# CASE:Lean Project Mgmt

### Case Study:

### Defining Lean Work-In-Process and Kanban Processes

### **Accomplishments**

- Identify root-cause for time-to-market impediments.
- Highlight work-in-process (WIP) issues.
- Show bottlenecks and define remedies.
- Define a Kanban process for new product development projects.



This company designs, engineers, and produces innovative products for the highly competitive and fast-moving maker-market. Its clients are educators and designers building bleeding-edge consumer products in markets like wearables, internet-of-things, and autonomous vehicles. Innovation, design, and manufacturing all under one roof, allows it to respond rapidly to market trends and be a leading name in its industry. Balancing the requirement for constant innovation in all of its markets and maintaining its explosive

## The Client's Challenge

growth is an on-going battle.

The major challenge for the company is developing market shaking innovations weekly. This requires highly skilled engineering team and support organizations that focus on innovation and speed. Focus is an issue as at the speed of developing new products tends to create a level of urgency for the weekly release that prioritizes items near design completion. The constant reprioritization is a distraction that de-focuses the team from other products earlier in the process. Breaking this cycle is critical in increasing the quantity of new products that can be released, hence maintaining or improving the company's as an innovation leader.

#### **Process**

To understand the constraints of the organization and determine the root causes, numerous steps were to be executed in rapid succession. These include:

- Interviewing the organization's leadership.
- Analyzing the work-in-process (WIP).

#### For More Information

To explore the options for leaning the project management structure at your company, call or email Todd Williams:

todd.williams@ecaminc.com

1 (360) 834-7361



# VISION to VALUE

- Reviewing the new product development processes.
  Once it was determined that the issues were with focus and WIP loading, three tools were implemented:
- WIP track board with WIP Cards showing project process (see image to right).
- Company-wide Kanban.
- Resetting the NPD starts to match engineering throughput.

#### **Results**

During a six-week engagement, it was confirmed that the company was heavily engineering constrained and that the primary issues was not their new product development process. Instead of implementing a heavy "project charter-schedule-task mastering" process, a nimble, initially manual, process was defined and deployed to improve time-to-market. This included establishing a:

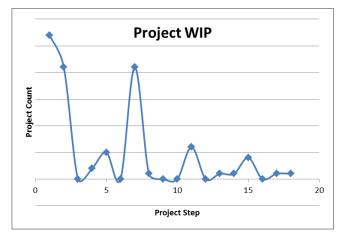
- Work-in-process tracking board (see graph) to:
  - Focus attention on bottleneck processes.
  - Identify slow moving projects.
  - Highlight areas for process change.
- Company-wide Kanban implementation
- Due to the engineering-constrained nature of the process, a new quota for the product-toengineer ratio was based on the formula:

Products Per Engineer = (New Products Per Week)/(Number of Design

Engineers)\*(Cycle Time in Weeks)/(% of process in Engineering)\*(% Time devoted to NPD).

All processes were initially maintained manually and only the Kanban processes were to become a permanent part of the business process. The

| 7391 - TODAY Broadent (600-200) North Principles Connect Connector |                     |           |  |
|--|---------------------|-----------|--|
| Rev Product  |                     | ASSIGNED  |  |
| Opened   | 10/25/13 (362 days) |           |  |
| Project Started  | 10/23/14 (365 days) |           |  |
| Ready for Proto  | 10/23/15 (0 days)   |           |  |
| Proto Ordered  | 10/23/15 (38 days)  |           |  |
| Proto Built  | 11/30/15 (35 days)  |           |  |
| Ready for Reds   | 01/04/16 (          | 3 days)   |  |
| Reds Ordered   | 01/07/16 (36 days)  |           |  |
| Reds In  | 02/12/16 (          | 5 days)   |  |
| Parts In   | 02/12/16 (5 days)   |           |  |
| Initial Panel  | 02/17/16 (0 days)   |           |  |
| Panel App: Eng   | 02/17/16 (2 days)   |           |  |
| Panel App - QA   | 02/17/16 (2 days)   |           |  |
| Initial Build  | 02/19/16 (          | 162 days) |  |
| Code Review  | / /                 | ( days)   |  |
| Doc. Complete  | / /                 | ( days)   |  |
| Live   | / /                 |           |  |



WIP board was used for daily meetings to identify priority issues and level the WIP throughout the project steps. The WIP board would be removed once the project loading was leveled and could be monitored via reports. The physical Kanban boards would be replaced with Kanban software after two or three months of use and refinement.

