

# How a Chemical Company Improved its R&D Projects Performance



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### Industry

Chemicals, manufacturer of metal powders, pigments, and foils.

### Use Case

Project Management

### Size

1000+

### Platform Users

150+

### Location

10+, Globally

### Headquarters

Roth, Bayern, Germany

### Specializing in

Metal foils, Coatings & Plastics, Printing & Graphics, Building Material & Chemicals.



*With Kanbanize by Businessmap, SCHLENK created a smoother flow of information, reduced the waiting times between process steps, and put perspective on how work flows beyond the personal and team levels.*

### Introduction

SCHLENK is an internationally successful family enterprise and one of the leading manufacturers of metal powders, pigments, and foils.

The worldwide presence with production sites in Europe and the USA, technical application & service departments in Germany, USA, China and South-East Asia, and also a global sales and service network make SCHLENK a reliable partner of a demanding and international clientele.

As a global player it focuses on the business areas metal foils, coatings & plastics industries, printing & graphics industries, building material & chemical industries, and the materials industry.

To achieve sustainable results in a competitive market, back in 2015, Schlenk strengthened business processes and started exploring new ways to effectively manage and execute projects. Identifying Kanban as a suitable project management approach, they started looking for a tool that will help them achieve **a high level of transparency in their projects and across their teams** and will also **bring visibility on related work items and process bottlenecks**.

## The Journey to Project Agility

The Pigments and Coatings industry is a regulation-heavy sector, defined by long innovative cycles, with multiple development and testing stages before a product can be approved for commercial use. As shorter iterations and frequent experimentation can become very costly, waterfall models like the Stage-Gate® Process by Dr. Cooper represent the traditional approach to projects in this field. Due to these specifics, Schlenk also used to structure and plan work following the Stage-Gate® Process with internally developed formulas and sheets to support their operations.

Looking to optimize their processes, SCHLENK's team considered a project with a consultancy company to implement Stage Gate®, combined with Gantt Diagram. However, evaluating the potentials of this approach based on their previous experience, they saw several downsides in the method being too bureaucratic, time consuming and also very costly.

Furthermore, despite the widespread use of the Stage-Gate® Process, planning and processing work in big batches was posing several challenges for the efficient execution of innovation projects. **It failed to create a link between the different teams and project phases, leading to some inefficient handoffs, limited transparency on related work or process blockers, and work often piling up and waiting** between stages or departments. It also required extensive planning of milestones and deadlines for project stages, but often **lacked up-to-date information on the status or performance of the project.** This limited the ability to optimize the work process and improve efficiency over time.

## Searching for an Efficient Method to Manage R&D Projects

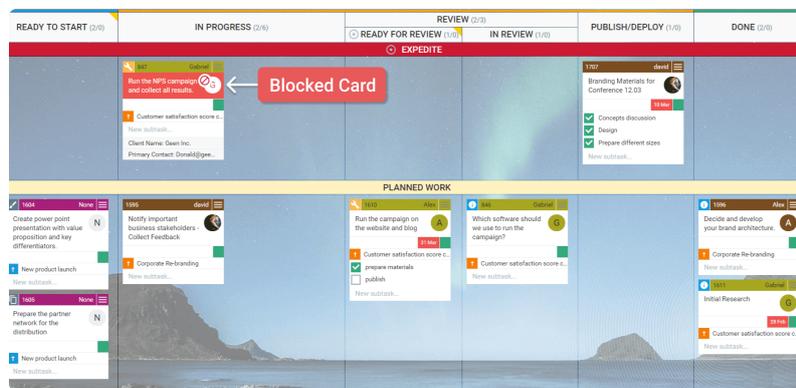
Forming a new team and aiming to develop new technology, SCHLENK's management was exploring alternative methods for the management of innovation projects. The goal was to overcome the shortcomings of the traditional approach and to gain a competitive advantage.

Looking for ways to improve the cross-team coordination, increase project transparency, and unlock optimization potentials, they stumbled upon the Kanban method. Praised for the results it delivers in the software world, SCHLENK identified it as an effective way to connect all project stakeholders and create an efficient workflow in their future projects.

## Implementing Kanban and the Businessmap Software Platform

Choosing to go with Kanban, SCHLENK started to apply its core principles and practices. They decided to skip the set-up of physical boards and work with digital boards straight from the beginning, so the information on project work and progress will be accessible from everywhere.

Beginning with visualizing the work of all teams on Kanban boards, SCHLENK was able to reach a new level of transparency that allowed everyone to easily check what is currently in progress, whose work depends on it, and what is coming as next in the pipeline. Visualizing the workflow and all items that are being processed also made it possible to



*Blocked Card in the System*

unhide process blockers and dependencies, which created a better understanding of the relevance of different tasks.

Looking at Kanban metrics (Cycle Time, Throughput, Flow efficiency, etc.) to evaluate the performance of a project or a team provided SCHLENK with in-depth insights into their work processes. It also helped them quickly indicate when teams or projects are slowing down. This way, they were not merely checking if deadlines will be met, but could see if work is continuously flowing through.

Providing actionable metrics and favoring incremental, evolutionary change, Kanban also opened the door for continuous process improvements.

Choosing Kanban as their new method for the management of projects, SCHLENK's next step was to decide which

Kanban-based project management software best matched their needs. After evaluating several of the professional Kanban tools on the market, on the ease of implementation, the level of workflow transparency the tools created, and the responsiveness of the provider (customer service) they decided to move forward with the Businessmap Software Platform.

## Scaling the Kanban Solution to Achieve End-to-End Project Flow

Being able to structure work in several hierarchical levels through the parent-child card linking option, SCHLENK introduced Flight Levels to manage research projects. This way they visualized the end-to-end flow of project work and interlinked the work form different project management levels and from various departments in one place.

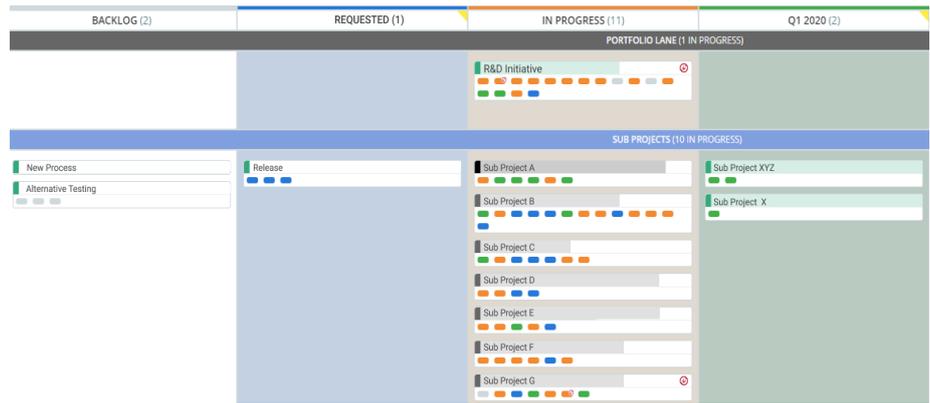
### **Flight Levels in a nutshell:**

*The Flight Level model is a general-purpose model for organizational development from Klaus Leopold. It is an instrument of communication that reveals the effect of specific improvement steps at different levels, and for finding the most useful starting point within the organization, to begin with, improvements. The Flight level metaphor relates to flight altitude, and so it should be understood underline that flying high, you have a broader overview with fewer details: flying low, you can see more details, but no longer the entire landscape.*

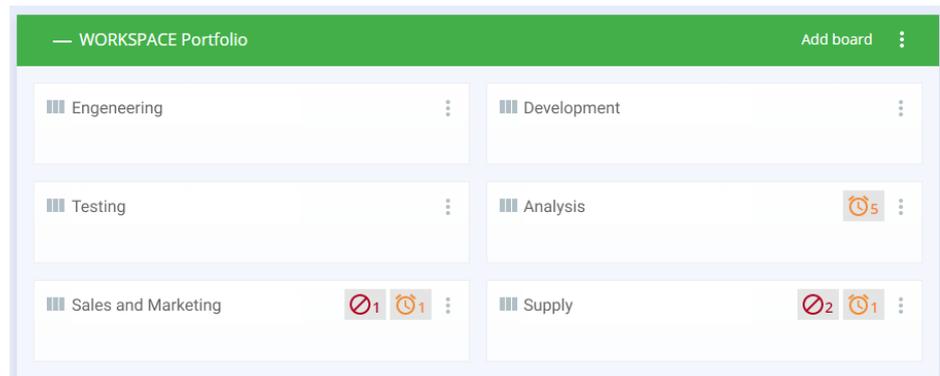
Making use of the functionalities and automation of the platform, SCHLENK created an overview of their R&D process portfolio status in real-time, at a glance, allowing them to see the big picture without losing sight of the details.

### How did SCHLENK achieve this?

To visualize and keep track of their initiatives on a strategic level, they created a Portfolio Board that represented their pipeline and also the highest flight level in the organization. Here they visualized their initiatives and the related sub projects.

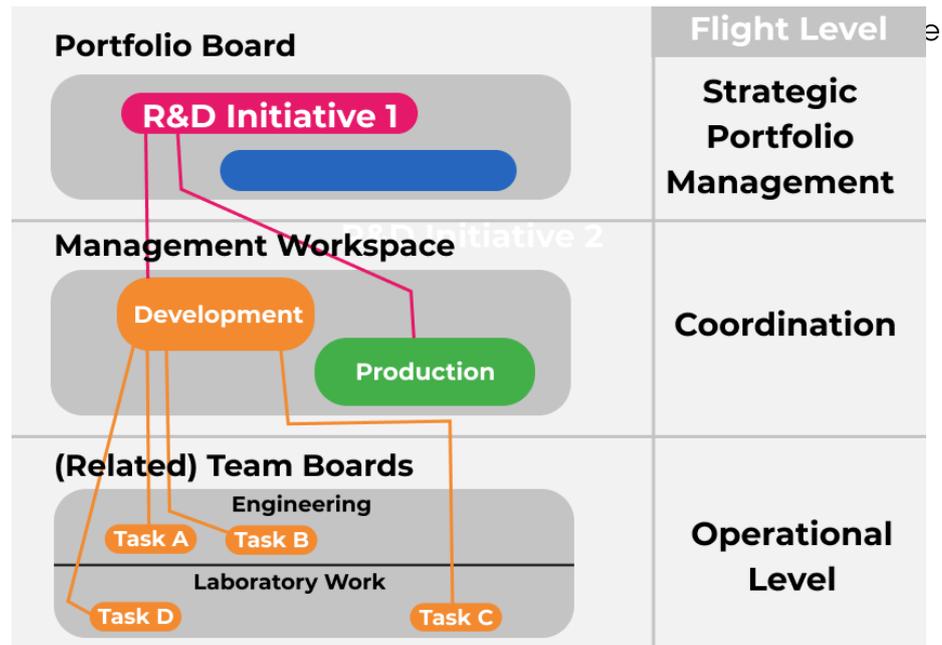


The next flight level was dedicated to the coordination between the different teams (Engineering, Laboratory Work, Analytical Department, Application Technology, Sales, and Marketing). Here SCHLENK created a Management workspace,



Going further down to the operational level, a Kanban board was created for each team, and all boards were connected to the Management Board, to support a better overview. On the team boards, the teams broke down the work for each project into tasks that they visualized and managed through their workflow.

By using the children-parent card link, SCHLENK managed to interlink tasks on the operational level up to the initiatives on the Portfolio board. The status of parent initiatives is calculated based on the number of child cards linked to them, and the status of these child cards. Applying this logic from the operational level onwards, the progress of the R&D initiative was updated automatically, based on the status updates of the tasks related to them.



**Key Result:**

*Through the Flight-Level structure and the linking of work items, SCHLENK’s Portfolio board became an automated real-time status report. This allowed them to embrace a more probabilistic agile approach to planning and to see the big picture without losing sight of the details.*

**Optimized the Workflow Beyond the Team Border & Improved Cross-Team Collaboration**

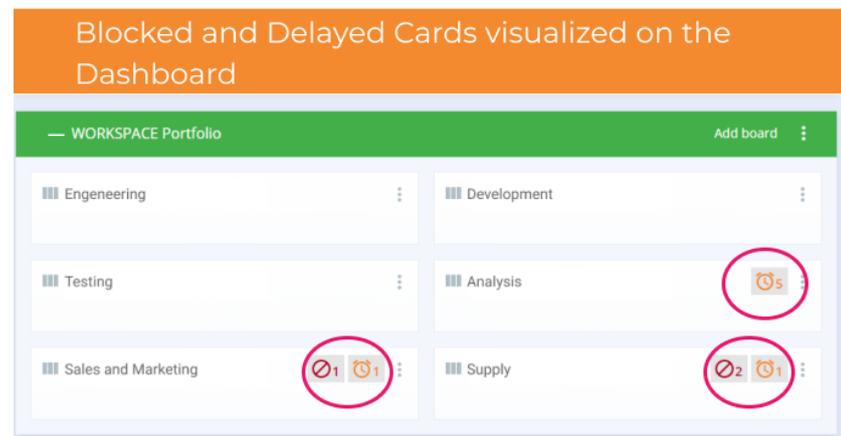
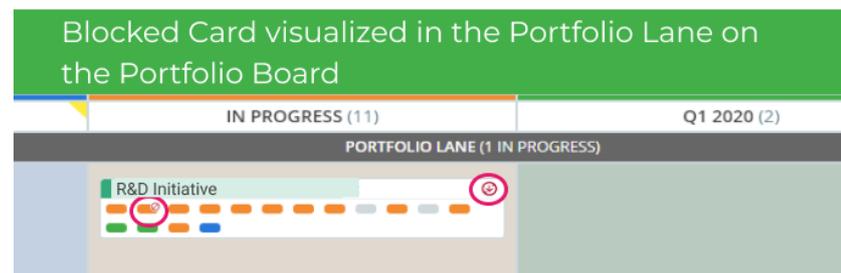
With more than one team contributing to one project, optimizing the workflow beyond the team border was essential for improving the project performance. Through the described work breakdown and linking structure, SCHLENK managed to connect the work of different departments into one project flow and to unlock optimization potential on the coordination level, by improving cross-departmental synchronization and removing process bottlenecks.

**How did SCHLENK achieve this?**

With everyone using the platform, for the first time, the different departments had a direct link between each other, and all project stakeholders had the full picture in front of their eyes. A particular benefit of the shared work environment was noted in the improved coordination between the Research and Analytics departments.

While previously, the Chemistry team had to ask and wait for a status update from their coworkers on how the processing of lab results is going, now updates are visualized automatically in the system. This way, when work items were ready for the next work stage, everyone immediately saw it, reducing the waiting times and supporting a stable workflow on and above the team level.

Another feature that helped SCHLENK optimize the workflow beyond the team border was the "block card" function. It allowed team members to visually signal to everyone that their workflow is currently stopped.



If one child card on the Team board is blocked, this is visualized on the parent initiative and on the Dashboard of the workspace. This allowed managers to quickly spot where the project progress is currently hindered and to identify urgent matters.

**Key Result:**

*With the Businessmap Software Platform, SCHLENK created a smoother flow of information, reduced the waiting times between process steps, and put perspective on how work flows beyond the personal and team levels. The visual signaling of workflow blockages helped resolve bottlenecks faster and enabled a better flow of work, regardless of the departments the blockers occurred in.*

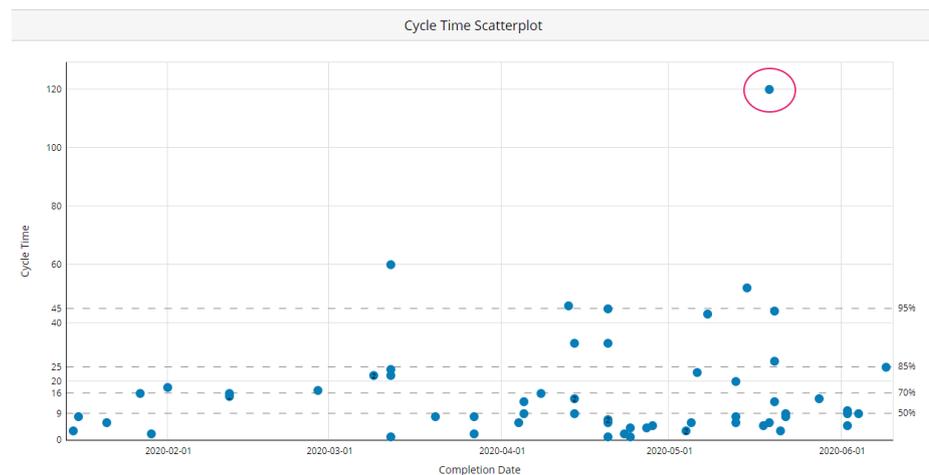
## Improved Project Performance

Besides reducing the waiting times between teams and supporting a stable flow of work, SCHLENK also managed to reduce their cycle time significantly and to increase their throughput, resulting in improved project performance.

### How did SCHLENK achieve this?

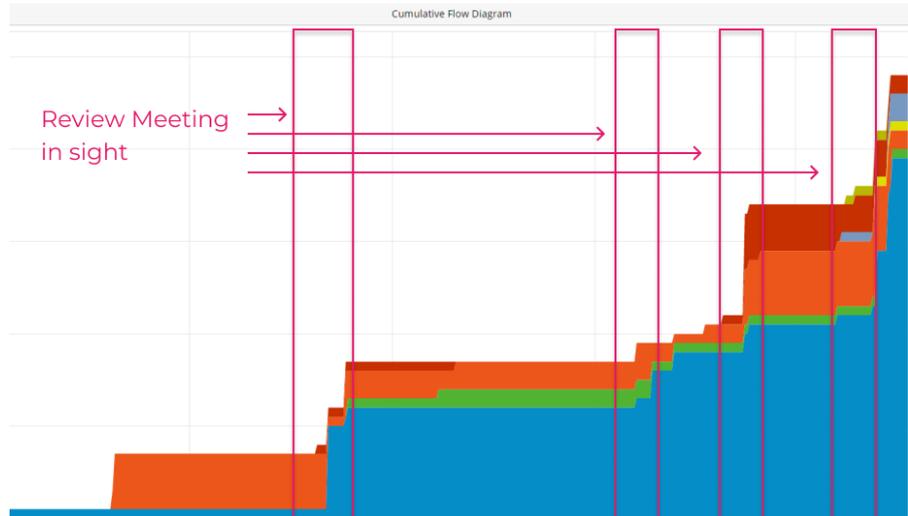
Focusing on flow management and optimization, SCHLENK used the in-depth Kanban analytics of the platform to identify optimization potentials in their workflow that can lead to better project performance. Two of the diagrams they regularly used to identify optimization potentials in their workflow are the Cycle Time Scatter Plot and the Cumulative Flow Diagram.

Looking at the Cycle Time Scatter Plot diagram, they analyzed the outliers to identify what caused delays in the specific tasks and to define optimization steps, based on their findings. This way, they could systematically tackle process bottlenecks and remove blockers from their system.



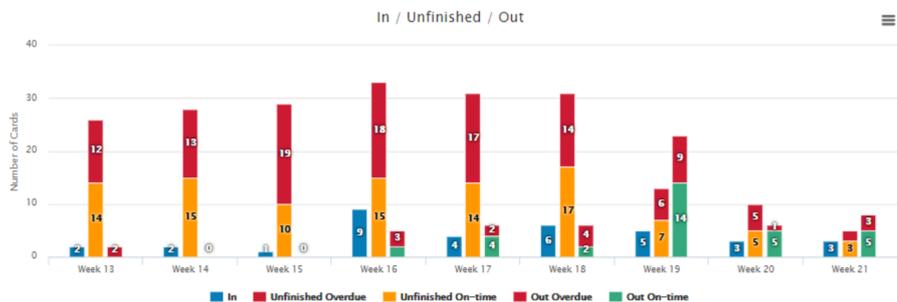
Monitoring their Cumulative Flow-Diagram, they analyzed the stability of their process, the overall cycle time trend, and could easily see if more work is coming in, than exiting the system.

One of the learnings they extracted from their CFD was that a particular team was processing most of their work shortly before a review meeting. In the time between review meetings, work was not flowing smoothly, leading to an increase in cycle time, which again dropped before the next review meeting. Seeing this in their diagram led to switching to smaller and more regular meetings to stabilize the workflow and reduce the team's cycle time.

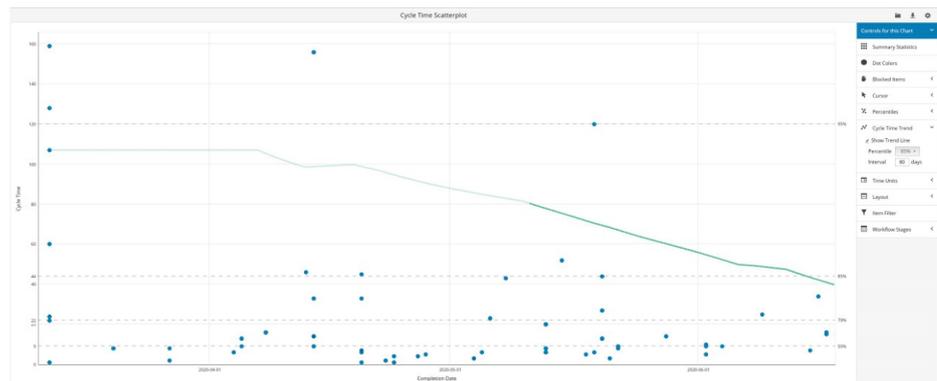


This is a prime example of how the Kanban principle “Start with what you do now” helps companies improve their performance with evolutionary processes optimization steps. Despite structuring their deliverables in larger batches, due to the nature of work in the chemical industry, applying Kanban techniques and metrics helped SCHLENK’s teams achieve a smoother workflow.

Another process optimization that led to shorter cycle times and improved project performance was the introduction of WIP limits.



Limiting the number of task items that a team is currently working on is one of the key practices in Kanban and in one particular case, it helped SCHLENK to reduce the cycle time of one team from 110 days to 44 days (at the 85% percentile.)



Allowing fewer tasks to enter the system simultaneously speeded up their execution and also led to an increase in the throughput.

### How the Teams Use the Analytics Module?

With the analytics module in their hands, teams also used the data to gain a better overview of their performance. The ability to extract information on how much time they spend on different task types allowed the Analytical department to use the metrics for reporting to their upper management. This way, they eliminated the need for data collection and reduced the time spent on preparing documents.

#### Key Result:

***Focusing on cycle time, throughput and flow led to continuous improvement efforts and work processes becoming more and more efficient over time. As a result, tasks were processed quicker, more work items exited the system, and a stable work process on a project level was achieved, resulting in an overall improvement of the project performance.***

### SCHLENK and Businessmap

A few months after the initial introduction of the tool, SCHLENK sent a survey to its users, asking for feedback. Here are some of the benefits recognized by the users:

- Excellent overview of workload
- Easy top-down synchronization of priorities
- Just in time information
- Just in time recognition of bottlenecks
- Excellent idea management (backlog)
- Optimization of workflow
- Easy transfer of work between part time workers

Furthermore, people shared that through Kanban they were able to visualize work and the Businessmap Software Platform gave them an overview of their colleagues' tasks, so they felt more informed about work items that they depended on.

Surprisingly, there was more or less no resistance against the new tool, with people even encouraging others to use the platform more actively. According to him, compared to other tools, where the benefits seem to be only for the management, with the Businessmap Software Platform, every user recognized benefits for his or her daily work. This naturally led to the high acceptance and wide usage of the tool.

Seeing the benefits it brings for their teams, SCHLENK went a step further and invited a supplier to provide links to their Kanban boards. By integrating the external company in their workflow, they managed to improve the coordination and communication with the external company and to streamline the exchange of relevant information.

As next, SCHLENK plans to further expand the use of the tool and to also invite a customer to collaborate in their workflow.

## Key Takeaways

With the platform, SCHLENK managed to create a multi-layered project management infrastructure, allowing stakeholders to see the big picture and simultaneously have the relevant operational details in hand. Applying flight levels, linking tasks to projects and projects to initiatives, SCHLENK was able to build and optimize a workflow beyond the team level, and improve their project performance:

- Choosing Kanban as a project management method, SCHLENK managed to achieve a high level of transparency in their projects, unhide process blockers and connect all project stakeholders in a collaborative work environment.
- Visualizing and interlinking work from the strategic to the operational level enabled SCHLENK to build a Portfolio board that shows the real-time status of the various strategic initiatives at a glance, allowing management to be up to date with the latest project progress.

- Compared to other project management tools, where the benefits seem to be only for the management, in the Businessmap Software Platform, every user recognized benefits for his or her daily work, which lead to the high acceptance and wide usage of the tool.
- The platform allowed for better coordination and a smoother flow of information between departments, cutting down waiting times, and improving cycle-time.
- The in-depth Kanban analytics available enable SCHLENK's teams and management to gain insights into their work processes and to monitor team and project performance based on actionable metrics.
- Focusing on cycle time, throughput and flow led to tasks being processed quicker, more work items exiting the system, and a stable work process on a project level, resulting in an overall improvement of the project performance.

## About Businessmap



Businessmap is an Enterprise Agility solution provider aiming to discover new management ways and share this knowledge through amazingly powerful, easy-to-use tools and professional services.

Businessmap offers the most flexible software platform for outcome-driven enterprise agility. Its unmatched functionality consolidates multiple tools into one, enabling affordable deployment at scale, visibility across all projects/portfolios and alignment on goals, to deliver quality work faster. Pairing it with the proprietary consulting program delivers a tailored solution that ensures lasting value and exceptional ROI.

## OUTCOMES AT SCALE

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