

MISSISSAUGA2014

Low Tech-High Touch Visual Process Management in ETO (Engineer to Order) Environment



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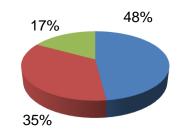
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COM DEV International Overview

- In operation since 1974
- 2013 Revenue: \$215.5 M Cdn
- Employees: 1204
- Satellite contracts to date: 811
- Public Ownership: TSX-CDV
- World's most prolific supplier of satellite equipment –
 With products and subsystems on more than 800 satellites and counting.







Cambridge, ON



Cambridge, ON



Ottawa, ON



Aylesbury, UK



El Segundo, CA

Customers







Since 1985



Since 1982



Thales Alenia

Since 1982

SUPPREY
SATELLITE TECHNOLOGY LITD
Since 2004





Since 1987







NORTHROP GRUMMAN

Since 1987





Since 1985



Since 1998



Since 1982





Since 1975

Relationships with all satellite primes – lasting decades.

Product and Processes



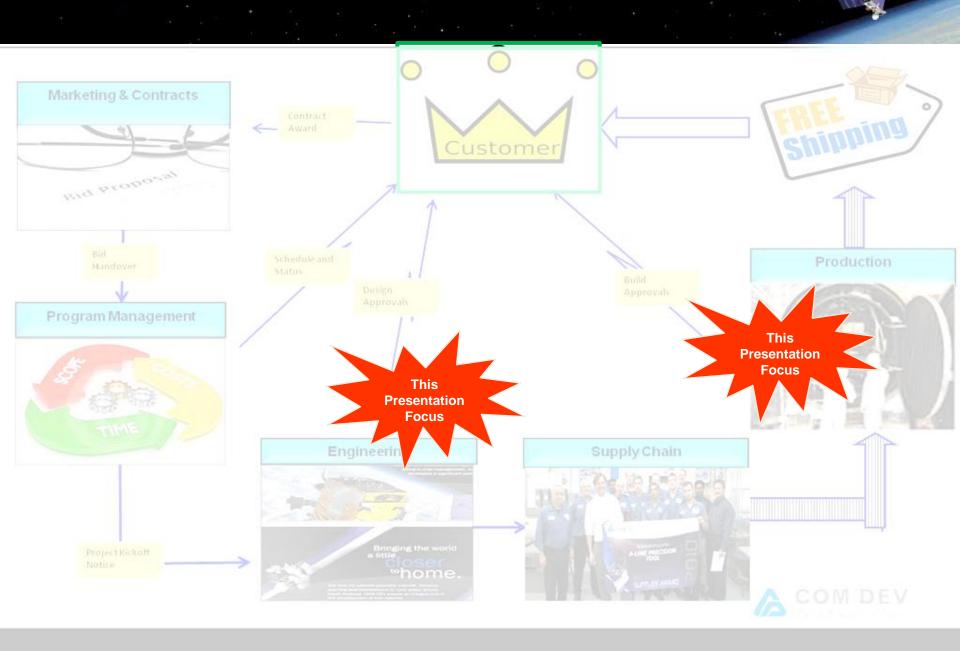
Simple to Complex Assemblies for Commercial and Military Space Application



Variety of Processes to convert Customer Specification to Space Qualified Product



Top Level Value Stream Map



Complexities in ETO Environment



- Our customer Loves variation and Unique requirements
- Change of Scope is normal practice
- Our process starts when even customer is not sure what they want but they always want cheaper, faster and better
- Customer involvement and approvals at each stage of process
- Detail documentation for traceability control
- > 100% testing on components in simulated Space environment

Visual Management Solutions





1

Engineering Project Status Tracking



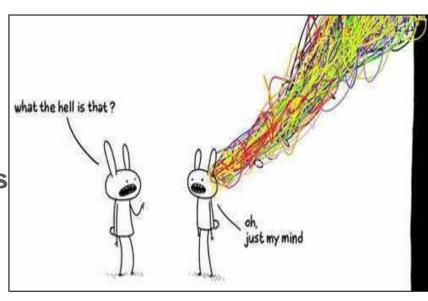
Production All in One Board





Engineering Project Status Tracking- Before

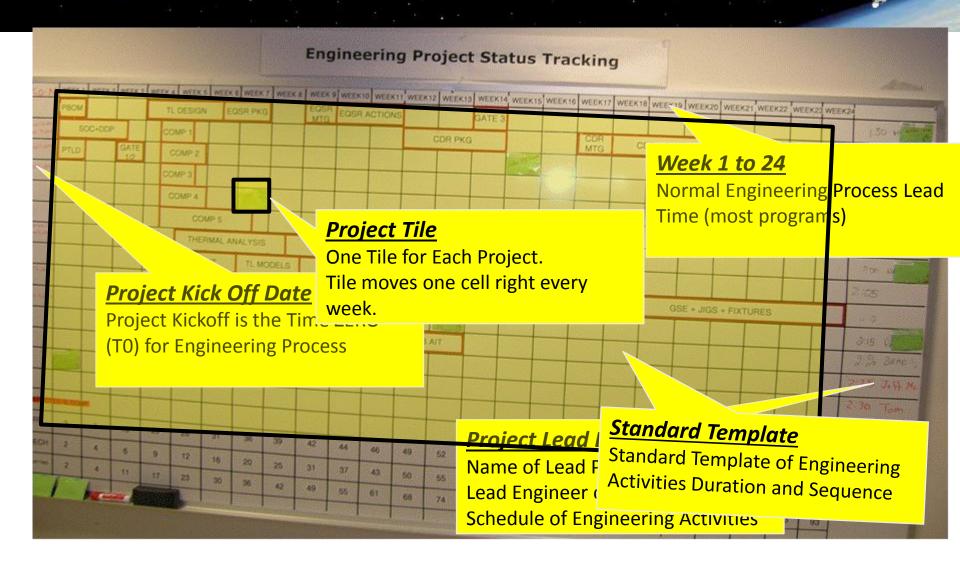
- > NO Defined Process
- > FIRE FIGHTING
- Information Hidden in Computers and in Peoples mind
- > Silos
- > Variation in information
- > Lack of Standardization



Variation and Hidden information contributes to Complexity, Rework,

Waiting and Over processing

Project Status Tracking- Now



Low Tech - High Touch Solution



Status Tracking Board: How it Works





- Standard Lead time: 24 Weeks
- \$tandard Template
- New Tile for Each Project
- Tile Moves one cell each week
- Blank Tile= Good News(No Issues)
- Tile with Red Remarks: Issues(Need Support)



Weekly Review Meeting @ White Board



WHO:

Lead Engineers, Program Managers, Engineering Management

What:

- Update status
- > Review Status and Discuss support Requirements
- > Actions if required



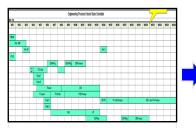




How we did it

Engineering Team

Involving employees and implementing feedback



Standard template defined in Future State VSM



Idea to use standard template for visual status monitoring



Prototype model of whiteboard created to prove concept



Process initiated and practiced on temporary board.



Striving towards a self sustaining Process

4 Months from Concept to Implementation

34 months

Engaging people + Developing behaviors = Sustainment



BENEFITS



Learning Review-1

- > Your Business can be a Rocket Science but Lean is not
- >Low tech High touch solutions
- ➤ Variation and Hidden information contributes to Complexity, Rework,

Waiting and Over processing

- >5' x 2 min Principle
- > Engaging people + Developing behaviors = Sustainment
- **≻Gemba Walk**



Visual Management Solutions



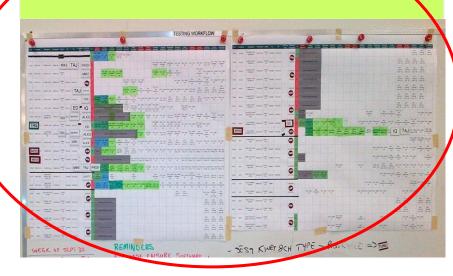
Visual Process Management Implementations

1

Engineering Project Status Tracking



Production All in One Board



Production Process Before

- >Shift start time
- >Problems discussed in
- Conf. rooms
- **≻Who is working on this JOB?**
- ➤ Need Support?
- **➤ Need Information quickly?**
- ➤ Material (Jobs) travels like

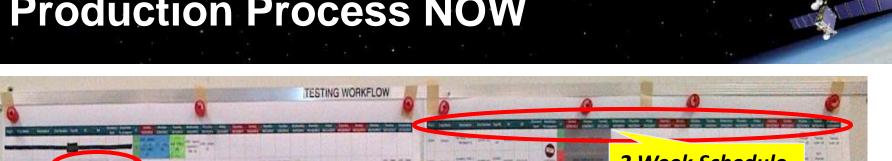
- → ≠ Work start time
- →≠ actual @ Gemba
- Go ask one by one
- → Go and Chase them down
- **→** Good Luck

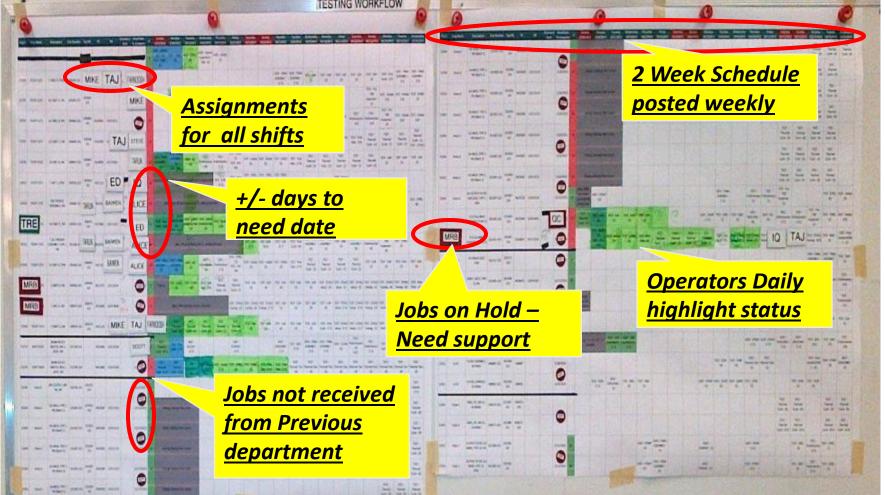






Production Process NOW





Common source and centrally located information ... NO MORE Searching

How It Works





Two Weeks Schedule – Printed and Posted Weekly



Operator names(All shifts) assigned using magnet to each job.



Jobs in Queue and not assigned



Jobs not moving and need support



Jobs did not received from previous department as per schedule

Simple solutions are portable and easy to steal with pride

Daily Shift Change Over



Picture

Current Shift Employees

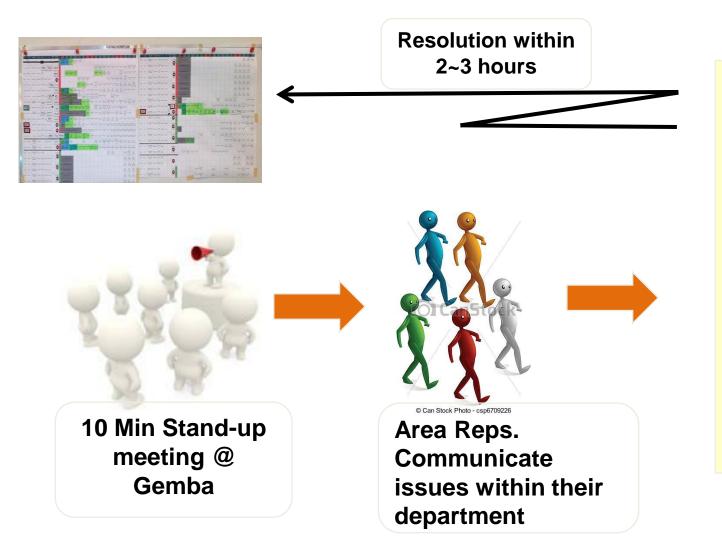
- >Update status of their jobs.
- **≻Put Red magnets if needed**
- ➤Info sharing with operator from next shift

Next Shift Employees

- **≻Check assignments and Priority**
- ➤Info sharing with operator from next shift
- ➤Put Red magnets if needed during the shifts

Daily 8:30 standing meeting @ Gemba





Engineering

QC/QE/PAPM

Program

Management

Office

Video





Benefits



Waste Elimination

\checkmark	Waiting
\checkmark	Rework
\checkmark	Complexity
\checkmark	Over processing
\checkmark	Inventory

- All information in one location and readily available for any one at any time.
- Process Simplification and Reduction in Waste leads to Cost and Lead time reduction.
- Employee involvement and Engagement : Building Human capital
- Transition from always reactive to proactive actions

Learning Review-2

- >Your Business can be a Rocket Science but Lean is not is not!
- >Low tech High touch solutions
- > Variation and Hidden information contributes to Complexity, Rework, Waiting and Over processing
- >5' x 2 min Principle
- > Engaging people + Developing behaviors = Sustainment
- **≻Gemba Walk**
- **▶** Process complexity -form of a waste category
- Common source and centrally located information ... NO MORE Searching
- > Simple solutions are portable and easy to steal with pride
- > Focus on Uninterrupted flow of material
- > From fire fighting to proactive and predictive environment by Visual

Management



Conclusion

- ❖ If we Can Do IT, So can you.
- Think Low Tech- High Touch Visual Solutions
- Select tools and methods and modify as required
- Involvement and buy-in of all employees
- Start slow move fast





Thank You!

To sustain lean journey, it is essential to keep asking questions. We welcome any feedback or recommendations.

Please complete the session survey at: AMESurvey.org

Session Code: ThP/10

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