Value Stream Transformation

From the shop floor to the board room

Chris Beaulieu
Executive Director – CBS Global Operations
Making people’s lives better by powering a more prosperous world
our VISION

Innovating for our customers to power their success

WHAT we want to accomplish
our VALUES

Integrity       Excellence
Diversity & Inclusion   Teamwork
Caring

HOW we will do it
CUMMINS

100 years serving customers

1M+ engines annually produced

15M engines in the field

UNDERSTANDS POWER
— PAST, PRESENT AND FUTURE.
Global Network

190 Countries & territories

56,000 Employees

600 Distributor locations

7,200 Dealer locations

Shaded locations indicate CMI and JV territory
The COS 10 Practices

1. Put the customer first and provide real value
2. Synchronize flows (material, physical and information)
3. Design quality in every step of the process
4. Involve people and promote teamwork
5. Ensure equipment and tools are available and capable
6. Create functional excellence
7. Establish the right environment
8. Treat preferred suppliers as partners
9. Follow common problem solving techniques
10. Use Six Sigma as the primary process improvement method
31 Key Processes under COS

1. Put the Customer First and Provide Real Value
   - Customer Visibility and Measures
   - Value Stream Mapping
2. Synchronize Flows (Material, Physical and Information)
   - Bottleneck Management
   - Takt Time and Line Balancing
   - Scheduling and Load Leveling
   - Engineered Material Flows/Plan for Every Part
3. Design Quality in Every Step of the Process
   - Quality System
   - Process Change Management
   - Process Control
4. Involve People and Promote Teamwork
   - People Involvement
   - Team Measures
5. Ensure Equipment and Tools Are Available and Capable
   - Crisis Management
   - Equipment Maintenance
   - Setup Reduction
   - Process Capability
6. Create Functional Excellence
   - Functional Excellence Structure
   - Standard Working Methods
   - Workforce Capability and Flexibility
7. Establish the Right Environment
   - Continuous Improvement Culture
   - Goal Tree and Performance Measures
   - “Go, See, Act” Management
8. Treat Preferred Suppliers as Partners
   - Supplier Improvement (Direct and Indirect)
   - Supply Chain Management (Direct and Indirect)
   - Supplier Quality
9. Follow Common Problem Solving Techniques
   - Kaizen
   - Problem Solving Techniques
10. Use Six Sigma as the Primary Process Improvement Method
    - Six Sigma

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Bringing COS Alive in CBS

Cummins Operating System
Principles and Behaviours

Operational Excellence

Assessments of 31 Key Processes

F.E. ACCOUNTABILITY

10 COS PRACTICES

Put the Customer First and Provide Real Value
Synchronize Flows (Material, Physical and Information)
Customer Visibility and Measures
Value Stream Mapping
Bottleneck Management
Takt Time and Line Balancing
Scheduling and Load Leveling
Engineered Material Flows/Plan for Every Part
Quality System
Process Control
People Involvement
Team Measures
Crisis Management
Equipment Maintenance
Setup Reduction
Process Capability
Functional Excellence Structure
Standard Working Methods
Supplier Improvement (Direct and Indirect)
Supplier Improvement Culture
Real Time and Performance Measures
Communication
Health, Safety and Environmental Management
5S (Sort, Set in Order, Shine, Standardize, Sustain)
Supplier Quality
Visual Management

31 O.E. KEY PROCESSES

Definitions of Key Processes, training material and QSI docs

Standard Work of Operations Excellence
Training material QSI docs
Value Stream Transformation

**Value Stream:**
A collection of all the process steps involved in bringing a service from initiation to completion, raw information etc. to finished process(es) to serve our customers.

**Value Stream Transformation (VST):**
Value Stream Transformation (VST) – a systematic approach to achieve sustainable improvements in People, Quality, Delivery and Cost whilst developing a continuous improvement culture within our Business.

Value Stream Transformation is an enabling process within Operations Excellence

A preferred Cummins Continuous Improvement methodology
5 Steps – high level overview

1. Define the Value Streams
2. Capture the Current State
3. Design the future State
4. Create implementation plan
5. Implement & Sustain

Products (goods or services) with common process steps
The basis for the future state; 70 – 80% accurate is OK (directionally correct)
Creating flow through the elimination of waste found in your current state map
Your RACI with ownership and timeframes – Simulation models

This is THE goal of mapping
Value Stream Transformation (VST)

Supply Chain vs. Silo

Visualize Current State

Identify Opportunities

Develop Future State

Multi-Round VST Improvement

Quick Win/Systematic/Deep

Throughout Time
Cummins VST – Operations

- VST launched in 2013 (2016 VST standardized & became a 6S methodology)
- Trained over 450 people (over 1000 engaged - extended team members)
- Utilized in Supply chain / Plants and non-manufacturing locations
CBS by the Numbers

- 1,000+ employees
- 27 countries
- 9 Regional Centers
- 4 Service Lines
- 20 yrs.

- 94,128 WWIDs supported
- 9,175 servers
- 1,080 sites supported
- 9,9 PB storage (Petabytes)
- 59,744 CGDs (7 models)

- 32,000+ accounts reconciled
- 24,000+ lines of GL
- 100,000+ travel reservations
- 7.3M+ payment invoices
- 9.9 PB storage (Petabytes)

- 51,000+ contact calls
- 7,381 account disputed items
- 5,000 people onboarded
- 3,191 immigration initiations
- 52,000 variable comp payments

- 32,915 pension distributions
- 1,388,500 survey responses
- 1,096 education assistances
- 427 translation requests
- 52,000+ travel reservations
- 1,000+ employees

2017 data
## Framework for Deployment

### Prepare
- 6S Charter created and approved
- Quality, Delivery & Cost improvements defined
- Project Prioritized

### Build Capability
- 3 Day in region training delivered by OE team / building regional capability
- 4 Projects per Wave
- Min 20 people to be trained per wave
- Current State Map created
- Opportunities documented and ranked
- RACI created

### Deliver and Support
- 90 day delivery plan
- Weekly Stakeholder reviews to share progress and remove roadblocks
- Monthly metric pack to track improvement to our results (Quality, Delivery & Cost)
Project Charter

Objective:

Increase production rate from 159 per day to 180 per day without affecting product quality

Benefits:

Improved on time delivery, Reduced risk of losing business, reduced special transport costs, reduced inspection costs, reduced supplier management costs
Value stream mapping

- The process was walked to understand all steps and activities.
- An initial waste walk was conducted to capture non-value added activities.
- The current state value stream map was created during the training workshop.
Baseline

Customer demand = 180 per day

Actual volume
159 units per day

Customer demand = 180 per day

Actual volume
159 units per day
Key X’s identified

- X1 - 5s required across all processes
- X2 - Workload balancing required to achieve target time
- X3 - Workflow sequencing required
- X4 - Standard work implementation required
- X5 - Hourly production monitoring required
Production volume increased from 159 to 255 parts per day (using same amount of resource in the same amount of time).

Target improvement 13%. Actual achieved 60%
First VST Project in CBS

Y : Increase invoice Paid On Time % for direct materials suppliers, without impacting headcount.

Results

- Improved paid on time by 25%
- Worst case lead time reduced from 140 days to 50 days (SLA is 60 days)
- Team won Silver Shooting Star recognition award
CBS – VST Global Roll-out

North America
2 Waves complete
7 Projects launched

Latin America
11th Oct 2016
4 projects Launched

Africa
2 May 2017
4 Projects Launched

Europe
5 Waves complete

India
19 Sept 16
4 Projects Launched

China & NE Asia
1 Aug 16
4 Projects Launched

South Pac & SE Asia
10 July 2017
4 projects launched
Value Stream Transformation

1. Launched 41 projects and closed 25
2. 15% of CBS trained on VST
3. 3 Global Impact awards in 2017 projects
4. Delivered People, Quality, Delivery and Cost improvements
Thank you

Questions