A WORLD-LEADING COMPANY IN SECURE COMMUNICATIONS USES SCRUM TO RESTORE ITS COMPETITIVE ADVANTAGE

Scrum.org™

CASE STUDY

THE COMPANY

A world-leading company in secure communications for public sector services.

The Company

The company offers custom and specific communication devices for the military, police, and firefighters, employing people across multiple subsidiaries around the world. They have 20+ offices and representations—directly or via partners—on all continents, and their most important buyers are often ministries, government, and other organizations in the public sector.

Summary

After many years of relative stability, the company found itself struggling with sudden and huge changes in their market. In no more than a few years, competition increased tremendously along with the emergence of new technologies. Having been a dominant player for several decades, the company felt ill-equipped for this new market situation.

They realized that they needed to fundamentally upgrade their operating model to keep up with the changes, and—ultimately—restore their competitiveness. They hired Fabio Panzavolta[1] as an external Scrum coach to help adopt Scrum. They saw Scrum as the framework which they could use to grow toward a new organization and organizational culture.

It was a fascinating journey, with some important retrospective insights that are worth sharing.

1. https://www.scrum.org/fabio-panzavolta

The Problem

The company offers custom and specific communication devices for the military, police, and firefighters. The mission-criticality and public-safety aspects requires the devices to be very robust, and all communication highly reliable and fully secure. Lives may depend on the ability of the users being able to communicate swiftly and reliably in often difficult working conditions.

This market of secure communications has been rather stable—free of huge disruptions or novelties—for several decades. That changed however with the improved stability and reliability of new types of devices and increased security of mobile communication channels.

The market started rapidly evolving toward new innovative hardware and software solutions. The future of the industry is defined in the 3rd Generation Partnership Project (3GPP)[2] in which seven telecommunications standard development organizations defined and continue to evolve standards for radio communications.

It is clear that the end of such evolutions is not in sight yet, and probably never will be. Evolutions are here to stay.

Faced with these evolutions, the company found that their legacy products were still doing reasonably well in the market and provided an excellent source of revenues. However, these current product lines were not seen as a guarantee for long-term viability. An internal assessment confirmed that these legacy products were likely to disappear in 10 years time, with the need to replace them with new ones.

Unfortunately, the investments in new and more innovative products was not paying off. Failing to understand that uncertainty and complexity requires radical change in mindsets is the root problem. The company realized that the legacy was not just in their products, but also in the organization's structures and thinking, despite the adoption of Scrum in some parts of the organization.

They Needed to Think in New Ways

In order to innovate in a market where collaboration with the customer is limited by the nature of the existing culture and relationships and, at the same time, the technical specifications and international standards aren't validated yet, the organization needed to start thinking and acting differently.

In a report ordered by the company's CEO, and issued in early 2018, concerns were reported about scheduling and quality issues on a new innovative product. Time-to-market was too long and quality too low to safeguard the company's competitive position given the new market situation. On top of that, the company experienced difficulties in attracting professionals skilled in newer technologies. These became the three key areas where the company was looking to improve, and quickly.

The report also highlighted that the high levels of software rework were impacting productivity, quality, and the schedule due to an incomplete understanding and use of Scrum practices. Rather than building on an understanding of the underlying Scrum principles of empiricism and self-organization, instead, they used Scrum more like a traditional methodology to be followed, ignoring these tenants and agile thinking.

Evolving From a Mass Market to Customer Value Creation

This evolution requires radical changes. More than a matter of tools or methods, developing and maintaining complex products in unpredictable markets requires a mindset evolution, without which issues will be amplified and not resolved. To compete in the future market of secure communications, the company described in this case study is investing in new innovative products.

Following an interview with the CEO, it was clear that there was a need for an evolution in how innovative products were built. What wasn't clear however was how to implement that need. The possible alternatives taken into consideration were:

2. A Global Partnership. (n.d.). Retrieved May 20, 2020, from https://www.3gpp.org/about-3gpp

- Hire external consultancy firms
- Improve the understanding of Scrum at all levels of the organization and work hard to continuously improve
- Try something else, like hybrid methods

The company's team and Panzavolta agreed on the need for some serious change toward increased agility. They did not feel the need, nor did they have the ambition, to try to change the whole system in one large "Agile transformation." A company that has been around for more than 30 years, with all its organizational habits and practices that were built up over that time, is much too complex of a system to change as a whole over too short of a time span.

The Solution

Uncovering Better Ways of Using Scrum

With the choice to focus on uncovering better ways of using Scrum within the organization, they also made a choice for gradual change. **"We decided to make the organizational transformation we aimed at implicit, rather than an explicit change project,"** said Panzavolta.

Attracted by the approach that Gunther Verheyen described in one of his articles, "Re-imagine your Scrum to firm up your agility,"[3] they leveraged that work and others to get underway. It starts with the idea of making a transformation small by focusing on one tangible product and re-thinking the way Scrum is being used for the development and evolution of that product, meanwhile tackling all organizational issues—for that product only. It is the approach that Panzavolta learned from how Verheyen successfully moved a large financial institute to agile thinking in the early stage of the adoption of Scrum.

Verheyen was brought in to help introduce Scrum to the international executive board in a plenary session. They explored, with the board, complexity, Scrum theory, principles, and the possible implications of adopting Scrum on the organization. Panzavolta stated: **"We emphasized that there are no magic solutions, which implies not trying to copy-paste models or blueprints from other organizations."**

The board meeting ended with an agreement and commitment to follow the following approach:

Select one meaningful initiative,
preferably a clear and bounded product.
And, for that selected initiative:

1. Use the Product Backlog[4] as the single plan.
2. Establish an ecosystem with end-to-end accountability.
3. Create sashimi releases, valuable slices of product.[5]
4. Repeat the above steps for additional initiatives, while improving the existing initiatives.

With the buy-in of the board members, the team began moving to the experimentation of the agreed approach.

Scrum and Organizational Design in Practice

Selecting a meaningful initiative

In the months following the board meeting, one project was selected as the candidate for Scrum. It was a rather small project for a rather important product (that had been stalling for quite some time). By coincidence, Scrum was actually already being used on it.

A period of observation and collaboration allowed Panzavolta to understand how Scrum was used and, eventually, what the most important improvements where, and what obstacles needed removing.

3. Verheyen, G. (2019, May 03). Re-imagine your Scrum to firm up your agility. Ullizee. Retrieved from https://guntherverheyen.com/2019/05/03/re-imagine-your-scrum-to-firm-up-your-agility/

4. Scrum.org. (2016). Scrum Glossary. Retrieved May 20, 2020, from https://www.scrum.org/resources/scrum-glossary

5. (Verheyen, 2019)

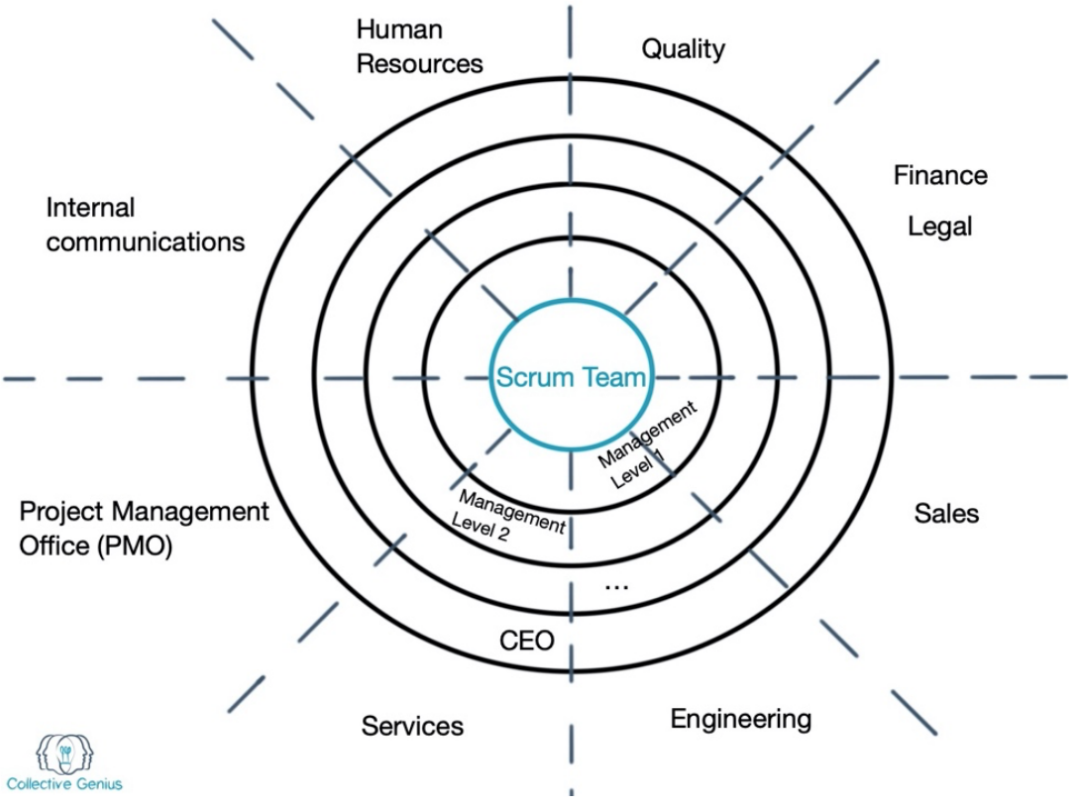


Figure 1. The wider ecosystem that needed to be addressed

Retrospective insight: However, the project having been hand-picked by top management generated quite some anxiety with the Scrum Team. They suddenly found themselves as the center of attention, without being given any supplementary means. A retrospective insight was that people should have invited to participate on a more voluntary basis.

Using Product Backlog as the single plan

The team was working with multiple backlogs: at business level and technical level. This was a reflection of the old project mindset and the separation of business and engineering concerns, with functional specifications and technical specification maintained and managed separately.

This was not just at odds with Scrum, but also an important source of confusion. The use of one Product Backlog as the single plan for the product was needed to have full transparency over all work and remove the separation between business and engineering so that a single solution for this complex domain could be brought together. The team agreed that the work needed to create the product had to be found in one place. In Scrum this is the Product Backlog owned by one person, the Product Owner.

Retrospective insight: The separation between business and engineering (as departments) proved one the biggest and longest impediments to remove. It required work to improve trust between the two entities, in order to stop the business to sell the impossible and engineering to build non valuable functionalities.

Establishing an ecosystem with end-to-end accountability

Although the impact of context-switching was shown and discussed at the management board, there was no established policy for dedicated teams in the organization. Next to establishing a clear understanding and sense of accountability, that was a considerable struggle.

They wanted to establish a Scrum Team that could be dedicated, and thereby maximize its focus on the

selected product and then grow an ecosystem around the self-organizing Scrum Team and their ability to deliver potentially shippable valuable "Done" Increments by the end of each Sprint.

The creation of the ecosystem included the following actions

Professional Scrum™ training

Professional Scrum training[6] sessions were organized for the Scrum Team and all the internal stakeholders, in order to assure that everybody was aligned on the Scrum principles and rules.

An advantage of the Scrum.org Professional Scrum trainings is consistency in the materials used by its global network of Professional Scrum Trainers (PSTs). It made sure that all employees of the company, regardless of their location, were aligned without having to rely on a single trainer or location.

The training sessions had different impacts on individuals:

- **Early adopters** convinced by the need for change and willing to help.
- **Wait and see people**, not willing to be the first to try but observing and ready to jump in at first signs of success
- **Adverse and defeatists** thinking that the organization was introducing yet another methodology and that it won't work as all the other precedent ones.

> **Retrospective insight:** Work with early adopters to start a Scrum community that is willing to demonstrate to the colleagues the advantages of using Scrum. The objective is to make the use of Scrum viral and promoted by internal practitioners.

Product Owner and Scrum Master role descriptions

Self-organization works only if accountabilities are understood and enacted. The Scrum Guide describes the accountabilities of a Product Owner, Development Team member, and Scrum Master.[7]

One of the impediments that the team was dealing with, which is typical in large organizations, was flaccid accountabilities. In this case, the accountabilities of a Scrum Team were scattered between multiple roles in the company.

When employees started to see that Scrum was promoted by the top management, there was a push for fast adoption by many teams, despite the fact that the experimentation was still ongoing. This led to many people self-proclaiming themselves as Product Owners or Scrum Masters without understanding the correspondent accountabilities.

The management team and Panzavolta proposed and collaborated with the Human Resources department to create job descriptions for the Product Owner and Scrum Master roles with the aim to clarify and officialize the Scrum Roles in the company.[8]

> **Retrospective insight:** Avoid the fast and large adoption of terms empty of meaning because with change and transparency you need to be aware of a new vocabulary and its meaning. Being a Product Owner or a Scrum Master isn't simply adding a new title to existing duties.

Continuous improvement

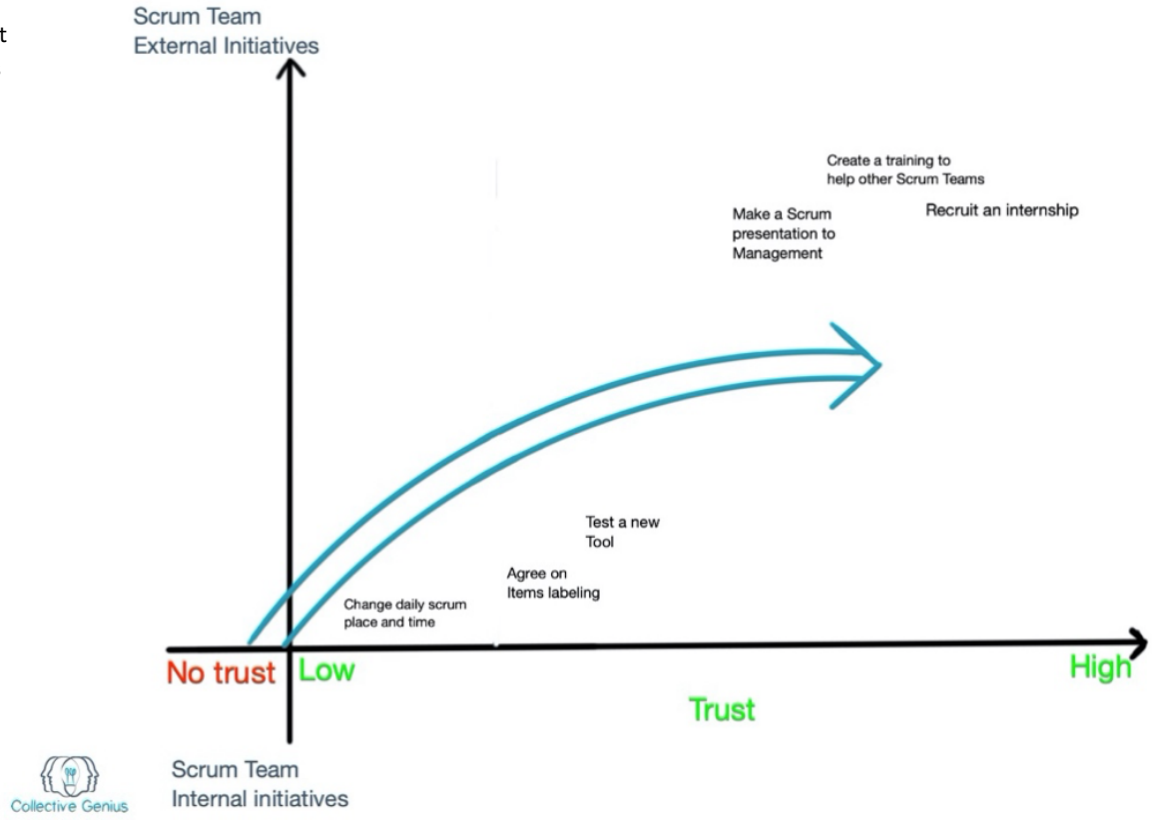
When teams start to "play Scrum," they need to experiment to learn fast as mastery comes from practice, continuously improving and adapting through emergent situations and problems.

6. Scrum.org. (n.d.). Professional Scrum™ Training. Retrieved May 20, 2020, from https://www.scrum.org/courses

7. Schwaber, K., & Sutherland, J. (2017). The Scrum Guide™. Retrieved from https://scrumguides.org/scrum-guide.html

8. Panzavolta, F. (2019, November 15). Four Unbalanced Accountabilities That Can Hurt your Scrum Team. Retrieved from https://www.scrum.org/resources/blog/four-unbalanced-accountabilities-can-hurt-your-scrum-team

Figure 2. Trust and initiatives



It was observed that there was a tendency to think that once the work starts, there's time only for production. This is an illusion, especially for complex adaptive problems.

Complex adaptive problems require the perpetual implementation of new improvement actions at every Sprint. What's working today may not work anymore tomorrow and vice versa.

There was a correlation between trust and importance of the improvement. Low trust decisions were more related to the internal Scrum Team (time and place of the Daily Scrum); high trust decisions implied the whole organization (non-regression testing automatization, hiring a trainee to implement integration testing).

The biggest and hardest improvement that was able to be achieved was a dedicated Development Team. It took eight months to achieve this result.

> **Retrospective insight:** Large organizations focus on people utilization. Time spent in thinking and experimenting is considered a loss of productivity. Solving complex problems requires a safe environment for experimentation and learning for continuous improvement of practices and product.

Reduce the distance between the CEO and the Scrum Team

Those involved experienced a great opportunity to learn to be agile the day that they were asked to report on the experimentation.

They proposed to have an open discussion between the Scrum Team and the board of directors, without any intermediary. This instead transformed a report into a collaborative working session where the top and the bottom of the pyramid worked together on possible improvements.

This unusual experience was very useful for the board members to understand their active role in the

experimentation and for the Scrum Team to share their major successes and impediments.

In the following months, the CEO started to participate in Sprint Reviews.

> **Retrospective insight:** The collaboration between top management and the Scrum Team isn't natural and has to be stimulated. The impediments revealed in the process can hurt people that don't yet understand the principles of Scrum and they can easily start being defensive, instead of collaborating in removing them. Teaching and coaching people in management positions is one of the key factors for success; they have to learn what Servant Leadership[9] is.

Create a safe environment for experimentation and cross-functional fertilization

Acquiring an agile mindset requires practice. The working environment isn't, often, a safe environment to run experiments.

A dedicated physical space was created for all of the people trained in Professional Scrum, not bound to any project or manager, where people could come and practice Scrum, or just talk about their successes and impediments.

The initiative enabled the identification of the early Scrum adopters who were willing to experiment and promote Scrum within the organization.

After a few sessions, the group had the idea to create an internal training to help Scrum Teams getting started with Scrum. It ended up being a very successful and well accepted training by the employees.

> **Retrospective insight:** The aim of the Scrum coach should be to become invisibly present as fast as possible. By creating a safe environment, being available on request and stimulate initiative. "Early Scrum adopters" employees are the best persons the company can find to make the mindset evolution viral.

Help support functions understand the impact of Scrum

"Scrum has no mandatory rules for organizational constructs. [...] Yet, it is nearly impossible to benefit really from adopting Scrum without updating the internal operating systems."[10]

During the experimentation, the teams collaborated with different business units and groups of people in order to remove impediments and improve the way the product was built.

We collaborated with the whole organization, communicating a sense of unity over the silos separation as the role of a Scrum Master is to help the organization understand how to maximize the use of Scrum to create value for their customers. The following list represents a high level view of all the work we initiate together.

- **CEO and Board Members:** Sensibilization workshops and individual coaching
- **Engineering:** Understand and use Scrum for efficient product delivery
- **Quality:** Establishing an organizational Definition of "Done,"[11] coming from the existing stage/gate process, ISO9001 and security requirements
- **Human Resources:** Create and promote the Product Owner and Scrum Master job descriptions; schedule internal trainings and workshops

9. Greenleaf, R. K. (2008). The servant as leader. Westfield, IN: Greenleaf Center for Servant Leadership. https://www.greenleaf.org/products-page/the-servant-as-leader/

10. Verheyen, G. (2017, September 22). Re-vers-ify (re-imagine your Scrum to re-vers-ify your organization). Ullizee. https://guntherverheyen.com/2017/09/22/re-vers-ify-re-imagine-your-scrum-to-re-vers-ify-your-organization/.

11. Schwaber, K., & Sutherland, J. (2017). The Scrum Guide™. Definition of Done. Retrieved from https://www.scrumguides.org/scrum-guide.html#artifact-transparency-done

- **Communication:** Share success stories, promote internal Scrum presentation
- **Legal:** Understand and experiment the agile contract for products developed with Scrum
- **Finance:** Switch from project to product finance reporting
- **Project Management Office:** Understand project and product managers' accountabilities, the project methodology and how they relate to Scrum

> **Retrospective insight:** Silos are the biggest enemies of Agile. It's important to work with all the stakeholders of a Scrum Team to raise awareness of their role in removing impediments. A sense of unity towards the common goal of delighting customers will raise over time reducing the silos barriers and eventually completely remove them.

Creating valuable slices of product, called sashimi releases

Sashimi release is a term used by Gunther Verheyen to indicate small slices of fresh food to eat. A sashimi release is the smallest Increment of product that the Scrum Team is able to create.[12]

The team observed the tendency to work on large batches and worked together to reduce them to the smallest potentially deliverable "Done" Increment of product.

That has been another major impediment faced, and the reality is that the team was unable to do it, at least for the first release that contained one and a half years of work!

Sometimes things take time to evolve, everyone learned to be patient!

> **Retrospective insight:** In order to create sashimi releases, close collaboration between business and engineering is essential. The team revealed how difficult it is to step back and think together to what is the smallest valuable feature that would delight the customers.
>
> Cognitive saturation is one of the problems of being overloaded at work. Coaches run workshops to identify and remove all the work that wasn't bringing value to the customers. The team used the new available time to collaborate on innovative valuable features.

Repeat for additional initiatives

When the Scrum Team is able to deliver potential shippable "Done" Increments of product during each Sprint you may start to look for new Scrum initiatives that will take advantage of some impediments already removed.

While still improving the existing initiatives, new initiatives can be added iteratively and incrementally. Allow for frequent releases of valuable Increments of product for faster learning, cash generation and a constellation of self-sustaining products.

This is a never-ending global effort that will gradually transform the complete organization.

Conclusions

The experimentation allowed the organizations to:

- Reveal the impediments to the realization of faster time to market, better quality and company image
- Use value metrics to understand product performance[13]
- Teach and coach Scrum for a limited number of people in the organization
- Create a community of early adopters practicing and teaching Scrum

12. (Verheyen, 2019)

13. Scrum.org. (n.d.). Evidence Based Management (EBM). Retrieved May 20, 2020, from https://www.scrum.org/resources/evidence-based-management

- Create internal Scrum knowledge and experience, that will be used to help other teams using Scrum in the future
- Successfully pass the first quality audit of a "Scrum-created-product"
- Reduce distance between the top and the bottom of the hierarchical pyramid and stimulate horizontal and vertical collaboration

Classical transformation programs require a huge budget to implement the change at the company level, often by external consultants.

The experimentation allowed the team to demonstrate that starting with small initiatives and iteratively and incrementally adding new products to the Scrum portfolio will cost the company significantly less.

As an example, they suggested to provide Scrum training only to the Scrum Team and all of the internal stakeholders involved in the experimentation, roughly 60 people worldwide. The initial HR idea was to start a three years worldwide training program.

Warning, Hard Work Ahead

The experimentation isn't only made of successes, there are ongoing improvement actions all of the time. New habits and an evolved company culture cannot change overnight. When you start to play a new game, you need lots of efforts to train new "muscles" and to get used to new habits… don't give up!

One of the dangers of this approach is to think that improvement has an end. Complex environments need constant inspection and adaptation. Improvement in this case is a never-ending endeavor.

Agile leaders have the responsibility to constantly challenge the status quo and help the Scrum Teams to improve.

Don't set a deadline for proving that things have changed, instead focus on the results of every improvement action, either positive or not, and learn from that. Until you see, the will to experiment the initiative has to be supported. Results will come.

About Scrum.org

Based on the principles of Scrum and the Agile Manifesto, Scrum.org provides comprehensive training, assessments, and certifications to improve the profession of software delivery.

Throughout the world, our solutions and community of Professional Scrum Trainers empower people and organizations to achieve agility through Scrum.

Ken Schwaber, the co-creator of Scrum, founded Scrum.org in 2009 as a global organization, dedicating himself to improving the profession of software delivery by reducing the gaps so the work and work products are dependable.

Read more whitepapers and case studies about the Scrum and Nexus frameworks in action at:

www.scrum.org/Resources

