Suggestion Systems: The DNA of Continuous Improvement

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MINERALS TECHNOLOGIES INC.
Minerals Technologies Inc. was established in 1992. It operates in 38 countries with 12 research facilities and 156 locations. The company employs 3,500 people.
**Minerals Businesses**

**Specialty Minerals**
- Paper PCC
- Performance Minerals

**Performance Materials**
- Household and Personal Care
- Metalcasting
- Basic Minerals

**Construction Technologies**
- Environmental Products
- Building Materials
- Drilling Products

**Service Businesses**

**Refractories**
- Refractories
- Metallurgical Wire

**Energy Services**
- Off-Shore Services
  - Filtration
  - Well Testing
## Today’s Agenda

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“One has to assume first, that the individual human being at work knows better than anyone else what makes him or her more productive . . . even in routine work the only true expert is the person who does the job.”

Peter Drucker ©
Suggestion System and Daily Kaizen

Levels of lean transformation — kaizen perspective

Shingo Model levels of lean transformation

**Tool driven**
Management planned kaizen for selected portions of a process without explicit linkage to strategic direction

**System driven**
Management and engineering planned kaizen is linked to company strategies and value stream imperatives. Kaizen employs the systemic elimination of waste, unevenness and overburden

**Principle driven**
“Spontaneous continuous improvement via project, event, or 'just-do-it' approach: sponsored by management, work team, or worker. Kaizen activity is part of everyday work.” (Shingo Prize model 2009)

Some kaizen events sub-optimize value stream performance. Occasional backsliding

**Kaizen event**
Events are high leverage and integrated. Lean management systems prevent backsliding.

**Daily kaizens**
Predominate improvement activity, is daily kaizen (kaizen circle activities, 5S improvements, mini-events, employee suggestions, etc.)

Performance

Time
OUR GOAL

Enhance and improve total productivity of operations

Establish a framework for our company to tap into its full resources by involving people at all levels of the organization directly

- Establish a framework for our company to tap into its full resources by involving people at all levels of the organization directly
- Creates a sense of ownership, awareness, and culture to drive a strong continuous improvement program
- Ultimately to become more competitive in the global market
Suggestion System Pilot

Specialty Minerals – Adams, Massachusetts
Key Learnings

- Emphasize incremental improvement; “Singles, not Home Runs!”
- Communication and follow-up are critical
- Upfront training is critical to set expectations
- Requires constant care and nurturance
- Design must consider facilities that are transitioning to HPWS
- Some employees may prefer advancing suggestions as a team or in a group setting
- Simplicity, simplicity, simplicity!

Emphasize incremental improvement; “Singles, not Home Runs!”
Key Principles to Drive Success

1. MANAGEMENT SUPPORT

- Strong visible support by senior leadership
- Commitment to the process
- Promotes enthusiasm across organization
- Encouragement to support participation
- That “push” from all levels
Key Principles to Drive Success

2  SYSTEM DESIGN

- Design to “fit” the environment
- Involve all employees
- Be creative
- Build a *simple* standard process
- Make easily accessible, central location
- Launch for a *fun* program

**Design Flexibility**

- KEEP IT SIMPLE
  - White Board
- MAKE IT VISIBLE
  - Bulletin Board
- MAKE IT ACCESSIBLE
  - Web Based
- NO SUGGESTION BOX
Key Principles to Drive Success

3 TRAINING

WHY
- Purpose of the Suggestion System
- What is the goal?
- What are the expectations?
- Benefits of the program

HOW
- Understand how the system works
- What is a suggestion? -No bad ideas
- Small, easy to implement
- Incremental improvement
- Make it part of work!

WHO
- Who submits suggestions?
- Who implements suggestions?
- Great idea to assign “huddle” teams

WHERE
- Define central location of program
- Where do ideas come from?
Where do ideas come from?

- Daily Management Meetings
- KATA
- Project Charters
- Cause Maps
- Shift Turnovers
- Buddy Visits
- Gemba Walks
- Phone Calls
- Kaizen Events
- PDCA
- Hallway Conversations
- Near Misses
- FMEA
- Incident Investigations
- Customer Audits
- Risk Assessments
- Fresh Eyes
- Casual Troubleshooting
- Internal Audits
- Complaints
- Customer Audits
- Benchmarking
- Reactive Maintenance
- Toolbox Talks
What is the purpose of suggestion?

- Simplify the Process
- Minimize Inventory
- Prevent Breakdowns
- Improve Automation
- Fosters Learning
- Better Utilization of Equipment
- Enhances Customer Satisfaction
- Ensure Tidiness
- Lessen Movement
- Reduce Wait
- Add Innovation
- Prevent Pollution
- Reduce Risks & Prevent Hazards
- Improves Information Exchange
- Improve a Procedure
Key Principles to Drive Success

4 DEDICATED RESOURCES

- Allocate time
- Diverse cross-functional teams to execute the program
- Idea coaches
- Group communication and collaboration
- Quick responsiveness
- Make time for execution
- Minimize screening out ideas
  “just do it”
A Few Tips to Avoid Failure

No idea is a bad idea; don’t just reject idea; understand the issue and help find a solution; provide feedback; keep communication open

“Can the Committee” – decision-making at the lowest possible level in the organization leads to better decisions and faster implementation

Get back to employees quickly, evaluate and respond; Lack of responsiveness is the #1 reason why suggestion systems fail
Key Principles to Drive Success

Set program targets/expectations
Quantify participation & implementation
Track progress
Post updates
Link to performance metrics

GOALS & MEASUREMENTS
Key Principles to Drive Success

- Publicly spotlight good ideas & implementation successes
- Make sure employees understand the importance of ideas
- Say “thank you”
Key Principles to Drive Success

LINK TO CONTINUOUS IMPROVEMENT

Suggestion System

- 5S
- Training
- DMC
- Kaizen
- TPM
- FMEQA
- Gemba
- VSW
- PDCA
- PDCA

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Local and GSS Suggestion Systems

**Local Suggestion System**
- Face-to-Face
- Whiteboard
- Bulletin Board
- Idea Form (Paper)
- PlantWeb

Suggestions that pertain to **work processes within facility, department or possibly business or resource unit**

**Global Suggestion System**
- Online at MyMTI
- Corporate/international

Suggestions that pertain to **MTI overall**, or other ideas that can not be acted upon at the facility or department levels, or if the employee is not certain where to advance the idea
It's about creating the tools for people to take action
Local Systems - Lifford, UK

- EEs & managers submit ideas via Sharepoint forms; accessed via PC, iPad, Smart devices
- Ideas are reviewed & feedback returned within 24 hour
- Ideas are posted on Daily Management Control boards
- Implementation of ideas is discussed during DMC review & monthly operations meetings

3 Suggestions per EE
Implementation Rate of 71%
Local System - Lovell, Wyoming

EEs & managers submit ideas via forms and Post-it notes

Ideas are entered into an Excel spreadsheet for tracking

Implementation of ideas are discussed during daily Gemba walks

Metrics & support needs are discussed in monthly meetings

Results are posted via Visual Management Boards

3 Suggestions per EE/month
67% Implementation Rate
Local System - Troy, Indiana

- Ideas are collected onto a white board, includes submitter & submission date
- Weekly gatekeeper reviews, subject matter expert assigns target completion
- Ideas are opened & closed in an Excel spreadsheet for tracking
- Results are posted via Visual Management board

4 Suggestions per EE/month
77% Implementation Rate
Local System - HBS, Lafayette

- EEs & managers submit ideas via Post-it notes to bulletin board
- Implementation of ideas are discussed in scheduled “huddles” of HPWTs
- Implementation of ideas are also discussed in morning meetings
- Metrics are reported weekly/monthly summary reports
- Results are posted via Visual Management Boards

5 Suggestion per EE/monthly 87% Implementation Rate
Local Systems - LV, California

- EEs & managers submit ideas via multiple form types
- Ideas are logged into Microsoft Access database for tracking
- Ideas are posted on Daily Management Control boards
- Implementation of ideas is discussed during DMC review and monthly meetings

3 Suggestions per EE/month
78% Implementation Rate
MTI Global Suggestion System

EEs submit ideas via electronic form linked on MyMTI website

83% Implementation Rate

Number of suggestions collected: 5970

SPAs are assigned & notification emails are sent out

Ideas are reviewed by SPA & implementation is scheduled

Ideas are tracked electronically on MyMTI website and status notifications are emailed

GSS submission & implementation #s are reported out monthly
Global Metric Tracking and Graphics

GSS Implemented Ideas 2017

- 1,071 Implemented
- 126 Not Implemented

ERT Savings per BU by Year

- MII
- MTI
- PCC
- PMIN
- PMAT
- CT
- ES

ERT Idea Categories 2017

- 22 None
- 7 Energy
- 7 Finance
- 2 HR
- 11 Process Efficiency
- 90 Supply Chain
- 12 Telecom
- 2 Travel
- 5 Other
- 2 IT
- 9 Recycling (Green)
Global Suggestion System

Total Suggestions – Advanced and Implemented

<table>
<thead>
<tr>
<th>Year</th>
<th># Ideas (YTD)</th>
<th># Ideas Implemented (YTD)</th>
<th>% Implemented</th>
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<tr>
<td>2011</td>
<td>6,127</td>
<td>3,962</td>
<td>65%</td>
</tr>
<tr>
<td>2012</td>
<td>9,832</td>
<td>6,365</td>
<td>65%</td>
</tr>
<tr>
<td>2013</td>
<td>15,446</td>
<td>10,822</td>
<td>70%</td>
</tr>
<tr>
<td>2014</td>
<td>17,842</td>
<td>12,006</td>
<td>67%</td>
</tr>
<tr>
<td>2015</td>
<td>39,693</td>
<td>24,679</td>
<td>62%</td>
</tr>
<tr>
<td>2016</td>
<td>45,107</td>
<td>31,884</td>
<td>71%</td>
</tr>
<tr>
<td>2017</td>
<td>39,033</td>
<td>26,096</td>
<td>67%</td>
</tr>
<tr>
<td>Annualized</td>
<td>52,044</td>
<td>34,795</td>
<td>56%</td>
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Program Challenges

Orienting employees to their OWN job;

“No heaving over the wall to others!”

Emphasizing the value of incremental improvement;

Getting ALL comfortable with target of 2x per month;

Responding to ALL suggestions in a rapid manner

Participation

- Fostering a culture of free expression of ideas
- Manager/Employee Trust relationships
- Employees feeling disenfranchised because their voices are not heard
- Perception that small ideas aren’t valuable

- Complexity slows down productivity of the system
- Failure to make time to participate
- Failure to prioritize across the organization
- Lack of organizational transparency
GET ENGAGED!

Promote  Coach  Participate  Praise

REPEAT...
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<td>• Over 45,000 suggestions made in 2016, 14% increase YOY</td>
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<td>• Over 4000 Kaizen events completed around the world, which translates to 10 of these every day</td>
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<td>• Earnings per share increased by 4%, despite a 9% reduction in sales</td>
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<td>• LTAs reduced by over 22%</td>
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Continuous improvement through employees’ suggestions represents an incremental, ongoing process as one small invention is added to another.

When a constant stream of small improvements flows from all employees, a powerful force is set into motion.

The suggestion system is one of the most powerful Lean tools that an organization can adopt.
References:

› Ideas Are Free, How the Idea Revolution Is Liberating People and Transforming Organizations, Alan G. Robinson & Dean M. Schroeder

› The Idea Generator, Quick and Easy Kaizen, Bunji Tozawa and Norman Bodek

› 40 Years, 20 Mission Ideas, The Toyota Suggestion System, Yuzo Yasuda
Thank You!

Your opinion is important to us!

Please take a moment to complete the survey using the conference mobile app.

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