



Production Rate Up, Price Down, Through Intelligent Automation

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The Business Challenge

Now that the tender has been won and the announcement has been made, the time to start producing and supplying the product has begun. Management must now ask, “How can we reproduce the product performance we achieved during prototyping and the sales process, on a consistent and cost effective basis? How do we ensure that the model we have developed for producing these products is indeed sustainable and more over - is it profitable?” This is the conundrum most manufacturers face when orders are finally released for production.

No one questions the benefits of automating and optimizing labor intensive manual processes. During the prototype stage, many of the processes were simulated and indeed were manual in their nature, in order to achieve some guidance for creating a winnable proposal. During the proposal stage, contingencies were taken into account, in order to ensure that losses would not be incurred during the production stage. However, a company cannot survive with just avoiding loss. Management should consider this as the ideal time to create an automated and optimized process, to increase profitability. Waiting until production has been underway for any extended period sometimes makes it impossible to stop and reevaluate, for fear of slowing down production ending in delayed delivery.

Numerous areas are critical in this regard such as, cut planning, material usage, labor, machine utilization and quality control. The question management should be asking at this stage is, “How can we better automate and optimize our processes by planning in advance, using less raw material, reducing manual labor and time, ensuring our assets are optimally utilized, resulting in higher production rates while not compromising on quality?”

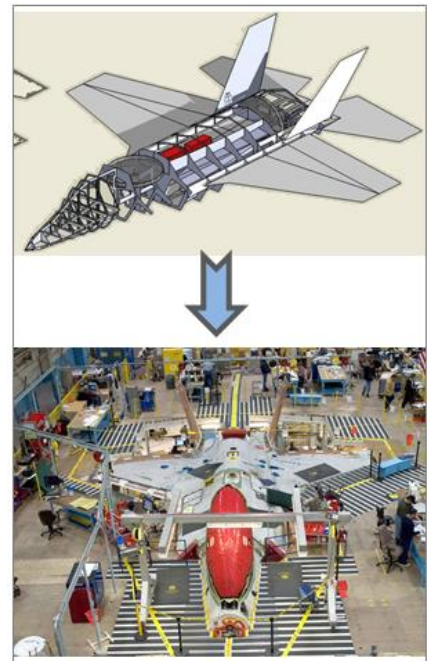


Figure 1 From design to manufacturing

The Solution: Intelligent Automation

Addressing these challenges methodically and efficiently requires a dynamic optimization approach, featuring the ability to **automatically integrate** critical data from each system (such as ERP, CAD, PLM), **digitally track** production and supporting assets, **manage** all that information in **real-time** and then **take optimized action** in real time for planning and producing. Repeating this process consistently throughout the production run is crucial for quality control.

The Internet-of-Things (IoT) in manufacturing, leveraging RFID and mobility technologies, enables composite part manufacturers to better tracks and manages materials, kits, tooling, assemblies and staff on the production floor. Combining best of class engineering and manufacturing practices & technologies, OEMs and fabricators can further push the productivity envelope, reducing Buy-to-Fly ratios.

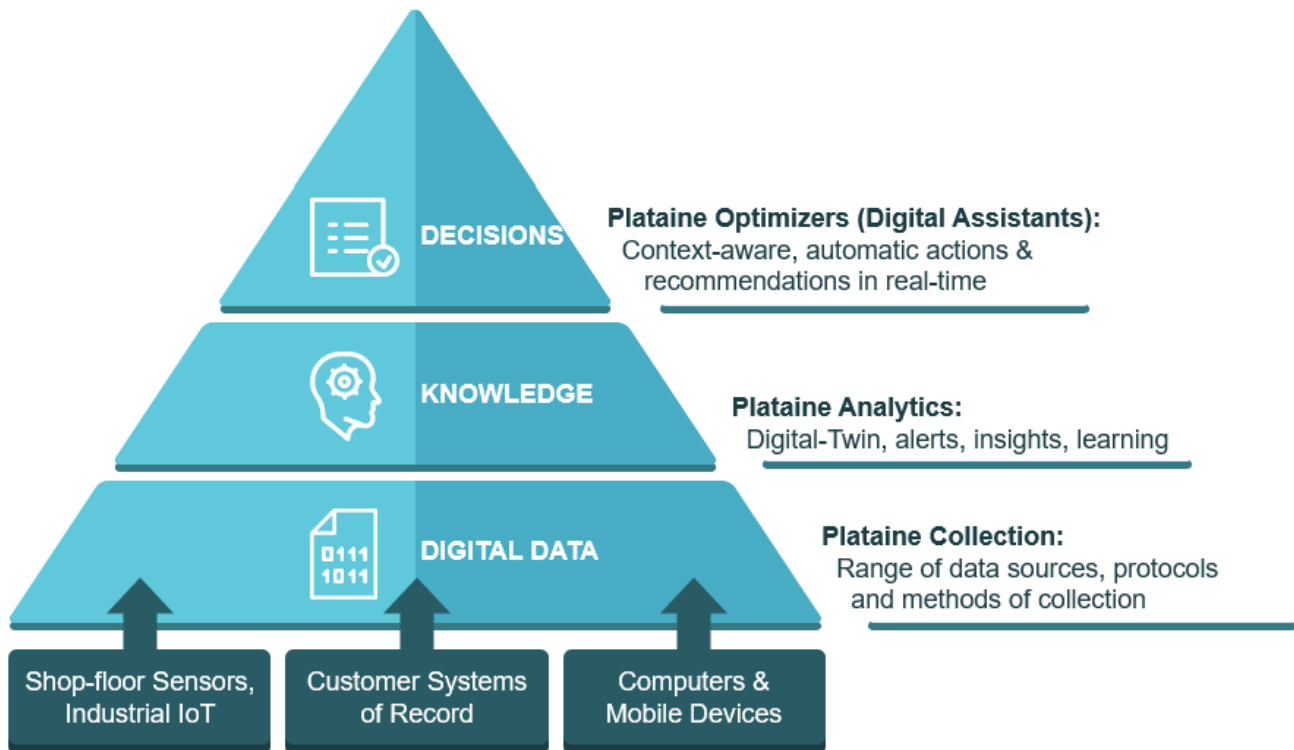


Figure 2 Turning data into knowledge and knowledge into decisions allowing real-time data driven actions

Summary

Having the right software system to ensure that this happens is crucial and the key to ensured profitability and success. Integrated software solution that integrates with existing software systems such as the ERP, MES and CAD systems and has the ability to receive critical data from these systems, allows for an automated holistic approach to planning, producing, automating and optimizing. Total production optimization software is the direction most manufacturers are now taking to ensure that what was once simulated is not only repeated but improved during production, resulting in higher profitability.