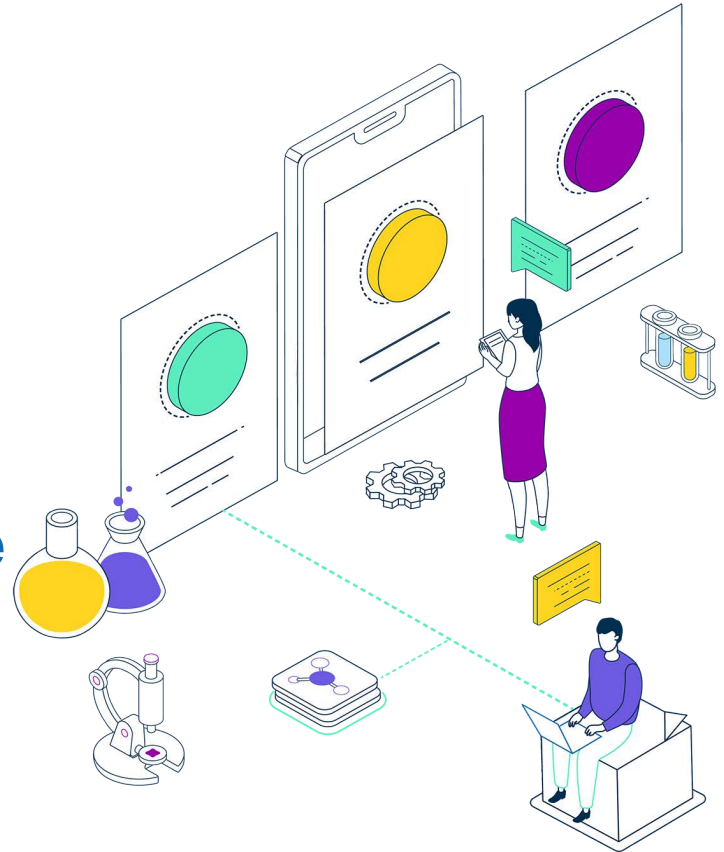




Case Study

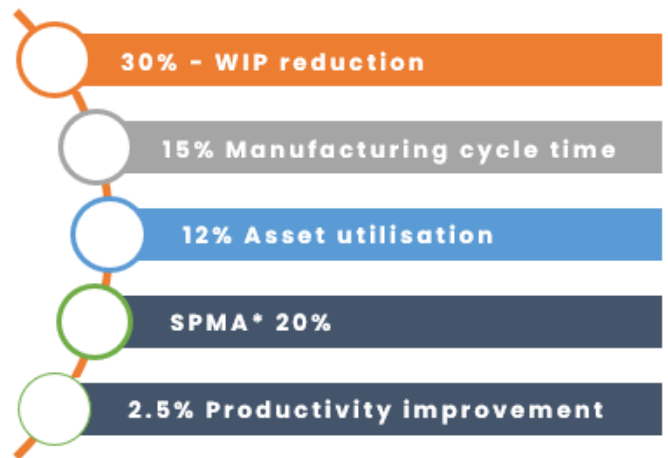
Leading Global Medical Device Manufacturer Reduces Manufacturing Cycle time by 40% while Increasing Asset Utilization



The company is a leading global maker of medical devices with almost 30 manufacturing sites worldwide. The objectives of the project were to implement a planning and scheduling solution with the following objectives:

- Strategic initiative aligned to the manufacturing operations digital roadmap.
- Address planning & scheduling gap in complex production facilities
- Simplify and streamline planning and scheduling processes and systems.

The diagram on the right depicts the KPIs that were defined as the project's success factors.



**Supply Production Mix Attainment*

The implementation of Adexa planning solutions was initiated after a careful search and selection amongst several vendors worldwide. Given the above objectives, Adexa solution was deployed for planning and scheduling of resources to meet demand fulfillment, including long horizon planning and what-if scenarios. Solution was deployed to address improvement of delivery performance, supply mix attainment, schedule adherence, asset utilization, WiP reduction, improve planning accuracy, and reduce planning cycle time.

This ambitious project was a major departure from the as-is processes and use of manual spreadsheet based planning which resulted in producing disjointed plans in different silos, cherry picking of work orders and multiple data sources with little visibility.

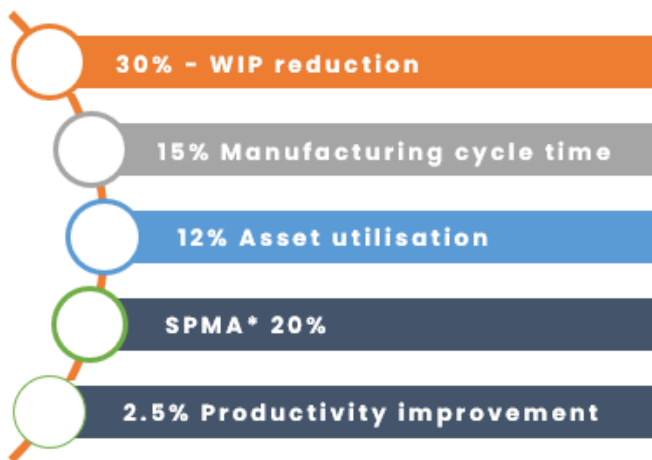


Given the sophisticated level of technology the company was about to deploy, changes were needed in the processes and real-time planning and scheduling of the operations while being integrated with the existing transaction systems such as ERP and MES. To this end a To-Be process was jointly designed and the system architecture was defined. In this stage the role of planners were also defined to perform functions of higher value rather than laborious and mundane movement of orders which can easily be handled and optimized by the system.

The Results

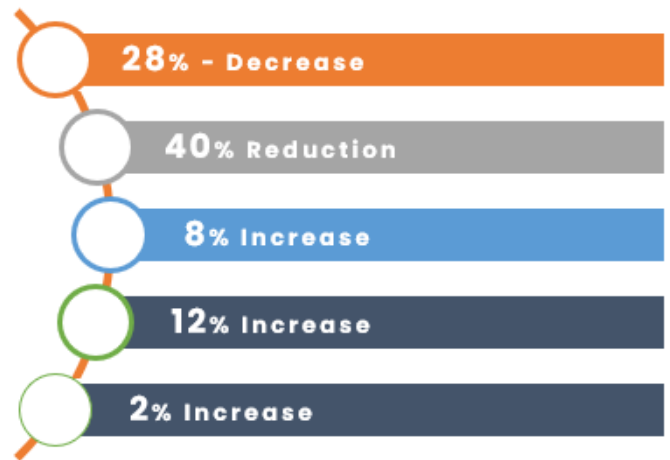
The results are very much in line with the original goals of the company, and in some cases far exceeded expectations, i.e.:

Original Objectives



**Supply Production Mix Attainment*

Current Improvements



More improvements are expected as the system is fine-tuned and more data becomes available enabling the system to make better decisions.

In addition, some qualitative results are shown below:

- Synchronization of production
- Managing resources for optimal operations
- Manage constraints for both material and capacity.
- Optimized schedules
- Schedule adherence in high 90s
- Increased agility
- Ability to do scenarios to mitigate risk and improve resiliency and agility.
- Reduce Planner effort to produce plans / reduce head count 33%
- Eliminate back order cycles
- Reduce revenue losses
- Optimise finished product inventory
- Reduce planning cycle times
- Improve planning accuracy



Conclusion

Almost all planning vendors have two separate and disjointed systems for planning and execution. In this case study Adexa demonstrated its ability to plan and execute in one unified environment. This was possible because of accuracy of the model, or digital twin, of the operations as well as advanced AI-based heuristics. Using this vertically integrated process, the system synchronizes and optimizes shop-floor manufacturing flow and links to MES system for accurate dispatching and shop floor execution.



“Adexa collaboration, flexibility, and availability made this project possible while working remotely due to the pandemic. Despite not being able to visit our facility we were able to create a digital twin that can now perform planning and scheduling in minutes. Results continue to improve as capability within the team grows and Adexa have remained in close partner to support as needed.”

~From the Users