# PLATAINE®
## people-smart automation

## INTERNET OF THINGS

# 10 Things You Must Consider When Implementing IoT in Aerospace & Composites

Modern manufacturing is becoming more complex as product variation and production volumes increase. Therefore, manufacturers have less time and ability to make optimized decisions, resulting in waste and inefficiencies. Leading companies are realizing that implementing IoT (Internet of Things) is the way forward to gather real-time data from the production floor. Nevertheless, integrating such innovation into your organization requires planning ahead and paying attention to the key factors described in this article.
**Use the following 10 guidelines to lead you to success:**

## 1 DEFINE YOUR GOALS

Implementing IoT, like any initiative or project, must begin with a clear definition of your organization's goals. To ensure IoT gets budget and management's attention it must serve your company's main objectives. The process should begin with mapping out where your organization wants to go in the long term, and what needs improvement. Formulating and defining your company's goals is key to ensure you focus on making the biggest impact in your organization. **Tracking material & assets, increasing throughput, reducing bottlenecks, saving raw material and improving quality control are all meaningful targets.**

## TAKE A STEP-BY-STEP APPROACH

IoT can revolutionize manufacturing at your facility. However, trying to achieve all objectives at once will hold you back. Define a couple of key scenarios that require immediate improvement and focus on those first. Composite part manufacturing holds many options for improvement, for example:

- Material shelf-life management
- Material yield improvement
- Tool tracking
- Automatic cut plans generation
- Rework and waste reduction
- Quality control and audit improvements

**Focus on the "low hanging fruit" and bring your organization immediate value.**

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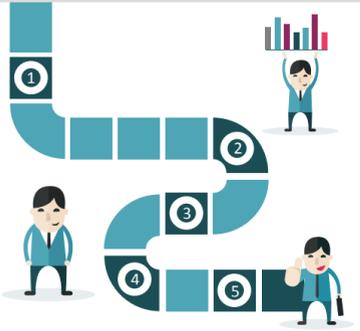
## 3 STREAMLINE YOUR PROCESSES

Industrial IoT opens a new world of improvement especially around data collection of material and assets' location and conditions. **Site maps can display exactly which assets are present at each work station and can indicate bottlenecks and process inefficiencies.** This allows you to further analyze the manufacturing steps taken at each work station and to see if they can be optimized or accomplished in less steps, driving a smoother process.

## 4 MAKE AUTOMATION TOP PRIORITY

Automation means keeping human intervention to a minimum, allowing your shop floor staff to focus on actual manufacturing and the things that matter. Other benefits of automation are reducing human errors, catching defects on time, and increasing quality control. **Leading manufacturers are relying on advanced software solutions that automatically create optimized production plans, and provide real-time alerts and insights to production managers and staff.** These insights are consequently turned into optimal decisions leading to top performance results.
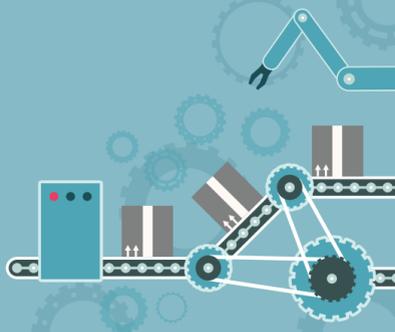
Theory and practice show, that the more variables considered in solving a problem, the better the potential result. However, in attempts to consider the 'bigger picture', people may reach their limit at some point. Composite part manufacturing requires a holistic approach. **IoT software solutions will allow you to collect vast amount of data, analyze it and make recommendations in real-time leading to optimization of the entire factory.**

## 5

## 6 GO PAPERLESS – CREATE THE DIGITAL THREAD

Manually logging assets' information and tracking route cards or printed reports becomes inevitably inefficient, can cause production delays and is prone to human errors.

**Ditch the paper!** Use IoT and software-based tools to digitize as many steps and processes as possible. The digital thread is a digital, integrated view of a manufactured product throughout its entire lifecycle holding all information of raw materials, exposure times and the entire manufacturing history for each part, allowing you to track and analyze defects should they occur.

**Once you have a complete digital view, you will be able to bring your factory into the future, make optimized decisions and better handle audits.**
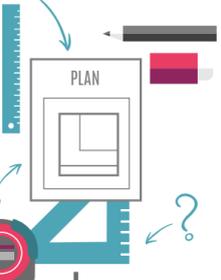
## 7

Do you know the exact amount of raw material in all storage areas and the shop floor? Do you know the status of all work orders? Do you have real-time visibility over assets' location and availability of tools?

The root cause of unsuccessful Industrial implementation of IoT is, in many cases, the lack of knowledge and measurements of critical metrics. **Industry leaders are investing a lot in the collection of data to ensure key processes are tightly managed and eventually improved. If you can't measure it, you can't improve it.**

## 8 CREATE A TASK FORCE

A task force, led by a project manager, will ensure that your Industrial IoT initiative moves forward at a quick pace. A task force can evaluate solution alternatives, define how new processes will fit your organization's culture, pilot the technology and manage and track the project's timeline and budget. **Since IoT touches many aspects of the business, the task force should include professionals from manufacturing, supply chain, IT, engineering, process improvement and management.**

## INTEGRATE IOT INTO YOUR ENVIRONMENT

Implementing IoT involves integration with your existing systems such as ERP, CAD/PLM, and MES. **Find a vendor that will help you map out the process flow and interface points defining the exact information that needs to be shared among systems.** This integration means that you are not changing one system for another, but simply adding a new innovative technology to the existing systems you already use.

## 9

## USE PROFESSIONAL CONSULTANTS

As with any complex project, it is highly advised to hire professional consultants specializing in IoT and manufacturing. **Experienced professional services teams have the proficiency required for a successful deployment,** taking care of the various stages starting from project definition, through integration, testing and finally successful launch.

## 10

IoT

## START YOUR OPTIMIZATION JOURNEY NOW

Contact our specialists to see how IoT can be implemented at your facility. Through our suite of Total Production Optimization (TPO) solutions, we have helped hundreds of advanced manufacturers to:

- Increase throughput
- Improve quality
- Reduce re-work & waste
- Gain insight into every aspect of the manufacturing process

Plataine's solutions are used worldwide by leading manufacturers including Airbus, GE Aviation, AVCORP Industries, Composites Horizons, IAI, MT Aerospace and many others.

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