more about the work needed to achieve the Sprint Goal.
- 16 As new work is required, the Development Team adds it to the Sprint Backlog.
- 16 As work is performed or completed, the estimated remaining work is updated [by the Development Team].
- 16 When elements of the plan are deemed unnecessary, they are removed [by the Development Team from the Sprint Backlog].
- 16 Only the Development Team can change the Sprint Backlog during a Sprint.



- 16 The Sprint Backlog is a highly visible, real-time picture of the work that the Development Team plans to accomplish during the Sprint, and it belongs solely to the Development Team.
- 17 By tracking the remaining work throughout the Sprint, the Development Team can manage its progress.
- 17 The Scrum Master must work with the Product Owner, Development Team, and other involved parties to understand if the artifacts are completely transparent.
- 18 The same definition [of “Done”] guides the Development Team in knowing how many Product Backlog items it can select during a Sprint Planning.
- 18 If “Done” for an Increment is not a convention of the development organization, the Development Team of the Scrum Team must define a definition of “Done” appropriate for the product.
- 18 If there are multiple Scrum Teams working on the system or product release, the Development Teams on all Scrum Teams must mutually define the definition of “Done.”



Scrum Master

- 7 [Development Teams] are self-organizing. No one (not even the Scrum Master) tells the Development Team how to turn Product Backlog into Increments of potentially releasable functionality.
- 7 The Product Owner and Scrum Master roles are not included in this count unless they are also executing the work of the Sprint Backlog.
- 7 The Scrum Master is responsible for promoting and supporting Scrum as defined in the Scrum Guide.
- 17 The Scrum Master's job is to work with the Scrum Team and the organization to increase the transparency of the artifacts. Transparency does not occur overnight, but it is a path.
- 7 Scrum Masters do this by helping everyone understand Scrum theory, practices, rules, and values.
- 7 The Scrum Master is a servant-leader for the Scrum Team.
- 7 The Scrum Master helps those outside the Scrum Team to understand which of their interactions with the Scrum Team are helpful and which aren't.
- 7 The Scrum Master helps everyone change these interactions to maximize the value created by the Scrum Team.
- 8 SM services to the PO: Ensuring the goal, scope, and product domain are understood by everyone on the Scrum Team as well as possible.
- 8 SM services to the PO: Finding techniques for effective Product Backlog management.
- 8 SM services to the PO: Helping the Scrum Team understand the need for clear and concise Product Backlog items.
- 8 SM services to the PO: Understanding product planning in an empirical environment.
- 8 SM services to the PO: Ensuring that the Product Owner knows how to arrange the Product Backlog to maximize value.
- 8 SM services to the PO: Understand and practicing agility.
- 8 SM services to the PO: Facilitating Scrum events as needed or requested.
- 8 SM services to the Development Team: Coaching the Development Team in self-organization and cross-functionality.
- 8 SM services to the Development Team: Helping the Development Team to create high value products.
- 8 SM services to the Development Team: Removing impediments to the Development Team's progress.
- 8 SM services to the Development Team: Facilitating Scrum events as needed or requested.



- 8 SM services to the Development Team: Coaching the Development team in organizational environments in which Scrum is not yet fully adopted and understood.
- 8 SM services to the Organization: Leading and coaching the organization in its Scrum adoption.
- 8 SM services to the Organization: Planning Scrum implementation within the organization.
- 8 SM services to the Organization: Helping employees and stakeholders understand and enact Scrum and empirical product development.
- 8 SM services to the Organization: Causing change that increases the productivity of the Scrum Team.
- 8 SM services to the Organization: Working with other Scrum Masters to increase the effectiveness of the application of Scrum within the organization.
- 10 The Scrum Master ensures that the [Sprint Planning] takes place and that attendants understand its purpose. The Scrum Master teaches the Scrum Team to keep it within the time-box.
- 12 The Scrum Master ensures that the Development Team has the [Daily Scrum] meeting, but the Development Team is responsible for conducting the meeting.
- 12 The Scrum Master teaches the Development Team to keep the Daily Scrum within the 15-minute time-box.
- 12 The Daily Scrum is an internal meeting for the Development Team. If others are present, the Scrum Master ensures that they do not disrupt the meeting.
- 13 The Scrum Master ensure that the [Sprint Review] takes place and that attendees understand its purpose.
- 13 The Scrum Master teaches everyone involved to keep [Sprint Review] within the time-box.
- 14 The Scrum Master ensures that the [Sprint Retrospective] takes place and that attendees understand its purpose.
- 14 The Scrum Master ensures that the [Sprint Retrospective] is positive and productive.
- 14 The Scrum Master participates as a peer team member in the [Sprint Retrospective] from the accountability over the Scrum process.
- 17 The Scrum Master must work with the Product Owner, Development Team, and other involved parties to understand if the artifacts are completely transparent.
- 17 There are practices to cope with incomplete transparency; the Scrum Master must help everyone apply the most appropriate practice in the absence of complete transparency.
- 17 A Scrum Master can detect incomplete transparency by inspecting the artifacts, sensing patterns, listening closely to what is being said, and detecting differences between expected and real results.



- 17 The Scrum Master's job is to work with the Scrum Team and the organization to increase the transparency of the artifacts. Transparency does not occur overnight, but it is a path.



Part II: Scrum Events

Introduction to Scrum Events

- 9 Prescribed events are used in Scrum to create regularity and to minimize the need for meetings not defined in Scrum.
- 9 All events are time-boxed events, such that every event has a maximum duration.
- 9 Once a Sprint begins, its duration is fixed and cannot be shortened or lengthened.
- 9 The remaining events may end whenever the purpose of the event is achieved, ensuring an appropriate amount of time is spent without allowing waste in the process.
- 9 Other than the Sprint itself, which is a container for all other events, each event in Scrum is a formal opportunity to inspect and adapt something.
- 9 These [Scrum events] are specifically designed to enable transparency and inspection. Failure to include any of these events results in reduced transparency and is a lost opportunity to inspect and adapt.

The Sprint

- 9 The heart of Scrum is a Sprint, a time-box of one month or less during which a “Done”, usable, and potentially releasable product increment is created.
- 9 Sprints have a consistent duration throughout a development effort.
- 9 A new sprint starts immediately after the conclusion of the previous sprint.
- 9 [During the Sprint] No changes are made that endanger the Sprint Goal.
- 9 [During the Sprint] Quality goals do not decrease.
- 9 [During the Sprint] Scope may be clarified and re-negotiated between the Product Owner and Development Team as more is learned.
- 9 Each sprint maybe considered as a project with no more than a one-month horizon.
- 9 Each Sprint has a goal of what is to be built, a design and flexible plan that will guide building it, the work, and the resultant product increment.
- 9 Sprints are limited to one calendar month. When a Sprint’s horizon is too long the definition of what is being built may change, complexity may rise, and risk may increase.
- 9 Sprints enable predictability by ensuring inspection and adaptation of progress toward a Sprint Goal at least every calendar month.
- 9 Sprints also limit risk to one calendar month of cost.
- 10 A Sprint can be cancelled before the time-box is over. Only the Product Owner has the authority to cancel a Sprint.



- 10 A Sprint would be cancelled if the Sprint Goal becomes obsolete. This might occur if the company changes direction or if market or technology conditions change. But, due to the short duration of Sprints, cancellations rarely make sense.
- 10 [Sprint cancellation] If part of the work is potentially releasable, the Product Owner typically accepts it.
- 10 [Sprint cancellation] All incomplete Product Backlog items are re-estimated and put back on the Product Backlog.
- 10 Sprint cancellations are often traumatic to the Scrum Team, and are very uncommon.
- 14 The Scrum Master encourages the Scrum Team to improve, within the Scrum process framework, its development process and practices to make it more efficient and enjoyable for the next Sprint.
- 15 Product Backlog items that will occupy the Development Team for the upcoming Sprint are refined so that any one item can be reasonably “Done” within the Sprint time-box.
- 15 Product Backlog items that can be “Done” by the Development Team within one Sprint are deemed “Ready” for selection in a Sprint Planning.
- 16 The Development Team modifies the Sprint Backlog throughout the Sprint, and the Sprint Backlog emerges during the Sprint.
- 18 The purpose of each Sprint is to deliver Increments of potentially releasable functionality that adhere to the Scrum Team’s definition of “Done.”



Sprint Planning

- 5 Scrum describes four formal events for inspection and adaptation: Sprint Planning, Daily Scrum, Sprint Review, Sprint Retrospective.
- 10 The work to be performed in the Sprint is planned at the Sprint Planning. This plan is created by the collaborative work of the entire Scrum Team.
- 10 Sprint Planning is time-boxed to a maximum of eight hours for a one-month sprint. For shorter Sprints, it is usually shorter.
- 10 The Scrum Master ensures that the event takes place and that attendants understand its purpose. The Scrum Master teaches the Scrum Team to keep it within the time-box.
- 10 The Sprint Planning answers the following:
 - What can be delivered in the increment resulting from the upcoming Sprint?
 - How will the work needed to deliver the increment be achieved?
- 10 The Development Team works to forecast the functionality that will be developed during the sprint.
- 10 The Product Owner discusses the objective that the Sprint should achieve and the Product Backlog items that, if completed in the Sprint, would achieve the Sprint Goal.
- 10 The input to this meeting is the Product Backlog, the latest product Increment, projected capacity of the Development Team during the Sprint, and the past performance of the Development Team.
- 10 The number of items selected from the Product Backlog for the Sprint is solely up to the Development Team. Only the Development Team can assess what it can accomplish over the upcoming Sprint.
- 11 During the Sprint Planning the Scrum Team also crafts a Sprint Goal.
- 11 The Sprint Goal is an objective that will be met with the Sprint through the implementation of the Product Backlog, and it provides guidance to the Development Team on why it is building the Increment.
- 11 Having set the Sprint Goal and selected the Product Backlog items for the Sprint, the Development Team decides how it will build this functionality into a “Done” product Increment during the Sprint.
- 11 The Product Backlog items selected for the Sprint plus the plan for delivering them is called the Sprint Backlog.
- 11 The Development Team usually starts by designing the system and the work needed to convert the Product Backlog into a working product Increment.
- 11 However, enough work is planned during the Sprint Planning for the Development Team to forecast what it believes it can do in the upcoming Sprint.
- 11 Work planned for the first days of the Sprint by the Development Team is decomposed by the end of this meeting, often to units of one day or less.



- 11 The Development Team self-organizes to undertake the work in the Sprint Backlog, both during Sprint Planning and as needed throughout the Sprint.
- 11 The Product Owner can help to clarify selected Product Backlog items and make trade-offs.
- 11 If the Development Team determines it has too much or too little work, it may renegotiate the selected Product Backlog items with the Product Owner.
- 11 The Development Team may also invite other people to attend [the Sprint Planning] to provide technical or domain advice.
- 11 By the end of the Sprint Planning, the Development Team should be able to explain to the Product Owner and the Scrum Master how it intends to work as a self-organizing team to accomplish the Sprint Goal and create the anticipated product Increment.
- 11 The Sprint Goal is an objective set for the Sprint that can be met through the implementation of Product Backlog.
- 11 The Sprint Goal gives the Development Team some flexibility regarding the functionality implemented within the Sprint.
- 11 The selected Product Backlog items deliver one coherent function, which can be the Sprint Goal.
- 11 The Sprint Goal can be any other coherence that causes the Development Team to work together rather than on separate initiatives.
- 11 If the work turns out to be different than the Development Team expected, they collaborate with the Product Owner to negotiate the scope of the Sprint Backlog within the Sprint.
- 13 The entire group collaborates on what to do next, so that the Sprint Review provides valuable input to subsequent Sprint Planning.
- 13 The result of the Sprint Review is a revised Product Backlog that defines the probable Product Backlog items for the next Sprint. The Product Backlog may also be adjusted overall to meet new business opportunities.
- 15 Product Backlog items that can be “Done” by the Development Team within one Sprint are deemed “Ready” for selection in a Sprint Planning.
- 16 To ensure continuous improvement, [the Sprint Backlog] includes at least one high priority process improvement identified in the previous Retrospective meeting.
- 18 The same definition [of “Done”] guides the Development Team in knowing how many Product Backlog items it can select during a Sprint Planning.
- 18 New definitions [of “Done”], as used, may uncover work to be done in previously “Done” Increments.



Daily Scrum

- 5 Scrum describes four formal events for inspection and adaptation: Sprint Planning, Daily Scrum, Sprint Review, Sprint Retrospective.
- 12 The Daily Scrum is a 15-minute time-boxed event for the Development Team.
- 12 The Daily Scrum is held every day. At it, the Development Team plans the work for the next 24 hours.
- 12 This optimizes team collaboration and performance by inspecting the work since the last Daily Scrum and forecasting upcoming Sprint work.
- 12 The Daily Scrum is held at the same time and place each day to reduce complexity.
- 12 The Daily Scrum optimizes the probability that the Development Team will meet the Sprint Goal.
- 12 Every day, the Development Team should understand how it intends to work together as a self-organizing team to accomplish the Sprint Goal and create the anticipated Increment at the end of the Sprint.
- 12 The structure of the meeting is set by the Development Team and can be conducted in different ways if it focuses on progress toward the Sprint Goal.
- 12 The Development Team members often meet immediately after the Daily Scrum for detailed discussions, or to adapt, or replan, the rest of the Sprint's work.
- 12 The Scrum Master ensures that the Development Team has the meeting, but the Development Team is responsible for conducting the meeting.
- 12 The Scrum Master teaches the Development Team to keep the Daily Scrum within the 15-minute time-box.
- 12 The Daily Scrum is an internal meeting for the Development Team. If others are present, the Scrum Master ensures that they do not disrupt the meeting.
- 12 Daily Scrums improve communications, eliminate other meetings, identify impediments to development for removal, highlight and promote quick decision-making, and improve the Development Team's level of knowledge. This is a key inspect and adapt meeting.
- 16 The Sprint Backlog is a plan with enough detail that changes in progress can be understood in the Daily Scrum.



Sprint Review

- 5 Scrum describes four formal events for inspection and adaptation: Sprint Planning, Daily Scrum, Sprint Review, Sprint Retrospective.
- 7 A “Done” increment is required at the Sprint Review.
- 13 The Sprint Review is held at the end of the Sprint to inspect the product Increment and adapt the Product Backlog if needed.
- 13 During the Sprint Review, the Scrum Team and the stakeholders collaborate about what was done in the Sprint.
- 13 Based on that and any changes to the Product Backlog during the Sprint, attendees collaborate on the next things that could be done to optimize value.
- 13 This is an informal meeting, not a status meeting, and the presentation of the Increment is intended to elicit feedback and foster collaboration.
- 13 This is at most a four-hour meeting for one-month Sprints. For shorter sprints, the meeting is usually shorter.
- 13 The Scrum Master ensure that the event takes place and that attendees understand its purpose.
- 13 The Scrum Master teaches everyone involved to keep it within the time-box.
- 13 Attendees include the Scrum Team and the key stakeholders invited by the Product Owner.
- 13 The Product Owner explains what Product Backlog items have been “Done” and what hasn’t been “Done.”
- 13 The Development Team discusses what went well during the Sprint, what problems it ran into, and how those problems were solved.
- 13 The Development Team demonstrates the work it has “Done” and answers questions about the Increment.
- 13 The Product Owner discusses the Product Backlog as it stands. He or she projects likely target and delivery dates based on progress to date (if needed).
- 13 The entire group collaborates on what to do next, so that the Sprint Review provides valuable input to subsequent Sprint Planning.
- 13 Review of how the marketplace or potential use of the product might have changed, what is the most valuable thing to do next; and...
- 13 Review of timeline, budget, potential capabilities, and marketplace for the next anticipated releases of functionality or capability of the product.
- 13 The result of the Sprint Review is a revised Product Backlog that defines the probable Product Backlog items for the next Sprint. The Product Backlog may also be adjusted overall to meet new business opportunities.
- 16 The Product Owner tracks this total work remaining at least every Sprint Review.



- 16 The Product Owner compares this amount with the work remaining at the previous Sprint Review to assess progress toward completing projected work by the desired time for the goal. This information is made transparent to all stakeholders.



Sprint Retrospective

- 5 If an inspector determines that one or more aspects of a process deviate outside acceptable limits, and the resulting product will be unacceptable, the process or material being processed must be adjusted.
- 5 Scrum describes four formal events for inspection and adaptation: Sprint Planning, Daily Scrum, Sprint Review, Sprint Retrospective.
- 13 [Sprint Review] The Development Team discusses what went well during the Sprint, what problems it ran into, and how those problems were solved.
- 14 The Sprint Retrospective is an opportunity for the Scrum Team to inspect itself and create a plan for improvements to be enacted during the next Sprint.
- 14 The Sprint Retrospective occurs after the Sprint Review and prior to the next Sprint Planning.
- 14 It is at most a three-hour meeting for a one-month Sprint. For shorter Sprints, the event is usually shorter.
- 14 The Scrum Master ensures that the event takes place and that attendees understand its purpose.
- 14 The Scrum Master ensures that the meeting is positive and productive.
- 14 The Scrum Master participates as a peer team member in the meeting from the accountability over the Scrum process.
- 14 The purpose of the Sprint Retrospective is to: inspect how the Scrum Team went with regard to people, relationships, process, and tools;
- 14 The purpose of the Sprint Retrospective is to: identify and order the major items that went well and potential improvements;
- 14 The purpose of the Sprint Retrospective is to: create a plan for implementing improvements to the way the Scrum Team does it work.
- 14 The Scrum Master encourages the Scrum Team to improve, within the Scrum process framework, its development process and practices to make it more efficient and enjoyable for the next Sprint.
- 14 During each Sprint Retrospective, the Scrum Team plans ways to increase product quality by improving work processes or adapting the definition of “Done”, if appropriate and not in conflict with product or organizational standards.
- 14 By the end of the Sprint Retrospective, the Scrum Team should have identified improvements that it will implement in the next Sprint.
- 14 Implementing these improvements in the next Sprint is the adaptation to the inspection of the Scrum Team itself.
- 14 Although improvements may be implemented at any time, the Sprint Retrospective is a formal opportunity to focus on inspection and adaptation.



- 16 To ensure continuous improvement, [the Sprint Backlog] includes at least one high priority process improvement identified in the previous Retrospective meeting.
- 18 New definitions [of “Done”], as used, may uncover work to be done in previously “Done” Increments.



Part III: Scrum Artifacts, Product Backlog Item & Refinement

Introduction Scrum Artifacts

- 5 Those performing the work and those inspecting the resulting increment must share a common definition of “Done.”
- 5 Scrum users must frequently inspect Scrum artifacts and progress toward a Sprint Goal to detect undesirable variances.
- 14 Scrum’s artifacts represent work or value to provide transparency and opportunity for inspection and adaptation.
- 14 Artifacts defined by Scrum are specifically designed to maximize transparency of key information so that everybody has the same understanding of the artifact.
- 17 Scrum relies on transparency. Decisions to optimize value and control risk are made based on the perceived state of the artifact.
- 17 To the extent that the artifacts are incompletely transparent, these decisions can be flawed, value may diminish and risk may increase.
- 17 The Scrum Master must work with the Product Owner, Development Team, and other involved parties to understand if the artifacts are completely transparent.
- 17 There are practices to cope with incomplete transparency; the Scrum Master must help everyone apply the most appropriate practice in the absence of complete transparency.
- 17 A Scrum Master can detect incomplete transparency by inspecting the artifacts, sensing patterns, listening closely to what is being said, and detecting differences between expected and real results.
- 17 The Scrum Master’s job is to work with the Scrum Team and the organization to increase the transparency of the artifacts. Transparency does not occur overnight, but it is a path.



Product Backlog

- 6 The Product Owner is the sole person responsible for managing the Product Backlog.
- 6 No one can force the Development Team to work from a different set of requirements [other than the Product Backlog].
- 8 SM services to the PO: Finding techniques for effective Product Backlog management.
- 8 SM services to the PO: Ensuring that the Product Owner knows how to arrange the Product Backlog to maximize value.
- 10 [Sprint cancellation] All incomplete Product Backlog items are re-estimated and put back on the Product Backlog.
- 13 The Sprint Review is held at the end of the Sprint to inspect the product Increment and adapt the Product Backlog if needed.
- 13 [Sprint Review] Based on that and any changes to the Product Backlog during the Sprint, attendees collaborate on the next things that could be done to optimize value.
- 13 [Sprint Review] The Product Owner discusses the Product Backlog as it stands. He or she projects likely target and delivery dates based on progress to date (if needed).
- 13 The result of the Sprint Review is a revised Product Backlog that defines the probable Product Backlog items for the next Sprint. The Product Backlog may also be adjusted overall to meet new business opportunities.
- 15 The Product Backlog is an ordered list of everything that is known to be needed in the product.
- 15 It is the single source of requirements for any change to be made to the product.
- 15 The Product Owner is responsible for the Product Backlog, including its content, availability, and ordering.
- 15 A Product Backlog is never complete.
- 15 The earliest development of [the Product Backlog] lays out the initially known and best-understood requirements.
- 15 The Product Backlog evolves as the product and the environment in which it will be used evolves.
- 15 The Product Backlog is dynamic; it constantly changes to identify what the product needs to be appropriate, competitive, and useful. If a product exists, its Product Backlog also exists.
- 15 The Product Backlog lists all features, functions, requirements, enhancements, and fixes that constitute the changes to be made to the product in future releases.
- 15 Product Backlog items have the attributes of description, order, estimate, and value.



- 15 Product Backlog items often include test descriptions that will prove its completion when “Done.”
- 15 As the product is used and gain value, and marketplace provides feedback, the Product Backlog becomes a larger and more exhaustive list.
- 15 Requirements never stop changing, so a Product Backlog is a living artifact.
- 15 Changes in business requirements, market conditions, or technology may cause changes to the Product Backlog
- 15 Multiple Scrum Teams often work together on the same product. One Product Backlog is used to describe the upcoming work on the product. A Product Backlog attribute that groups items may then be employed.
- 15 Product Backlog refinement is the act of adding detail, estimates, and order to items in the Product Backlog.
- 15 Higher ordered Product Backlog items are usually clearer and more detailed than lower ordered ones.
- 15 More precise estimates are made based on the greater clarity and increased detail; the lower the order, the less detail.
- 15 Product Backlog items that will occupy the Development Team for the upcoming Sprint are refined so that any one item can be reasonably “Done” within the Sprint time-box.
- 15 Product Backlog items that can be “Done” by the Development Team within one Sprint are deemed “Ready” for selection in a Sprint Planning.
- 15 Product Backlog items usually acquire this degree of transparency through the above describes refining activities.
- 15 The Development Team is responsible for all estimates.
- 15 The Product Owner may influence the Development Team by helping it understand and select trade-offs, but the people who will perform the work make the final estimate.



Sprint Backlog

- 9 Each Sprint has a goal of what is to be built, a design and flexible plan that will guide building it, the work, and the resultant product Increment.
- 11 The Product Backlog items selected for the Sprint plus the plan for delivering them is called the Sprint Backlog.
- 11 If the work turns out to be different than the Development Team expected, they collaborate with the Product Owner to negotiate the scope of the Sprint Backlog within the Sprint.
- 14 By the end of the Sprint Retrospective, the Scrum Team should have identified improvements that it will implement in the next Sprint.
- 16 The Sprint Backlog is a set of Product Backlog items selected for the Sprint, plus a plan for delivering the product Increment and realizing the Sprint Goal.
- 16 The Sprint Backlog is a forecast by the Development Team about what functionality will be in the next Increment and the work needed to deliver that functionality as a “Done” Increment.
- 16 The Sprint Backlog makes visible all the work that the Development Team identifies as necessary to meet the Sprint Goal.
- 16 To ensure continuous improvement, [the Sprint Backlog] includes at least one high priority process improvement identified in the previous Retrospective meeting.
- 16 The Sprint Backlog is a plan with enough detail that changes in progress can be understood in the Daily Scrum.
- 16 The Development Team modifies the Sprint Backlog throughout the Sprint, and the Sprint Backlog emerges during the Sprint.
- 16 This emergence occurs as the Development Team works through the plan and learns more about the work needed to achieve the Sprint Goal.
- 16 As new work is required, the Development Team adds it to the Sprint Backlog.
- 16 As work is performed or completed, the estimated remaining work is updated.
- 16 When elements of the plan are deemed unnecessary, they are removed.
- 16 Only the Development Team can change the Sprint Backlog during a Sprint.
- 16 The Sprint Backlog is a highly visible, real-time picture of the work that the Development Team plans to accomplish during the Sprint, and it belongs solely to the Development Team.
- 17 At any point in time in a Sprint, the total work remaining in the Sprint Backlog can be summed.
- 17 The Development Team tracks this total work remaining at least for every Daily Scrum to project the likelihood of achieving the Sprint Goal.



- 17 By tracking the remaining work throughout the Sprint, the Development Team can manage its progress.
- 18 New definitions [of “Done”], as used, may uncover work to be done in previously “Done” Increments.



Product Increment

- 6 Incremental delivery of “Done” products ensures a potentially useful version of working product is always available.
- 7 A “Done” increment is required at the Sprint Review.
- 9 The heart of Scrum is a Sprint, a time-box of one month or less during which a “Done”, usable, and potentially releasable product increment is created.
- 11 The Development Team usually starts by designing the system and the work needed to convert the Product Backlog into a working product Increment.
- 12 Every day, the Development Team should understand how it intends to work together as a self-organizing team to accomplish the Sprint Goal and create the anticipated Increment at the end of the Sprint.
- 13 The Sprint Review is held at the end of the Sprint to inspect the product Increment and adapt the Product Backlog if needed.
- 13 [Sprint Review] The Development Team demonstrates the work it has “Done” and answers questions about the Increment.
- 16 The Sprint Backlog is a set of Product Backlog items selected for the Sprint, plus a plan for delivering the product Increment and realizing the Sprint Goal.
- 17 The Increment is the sum of all Product Backlog items completed during a Sprint and the value of the Increments of all previous Sprints.
- 17 At the end of a Sprint, a new Increment must be “Done,” which means it must be in a usable condition and meet the Scrum Team’s definition of “Done.”
- 17 An Increment is a body of inspectable, done work that supports empiricism at the end of a Sprint.
- 17 The Increment is a step toward a vision or goal.
- 17 The increment must be in a useable condition regardless of whether the Product Owner decides to release it.
- 18 When a Product Backlog item or an Increment is describes as “Done,” everyone must understand what “Done” means.
- 18 The purpose of each Sprint is to deliver Increments of potentially releasable functionality that adhere to the Scrum Team’s definition of “Done.”
- 18 This increment is usable, so a Product Owner may choose to immediately release it.
- 18 Each Increment is additive to all prior Increments and thoroughly tested, ensuring that all Increments work together.



Part IV: Other Key Elements

Acceptance

- 10 [Sprint cancellation] If part of the work is potentially releasable, the Product Owner typically accepts it.
- 13 The Product Owner explains what Product Backlog items have been “Done” and what hasn’t been “Done.”
- 15 Product Backlog items often include test descriptions that will prove its completion when “Done.”

Accountability, Responsibility

- 6 The Product Owner is responsible for maximizing the value of the product resulting from work of the Development Team.
- 6 The Product Owner is the sole person responsible for managing the Product Backlog.
- 7 [Development Teams] are self-organizing. No one (not even the Scrum Master) tells the Development Team how to turn Product Backlog into Increments of potentially releasable functionality.
- 7 Individual Development Team members may have specialized skills and areas of focus, but accountability belongs to the Development Team as a whole.
- 14 The Scrum Master participates as a peer team member in the [Sprint Retrospective] from the accountability over the Scrum process.
- 15 The Product Owner is responsible for the Product Backlog, including its content, availability, and ordering.
- 16 The Sprint Backlog is a highly visible, real-time picture of the work that the Development Team plans to accomplish during the Sprint, and it belongs solely to the Development Team.

Adaptation

- 4 Three pillars uphold every implementation of empirical process control: transparency, inspection, and adaptation.
- 5 If an inspector determines that one or more aspects of a process deviate outside acceptable limits, and the resulting product will be unacceptable, the process or material being processed must be adjusted.
- 5 Scrum describes four formal events for inspection and adaptation: Sprint Planning, Daily Scrum, Sprint Review, Sprint Retrospective.



- 9 Other than the Sprint itself, which is a container for all other events, each event in Scrum is a formal opportunity to inspect and adapt something.
- 9 These [Scrum events] are specifically designed to enable transparency and inspection. Failure to include any of these events results in reduced transparency and is a lost opportunity to inspect and adapt.
- 9 Sprints enable predictability by ensuring inspection and adaptation of progress toward a Sprint Goal at least every calendar month.
- 12 The Development Team members often meet immediately after the Daily Scrum for detailed discussions, or to adapt, or replan, the rest of the Sprint's work.
- 12 Daily Scrums improve communications, eliminate other meetings, identify impediments to development for removal, highlight and promote quick decision-making, and improve the Development Team's level of knowledge. This is a key inspect and adapt meeting.
- 13 The Sprint Review is held at the end of the Sprint to inspect the product Increment and adapt the Product Backlog if needed.
- 14 The Sprint Retrospective is an opportunity for the Scrum Team to inspect itself and create a plan for improvements to be enacted during the next Sprint.
- 14 The purpose of the Sprint Retrospective is to: create a plan for implementing improvements to the way the Scrum Team does its work.
- 14 The Scrum Master encourages the Scrum Team to improve, within the Scrum process framework, its development process and practices to make it more efficient and enjoyable for the next Sprint.
- 14 By the end of the Sprint Retrospective, the Scrum Team should have identified improvements that it will implement in the next Sprint.
- 14 Implementing these improvements in the next Sprint is the adaptation to the inspection of the Scrum Team itself.
- 14 Although improvements may be implemented at any time, the Sprint Retrospective is a formal opportunity to focus on inspection and adaptation.
- 14 Scrum's artifacts represent work or value to provide transparency and opportunity for inspection and adaptation.
- 16 To ensure continuous improvement, [the Sprint Backlog] includes at least one high priority process improvement identified in the previous Retrospective meeting.

Agility, Business Agility

- 6 The team model in Scrum is designed to optimize flexibility, creativity, and productivity.
- 8 SM services to the PO: Understand and practicing agility.



- 13 The result of the Sprint Review is a revised Product Backlog that defines the probable Product Backlog items for the next Sprint. The Product Backlog may also be adjusted overall to meet new business opportunities.
- 15 Changes in business requirements, market conditions, or technology may cause changes to the Product Backlog.

Bugs

- 15 The Product Backlog lists all features, functions, requirements, enhancements, and fixes that constitute the changes to be made to the product in future releases.

Capacity

- 10 [Sprint Planning] The input to this meeting is the Product Backlog, the latest product Increment, projected capacity of the Development Team during the Sprint, and the past performance of the Development Team.
- 15 The Scrum Team decides, how and when the refinement is done. Refinement usually consumes no more than 10% of the capacity of the Development Team.
- 18 The same definition [of “Done”] guides the Development Team in knowing how many Product Backlog items it can select during a Sprint Planning.

Collaboration

- 13 During the Sprint Review, the Scrum Team and the stakeholders collaborate about what was done in the Sprint.
- 13 [The Sprint Review] is an informal meeting, not a status meeting, and the presentation of the Increment is intended to elicit feedback and foster collaboration.
- 13 The entire group collaborates on what to do next, so that the Sprint Review provides valuable input to subsequent Sprint Planning.
- 13 [Sprint Review] Review of how the marketplace or potential use of the product might have changed, what is the most valuable thing to do next; and...
- 13 [Sprint Review] Review of timeline, budget, potential capabilities, and marketplace for the next anticipated releases of functionality or capability of the product.
- 14 The purpose of the Sprint Retrospective is to inspect how the Scrum Team went with regard to people, relationships, process, and tools.
- 14 The Scrum Master encourages the Scrum Team to improve, within the Scrum process framework, its development process and practices to make it more efficient and enjoyable for the next Sprint.
- 14 Artifacts defined by Scrum are specifically designed to maximize transparency of key information so that everybody has the same understanding of the artifact.



- 15 [The Product Backlog refinement] is an ongoing process in which the Product Owner and the Development Team collaborate on the details of Product Backlog items.

Complexity

- 4 Scrum's utility in dealing with complexity is proven daily. Scrum proved especially effective in iterative and incremental knowledge transfer.
- 7 Having more than nine members requires too much coordination. Large Development Teams create too much complexity for an empirical process to be useful.
- 9 Prescribed events are used in Scrum to create regularity and to minimize the need for meetings not defined in Scrum.
- 9 Sprints are limited to one calendar month. When a Sprint's horizon is too long the definition of what is being built may change, complexity may rise, and risk may increase.
- 12 The Daily Scrum is held at the same time and place each day to reduce complexity.
- 16 [Monitoring progress] However, these [practices] do not replace the importance of empiricism. In complex environments, what will happen is unknown. Only what has already happened may be used for forward-looking decision-making.

Continuous Improvement

- 14 The Scrum Master encourages the Scrum Team to improve, within the Scrum process framework, its development process and practices to make it more efficient and enjoyable for the next Sprint.
- 14 The Sprint Retrospective is an opportunity for the Scrum Team to inspect itself and create a plan for improvements to be enacted during the next Sprint.
- 16 To ensure continuous improvement, [the Sprint Backlog] includes at least one high priority process improvement identified in the previous Retrospective meeting.

Creativity

- 6 The team model in Scrum is designed to optimize flexibility, creativity, and productivity.

Cross-Functionality

- 6 Cross-functional teams have all the competencies needed to accomplish the work without depending on others not part of the team.



- 7 Development Teams are cross-functional, with all the skills necessary to create a product Increment.
- 8 SM services to the Development Team: Coaching the Development Team in self-organization and cross-functionality.

Definition of “Done”

- 5 Transparency requires those aspects to be defined by a common standard so observers can share a common understanding of what is being seen.
- 9 During the Sprint: Quality goals do not decrease.
- 13 [Sprint Review] The Product Owner explains what Product Backlog items have been “Done” and what hasn’t been “Done.”
- 13 [Sprint Review] The Development Team demonstrates the work it has “Done” and answers questions about the Increment.
- 14 During each Sprint Retrospective, the Scrum Team plans ways to increase product quality by improving work processes or adapting the definition of “Done”, if appropriate and not in conflict with product or organizational standards.
- 15 Product Backlog items often include test descriptions that will prove its completion when “Done.”
- 15 Product Backlog items that will occupy the Development Team for the upcoming Sprint are refined so that any one item can be reasonably “Done” within the Sprint time-box.
- 16 The Sprint Backlog is a forecast by the Development Team about what functionality will be in the next Increment and the work needed to deliver that functionality as a “Done” Increment.
- 17 At the end of a Sprint, a new Increment must be “Done,” which means it must be in a usable condition and meet the Scrum Team’s definition of “Done.”
- 17 An Increment is a body of inspectable, done work that supports empiricism at the end of a Sprint.
- 17 The increment must be in a useable condition regardless of whether the Product Owner decides to release it.
- 18 When a Product Backlog item or an Increment is describes as “Done,” everyone must understand what “Done” means.
- 18 Although this may vary significantly per Scrum Team, members must have a shared understanding for what it means for work to be complete, to ensure transparency.
- 18 The same definition [of “Done”] guides the Development Team in knowing how many Product Backlog items it can select during a Sprint Planning.
- 18 The purpose of each Sprint is to deliver Increments of potentially releasable functionality that adhere to the Scrum Team’s definition of “Done.”



- 18 If the definition of “Done” for an Increment is part of the conventions, standards or guidelines of the development organization, all Scrum Teams must follow it as a minimum.
- 18 If “Done” for an Increment is not a convention of the development organization, the Development Team of the Scrum Team must define a definition of “Done” appropriate for the product.
- 18 If there are multiple Scrum Teams working on the system or product release, the Development Teams on all Scrum Teams must mutually define the definition of “Done.”
- 18 Each Increment is additive to all prior Increments and thoroughly tested, ensuring that all Increments work together.
- 18 As Scrum Teams mature, it is expected that their definition of “Done” will expand to include more stringent criteria for higher quality.
- 18 New definitions [of “Done”], as used, may uncover work to be done in previously “Done” Increments.
- 18 Any one product or system should have a definition of “Done” that is a standard for any work done on it.

Definition of “Ready”

- 15 Product Backlog items that can be “Done” by the Development Team within one Sprint are deemed “Ready” for selection in a Sprint Planning.

Deviation, Variance

- 5 Scrum users must frequently inspect Scrum artifacts and progress toward a Sprint Goal to detect undesirable variances.
- 5 If an inspector determines that one or more aspects of a process deviate outside acceptable limits, and the resulting product will be unacceptable, the process or material being processed must be adjusted.
- 17 A Scrum Master can detect incomplete transparency by inspecting the artifacts, sensing patterns, listening closely to what is being said, and detecting differences between expected and real results.

Emergence

- 9 During the Sprint: Scope may be clarified and re-negotiated between the Product Owner and Development Team as more is learned.
- 11 However, enough work is planned during the Sprint Planning for the Development Team to forecast what it believes it can do in the upcoming Sprint.



- 11 Worked planned for the first days of the Sprint by the Development Team is decomposed by the end of this meeting, often to units of one day or less.
- 15 A Product Backlog is never complete.
- 15 The earliest development of [the Product Backlog] lays out the initially known and best-understood requirements.
- 15 As the product is used and gains value, and marketplace provides feedback, the Product Backlog becomes a larger and more exhaustive list.
- 15 More precise estimates are made based on the greater clarity and increased detail; the lower the order, the less detail.
- 16 As new work is required, the Development Team adds it to the Sprint Backlog.
- 16 The Development Team modifies the Sprint Backlog throughout the Sprint, and the Sprint Backlog emerges during the Sprint.
- 16 This emergence occurs as the Development Team works through the plan and learns more about the work needed to achieve the Sprint Goal.

Empiricism

- 4 Scrum is founded on empirical process control, or empiricism.
- 4 Empiricism asserts that knowledge comes from experience and making decisions based on what is known.
- 4 Scrum employs an iterative, incremental approach to optimize predictability and control risk.
- 4 Three pillars uphold every implementation of empirical process control: transparency, inspection, and adaptation.
- 5 When the [Scrum] values of commitment, courage, focus, openness and respect are embodied and lived by the Scrum Team, the Scrum pillars of transparency, inspection, and adaptation come to life and build trust for everyone.
- 7 Having more than nine members requires too much coordination. Large Development Teams create too much complexity for an empirical process to be useful.
- 8 SM services to the PO: Understanding product planning in an empirical environment.
- 9 These [Scrum events] are specifically designed to enable transparency and inspection. Failure to include any of these events results in reduced transparency and is a lost opportunity to inspect and adapt.
- 9 During the Sprint: Scope may be clarified and re-negotiated between the Product Owner and Development Team as more is learned.
- 12 Daily Scrums improve communications, eliminate other meetings, identify impediments to development for removal, highlight and promote quick decision-



making, and improve the Development Team's level of knowledge. This is a key inspect and adapt meeting.

- 14 Although improvements may be implemented at any time, the Sprint Retrospective is a formal opportunity to focus on inspection and adaptation.
- 14 Scrum's artifacts represent work or value to provide transparency and opportunity for inspection and adaptation.
- 15 The Product Backlog evolves as the product and the environment in which it will be used evolves.
- 16 However, these [practices] do not replace the importance of empiricism. In complex environments, what will happen is unknown. Only what has already happened may be used for forward-looking decision-making.
- 16 As new work is required, the Development Team adds it to the Sprint Backlog.
- 16 When elements of the plan are deemed unnecessary, they are removed [by the Development Team].
- 17 An Increment is a body of inspectable, done work that supports empiricism at the end of a Sprint.

Engineering Practices

- 11 Worked planned for the first days of the Sprint by the Development Team is decomposed by the end of this meeting, often to units of one day or less.
- 15 Product Backlog items often include test descriptions that will prove its completion when "Done."

Estimates

- 15 Product Backlog items have the attributes of description, order, estimate, and value.
- 15 Product Backlog refinement is the act of adding details, estimates, and order to items in the Product Backlog.
- 15 More precise estimates are made based on the greater clarity and increased detail; the lower the order, the less detail.
- 15 The Development Team is responsible for all estimates.
- 15 The Product Owner may influence the Development Team by helping it understand and select trade-offs, but the people who will perform the work make the final estimate.



Feedback

- 13 [The Sprint Review] is an informal meeting, not a status meeting, and the presentation of the Increment is intended to elicit feedback and foster collaboration.
- 15 As the product is used and gain value, and marketplace provides feedback, the Product Backlog becomes a larger and more exhaustive list.

Finance

- 9 Each sprint maybe considered as a project with no more than a one-month horizon.
- 9 Sprints are limited to one calendar month. When a Sprint's horizon is too long the definition of what is being built may change, complexity may rise, and risk may increase.
- 9 Sprints also limit risk to one calendar month of cost.
- 10 A Sprint would be cancelled if the Sprint Goal becomes obsolete. This might occur if the company changes direction or if market or technology conditions change. But, due to the short duration of Sprints, cancellations rarely make sense.
- 13 [Sprint Review] Review of timeline, budget, potential capabilities, and marketplace for the next anticipated releases of functionality or capability of the product.

Flexibility

- 4 The essence of Scrum is a small team of people. The individual team is highly flexible and adaptive.
- 6 The team model in Scrum is designed to optimize flexibility, creativity, and productivity.
- 7 Optimal Development Team size is small enough to remain nimble and large enough to complete significant work within a Sprint.
- 9 Each Sprint has a goal of what is to be built, a design and flexible plan that will guide building it, the work, and the resultant product increment.
- 11 The Sprint Goal gives the Development Team some flexibility regarding the functionality implemented within the Sprint.

Forecast, Projection, Progress Tracking

- 10 [Sprint Planning] The Development Team works to forecast the functionality that will be developed during the sprint.
- 11 However, enough work is planned during the Sprint Planning for the Development Team to forecast what it believes it can do in the upcoming Sprint.



- 12 [Daily Scrum] This optimizes team collaboration and performance by inspecting the work since the last Daily Scrum and forecasting upcoming Sprint work.
- 12 The Daily Scrum is optimizes the probability that the Development Team will meet the Sprint Goal.
- 13 [Sprint Review] The Product Owner discusses the Product Backlog as it stands. He or she projects likely target and delivery dates based on progress to date (if needed).
- 13 [Sprint Review] Review of timeline, budget, potential capabilities, and marketplace for the next anticipated releases of functionality or capability of the product.
- 16 Various projective practices upon trending have been used to forecast progress, like burn-downs, burn-ups, or cumulative flows. These have proven useful.
- 16 The Sprint Backlog is a forecast by the Development Team about what functionality will be in the next Increment and the work needed to deliver that functionality as a “Done” Increment.
- 16 As work is performed or completed [during the Sprint], the estimated remaining work is updated.
- 17 At any point in time in a Sprint, the total work remaining in the Sprint Backlog can be summed.
- 17 The Development Team tracks this total work remaining at least for every Daily Scrum to project the likelihood of achieving the Sprint Goal.

Functionality

- 7 [Development Teams] are self-organizing. No one [not even the Scrum Master] tells the Development Team how to turn Product Backlog into Increments of potentially releasable functionality.
- 10 The Development Team works to forecast the functionality that will be developed during the sprint.
- 11 Having set the Sprint Goal and selected the Product Backlog items for the Sprint, the Development Team decides how it will build this functionality into a “Done” product Increment during the Sprint.
- 11 The Sprint Goal gives the Development Team some flexibility regarding the functionality implemented within the Sprint.
- 11 The selected Product Backlog items deliver one coherent function, which can be the Sprint Goal.
- 11 The Sprint Goal can be any other coherence that causes the Development Team to work together rather than on separate initiatives.
- 13 [Sprint Review] Review of timeline, budget, potential capabilities, and marketplace for the next anticipated releases of functionality or capability of the product.



- 16 The Sprint Backlog is a forecast by the Development Team about what functionality will be in the next Increment and the work needed to deliver that functionality as a “Done” Increment.
- 18 The purpose of each Sprint is to deliver Increments of potentially releasable functionality that adhere to the Scrum Team’s definition of “Done.”

Impediments

- 8 SM services to the Development Team: Removing impediments to the Development Team’s progress.
- 12 Daily Scrums improve communications, eliminate other meetings, identify impediments to development for removal, highlight and promote quick decision-making, and improve the Development Team’s level of knowledge. This is a key inspect and adapt meeting.

Inspection

- 4 Three pillars uphold every implementation of empirical process control: transparency, inspection, and adaptation.
- 5 Scrum users must frequently inspect Scrum artifacts and progress toward a Sprint Goal to detect undesirable variances.
- 5 Inspections are most beneficial when diligently performed by skilled inspectors at the point of work.
- 9 Other than the Sprint itself, which is a container for all other events, each event in Scrum is a formal opportunity to inspect and adapt something.
- 9 These [Scrum events] are specifically designed to enable transparency and inspection. Failure to include any of these events results in reduced transparency and is a lost opportunity to inspect and adapt.
- 9 Sprints enable predictability by ensuring inspection and adaptation of progress toward a Sprint Goal at least every calendar month.
- 12 The Development Team uses the Daily Scrum to inspect progress toward the Sprint Goal and to inspect how progress is trending toward completing the work in the Sprint Backlog.
- 12 Daily Scrums improve communications, eliminate other meetings, identify impediments to development for removal, highlight and promote quick decision-making, and improve the Development Team’s level of knowledge. This is a key inspect and adapt meeting.
- 13 The Sprint Review is held at the end of the Sprint to inspect the product Increment and adapt the Product Backlog if needed.



- 13 The Sprint Retrospective is an opportunity for the Scrum Team to inspect itself and create a plan for improvements to be enacted during the next Sprint.
- 14 The purpose of the Sprint Retrospective is to: inspect how the Scrum Team went with regard to people, relationships, process, and tools.
- 14 The purpose of the Sprint Retrospective is to: identify and order the major items that went well and potential improvements;
- 14 By the end of the Sprint Retrospective, the Scrum Team should have identified improvements that it will implement in the next Sprint.
- 14 Implementing these improvements in the next Sprint is the adaptation to the inspection of the Scrum Team itself.
- 14 Although improvements may be implemented at any time, the Sprint Retrospective is a formal opportunity to focus on inspection and adaptation.
- 14 Scrum's artifacts represent work or value to provide transparency and opportunity for inspection and adaptation.
- 17 An Increment is a body of inspectable, done work that supports empiricism at the end of a Sprint.
- 17 A Scrum Master can detect incomplete transparency by inspecting the artifacts, sensing patterns, listening closely to what is being said, and detecting differences between expected and real results.

Negotiation

- 11 The Product Owner can help to clarify selected Product Backlog items and make trade-offs [during Sprint Planning].
- 11 If the work turns out to be different than the Development Team expected, they collaborate with the Product Owner to negotiate the scope of the Sprint Backlog within the Sprint.
- 11 If the Development Team determines it has too much or too little work, it may renegotiate the selected Product Backlog items with the Product Owner.
- 15 The Product Owner may influence the Development Team by helping it understand and select trade-offs, but the people who will perform the work make the final estimate.

Organization, Management

- 6 For a Product Owner to succeed, the entire organization must respect his or her decisions. The Product Owner's decisions are visible in the content and the ordering of the Product Backlog.
- 7 Development Teams are structured and empowered by the organization to organize and manage their own work.



- 7 [Development Teams] are self-organizing. No one (not even the Scrum Master) tells the Development Team how to turn Product Backlog into Increments of potentially releasable functionality.
- 7 Scrum Masters do this by helping everyone understand Scrum theory, practices, rules, and values.
- 7 The Scrum Master helps those outside the Scrum Team to understand which of their interactions with the Scrum Team are helpful and which aren't.
- 7 The Scrum Master helps everyone change these interactions to maximize the value created by the Scrum Team.
- 8 SM services to the Development Team: Coaching the Development team in organizational environments in which Scrum is not yet fully adopted and understood.
- 8 SM services to the Organization: Leading and coaching the organization in its Scrum adoption.
- 8 SM services to the Organization: Planning Scrum implementation within the organization.
- 8 SM services to the Organization: Helping employees and stakeholders understand and enact Scrum and empirical product development.
- 8 SM services to the Organization: Causing change that increases the productivity of the Scrum Team.
- 8 SM services to the Organization: Working with other Scrum Masters to increase the effectiveness of the application of Scrum within the organization.
- 14 During each Sprint Retrospective, the Scrum Team plans ways to increase product quality by improving work processes or adapting the definition of "Done", if appropriate and not in conflict with product or organizational standards.
- 14 Scrum's artifacts represent work or value to provide transparency and opportunity for inspection and adaptation.
- 17 The Scrum Master's job is to work with the Scrum Team and the organization to increase the transparency of the artifacts. Transparency does not occur overnight, but it is a path.
- 18 If the definition of "Done" for an Increment is part of the conventions, standards or guidelines of the development organization, all Scrum Teams must follow it as a minimum.
- 18 If "Done" for an Increment is not a convention of the development organization, the Development Team of the Scrum Team must define a definition of "Done" appropriate for the product.



Plan, Planning

- 8 SM services to the Organization: Planning Scrum implementation within the organization.
- 8 SM services to the PO: Understanding product planning in an empirical environment.
- 9 Each Sprint has a goal of what is to be built, a design and flexible plan that will guide building it, the work, and the resultant product increment.
- 10 The work to be performed in the Sprint is planned at the Sprint Planning. This plan is created by the collaborative work of the entire Scrum Team.
- 11 However, enough work is planned during the Sprint Planning for the Development Team to forecast what it believes it can do in the upcoming Sprint.
- 11 Worked planned for the first days of the Sprint by the Development Team is decomposed by the end of this meeting, often to units of one day or less.
- 12 The Daily Scrum is held every day. At it, the Development Team plans the work for the next 24 hours.
- 14 During each Sprint Retrospective, the Scrum Team plans ways to increase product quality by improving work processes or adapting the definition of “Done”, if appropriate and not in conflict with product or organizational standards.
- 16 The Sprint Backlog is a plan with enough detail that changes in progress can be understood in the Daily Scrum.
- 16 [Sprint Backlog] This emergence occurs as the Development Team works through the plan and learns more about the work needed to achieve the Sprint Goal.

Predictability

- 4 Scrum employs an iterative, incremental approach to optimize predictability and control risk.
- 13 [Sprint Review] The Product Owner discusses the Product Backlog as it stands. He or she projects likely target and delivery dates based on progress to date (if needed).
- 17 The Development Team tracks this total work remaining at least for every Daily Scrum to project the likelihood of achieving the Sprint Goal.

Priority, Prioritization, Ordering

- 6 Product Backlog management includes: Ordering the items in the Product Backlog to best achieve goals and missions.
- 8 SM services to the PO: Ensuring that the Product Owner knows how to arrange the Product Backlog to maximize value.



- 13 [Sprint Review] Based on that and any changes to the Product Backlog during the Sprint, attendees collaborate on the next things that could be done to optimize value.
- 13 [Sprint Review] Review of how the marketplace or potential use of the product might have changed, what is the most valuable thing to do next; and...
- 15 The Product Owner is responsible for the Product Backlog, including its content, availability, and ordering.
- 15 Product Backlog items have the attributes of description, order, estimate, and value.
- 17 Scrum relies on transparency. Decisions to optimize value and control risk are made based on the perceived state of the artifact.
- 17 To the extent that the artifacts are incompletely transparent, these decisions can be flawed, value may diminish and risk may increase.

Product

- 15 The Product Backlog is an ordered list of everything that is known to be needed in the product.
- 15 It is the single source of requirements for any change to be made to the product.
- 15 The Product Backlog is dynamic; it constantly changes to identify what the product needs to be appropriate, competitive, and useful. If a product exists, its Product Backlog also exists.

Product Backlog Item

- 8 SM services to the PO: Helping the Scrum Team understand the need for clear and concise Product Backlog items.
- 13 [Sprint Review] The Product Owner explains what Product Backlog items have been “Done” and what hasn’t been “Done.”
- 13 The result of the Sprint Review is a revised Product Backlog that defines the probable Product Backlog items for the next Sprint. The Product Backlog may also be adjusted overall to meet new business opportunities.
- 15 Product Backlog items have the attributes of description, order, estimate, and value.
- 15 Product Backlog items often include test descriptions that will prove its completion when “Done.”
- 15 [The Product Backlog refinement] is an ongoing process in which the Product Owner and the Development Team collaborate on the details of Product Backlog items.
- 15 However, Product Backlog items can be updated at any time by the Product Owner or at Product Owner’s discretion.



- 15 Higher ordered Product Backlog items are usually clearer and more detailed than lower ordered ones.
- 15 Product Backlog items that will occupy the Development Team for the upcoming Sprint are refined so that any one item can be reasonably “Done” within the Sprint time-box.
- 15 Product Backlog items usually acquire this degree of transparency through the above described [Product Backlog] refining activities.
- 16 The Sprint Backlog is a set of Product Backlog items selected for the Sprint, plus a plan for delivering the product Increment and realizing the Sprint Goal.
- 17 The Increment is the sum of all Product Backlog items completed during a Sprint and the value of the Increments of all previous Sprints.
- 18 When a Product Backlog item or an Increment is described as “Done,” everyone must understand what “Done” means.

Progress, Productivity, Trends, Tracking

- 12 The Development Team uses the Daily Scrum to inspect progress toward the Sprint Goal and to inspect how progress is trending toward completing the work in the Sprint Backlog.
- 13 [Sprint Review] The Product Owner discusses the Product Backlog as it stands. He or she projects likely target and delivery dates based on progress to date (if needed).
- 16 At any point, the total work remaining to reach a goal can be summed.
- 16 The Product Owner tracks this total work remaining at least every Sprint Review.
- 16 The Product Owner compares this amount with the work remaining at the previous Sprint Review to assess progress toward completing projected work by the desired time for the goal. This information is made transparent to all stakeholders.
- 16 Various projective practices upon trending have been used to forecast progress, like burn-downs, burn-ups, or cumulative flows. These have proven useful.
- 16 However, these [practices] do not replace the importance of empiricism. In complex environments, what will happen is unknown. Only what has already happened may be used for forward-looking decision-making.
- 16 As work is performed or completed [during the Sprint], the estimated remaining work is updated.
- 17 At any point in time in a Sprint, the total work remaining in the Sprint Backlog can be summed.
- 17 The Development Team tracks this total work remaining at least for every Daily Scrum to project the likelihood of achieving the Sprint Goal.
- 17 By tracking the remaining work throughout the Sprint, the Development Team can manage its progress.



Product Backlog Refinement

- 15 Product Backlog refinement is the act of adding details, estimates, and order to items in the Product Backlog.
- 15 This is an ongoing process in which the Product Owner and the Development Team collaborate on the details of Product Backlog items.
- 15 During the Product Backlog refinement, items are reviewed and revised.
- 15 The Scrum Team decides, how and when the refinement is done. Refinement usually consumes no more than 10% of the capacity of the Development Team.
- 15 However, Product Backlog items can be updated at any time by the Product Owner or at Product Owner's discretion.
- 15 Product Backlog items usually acquire this degree of transparency through the above described refining activities.

Quality

- 9 [During the Sprint] Quality goals do not decrease.
- 14 During each Sprint Retrospective, the Scrum Team plans ways to increase product quality by improving work processes or adapting the definition of "Done", if appropriate and not in conflict with product or organizational standards.
- 18 The purpose of each Sprint is to deliver Increments of potentially releasable functionality that adhere to the Scrum Team's definition of "Done."
- 18 As Scrum Teams mature, it is expected that their definition of "Done" will expand to include more stringent criteria for higher quality.
- 18 New definitions [of "Done"], as used, may uncover work to be done in previously "Done" Increments.
- 18 Any one product or system should have a definition of "Done" that is a standard for any work done on it.

Release

- 17 The increment must be in a useable condition regardless of whether the Product Owner decides to release it.
- 18 This increment is usable, so a Product Owner may choose to immediately release it.
- 18 The purpose of each Sprint is to deliver Increments of potentially releasable functionality that adhere to the Scrum Team's definition of "Done."



Requirements

- 6 No one can force the Development Team to work from a different set of requirements [than the Product Backlog].
- 15 [The Product Backlog] is the single source of requirements for any change to be made to the product.
- 15 The Product Owner is responsible for the Product Backlog, including its content, availability, and ordering.
- 15 The earliest development of [the Product Backlog] lays out the initially known and best-understood requirements.
- 15 The Product Backlog lists all features, functions, requirements, enhancements, and fixes that constitute the changes to be made to the product in future releases.
- 15 Requirements never stop changing, so a Product Backlog is a living artifact.
- 15 Changes in business requirements, market conditions, or technology may cause changes to the Product Backlog.

Risk

- 4 Scrum employs an iterative, incremental approach to optimize predictability and control risk.
- 9 Each sprint maybe considered as a project with no more than a one-month horizon.
- 9 Sprints are limited to one calendar month. When a Sprint's horizon is too long the definition of what is being built may change, complexity may rise, and risk may increase.
- 9 Sprints also limit risk to one calendar month of cost.
- 10 A Sprint would be cancelled if the Sprint Goal becomes obsolete. This might occur if the company changes direction or if market or technology conditions change. But, due to the short duration of Sprints, cancellations rarely make sense.
- 13 [Sprint Review] Review of timeline, budget, potential capabilities, and marketplace for the next anticipated releases of functionality or capability of the product.
- 16 As work is performed or completed [during the Sprint], the estimated remaining work is updated.
- 17 Scrum relies on transparency. Decisions to optimize value and control risk are made based on the perceived state of the artifacts.
- 17 To the extent that the artifacts are incompletely transparent, these decisions can be flawed, value may diminish and risk may increase.



Scaling Scrum

- 15 Multiple Scrum Teams often work together on the same product. One Product Backlog is used to describe the upcoming work on the product. A Product Backlog attribute that groups items may then be employed.
- 18 If there are multiple Scrum Teams working on the system or product release, the Development Teams on all Scrum Teams must mutually define the definition of “Done.”
- 18 Each Increment is additive to all prior Increments and thoroughly tested, ensuring that all Increments work together.

Scope

- 8 SM services to the PO: Ensuring the goal, scope, and product domain are understood by everyone on the Scrum Team as well as possible.
- 9 During the Sprint: Scope may be clarified and re-negotiated between the Product Owner and Development Team as more is learned.
- 11 If the work turns out to be different than the Development Team expected, they collaborate with the Product Owner to negotiate the scope of the Sprint Backlog within the Sprint.

Scrum Theory

- 7 Scrum Masters do this by helping everyone understand Scrum theory, practices, rules, and values.

Scrum Values

- 5 When the values of commitment, courage, focus, openness and respect are embodied and lived by the Scrum Team, the Scrum pillars of transparency, inspection, and adaptation come to life and build trust for everyone.
- 5 People personally commit to achieving the goals of the Scrum Team.
- 5 The Scrum Team members have the courage to do the right thing and work on tough problems.
- 5 Everyone focuses on the work of the sprint and goals of the Scrum Team.
- 5 The Scrum Team and the stakeholders agree to be open about all the work and the challenges with performing the work.
- 5 Scrum Team members respect each other to be capable, independent people.



- 14 The purpose of the Sprint Retrospective is to: inspect how the Scrum Team went with regard to people, relationships, process, and tools.

Self-Organization

- 6 Self-organizing teams choose how to best accomplish their work, rather than being directed by others outside the team.
- 6 No one can force the Development Team to work from a different set of requirements [than the Product Backlog].
- 7 Development Teams are structured and empowered by the organization to organize and manage their own work.
- 7 [Development Teams] are self-organizing. No one (not even the Scrum Master) tells the Development Team how to turn Product Backlog into Increments of potentially releasable functionality.
- 8 SM services to the Development Team: Coaching the Development Team in self-organization and cross-functionality.
- 10 The number of items selected from the Product Backlog for the Sprint is solely up to the Development Team. Only the Development Team can assess what it can accomplish over the upcoming Sprint.
- 11 The Development Team self-organizes to undertake the work in the Sprint Backlog, both during Sprint Planning and as needed throughout the Sprint.
- 11 The Development Team may also invite other people to attend [the Sprint Planning] to provide technical or domain advice.
- 11 By the end of the Sprint Planning, the Development Team should be able to explain to the Product Owner and the Scrum Master how it intends to work as a self-organizing team to accomplish the Sprint Goal and create the anticipated product Increment.
- 11 If the work turns out to be different than the Development Team expected, they collaborate with the Product Owner to negotiate the scope of the Sprint Backlog within the Sprint.
- 12 The Daily Scrum is held every day. At it, the Development Team plans the work for the next 24 hours.
- 12 This optimizes team collaboration and performance by inspecting the work since the last Daily Scrum and forecasting upcoming Sprint work.
- 12 Every day, the Development Team should understand how it intends to work together as a self-organizing team to accomplish the Sprint Goal and create the anticipated Increment at the end of the Sprint.
- 12 The Development Team members often meet immediately after the Daily Scrum for detailed discussions, or to adapt, or replan, the rest of the Sprint's work.



- 12 Daily Scrums improve communications, eliminate other meetings, identify impediments to development for removal, highlight and promote quick decision-making, and improve the Development Team's level of knowledge. This is a key inspect and adapt meeting.
- 14 The Scrum Master encourages the Scrum Team to improve, within the Scrum process framework, its development process and practices to make it more efficient and enjoyable for the next Sprint.
- 14 During each Sprint Retrospective, the Scrum Team plans ways to increase product quality by improving work processes or adapting the definition of "Done", if appropriate and not in conflict with product or organizational standards.
- 15 The Product Owner may influence the Development Team by helping it understand and select trade-offs, but the people who will perform the work make the final estimate.
- 17 By tracking the remaining work throughout the Sprint, the Development Team can manage its progress.
- 18 If "Done" for an Increment is not a convention of the development organization, the Development Team of the Scrum Team must define a definition of "Done" appropriate for the product.

Servant Leadership

- 7 The Scrum Master is a servant-leader for the Scrum Team.
- 8 SM services to the Organization: Leading and coaching the organization in its Scrum adoption.
- 14 The Scrum Master ensures that the [Sprint Retrospective] is positive and productive.
- 14 The Scrum Master encourages the Scrum Team to improve, within the Scrum process framework, its development process and practices to make it more efficient and enjoyable for the next Sprint.

Sprint Goal

- 5 Scrum users must frequently inspect Scrum artifacts and progress toward a Sprint Goal to detect undesirable variances.
- 9 During the Sprint: No changes are made that endanger the Sprint Goal.
- 9 During the Sprint: Scope may be clarified and re-negotiated between the Product Owner and Development Team as more is learned.
- 9 Each Sprint has a goal of what is to be built, a design and flexible plan that will guide building it, the work, and the resultant product increment.
- 9 Sprints enable predictability by ensuring inspection and adaptation of progress toward a Sprint Goal at least every calendar month.



- 10 [Sprint Planning] The Product Owner discusses the objective that the Sprint should achieve and the Product Backlog items that, if completed in the Sprint, would achieve the Sprint Goal.
- 11 During the Sprint Planning the Scrum Team also crafts a Sprint Goal.
- 11 The Sprint Goal is an objective that will be met with the Sprint through the implementation of the Product Backlog, and it provides guidance to the Development Team on why it is building the Increment.
- 11 Having set the Sprint Goal and selected the Product Backlog items for the Sprint, the Development Team decides how it will build this functionality into a “Done” product Increment during the Sprint.
- 11 The Sprint Goal is an objective set for the Sprint that can be met through the implementation of Product Backlog.
- 11 The Sprint Goal gives the Development Team some flexibility regarding the functionality implemented within the Sprint.
- 11 The selected Product Backlog items deliver one coherent function, which can be the Sprint Goal.
- 11 The Sprint Goal can be any other coherence that causes the Development Team to work together rather than on separate initiatives.
- 12 The Daily Scrum optimizes the probability that the Development Team will meet the Sprint Goal.
- 12 Every day, the Development Team should understand how it intends to work together as a self-organizing team to accomplish the Sprint Goal and create the anticipated Increment at the end of the Sprint.
- 12 [Daily Scrum] The structure of the meeting is set by the Development Team and can be conducted in different ways if it focuses on progress toward the Sprint Goal.
- 16 The Sprint Backlog is a set of Product Backlog items selected for the Sprint, plus a plan for delivering the product Increment and realizing the Sprint Goal.
- 16 [Sprint Backlog] This emergence occurs as the Development Team works through the plan and learns more about the work needed to achieve the Sprint Goal.
- 17 The Development Team tracks this total work remaining at least for every Daily Scrum to project the likelihood of achieving the Sprint Goal.

Stakeholders

- 5 [Scrum Values] The Scrum Team and the stakeholders agree to be open about all the work and the challenges with performing the work.
- 6 For a Product Owner to succeed, the entire organization must respect his or her decisions. The Product Owner’s decisions are visible in the content and the ordering of the Product Backlog.



- 6 No one can force the Development Team to work from a different set of requirements [than the Product Backlog].
- 7 [Development Teams] are self-organizing. No one (not even the Scrum Master) tells the Development Team how to turn Product Backlog into Increments of potentially releasable functionality.
- 7 The Scrum Master helps those outside the Scrum Team to understand which of their interactions with the Scrum Team are helpful and which aren't.
- 7 The Scrum Master helps everyone change these interactions to maximize the value created by the Scrum Team.
- 8 SM services to the Organization: Helping employees and stakeholders understand and enact Scrum and empirical product development.
- 12 The Daily Scrum is an internal meeting for the Development Team. If others are present, the Scrum Master ensures that they do not disrupt the meeting.
- 13 During the Sprint Review, the Scrum Team and the stakeholders collaborate about what was done in the Sprint.
- 13 [Sprint Review] This is an informal meeting, not a status meeting, and the presentation of the Increment is intended to elicit feedback and foster collaboration.
- 13 [Sprint Review] Attendees include the Scrum Team and the key stakeholders invited by the Product Owner.
- 16 The Product Owner compares this amount with the work remaining at the previous Sprint Review to assess progress toward completing projected work by the desired time for the goal. This information is made transparent to all stakeholders.
- 17 The Scrum Master must work with the Product Owner, Development Team, and other involved parties to understand if the artifacts are completely transparent.
- 17 There are practices to cope with incomplete transparency; the Scrum Master must help everyone apply the most appropriate practice in the absence of complete transparency.

Technical Debt

- 6 The Product Owner is responsible for maximizing the value of the product resulting from work of the Development Team.
- 6 The Product Owner is the sole person responsible for managing the Product Backlog.
- 6 ...but those wanting to change a Product Backlog item's priority must address the Product Owner.
- 9 During the Sprint: Scope may be clarified and re-negotiated between the Product Owner and Development Team as more is learned.



- 10 [Sprint Planning] The Product Owner discusses the objective that the Sprint should achieve and the Product Backlog items that, if completed in the Sprint, would achieve the Sprint Goal.
- 10 The number of items selected from the Product Backlog for the Sprint is solely up to the Development Team. Only the Development Team can assess what it can accomplish over the upcoming Sprint.
- 11 The Product Owner can help to clarify selected Product Backlog items and make trade-offs [during Sprint Planning].
- 11 Having set the Sprint Goal and selected the Product Backlog items for the Sprint, the Development Team decides how it will build this functionality into a “Done” product Increment during the Sprint.
- 11 The Sprint Goal gives the Development Team some flexibility regarding the functionality implemented within the Sprint.
- 11 If the work turns out to be different than the Development Team expected, they collaborate with the Product Owner to negotiate the scope of the Sprint Backlog within the Sprint.
- 16 The Sprint Backlog makes visible all the work that the Development Team identifies as necessary to meet the Sprint Goal.
- 16 As new work is required, the Development Team adds it to the Sprint Backlog.
- 16 When elements of the plan are deemed unnecessary, they are removed [by the Development Team].
- 16 Only the Development Team can change the Sprint Backlog during a Sprint.
- 16 The Sprint Backlog is a highly visible, real-time picture of the work that the Development Team plans to accomplish during the Sprint, and it belongs solely to the Development Team.
- 18 If “Done” for an Increment is not a convention of the development organization, the Development Team of the Scrum Team must define a definition of “Done” appropriate for the product.
- 18 New definitions [of “Done”], as used, may uncover work to be done in previously “Done” Increments.
- 18 Any one product or system should have a definition of “Done” that is a standard for any work done on it.
- SW A strategy change may introduce technical debt if the application is not supporting that change.

Testing

- 15 Product Backlog items often include test descriptions that will prove its completion when “Done.”



- 18 Each Increment is additive to all prior Increments and thoroughly tested, ensuring that all Increments work together.

Transparency

- 4 Three pillars uphold every implementation of empirical process control: transparency, inspection, and adaptation.
- 5 Significant aspects of the process must be visible to those responsible for the outcome.
- 5 Transparency requires those aspects to be defined by a common standard so observers can share a common understanding of what is being seen.
- 5 A common language referring to the process must be shared by all participants.
- 5 Those performing the work and those inspecting the resulting increment must share a common definition of “Done.”
- 6 Product Backlog management includes: Ensuring the Product Backlog is visible, transparent, and clear to all, and shows what the Scrum Team will work on next.
- 14 Scrum’s artifacts represent work or value to provide transparency and opportunity for inspection and adaptation.
- 14 Artifacts defined by Scrum are specifically designed to maximize transparency of key information so that everybody has the same understanding of the artifact.
- 15 Product Backlog items usually acquire this degree of transparency through the above described [Product Backlog] refining activities.
- 16 The Product Owner compares this amount with the work remaining at the previous Sprint Review to assess progress toward completing projected work by the desired time for the goal. This information is made transparent to all stakeholders.
- 16 As work is performed or completed [during the Sprint], the estimated remaining work is updated.
- 16 The Sprint Backlog is a highly visible, real-time picture of the work that the Development Team plans to accomplish during the Sprint, and it belongs solely to the Development Team.
- 17 At any point in time in a Sprint, the total work remaining in the Sprint Backlog can be summed.
- 17 Scrum relies on transparency. Decisions to optimize value and control risk are made based on the perceived state of the artifact.
- 17 To the extent that the artifacts are incompletely transparent, these decisions can be flawed, value may diminish and risk may increase.
- 17 The Scrum Master must work with the Product Owner, Development Team, and other involved parties to understand if the artifacts are completely transparent.



- 17 There are practices to cope with incomplete transparency; the Scrum Master must help everyone apply the most appropriate practice in the absence of complete transparency.
- 18 Although [the meaning of “Done”] may vary significantly per Scrum Team, members must have a shared understanding for what it means for work to be complete, to ensure transparency.
- 18 Any one product or system should have a definition of “Done” that is a standard for any work done on it.

Utilization

- 11 If the Development Team determines it has too much or too little work, it may renegotiate the selected Product Backlog items with the Product Owner.

Value

- 6 The Product Owner is responsible for maximizing the value of the product resulting from work of the Development Team.
- 6 Product Backlog management includes: Optimizing the value of the work the Development Team performs.
- 7 The Scrum Master helps everyone change these interactions to maximize the value created by the Scrum Team.
- 8 SM services to the PO: Ensuring that the Product Owner knows how to arrange the Product Backlog to maximize value.
- 8 SM services to the Development Team: Helping the Development Team to create high value products.
- 13 [Sprint Review] Based on that and any changes to the Product Backlog during the Sprint, attendees collaborate on the next things that could be done to optimize value.
- 14 Scrum’s artifacts represent work or value to provide transparency and opportunity for inspection and adaptation.
- 15 Product Backlog items have the attributes of description, order, estimate, and value.
- 17 Scrum relies on transparency. Decisions to optimize value and control risk are made based on the perceived state of the artifact.
- 17 To the extent that the artifacts are incompletely transparent, these decisions can be flawed, value may diminish and risk may increase.



Velocity

- 10 [Sprint Planning] The input to this meeting is the Product Backlog, the latest product Increment, projected capacity of the Development Team during the Sprint, and the past performance of the Development Team.

Waste

- 5 If an inspector determines that one or more aspects of a process deviate outside acceptable limits, and the resulting product will be unacceptable, the process or material being processed must be adjusted.
- 9 [Time-boxing] The remaining events may end whenever the purpose of the event is achieved, ensuring an appropriate amount of time is spent without allowing waste in the process.
- 10 Sprint cancellations are often traumatic to the Scrum Team, and are very uncommon.
- 15 Higher ordered Product Backlog items are usually clearer and more detailed than lower ordered ones.
- 15 More precise estimates are made based on the greater clarity and increased detail; the lower the order, the less detail.



About the Curator



Stefan is a [Professional Scrum Trainer with Scrum.org](#), an Agile Coach, and Scrum Master.



He is specializing in coaching agile practices for change, for example, agile software development with Scrum, LeSS, Kanban, and Lean Startup, as well as product management.

He also serves as one of the XSCALE Alliance stewards and coaches organizations in business agility. Additionally, he is a licensed facilitator of the Agile Fluency™ Team Diagnostic.

He has served in senior leadership positions several times throughout his career. His agile coaching expertise focuses on scaling product delivery organizations of fast-growing, venture-capital funded startups, and transitioning existing product teams in established enterprise organizations.

Stefan is also curating the popular [‘Food for Agile Thought’ newsletter](#) for the global Agile community with 22,000-plus subscribers. He blogs about his experiences on [Age-of-Product.com](#) and hosts the most significant global Slack community of agile practitioners with more than 5,400 members.

His ebooks on agile topics have been downloaded more than 36,000 times. Lastly, Stefan is the organizer of the [Agile Camp Berlin](#), a Barcamp for 200-plus agile practitioners.

Read more about Stefan at [Scrum.org](#), and connect with him via [LinkedIn](#), or [Twitter](#), or privately via [email](#).