CASE STUDY

Lean implementation drives down lead time and inventory, improves customer service

A major **Monolithic Microwave Integrated Circuit (MMIC) foundry** researches and matures advanced microelectronic technologies. The foundry serves as a trusted partner to the defense community by providing open foundry services and delivering integrated circuits at an affordable cost.

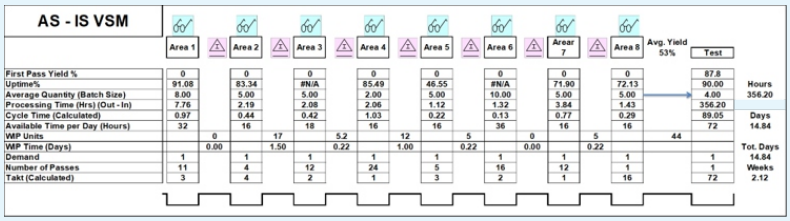
Due to an anticipated and significant growth in Gallium Nitride semiconductor demand, the company needed to transition from an R/D-focused, low-volume / high-mix laboratory to a pure high-volume / high-mix production facility.

Implementation Engineers (IE) was asked to analyze the layout of the current facility and evaluate 'critical to quality' metrics. This analysis was to develop an improvement roadmap to achieve the following:

- Design a more efficient layout
- Reduce lead-time
- Improve on-time deliveries

APPROACH

1. Implementation Engineers developed **value stream maps**, and conducted **Lean Material Flow workshops, focus interviews,** and **floor observations**, in order to identify the key drivers of lead-time, work in process (WIP), and excess waste.



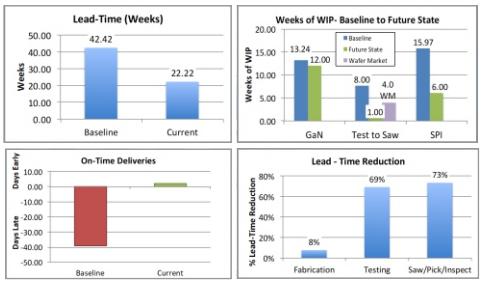
2. It was identified that material was not designed to flow and was being pushed through the value stream. This created excess lead-time, work in process (WIP) material, and hid process inefficiencies.
3. Lean Principles were implemented, such as: pull systems, continuous flow, FIFO lanes, managing and control systems for WIP, KANBAN systems, single-point scheduling, autonomous work, and performance metrics.
4. IE worked hand-in-hand with the client team to implement facility layout, visual material, and information flow improvements. This created an environment of seeing material flow, and autonomously addressing flow challenges as they occur.

RESULTS

50%
Lead-Time Reduction

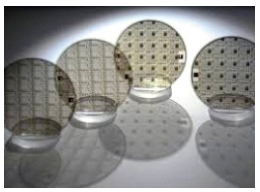
41
Days of Improvement for On-time Delivery, from 39 Days late to 2 days early

36%
Reduction in WIP material



As a result of their partnership with Implementation Engineers, this client improved their facility layout, visible material, and information flow. Customer on-time delivery, lead-time, and quality have improved.

Gallium Nitride (GaN) Semiconductor Devices Market Size to reach $2.8 billion by 2023



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