OMEGA SOFTWARE USES SCRUM TO IMPLEMENT SCRUM AND TO DRIVE ITS AGILE TRANSFORMATION

INCREASING CLIENT SATISFACTION, TEAM COLLABORATION, MORALE AND MOTIVATION

September 2023

Scrum.org™

CASE STUDY

omegasoftware

THE COMPANY

Omega Software ltd. prides themselves on their commitment to quality and customer satisfaction.

For more than 20 years, Omega Software Ltd. has been one of the leading providers of ICT solutions in Croatia, specializing in developing efficient business solutions for both the public and private sectors. Their mission is to help their clients digitize and modernize their business value streams through innovative, tailor-made software solutions, modern ERP systems, and futuristic Internet of Things (IoT) solutions that transform the way people interact with cities. They are at the forefront of modern digital trends developing ICT systems that have already improved business operations for more than 300,000 users. They pride themselves on their commitment to quality and customer satisfaction.

Most Omega Software products and services are designed for public procurement projects, which typically have a fixed scope, budget, and completion date. Core offerings include digital transformation systems such as Document and Case Management (DMS) and filing systems, enterprise resource planning (ERP) systems, and IoT solutions. They also provide custom development services to meet the unique needs of their clients. Omega Software DMS and ERP products are primarily tailored for the public sector, while their IoT solutions cater to both the public and private sectors. Centrix is a modern, comprehensive, and fully integrated office business management solution that is trusted by over 10,000 satisfied users to streamline their daily work. It combines a robust case and document management system that is fully aligned with the latest regulations for office operations and accompanying legislation. eVisitor is an innovative and comprehensive information system designed for tourist registration and de-registration, connecting all tourist boards across the Republic of Croatia.

The Challenge

Omega Software previously used Waterfall-like processes to develop most products for public procurement projects. They had many challenges related to client satisfaction, team composition, requirement clarity, backlog management, production support issues, and a turbulent development process. In practice, they never complied with strict waterfall process rules. They tended to adjust requirements along the way and needed to approach the later project stages iteratively and apply some agile principles. In most cases, they assembled new teams for each new project, transferring team members from other project teams whose workloads were decreasing according to their plans. This way of working was unsustainable in the mid-and long-term. A simple slippage of one project caused a "butterfly effect" on the entire project portfolio, and constant replanning was necessary. Project teams were short-lived and had no clear guidance in processes, practices, and usage of tools. They were often just a group working on the same project with a narrow focus on delivery. The teams were not self-managed, and work was often assigned to specific people.

The lack of clear accountabilities for backlog management and refinement resulted in unclear requirements that weren't ready for development and caused frequent rework. Teams complained about unclear priorities and scope and had issues with estimating and planning.

They practiced the "big design upfront" approach and "late testing". Such an approach did not leave much room for updating the backlog based on stakeholder feedback. Teams were stressed by feedback instead of welcoming it to better satisfy clients' needs. This decreased process predictability and negatively affected the development process flow.

Another significant negative impact resulted from the need to support existing clients and their production environments. Teams that previously worked on these solutions did not exist anymore, and they were forced to reassemble them fully or partially on occasion. This negatively impacted the performance of existing teams whose team members were (temporarily) reassigned to their previous teams. As a result, their plans and delivery schedules were seriously challenged. They allowed constant unplanned interruptions from different channels, like support and sales. This negatively influenced flow and created additional stress.

Regarding reporting and metrics, they manually reported on project progress and tracked only the working hours. As a result, they lacked a transparent insight into the project portfolio state. They did not have relevant, real-time data for making informed project and product portfolio management-related decisions.

Microsoft Azure DevOps was already their DevOps platform of choice, but its usage was not standardized across teams. Due to lacking knowledge and experience with this platform, departments, and teams used different patterns and practices. Teams were scattered across separate Azure DevOps organizations and team projects. Many useful platform features were completely ignored, like area paths, Backlog hierarchies, ordering of Backlog items, capacity planning, Kanban boards, team hierarchies, portfolio management, analytics and charts, dashboards, Wiki pages, and Test plans.

Beginning their Agile Transformation

Omega Software began an Agile transformation initiative in September 2020, building on the foundation of a few teams called "agile pioneer teams" that were already using some Agile approaches. Prior to this, they experimented with structured teams of 10+ people working on multiple projects and solutions for various clients. While their composition was relatively stable and they had some agile practices in place, such as daily meetings, the reality was that team members were divided into sub-teams focused on specific solutions and dedicated to individual projects. This made the overall team collaboration rather inefficient. Therefore, they decided to transition to project-based teams.

In line with the new approach, they would create a team for a specific project purpose and dissolve it upon project completion. In most cases, this group of people lacked time to mature and evolve into an efficient unit. A few long-term project teams were exceptions to this rule, with enough time to

mature and experiment with agile practices. They became their "pioneers in agile" since they were the first to recognize the benefits of agile and were further motivated to explore and improve. However, their agile practices were applied in isolation, without organization-wide alignment, and resulted in alienation from the rest of the organization, leading to recurring impediments.

The Solution

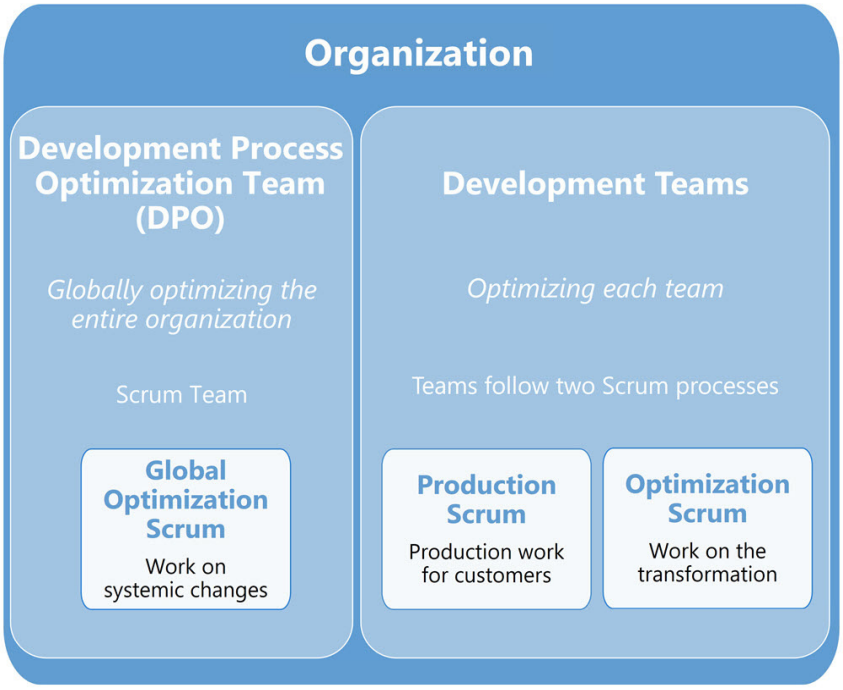
In 2020, Omega Software reached a breaking point where the need to change and address their existing challenges could no longer be ignored. This sparked an organization-wide initiative to implement Scrum and standardize operating practices across the organization, building upon the positive experiences of their agile pioneer teams.

They decided to take a structured approach to their organizational change. The initial steps included a formal assessment of their way of work, including all existing processes, practices, and tools. Their external partner, Agilist IT, with Professional Scrum Trainers Ana Roje Ivancic and Ognjen Bajic, specializing in Agile, Scrum, and DevOps, conducted the assessment. It consisted of questionnaires and interviews with selected representatives and development teams involved in different stages of the end-to-end value stream. "Agilist IT helped us uncover our challenges and discover various organizational optimizations that could lead to achieving our business goals," said Zeljko Tandaric, Board Member and DPO Product Owner.

Using Scrum to Implement Scrum

As a first step, they embraced the approach suggested by Agilist IT to "use Scrum to implement Scrum". They formed a dedicated Scrum Team responsible for the agile transformation at the organizational level called the "Development Process Optimization - DPO" team. This team owns the optimization process and is empowered to enable and drive changes from the top down. Their product is the transformed agile organization. They run experiments and progress based on the feedback and the effects of changes. (See Figures 1 and 2)

1 - Figure 1 shows Transformational activities proceeding on two levels: The Development Process Optimization Team drives systemic changes at the organizational level, while each Development Team transforms itself in parallel with its production activities.

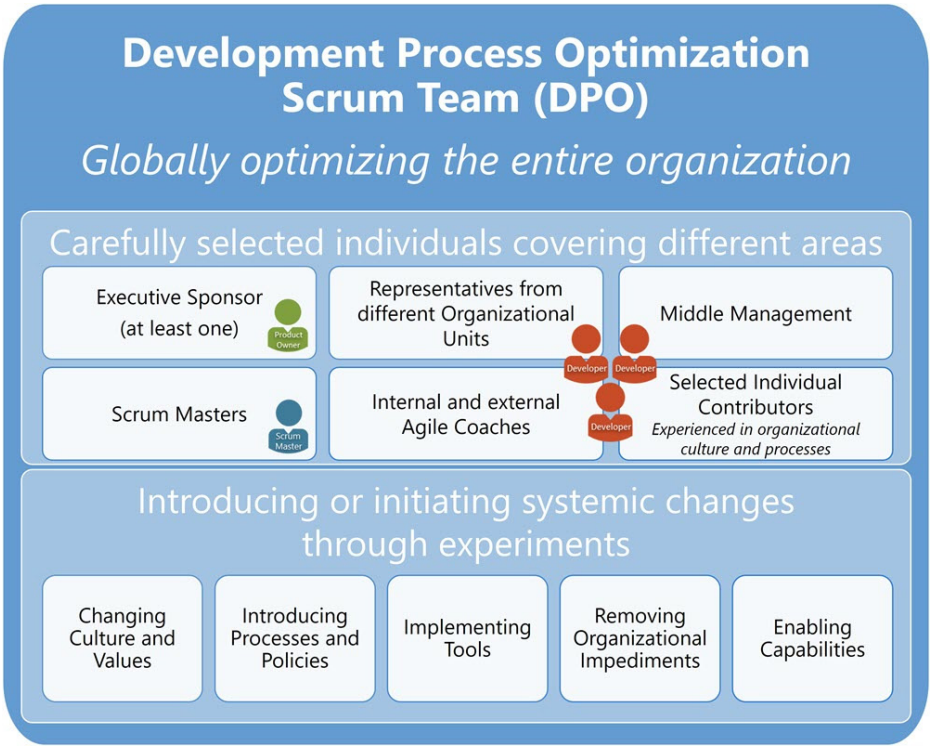


The DPO team drives systemic change in a structured and organized manner by focusing on the following areas:

- Company-wide processes and policies
- Alignment of company culture and values
- Standardization of basic tools that support agile processes across all value streams
- Removal of organizational impediments
- Enabling capabilities across departments and teams

The team is comprised of an executive sponsor, high and middle managers, representatives of different organizational units, selected technical experts and all Scrum Masters. Everyone involved dedicates approximately 20% of their capacity to this engagement. The DPO Product Owner is the above-mentioned executive sponsor. He manages the corresponding DPO Product Backlog, which contains all transformational activities planned across the entire organization or individual Scrum Teams. The team works in 3-week sprints. (See Figure 2)

2 - Figure 2 shows the Development Process Optimization Team's membership, accountabilities, and focus areas.



Roje Ivancic and Bajic played a decisive role in Omega's journey, guiding and helping them steer their transformational activities. They kicked off the transformation by assisting with the DPO Scrum Team formation, which they instantly joined. Since then, they have been coaching the DPO team in Scrum and Agile and facilitating their work driven by the DPO Product Backlog.

Setting up the Scrum Teams and Accountabilities

Omega stopped assembling teams for each new project and began assigning projects to newly assembled permanent Scrum Teams that stay together longer. In the E-Business sector, they established four teams: one core product team developing the core product and three implementation teams implementing this core product and developing custom features and modules for specific clients' requirements, each seen as their own product. In the Custom development/ERP sector, there were four custom teams developing custom solutions and one IoT product team. Six of these are Scrum Teams. There are three Scrum Masters supporting these teams, and there is an ongoing effort to hire additional Scrum Masters.

Product teams work on their product, while other teams work on a mixture of large and small projects and are accountable for developing and supporting their projects in the long term in different lifecycle phases. The work belonging to each team is managed and prioritized in one Product Backlog that serves as a unique point of reference for working on current projects and supporting former projects in maintenance phases.

Since each Scrum Team is considered to be delivering its own product, each team/product has its own Product Owner accountable for Product Backlog management and prioritization. They are responsible for actively managing stakeholder requests for all projects the team works on or supports. To ensure a seamless and effective product development process, Omega Software standardized their Product Ownership and Product Management practices as part of their ongoing agile transformation.

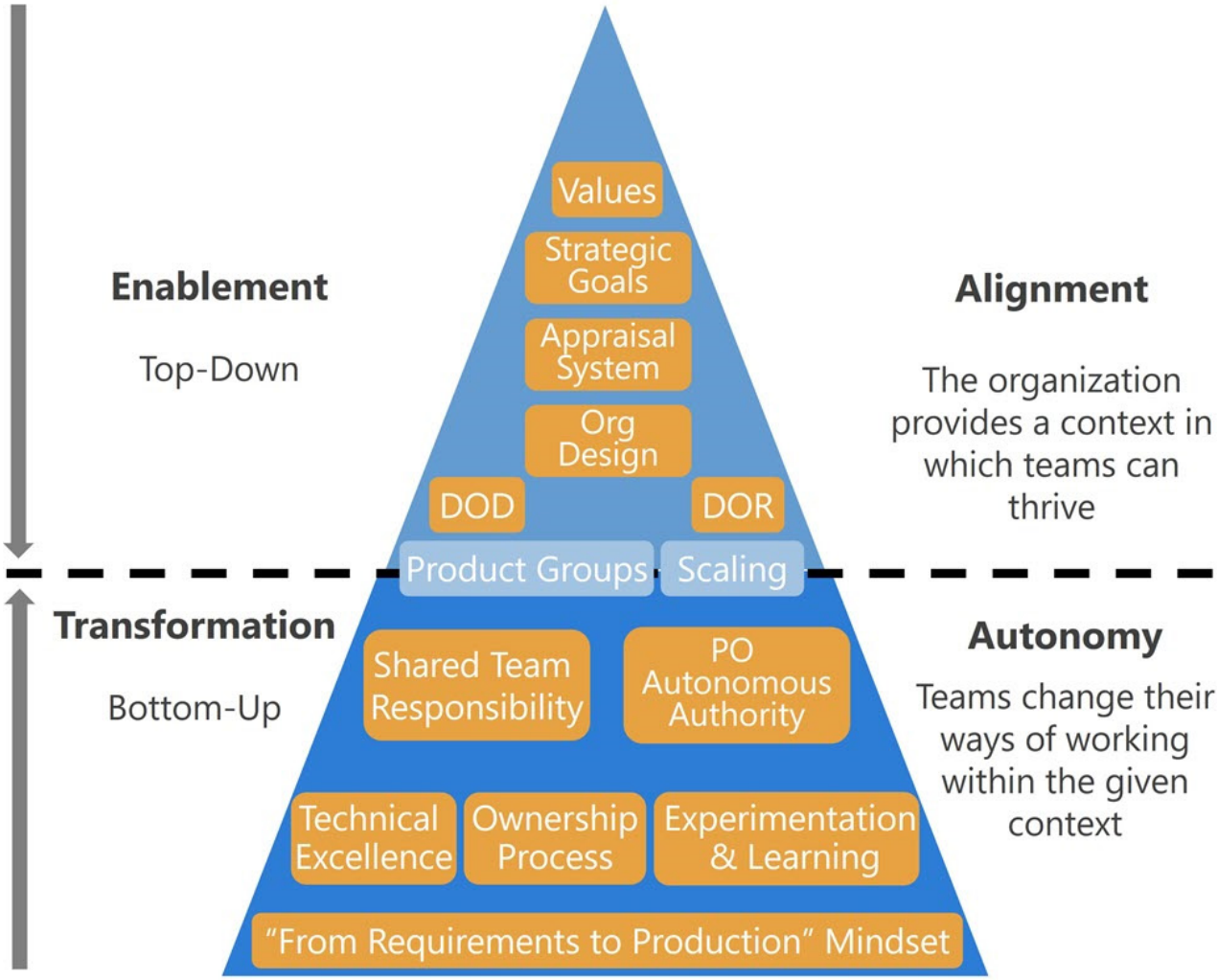
Product Owners use roadmaps to track and model high-level feature descriptions from both external and internal sources. These roadmaps serve as the foundation for strategic planning. Their existing decision-making board, consisting of key managers, sales experts, and architects, convenes several times a year to align on long-term investments and product priorities. Once a product roadmap is approved, Product Owners collaborate with their team members to add proposed features to their Product Backlogs and refine them based on their priorities. By focusing on the product domain, Product Owners can now ensure that all parties involved in product development understand the product scope and product goals, driving Omega's product development toward success.

Omega Software has been continuously changing the Project Manager role as they grow their Scrum experience. Previously, project managers handled standard project execution phases, starting with the project initialization, planning, development schedule, activities sequencing, monitoring and controlling activities, including a lot of team micro-management. Nowadays, when development teams operate as self-managing Scrum Teams, Project Managers serve them from the outside, remaining responsible for contract management and tracking, including the financial aspects. In collaboration with Product Owners, project managers now transform contractual obligations (scope, budget, deliveries, timeframe) into product roadmaps and release plans and monitor project execution according to expected timelines. They now focus on improving business relationships with clients, managing high-level project risks, and reporting on project progress to the management board.

Implementing Scrum in the Organization

The transformation itself happens within teams from the bottom up. The teams have full autonomy to proceed with their Scrum implementation at their own pace as long as they stay aligned with organizational guidelines defined by the DPO team because their production work and priorities influence the pace at which they can absorb changes. Through the DPO team, the organization provides a context where teams can thrive while teams change their ways of working within the given context. This is how the organization achieves aligned autonomy. (See Figure 3)

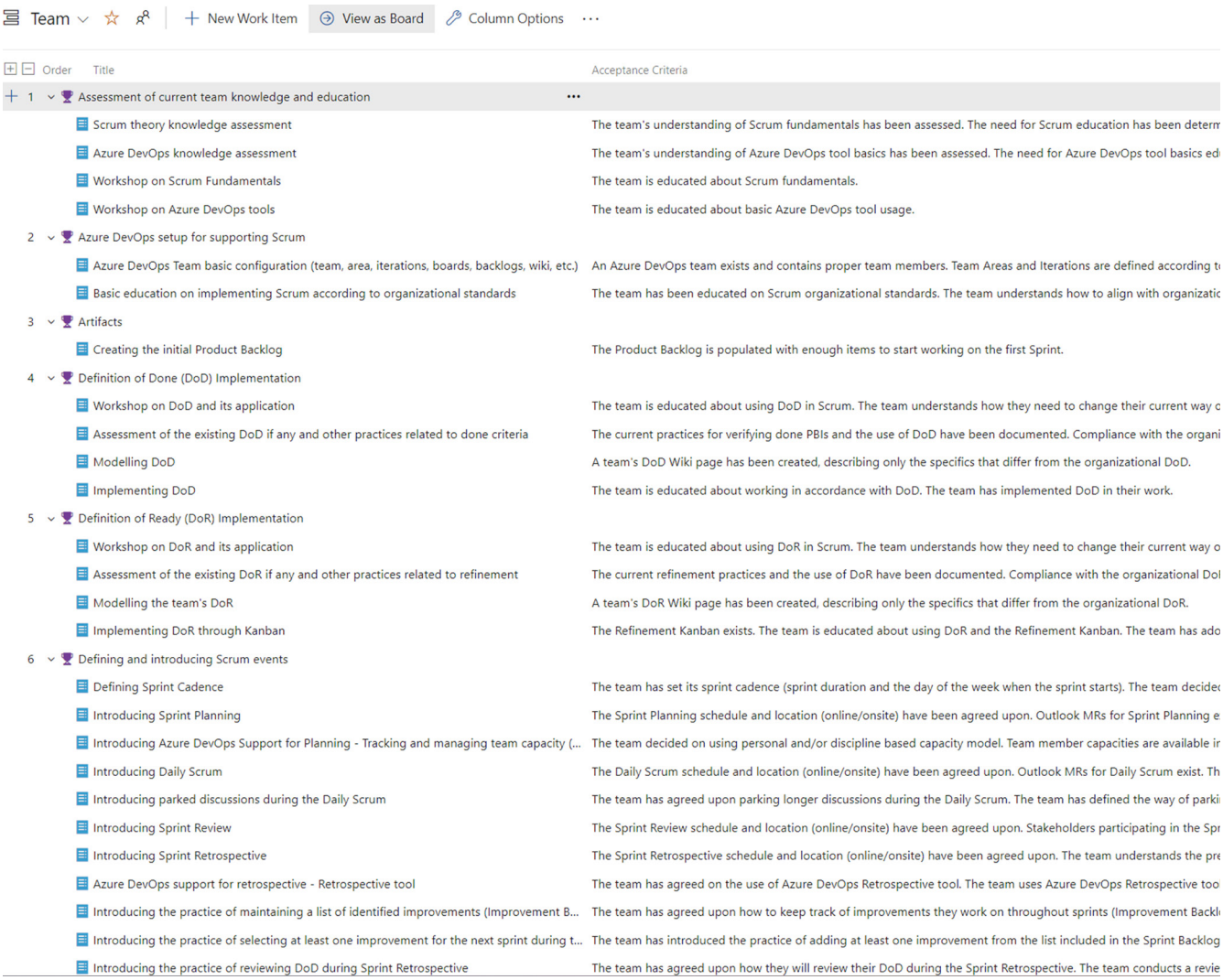
3 - Figure 3 shows Aligned autonomy in the agile transformation



The biggest challenge for each team was to ensure sustainable progress of both production work and work on their Scrum implementation. They experimented with a parallel optimization of their Scrum process aligned with the teams' production Scrum process. (See Figure 1)

Optimization activities were managed on the corresponding templatized team's Optimization Backlog separated from the teams' Product Backlog (See Figure 4). It contains items that helped introduce Scrum, Agile, and complementary practices and tools in a controlled, iterative, and incremental manner and helped empirically drive team development from zero to a fully functional Scrum Team. The optimization Scrum process' Product Owner is either a DPO team member or the team's Scrum Master, while other accountabilities remain in the existing team. The team works off both Backlogs simultaneously in the same Sprint cadence, dedicating no less than 10% of their capacity to optimization activities and the remaining capacity to production work.

4 - Figure 4 shows a Templatized team's Optimization Backlog in Azure DevOps



Team | New Work Item | View as Board | Column Options

Order	Title	Acceptance Criteria
1	Assessment of current team knowledge and education	
	Scrum theory knowledge assessment	The team's understanding of Scrum fundamentals has been assessed. The need for Scrum education has been determ
	Azure DevOps knowledge assessment	The team's understanding of Azure DevOps tool basics has been assessed. The need for Azure DevOps tool basics ed
	Workshop on Scrum Fundamentals	The team is educated about Scrum fundamentals.
	Workshop on Azure DevOps tools	The team is educated about basic Azure DevOps tool usage.
2	Azure DevOps setup for supporting Scrum	
	Azure DevOps Team basic configuration (team, area, iterations, boards, backlogs, wiki, etc.)	An Azure DevOps team exists and contains proper team members. Team Areas and Iterations are defined according t
	Basic education on implementing Scrum according to organizational standards	The team has been educated on Scrum organizational standards. The team understands how to align with organizatic
3	Artifacts	
	Creating the initial Product Backlog	The Product Backlog is populated with enough items to start working on the first Sprint.
4	Definition of Done (DoD) Implementation	
	Workshop on DoD and its application	The team is educated about using DoD in Scrum. The team understands how they need to change their current way c
	Assessment of the existing DoD if any and other practices related to done criteria	The current practices for verifying done PBIs and the use of DoD have been documented. Compliance with the organi
	Modelling DoD	A team's DoD Wiki page has been created, describing only the specifics that differ from the organizational DoD.
	Implementing DoD	The team is educated about working in accordance with DoD. The team has implemented DoD in their work.
5	Definition of Ready (DoR) Implementation	
	Workshop on DoR and its application	The team is educated about using DoR in Scrum. The team understands how they need to change their current way o
	Assessment of the existing DoR if any and other practices related to refinement	The current refinement practices and the use of DoR have been documented. Compliance with the organizational DoI
	Modelling the team's DoR	A team's DoR Wiki page has been created, describing only the specifics that differ from the organizational DoR.
	Implementing DoR through Kanban	The Refinement Kanban exists. The team is educated about using DoR and the Refinement Kanban. The team has ado
6	Defining and introducing Scrum events	
	Defining Sprint Cadence	The team has set its sprint cadence (sprint duration and the day of the week when the sprint starts). The team decide
	Introducing Sprint Planning	The Sprint Planning schedule and location (online/onsite) have been agreed upon. Outlook MRs for Sprint Planning e
	Introducing Azure DevOps Support for Planning - Tracking and managing team capacity (...	The team decided on using personal and/or discipline based capacity model. Team member capacities are available ir
	Introducing Daily Scrum	The Daily Scrum schedule and location (online/onsite) have been agreed upon. Outlook MRs for Daily Scrum exist. Th
	Introducing parked discussions during the Daily Scrum	The team has agreed upon parking longer discussions during the Daily Scrum. The team has defined the way of parki
	Introducing Sprint Review	The Sprint Review schedule and location (online/onsite) have been agreed upon. Stakeholders participating in the Spr
	Introducing Sprint Retrospective	The Sprint Retrospective schedule and location (online/onsite) have been agreed upon. The team understands the pre
	Azure DevOps support for retrospective - Retrospective tool	The team has agreed on the use of Azure DevOps Retrospective tool. The team uses Azure DevOps Retrospective too
	Introducing the practice of maintaining a list of identified improvements (Improvement B...	The team has agreed upon how to keep track of improvements they work on throughout sprints (Improvement Backl
	Introducing the practice of selecting at least one improvement for the next sprint during t...	The team has introduced the practice of adding at least one improvement from the list included in the Sprint Backlog
	Introducing the practice of reviewing DoD during Sprint Retrospective	The team has agreed upon how they will review their DoD during the Sprint Retrospective. The team conducts a revie

The Scrum Teams are now empowered and motivated to grow into fully self-managed teams that entirely embrace accountabilities for their work and the outcomes of their work. They realize that breaking from various old habits, like managing people or assigning work to people, is a slow process that they need to foster using proper learning and coaching. To help with this, the DPO team curates the company knowledge-base wiki, where all global processes, policies, and principles are described together with practical guidelines on how to implement Scrum "in the field" (e.g., Scrum accountabilities within the organizational context, Scrum event workflows, and checklists, etc.)

Agilist IT has successfully trained 81 employees in Professional Scrum using the highly effective Applying Professional Scrum (APS) curriculum from Scrum.org. 76% of employees who took the exam earned the prestigious PSM-I certification, demonstrating their excellent understanding of Scrum principles and practices. Additionally, several employees hold other valuable certificates, such as PSPO-I, PSD, PSM-II, PAL, and PAL-EBM, further highlighting their diverse skills range.

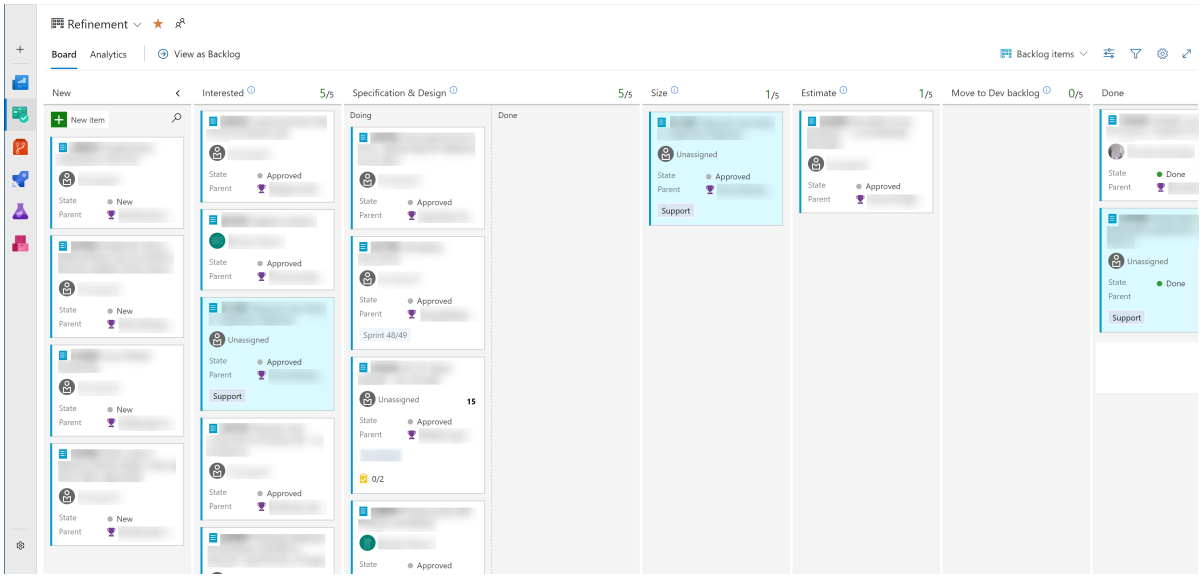
"As part of our long-term strategy, we're committed to following the Scrum.org learning paths to build competencies in all our accountabilities, ensuring that our employees continually improve and develop their knowledge and expertise," said Tandaric. "This approach will help us to stay competitive and keep delivering outstanding results for our clients."

Complementing Scrum with an Integrated DevOps Platform

Right from the start, Omega Software recognized the importance of complementing its Professional Scrum implementation with a standardized set of tools. While already using Azure DevOps, they knew they weren't taking full advantage of its built-in agile product management tools. Agilist IT coaches and experts in Azure DevOps advised and helped configure Azure Boards, one of the Azure DevOps services, to best support multiple Scrum Teams working on different projects. Teams use Azure Boards to manage all Product and Sprint Backlogs, Sprint taskboards, refinement and support Kanban boards, and team dashboards. The company knowledge base wiki is also an integral part of this platform.

Two strategies helped them address the lack of clear accountability for Product Backlog management, refinement, prioritization and planning. The first concerns introducing a single Product Owner for each product, as already described. The second concerns the standardized company Product Backlog refinement model the DPO team defined. Each team must incorporate company guidelines for their Definition of Ready and model it using a team Kanban Refinement Board in Azure DevOps. Kanban columns correspond to refinement stages (e.g., PO Interested, Specification & Design, Size, Estimation, Ready), and team members combine individual refinement activities with regular joint team refinement sessions. (See Figure 5)

5 - Figure 5 shows a Refinement Kanban Board in Azure DevOps



Teams use other integrated Azure DevOps services to manage their code repositories and run pull requests (Azure Repos), build, and release their increments (Azure Pipelines), and manage their manual and automated testing efforts (Azure Test Plans). They leverage additional Azure DevOps 3rd party extensions for time tracking, reporting, retrospective facilitation, managing roadmaps, exporting requirements into documents, and collecting stakeholder feedback.

The company also started leveraging the Azure DevOps built-in analytics service. The out-of-the-box charts include burnups and burndowns, lead and cycle times, and cumulative flow charts at team levels. They plan to expand it to product and company levels. To meet other reporting, tracking, and measurement needs, they extract data from Azure DevOps and use Power BI for further analysis and visualization.

Handling Production Support Issues in Parallel With Development Work

The change to permanent Scrum Teams diminished the negative effect caused by previous efforts because teams remain accountable for projects they worked on. Teams now manage work on current projects and lower-priority work on former projects (i.e., small change requests) on their Product Backlogs. The Product Owners balance changing priorities through the order of Product Backlog Items making sure the impact of reprioritization is transparent and accessible.

Scrum Teams handle 3rd-level support related to their active and former projects within the Sprint. The team reserves some Sprint capacity for support work to handle unplanned interruptions. They dynamically select Developers that can take on support work and reduce the impact on their Sprint Goal.

Omega's clients use Redmine, a web-based client, to create and track their tickets. The same tool is used by 1st and 2nd level company support teams to triage and manage tickets. Bi-directional integration between Redmine and Azure DevOps is in place to transfer high-priority bugs and incidents to a dedicated Support Kanban Azure DevOps board each team uses during the resolution process as 3rd-level support.

Results

Omega Software measures outcomes in four areas: responsiveness to customer needs and requirements, product quality, value, and improvements. Responsiveness is measured by cycle time, product quality by number of known defects and customer satisfaction, value by net profit, and improvements by Scrum Team checklist and surveys.

The most impactful positive external outcome of introducing Scrum was increased client satisfaction. Introducing iterative and incremental development enabled higher visibility and adaptability throughout the project. Scrum Teams now use frequent deliveries of valuable and usable increments as a powerful strategy for involving stakeholders early and often and earning their trust.

Omega Software actively educates existing and new clients about the benefits of their agile way of working and encourages them to collaborate with their Scrum Teams.

"Getting client feedback early and often allows us to address their expectations and risks much earlier than before and accommodate for differences in implementation details. Additionally, by gathering out-of-scope requirements, we proactively prepare future sales opportunities," said Klaudia Tekovic, ERP Business Area Director.

Nika Regina, Scrum Master, adds: "The most relevant positive internal outcome is the increased satisfaction of our most important business asset – smart and capable Developers and Business Analysts working in self-managing Scrum Teams." Omega Software is now a safe and supportive environment where teams are given time to learn, grow and mature. They pay more attention to the work atmosphere, teamwork patterns, and the quality of communication. Team members are encouraged to be proactive and take on more responsibility for work outcomes. They notice that the company recognizes their skills and attribution, which increases their motivation.

Long-lived self-managing Scrum Teams, accountable for developing and supporting the products and projects they work on, addressed numerous challenges the company was facing for years. A single Product Owner per team manages and prioritizes the team's single Product Backlog that serves as a unique point of reference for working on current projects and supporting former projects in maintenance phases. The Product Owner primarily collects client and stakeholder requirements and ensures they are translated into clear and valuable requirements. They are responsible for staying up-to-date with market trends and legislative changes to ensure their products remain competitive and compliant.

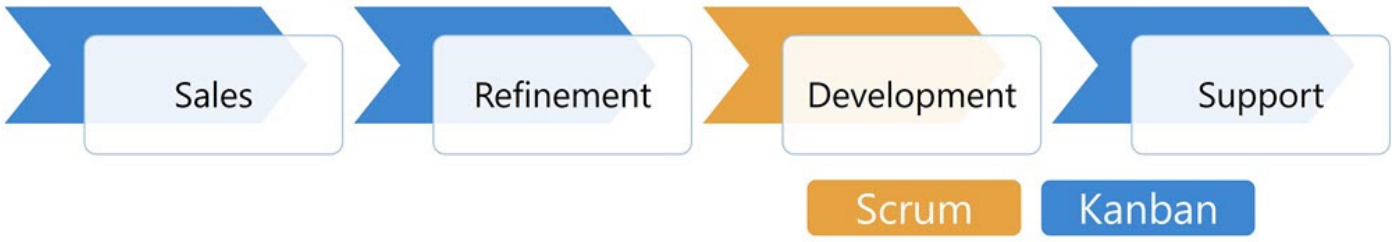
"With these standardized practices in place, we can deliver high-quality products that meet the needs of our clients and stakeholders. Additionally, permanent teams enable us to plan and track people's engagement more effectively, which is already visible in our increased capability to deliver more products to the market," said Tekovic.

Gordana Buljan, Head of the PMO Office, emphasizes the successful transition of Project Managers to Scrum process stakeholders. "Our experienced Project Managers contribute to company business results by dealing with high-level formal customer communication and shielding the Scrum Teams from unwanted outside distractions.". Management outside of the Scrum Teams can focus more on customer relationships, risk management, and project profitability.

"We knew we needed to take our Azure DevOps to the next level by standardizing its usage across processes and teams," claims Igor Gorecan, Head of Software Development. By centralizing all workflows from requirement to production and back in this integrated DevOps environment, the company built the foundation for transparency and traceability. "Answers to questions we had a hard time with before, about the status of a particular project or project portfolio, features released to production environments, or the number of bugs resulting from stakeholder feedback, are now readily available," continues Gorecan. By using the same tools, everyone stays aligned with the Scrum process as modeled by the DPO team. Context switching has been reduced as information is available and updated.

Teams support their entire value stream process in Azure DevOps through chained Kanban boards and Scrum Product and Sprint Backlogs (See Figure 6). A requirement starts its life cycle on the sales Kanban, moves to the refinement Kanban, and progresses to the Product Backlog and Sprint Backlog. If it requires later support, teams handle it on their corresponding support Kanban boards.

6 - Figure 6 shows Chained Kanban boards and Scrum Product and Sprint Backlogs in Azure DevOps supporting the entire value stream process



"One of our most valued process improvements, especially from the Developers' perspective, is our new standardized Refinement process supported by Kanban boards. This process guides our refinement efforts in the right direction and significantly helps us get the requirements to a ready state in a controlled and focused manner," said Filip Cop, Product Owner of one team in the E-Business Sector. This is the foundation for high-quality products where all aspects of quality are considered and addressed early and throughout the development lifecycle.

"Over the past two years, the DPO team has established itself as a crucial driver of our company's agile transformation. With a clear vision of the kind of agile organization we aim to become in the long term, the DPO team is responsible for ensuring that all organizational improvements are aligned and sustainable," said Tandaric. Moreover, the DPO team has evolved into a strong change agent for all company's operations, not exclusively related to agile transformation. They have implemented numerous important changes that affect daily processes and built a company culture where constant changes are embraced as normal. This team is implementing constant improvements using an empirical approach and acting upon internal (employee) and external (customers, stakeholders) feedback. In their case, management plays a key role in the transformation because it models global processes, policies and principles that apply to all teams (e.g., Definition of Done - DOD, Definition of Ready - DOR, Refinement Kanban Boards, etc.). This ensures that teams stay aligned with the organizational strategy. (See Figure 3)

As a key result of these efforts, Omega Software has been recognized in the regional IT market for achieving tangible results through their agile initiatives. "We have raised awareness around the fact that such a transformation is not an easy and common organizational effort and it made us look "cool"," said Tandaric.

About Scrum.org

Scrum.org, the Home of Scrum, was founded by Scrum co-creator Ken Schwaber as a mission-based organization to help people and teams solve complex problems. We do this by enabling people to apply Professional Scrum through hands-on training courses, globally recognized certifications and ongoing learning all based on a common competency model.

Scrum.org supports people wherever they are on their learning journey from beginner to highly experienced practitioner, helping them to grow over time with ongoing learning opportunities and resources. Community members share knowledge and gain new insights from each other leveraging forums, blogs and more.

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Agilist IT
INFORMATION TECHNOLOGIES

