

Scrum Essentials Cards

EXPERIENCES OF
SCRUM TEAMS
IMPROVING WITH
ESSENCE

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This article presents a series of examples and case studies on how people have used the Scrum Essentials cards to benefit their teams and improve how they work.

Scrum is one of the most popular agile frameworks used successfully all over the world. It has been taught and used for 15-plus years. It is by far the most used practice when developing software, and it has been generalized to be applicable for not just software but all kinds of products. It has been taught to millions of developers, all based on the Scrum Guide.⁶ Today all our Scrum training is accompanied by a set of cards designed using the Essence standard, which has given us a better Scrum.

Scrum is described succinctly in fewer than 20 pages in the Scrum Guide. Although Scrum is relatively simple in structure, teams can always improve their application of it and increase their effectiveness.

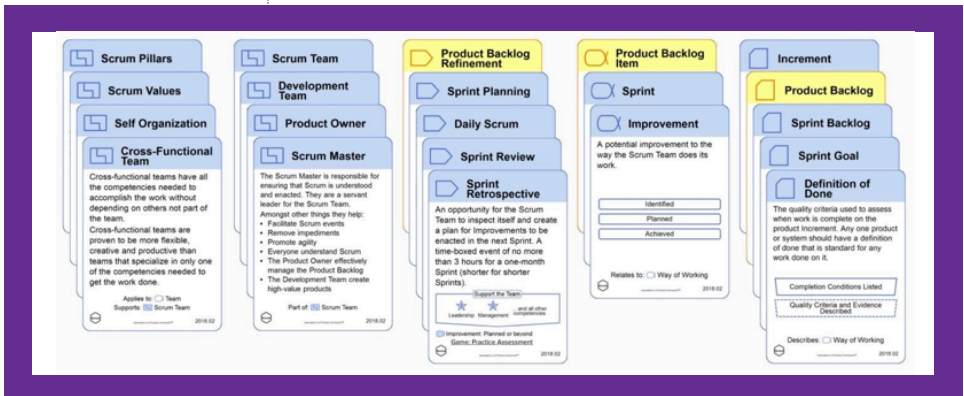
One way of improving is to use Essence,^{2,3} an industry standard for describing practices such as Scrum. It takes the key content of a practice and represents it in a standard way, allowing practices from many places to be understood, compared, and used together.

Making the practice content tangible on cards allows teams to see and directly manipulate the ideas and concepts. The essential elements of Scrum are represented on the 21 cards seen in figure 1, showing all the values, principles, roles, activities, and the things produced.

The cards are moved, grouped, or ordered by the team in collaborative sessions as they make decisions about their own way of working. The card metaphor naturally prompts the right kind of conversation and encourages all team members to be involved in a hands-on, interactive, and fun way.

The rest of this paper shows a few of the ways that the cards can be used:

FIGURE 1: **ESSENTIAL ELEMENTS OF SCRUM**



- Individual and teams *learning* new practices and enhancing training events.
- Team retrospectives *improving* the team's way of working.
- Planning activities while efficiently *coordinating* the team and other stakeholders.
- *Agreeing on responsibilities* within the team and, importantly, with external stakeholders.
- *Tracking progress* of the key items under development.
- *Determining the current status* of the endeavor.
No doubt you will come up with your own when you have the cards in your hands.

LEARNING WITH THE CARDS

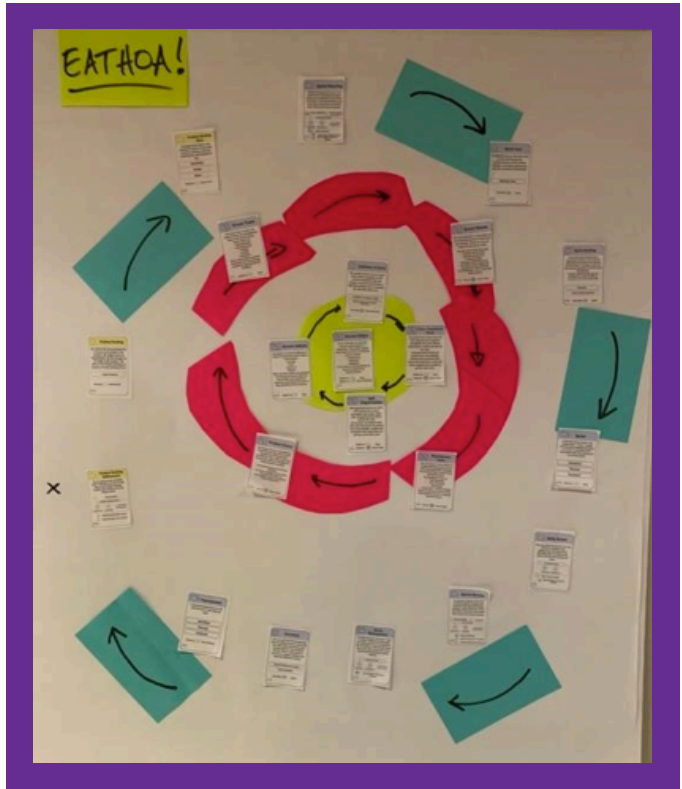
One of the biggest challenges in implementing and scaling Scrum is having all team members agree on what Scrum is and how it is to be implemented in the organization. The Essence cards provide a standard definition of Scrum with all of its 21 components as defined in the Scrum Guide. We start with an exercise called “Build Your Own Scrum” using the Essence cards.

Every team in the organization puts a copy of the cards on a flip chart with lines and labels that connect and explain the interrelationship between Scrum components, as shown in figure 2.

When the teams have completed an image of Scrum, each one presents its Scrum to all the other teams.

We then ask the teams to identify which components of Scrum are properly implemented, which are poorly implemented, and which are not implemented at all. On average, teams implement a third of the components well,

FIGURE 2: CHART SHOWING INTERRELATIONSHIP BETWEEN COMPONENTS



one-third poorly, and one-third not at all. This clarifies why they are having trouble with their Scrum implementations. If one-third of the components of a car were missing, the teams would understand they might have trouble driving the car to a destination.

IMPROVING WITH RETROSPECTIVES

An important part of Scrum is for the team to regularly

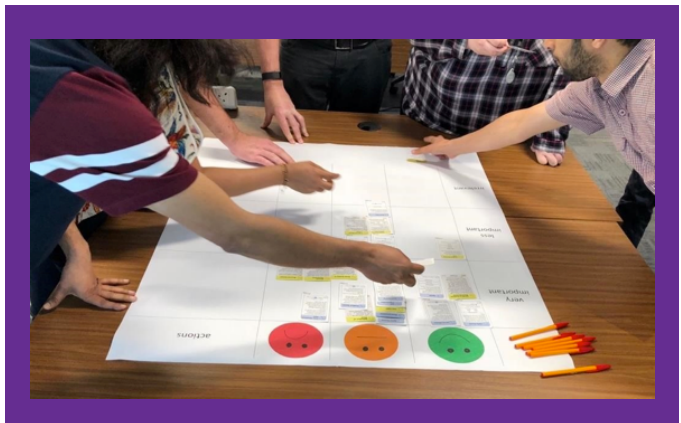
inspect and improve their way of working. Using the Scrum Essentials cards on a board, as seen in figure 3, allows the team to have good dynamic discussions while being prompted not to forget things.

The board has two dimensions. The vertical axis represents how important that concept is to the team, while the horizontal axis is how well the team feels they performed in that area. The team then places the cards appropriately and move them around as they discuss and assess how they work.

The brief content on each card can be relied upon to summarize the most important information from the Scrum Guide. This helps reduce any circular discussions from team members about their personal interpretations of each concept and keeps the Scrum Guide alive and at the team's fingertips.

One common weakness when teams perform a

FIGURE 3: **USE OF CARDS ON A BOARD**



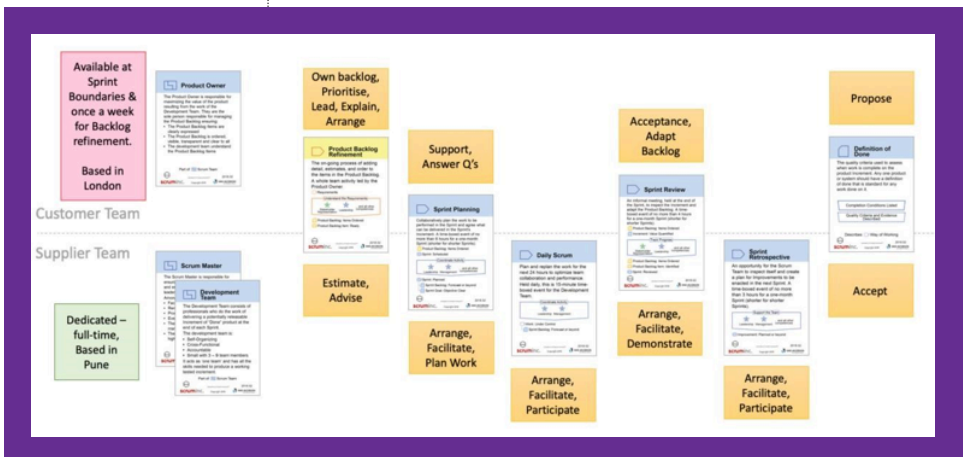
Retrospective is that they talk about the problems without then agreeing on the improvement actions to plan for the next sprint. A simple column on the side of the board prompts the team to identify these improvements. The problems on which to focus will be at the top right-hand corner, which represents the high-priority but poorly performed items.

AGREEING ON RESPONSIBILITIES

Software development is usually a team sport requiring the coordination of people with many different skillsets. Another simple board on which to place the Essence cards is one focusing on responsibilities, seen in figure 4. The board has a simple line across it, separating the roles that will agree on how they will work together.

This type of active discussion has proved especially

FIGURE 4: **RESPONSIBILITY BOARD**



useful among different parts of an organization or even when the roles come from different organizations, such as in this example where a Product Owner is working with a development team from an external supplier.

The cards' vertical position shows who is wholly responsible, jointly responsible, or taking the lead for each concept. With a collaborative framework such as Scrum, it's no surprise that many items straddle the line, so the team here has added notes to either side to describe the nature of their expected involvement.

This team realized they had to make some compromises with their remote Product Owner and would have to carefully make best use of their time as they wouldn't be able to have access the Product Owner on demand during each sprint.

When things get more formal, and perhaps contracts are drawn up between organizations intending to work jointly with an agile approach, this kind of facilitated session between parties is a good starting point for discussions before things get turned into legalese.

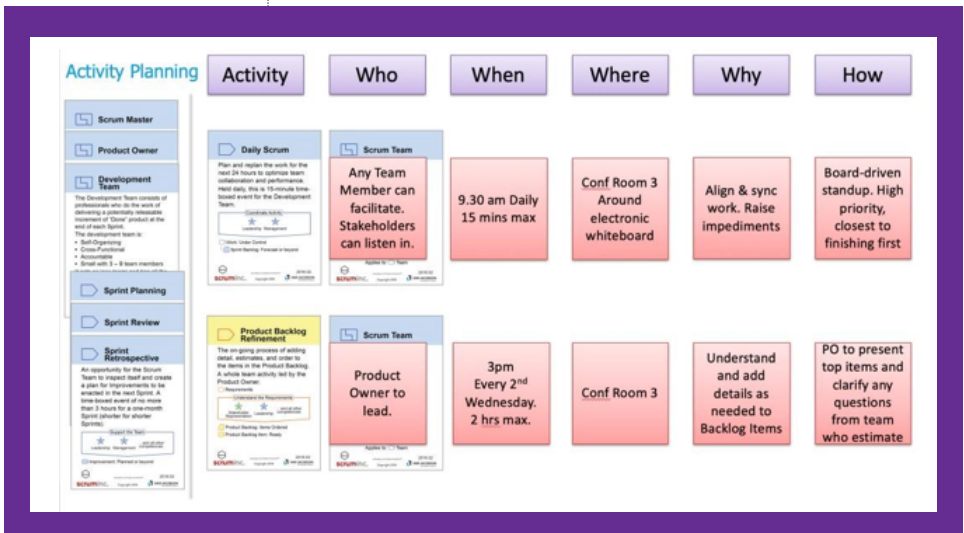
PLANNING ACTIVITIES

In this example the Scrum Essentials cards are used to visualize the practicalities of performing the team's activities. Most teams are already up and running, so a two-step approach can be used.

First, the team distinguishes between the activities that are currently being performed OK and which ones need to be set up for the first time or definitely need to be improved. This can be done using the Retrospective board as described previously.

The second step is for the team to agree how best to do these activities, prompted by the general questions of Who?, When?, Where?, Why?, and How? The activities and roles start off on the far left-hand side, and the activity cards to be focused on are then moved to the right to the Activity column, as shown in figure 5. In this example the two activities of interest from before are the Daily Scrum and Product Backlog Refinement. They are discussed by the team, and the Scrum Team role card has been placed in the Who column with some notes added for clarification. Notes have been similarly added to capture the team decisions made when prompted by the questions in the remaining columns.

FIGURE 5: WHO, WHEN, WHERE, WHY AND HOW?



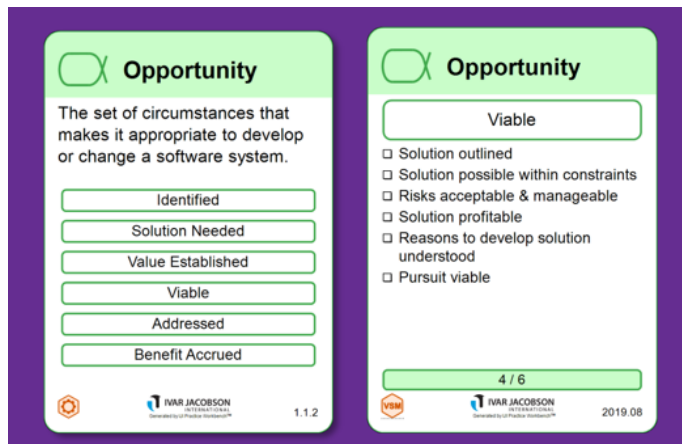
WHERE ARE WE IN THE BIG PICTURE?

Most teams are used to tracking the state of the smaller things like individual Product Backlog Items or Improvements. Essence helps by providing a clear description of the states they go through, but even so it is easy for a team to lose sight of the bigger picture of their endeavor.

Essence refers to these things a team wants to track as *Alphas*, each with a defined lifecycle of states and a checklist for each state. Essence also describes some of these key Alphas that always have to be considered regardless of the specific practices being used. They are universally applicable and help a team see where they are in the big picture.

These elements, known as the Essence Kernel, describe the overall Opportunity, Stakeholders, Requirements, System, Team, Work, and Way of Working. Figure 6 shows

FIGURE 6: **OPPORTUNITY ALPHA**



an example of the Opportunity alpha with its lifecycle and a checklist for one of the states.

Laying the cards out like an abacus on a table showing the sequence of states for these top-level items allows the team to reason about where they are. They can consider each state in turn, examine the checklist, and move the card across if they feel they have adequately achieved it.

Many teams find they make a lot of progress with their system but often forget key things to do with understanding the original opportunity, or not involving the right stakeholders in the right way.

Of course, it's not just a way to see where you are; the states and checklists also indicate what you should consider next.

BEYOND THE SCRUM ESSENTIALS

The examples shown here have used the Scrum Essentials practice, but there are countless other practices in use around the world. Most teams use combinations of practices that suit their circumstances, and Essence allows these to be seamlessly combined into a single way of working using a consistent language.

Some practices fill in the areas for which Scrum itself doesn't provide guidance, such as User Stories, Use Case 2.0, or Scrum@Scale practices. Other practices complement the essential content of Scrum and help in accelerating its adoption, such as Scrum health checks or other patterns.

Recently we were asked to run a workshop for a set of experienced Scrum Masters in an organization who were looking for a refresher on Scrum and how they

could improve. We designed this exercise using the Scrum Essentials practice and some complementary practices. It had the following structure:

1. Start with an exercise of “Build your own Scrum.” The Scrum Masters capture and explain how the Scrum elements fit together, allowing any misunderstandings of the Scrum practice itself to be surfaced and dealt with first. This is combined with their initial views on which parts are done well, done poorly, or not done at all.
2. Then perform a Scrum Health Check against the Scrum Pillars and Values. Many Scrum Masters focus on the mechanics of Scrum but sometimes do not reflect on the higher-level Pillars and Values of Scrum. The Scrum Health Check practice has a set of pattern cards with statements of what it’s like to be “Awesome” or “Awful” at each one to compare against and identify ones that may need more attention, shown in figure 7.

FIGURE 7: **FOCUS HEALTH CHECK**



3. Conclude by looking forward to examples of how to become a high-performing team.⁵ A Scrum for Hyper-Productive Team practice has a set of pattern cards with descriptions of proven ways that a team can become high performing. Here the Scrum Masters can see which patterns they are already following and which ones they may want to prioritize for adopting.

SCRUM@SCALE

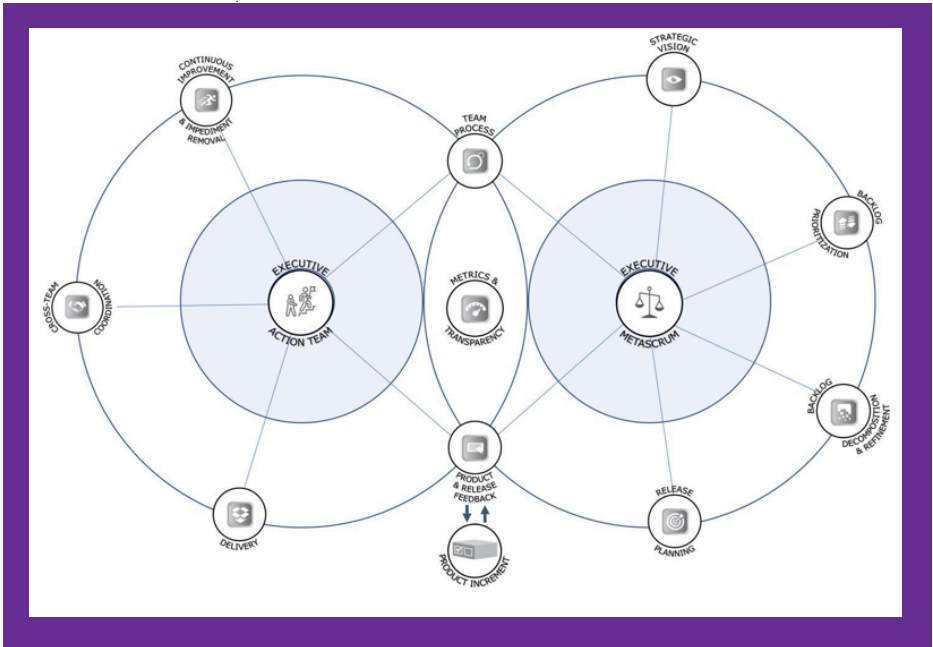
After the success of using the Essence cards in our teaching of Scrum, we are now using Essence cards when teaching Scrum@Scale.⁴ It goes way beyond teaching, however, and enables teams to make decisions about how they will adopt and adapt the Scrum@Scale practices to their circumstances.

When training groups of people online we use an electronic whiteboard tool that allows them to collaboratively manipulate the practices on a series of gameboards. As the number of practice elements increases, then having all the card information visible at once can be overwhelming and a distraction from seeing the big picture. An easy way to overcome this is to use tokens for each element and have an alternative way of looking up the detail if needed.

The example in figure 8 shows an online gameboard featuring a picture of the Scrum@Scale framework on the two overlapping circles. Both Scrum and Scrum@Scale practices have been described as Essence practices, and we use electronic movable tokens that have just the name of each practice element.

First the team discusses and places the Scrum practice

FIGURE 8: THE SCRUM@SCALE GAMEBOARD



tokens onto the board to understand how they relate to the Scrum@Scale framework and see the coverage that the Scrum practice provides. Then the team place the Scrum@Scale tokens onto the board. This shows not only the similarities to nonscaled Scrum, but also the additional things needed to manage Scrum in a scaled environment of many teams.

We also make the cards available on each participant’s phone (figure 9) so they can use that as a reference for themselves at the same time they are manipulating the tokens on the shared board with their team.

FIGURE 9: CARDS ON PHONE



Subsequent exercises get the participants to use the same tokens to build a picture of how they will implement the concepts in their own organization. They decide how many and what kinds of teams and scaled teams they will need, choosing from the options described in the practices. They also decide how many and what kinds of backlogs they will have, which teams will share them, and what the nature of the backlog items are.

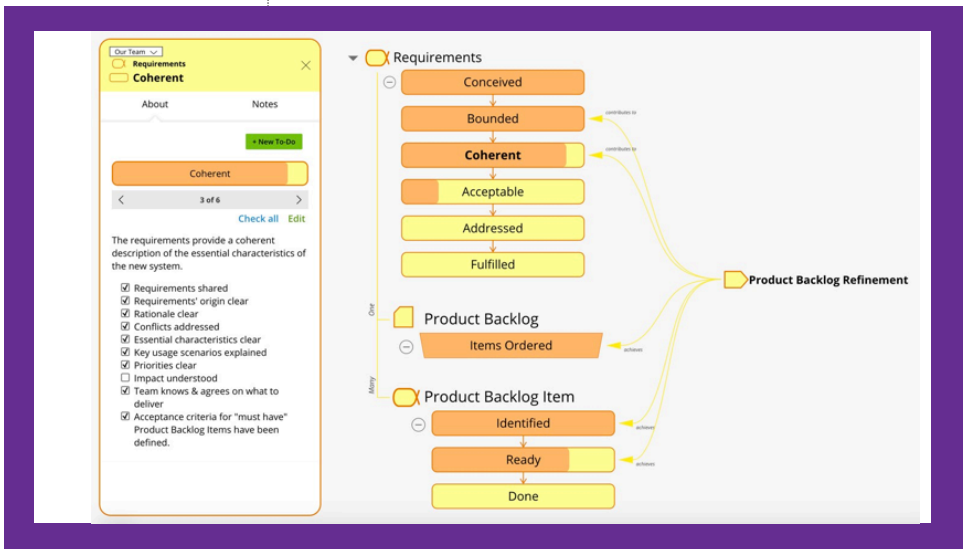
At last we've found a great way with Essence to comprehend a scaled way of working in an organization, ensuring it is understood by all so they can contribute and have ownership of the key decisions on how they work.

THE FUTURE IS SMART

The Essence cards shown in this article are good for face-to-face collaboration and allowing teams to make decisions. If you are mixing and matching practices from many sources or keeping track of your status and using the checklists in your day-to-day work, then some kind of electronic support will be invaluable.

Current development of a new app, Essence in Practice, is being performed on this by Ivar Jacobson International. A preview is shown in figure 10. On the right is a map of the alphas and work products with their relationships within the Essence Kernel. For example, within the Requirements there is one Product Backlog and many Product Backlog Items. The states and levels of details of these items

FIGURE 10: **PREVIEW OF ESSENCE IN PRACTICE**



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are shown on the map, while a detailed card on the left shows more about the particular item being focused on. In this case the focus is on the Coherent state of Requirements; there is a brief description and a checklist of what it means to be considered in that state. The team can check these items off as they are achieved, with the overall progressions being shown by shading the states on the map. The other thing to note in this example is how an activity relates to the other items by showing an arrow to the states or levels of detail it either contributes to or achieves.

These few features enable the beginning of what we call Live Guidance.¹ This is a combination of helping teams assess their current status with the checklists, guiding them as to what to progress to next, and how to do that by showing related activities that can help achieve it.

These planned achievements can be turned into to-do's for the team, prepopulated with the checklists as a starting point, and as they are ticked off the current state is updated. This then allows Live Guidance to know where the team is, prompt what to do next, and so the cycle can repeat.

The future vision is for an ecosystem of practices that are evolved by the community as a whole. Teams will be able to adopt and scale their approach practice by practice, and feed back improvements and experiences of how well it worked in their situations. Depending on what the team sets out to achieve, the system can then recommend which proven practices or specific activities and patterns can help achieve it—even practices that the team is currently unaware of.

FINAL WORDS

Scrum and Scrum@Scale are not limited to software but are applicable for all kinds of endeavors: systems, hardware, innovation. When combined with Essence, they can be elegantly extended with all kinds of practices—technical, human, business—to create trustworthy products.

ACKNOWLEDGMENTS

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References

1. Jacobson, I. 2019. Live Guidance — a revolution in software development practice; <https://www.linkedin.com/pulse/live-guidance-revolution-software-development-ivar-jacobson/>.
2. Jacobson, I., Lawson, H., et al. 2019. *The Essentials of Modern Software Engineering: Free the Practices from the Method Prisons!* ACM Books; <https://dl.acm.org/doi/>

- book/10.1145/3277669.
3. Jacobson, I., Stimson, R. 2018. Tear down the method prisons! Set free the practices *acmqueue* 16(5); <https://queue.acm.org/detail.cfm?id=3301760>.
 4. Scrum@Scale; <https://www.scrumatscale.com>.
 5. Sutherland, J., Harrison, N., Riddle, J. 2014. Teams that finish early accelerate faster: a pattern language for high-performing Scrum teams. In 47th Hawaii International Conference on System Sciences; <https://www.scruminc.com/scrum-papers/teamsthatfinishearlyacceleratefaster/>.
 6. Sutherland, J., Schwaber, K. 2018. Scrum Guide; <https://scrumguides.org>.

Jeff Sutherland, the inventor and co-creator of Scrum, has worked with thousands of companies deploying Scrum and recently launched two global trainer programs for Licensed Scrum Trainer and Certified Scrum@Scale Trainer, in addition to creating two independent companies, Scrum Inc Japan and Scrum@Scale LLC. He has been VP of engineering and CTO or CEO of 11 software companies. In the first four companies he prototyped Scrum and in the fifth company created Scrum as it is now used in 74 percent of agile software companies in more than 100 countries. In 2006 Sutherland established his own company, Scrum Inc., now recognized as the premiere source of Scrum training in the world.

Ivar Jacobson is the creator of Use Cases and the Unified Process, a widely adopted method. He is also one of the three

original developers of the Unified Modeling Language. His current company, Ivar Jacobson International, is focused on using methods and tools in a smart, superlight, and agile way. This work resulted in the creation of a worldwide network, SEMAT (Software Engineering Method and Theory), which has the mission to revolutionize software development based on a kernel of software engineering. The kernel has been realized as a formal OMG (Object Management Group) standard called Essence.

Brian Kerr *is a principal consultant and one of the founders of Ivar Jacobson International in the UK. He is an experienced agile coach, consultant, trainer, and change agent specializing in the adoption of key software-development practices in a pragmatic and sustainable way. He works at all levels with individuals, teams, teams of teams, programs, coaching senior management, and strategic support to organizational improvement programs. He has been involved in the development of the Essence standard since the beginning and in particular formed the early ideas of making the process tangible and representing it on cards to enable serious games. He is currently working on Essence tooling.*

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