

# Suggestion Systems: The DNA of Continuous Improvement

**Michelle Weber**

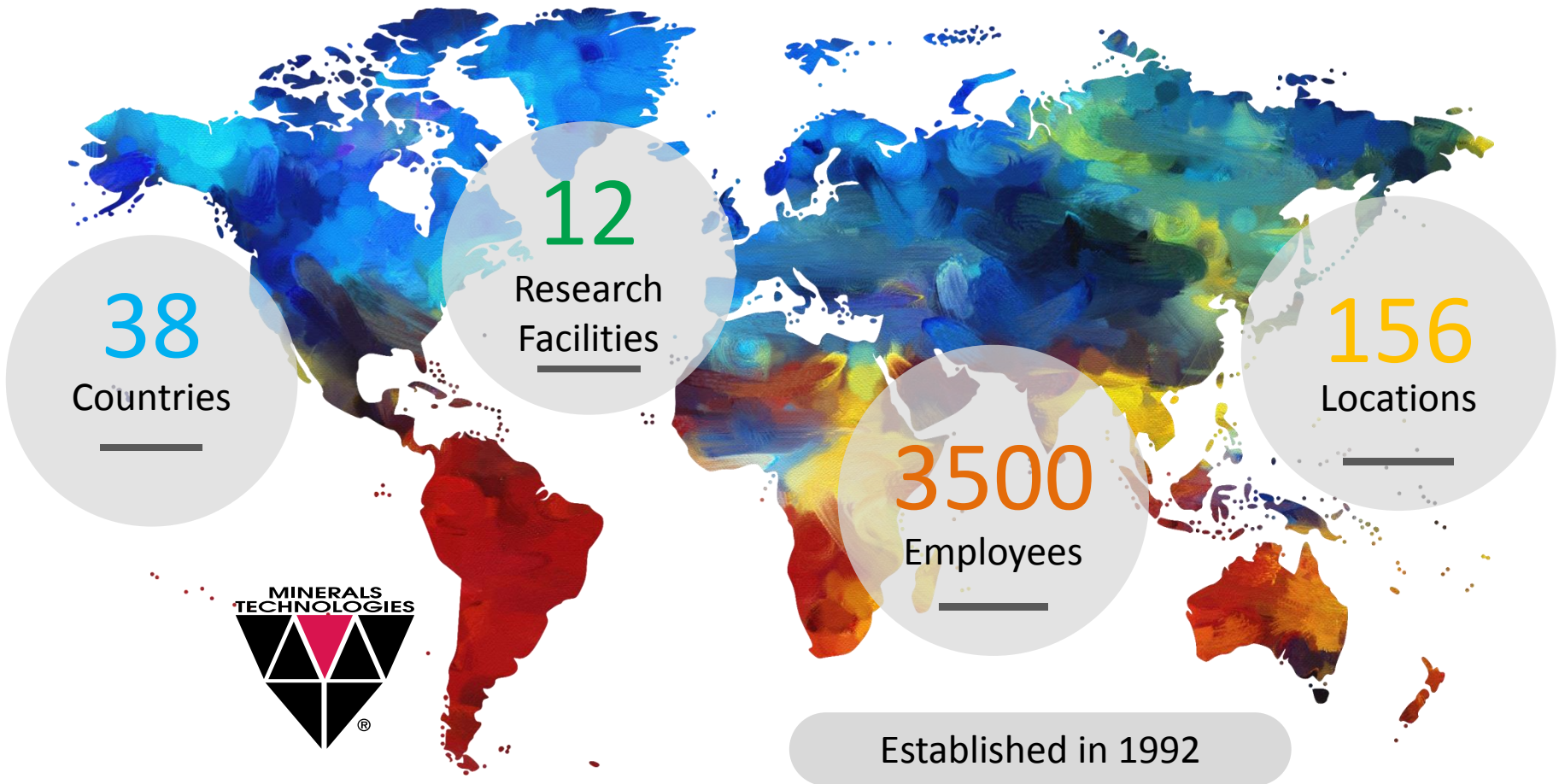
Plant Manager, Health and Beauty Solutions

**Paul Smiles**

Plant Manager, Performance Minerals

**MINERALS TECHNOLOGIES INC.**





# Minerals Technologies Inc.

## 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

- 1 Our Goal and Importance of the Program
- 2 Design Parameters and Pilot Study
- 3 Key Principles to Drive Success
- 4 Local Suggestion Process and Examples
- 5 Global Suggestion Process and Examples
- 6 Program Challenges
- 7 Overcoming the Challenges
- 8 RESULTS– Return on Investment!



*“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

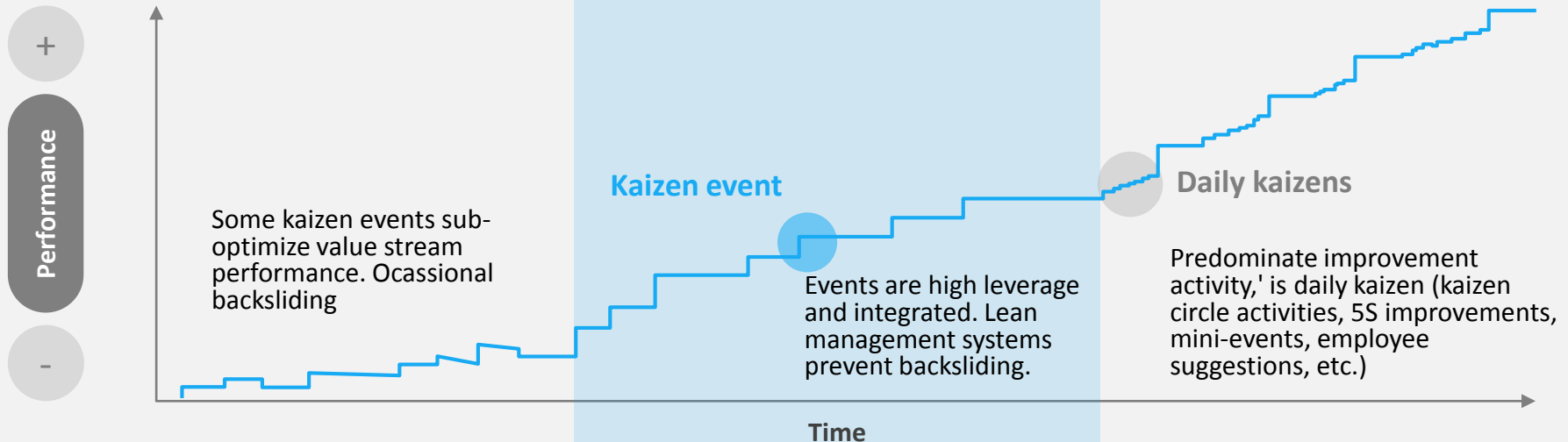
Management planned kaizen for selected portions of a process without explicit linkage to strategic direction

### 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)





# 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



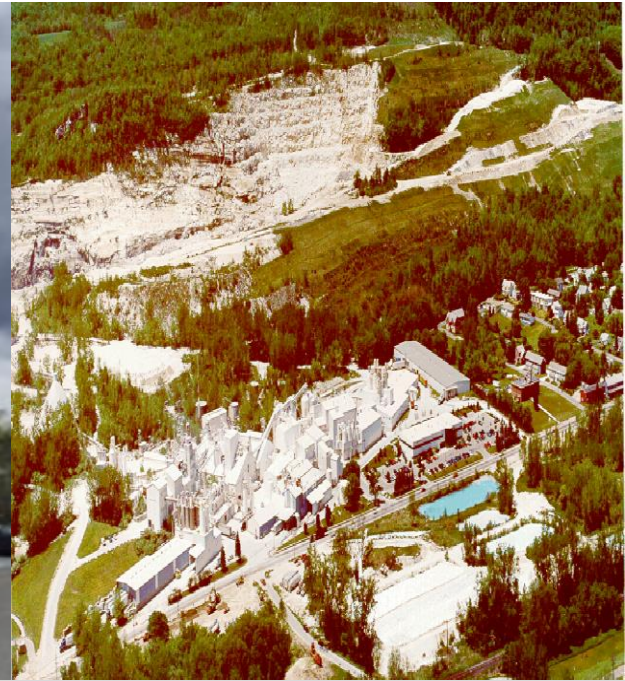
Ultimately to become **more competitive** in the global market



# Suggestion System Pilot



Case Study



Specialty Minerals –  
Adams, Massachusetts



# Key Learnings

Requires constant care  
and nurturance

Design must consider facilities  
that are transitioning to HPWS

Communication and  
follow-up are critical

Some employees may prefer  
advancing suggestions as a  
team or in a group setting

Upfront training is critical  
to set expectations

Simplicity, simplicity,  
simplicity!

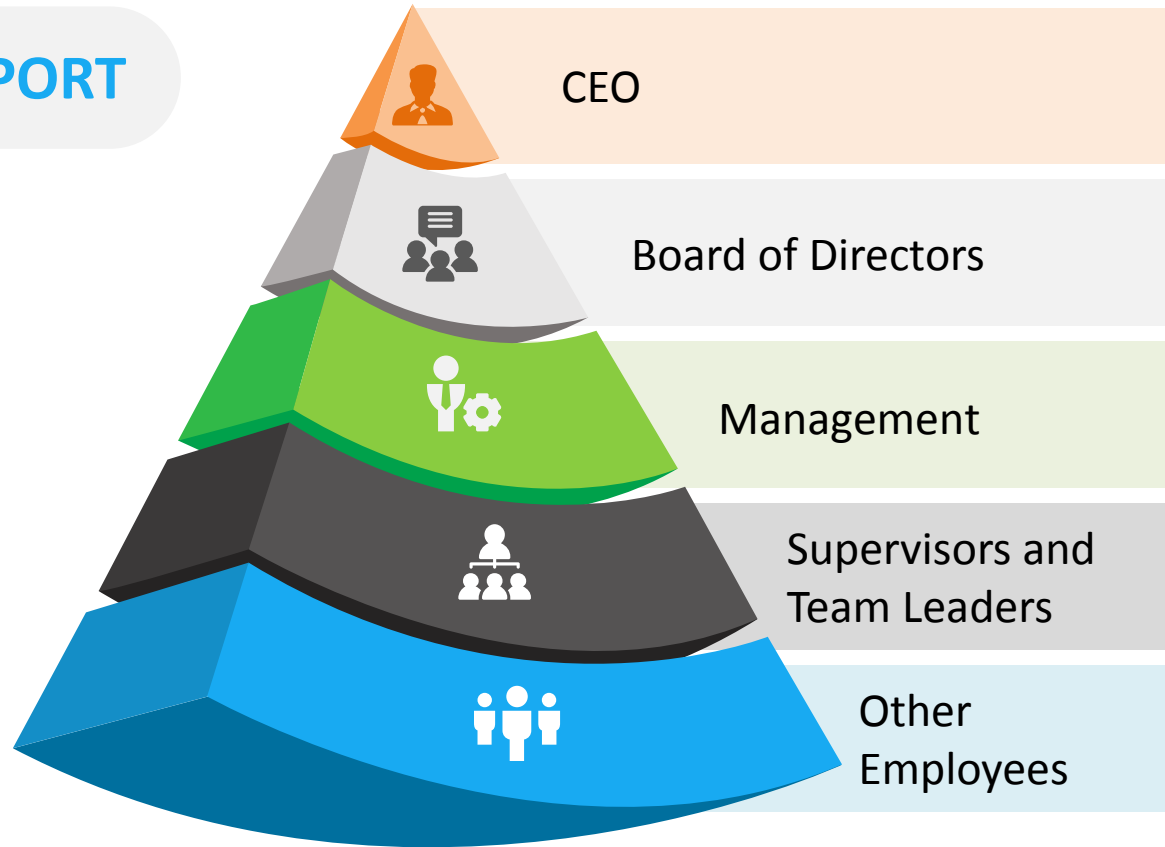
Emphasize incremental improvement;  
“Singles, not Home Runs!”



# 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

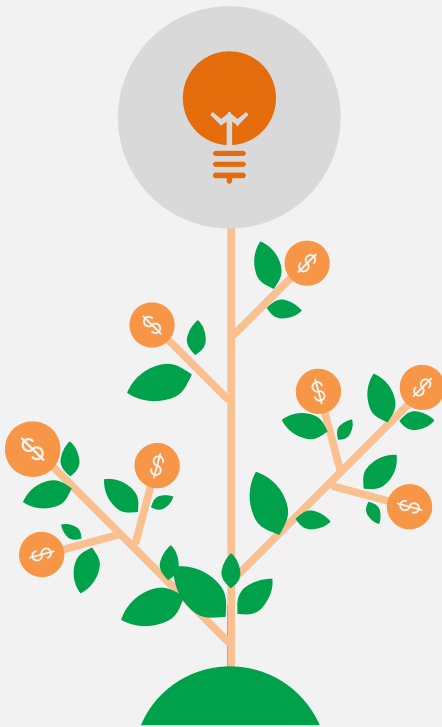
- Define central location of program
- Where do ideas come from?

# 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?



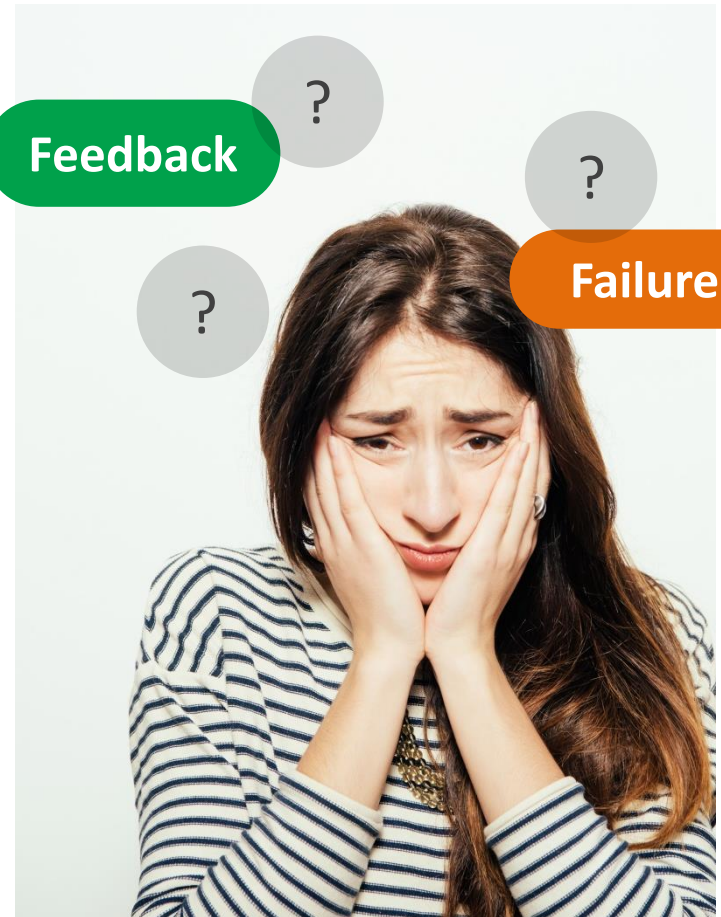
- Simplify the Process
- Minimize Inventory
- Prevent Breakdowns
- Improve Automation
- Fosters Learning
- Better Utilization of Equipment
- Enhances Customer Satisfaction
- Ensure Tidiness
- Lessen Movement
- Reduce Wait
- Add Innovation
- Prevent Pollution
- Reduce Risks & Prevent Hazards
- Improves 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



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



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



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

# Key Principles to Drive Success



# Key Principles to Drive Success

## 6 RECOGNITION

- ✓ Publicly spotlight good ideas & implementation successes
- ✓ Make sure employees understand the importance of ideas
- ✓ Say “thank you”



# Key Principles to Drive Success

**7**  
**LINK TO  
CONTINUOUS  
IMPROVEMENT**



# Local and GSS Suggestion Systems

## Local Suggestion System

Face-to-Face

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Whiteboard

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Bulletin Board

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Idea Form (Paper)

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PlantWeb

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

## Global Suggestion System

Online at MyMTI

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Corporate/international

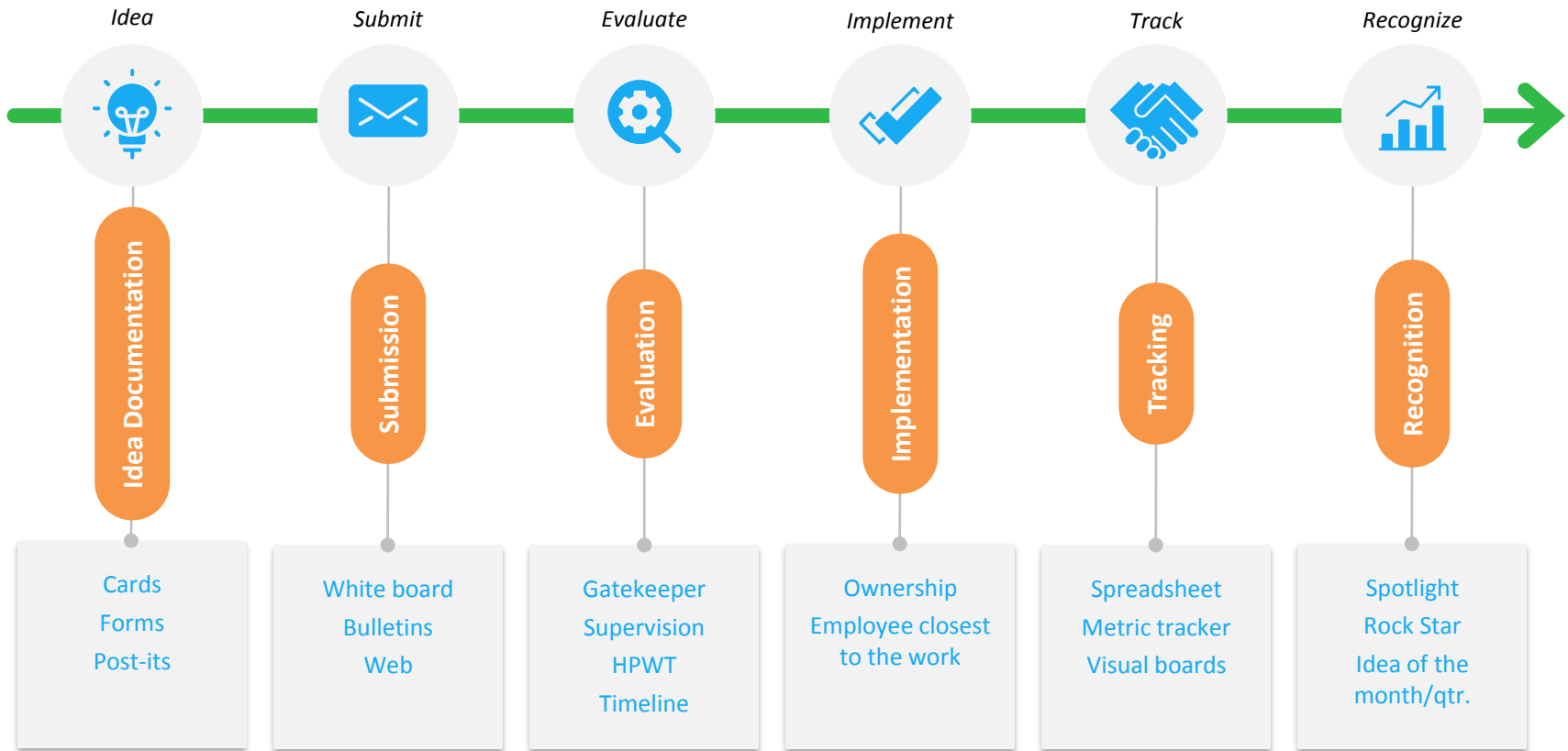
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Suggestions that pertain to **MTI overall**, or other ideas that can not be acted upon at the facility or department levels, or if the employee is not certain where to advance the idea

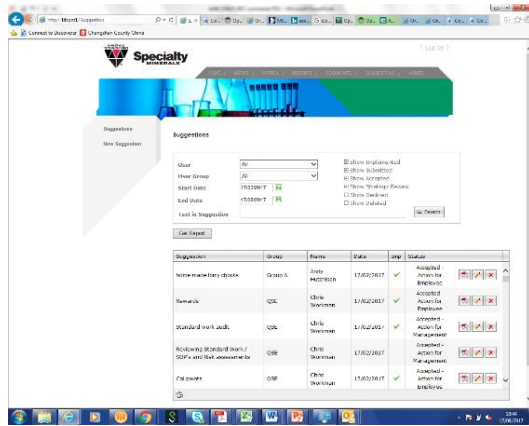


# Suggestion System Process



**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

Specialty

Staff Suggestion Counts

01/01/2017 - 17/08/2017

Name	Submitted	Accepted	Strategic Review	Currently Declined	Total Suggestions	Implemented
Adam Kelly	0	22	5	3	30	9
Alan James	2	7	0	0	9	2
Andy Gordon	1	2	1	0	4	4
Andy Hutchinson	0	18	5	2	25	12
Andy Payne	0	13	0	0	13	0
Avik Hussain	0	7	1	3	11	3
Avi Ali	0	9	6	2	17	7
Bill Jones	0	0	1	0	1	0
Ramden Oweren	0	6	1	1	8	4
Brendan Glennon Jr	2	5	4	1	12	4
Brendan Wielozniak	1	2	2	2	7	2
Bruce Dennis	1	0	0	0	1	1
C Greenhouse	0	5	1	0	6	4
Carol Kirkpatrick	0	6	0	0	6	1
Chris Workman	0	5	0	0	5	3
Colin O'Hare	1	2	1	0	4	1
Dennis Usher	0	7	0	1	8	5
Derek Green	0	1	1	0	2	0
Derrick Flanagan	0	2	0	0	2	2
Derry James	0	5	8	0	13	2
Gemma Breen	0	12	0	0	12	7
James Vile	1	1	0	0	2	0
Jeff Owenhouse	0	5	5	3	13	1
Mark Forthright	4	8	2	0	14	5

3 Suggestions per EE  
Implementation Rate of 71%

# Local System - Lovell, Wyoming



**SUGGESTION FOR IMPROVEMENT**

NAME: Ryan Dukerson Location: \_\_\_\_\_  
 MU: \_\_\_\_\_

State the problem, idea or concern

Fall risk on elevators

Describe your proposed solution

Install fall arrests on elevators that can work with our harness

Who will or what is the benefit?

Whoever climbs the elevators

Suggestion tracking spread sheet		Done	Looking into or in progress	Not going to happen		c
Suggestion	By	Safety:X	Received	status	suggestion #	Location
Compressor room: Install curtains from field lab to wall	Cleve Wilson		1/3/2017	Done	1	PM
Roads are rough behind ACC & Cetco / buy a blade	Chris Allen		1/3/2017	Looking into or in progress	2	Both
Cameras need moved in the mill room & f.b. inlet auger	Chris Allen		1/3/2017	Done	3	PM
Move broom closer to label area.	Dayna Zertuche		1/3/2017	Done	4	CT
Install a heater for the Voltex table.	Cody Clark		1/3/2017	Not going to happen	5	CT
Build blocks to prevent scissor lift from falling.	Chris Harrison		1/3/2017	Done	6	CT
Compressor room: Install air diverters to let heated air into the room.	Cleve Wilson	X	1/3/2017	Done	7	PM
Compressor room: fix hole in the east wall.	Cleve Wilson		1/3/2017	Done	8	PM
Compressor room: door on east side needs replaced.	Cleve Wilson		1/3/2017	Done	9	PM
Compressor room: replace door on southside.	Cleve Wilson		1/3/2017	Done	10	PM
Lower the heater by the re-roll table.	Angel Paz		1/3/2017	Done	11	CT
Mill: upgrade fan when replaced.	Travis Nichols		1/3/2017	Done	12	PM
Move bag house to end of last airslide.	Travis Nichols		1/3/2017	Done	13	PM
Fix or replace scale on storage tanks belt so it will shut off with interlock.	Chris Wilkerson		1/3/2017	Done	14	PM

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

Ideas are entered into an Excel spreadsheet for tracking

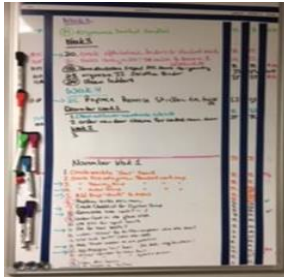
Implementation of ideas are discussed during daily Gemba walks

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



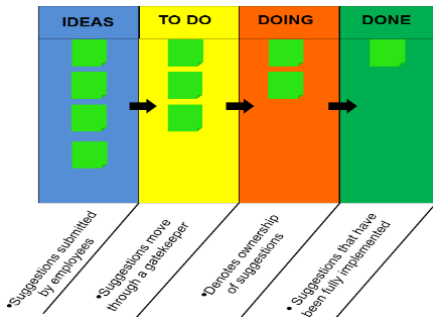
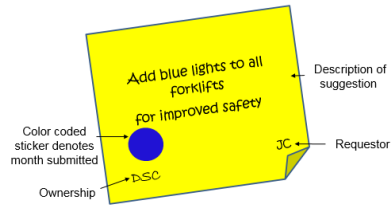
Ideas are opened & closed in an Excel spreadsheet for tracking



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

Lucerne Valley Suggestions

Find Piccard

(AutoNumber)

Date:  Source:

Event Name:

Area:  Category:

Name:  Priority Code:

Suggestion

MES Item  
 Msrk Item  
 Mill Item

Lucerne Valley  
GEMBA ACTION ITEM  
LV-GE-01, Rev 2

Date: 5/24/16

Area: S1ALROOM

Priority: (4) 5 4 3 2 1 (low)

Expected Completion Date:

To be Completed Today

Category  
 Cost  
 Delivery  
 Labor  
 Quality  
 Safety  
 Future  
 Kaizen

Issue / Gap:  
Flatbed load this morning and MW325  
500 pallets not available - WHY WAS  
LOAD NOT READY?

Root Cause\*: Assigned to: RALPH

Corrective Action\*: Assigned to: \_\_\_\_\_

Preventive Action\*: Assigned to: \_\_\_\_\_

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

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

Number of suggestions collected : **5970**

**83% Implementation Rate**

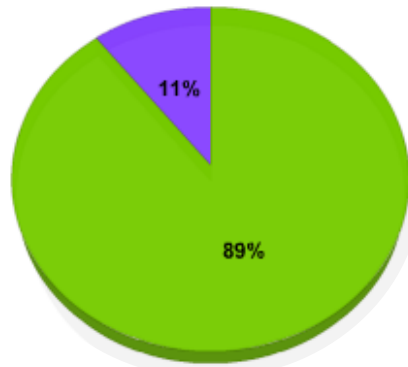
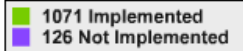


The screenshot displays the MTI Global Suggestion System interface. At the top, there is a navigation bar with the Minerals Technologies logo and user options like 'Contact Administrator' and 'Login (Admin Use Only)'. Below the navigation bar, there is a 'Submit a New Suggestion' button and a legend for suggestion statuses: Open (green circle), Tabled (yellow circle), Closed (red circle), and Implemented (blue circle). A table lists suggestions with the following columns: Idea Number, Status, Submitted, Name, SPA, Type, Assignee, Location, and Keywords. The table is filtered by 'View By Business Unit Only' and shows several suggestions from Mike Edmonds, mostly in the Finance department at USA-Easton. One suggestion from Amy Caroline Stauffer is shown under 'View By Idea Type Only' with a status of 'Open'.

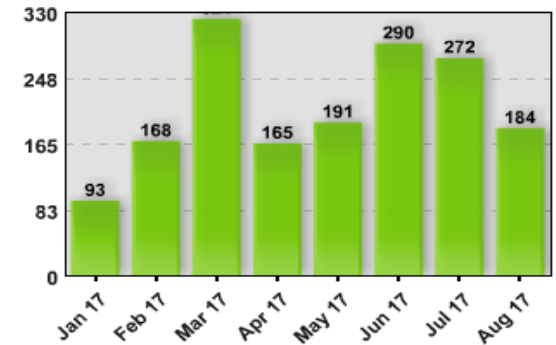
Idea Number	Status	Submitted	Name	SPA	Type	Assignee	Location	Keywords
3456	★	06/29/2017	Mike Edmonds		Finance		USA-Easton	TELEPHONE SAVINGS
3455	★	06/29/2017	Mike Edmonds		Finance		USA-Easton	SAFETY
3453	★	06/29/2017	Mike Edmonds		Finance		USA-Easton	SB
3454	★	06/23/2017	Mike Edmonds		Finance		USA-Easton	SAFETY
3460	★	06/23/2017	Mike Edmonds		Finance		USA-Easton	RELIABILITY
3459	★	06/23/2017	Mike Edmonds		Finance		USA-Easton	AD MIGRATION
3457	★	06/23/2017	Mike Edmonds		Finance		USA-Easton	AD MIGRATION
3456	★	06/23/2017	Mike Edmonds		Finance		USA-Easton Pyro Departments	RELIABILITY
3455	★	06/23/2017	Mike Edmonds		Finance		USA-Easton	Ad migration
3185	●	05/22/2017	Amy Caroline Stauffer		Finance		USA-Bethlehem	Travel policy
3149	●	05/17/2017	Christine Mauro		Finance		USA-Bethlehem	New Hire Communicate

# Global Metric Tracking and Graphics

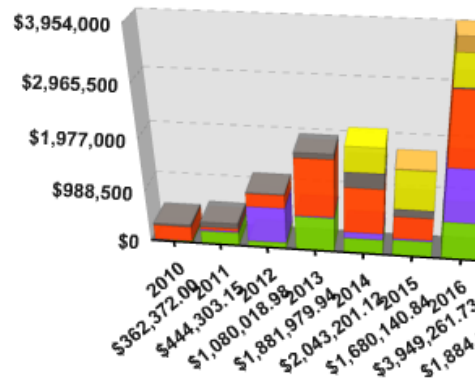
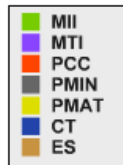
## GSS Implemented Ideas 2017



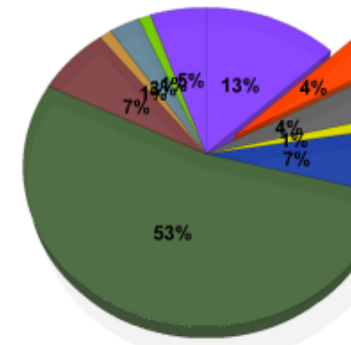
## GSS Ideas: 1684 Ideas Submitted During 2017



## ERT Savings per BU by Year

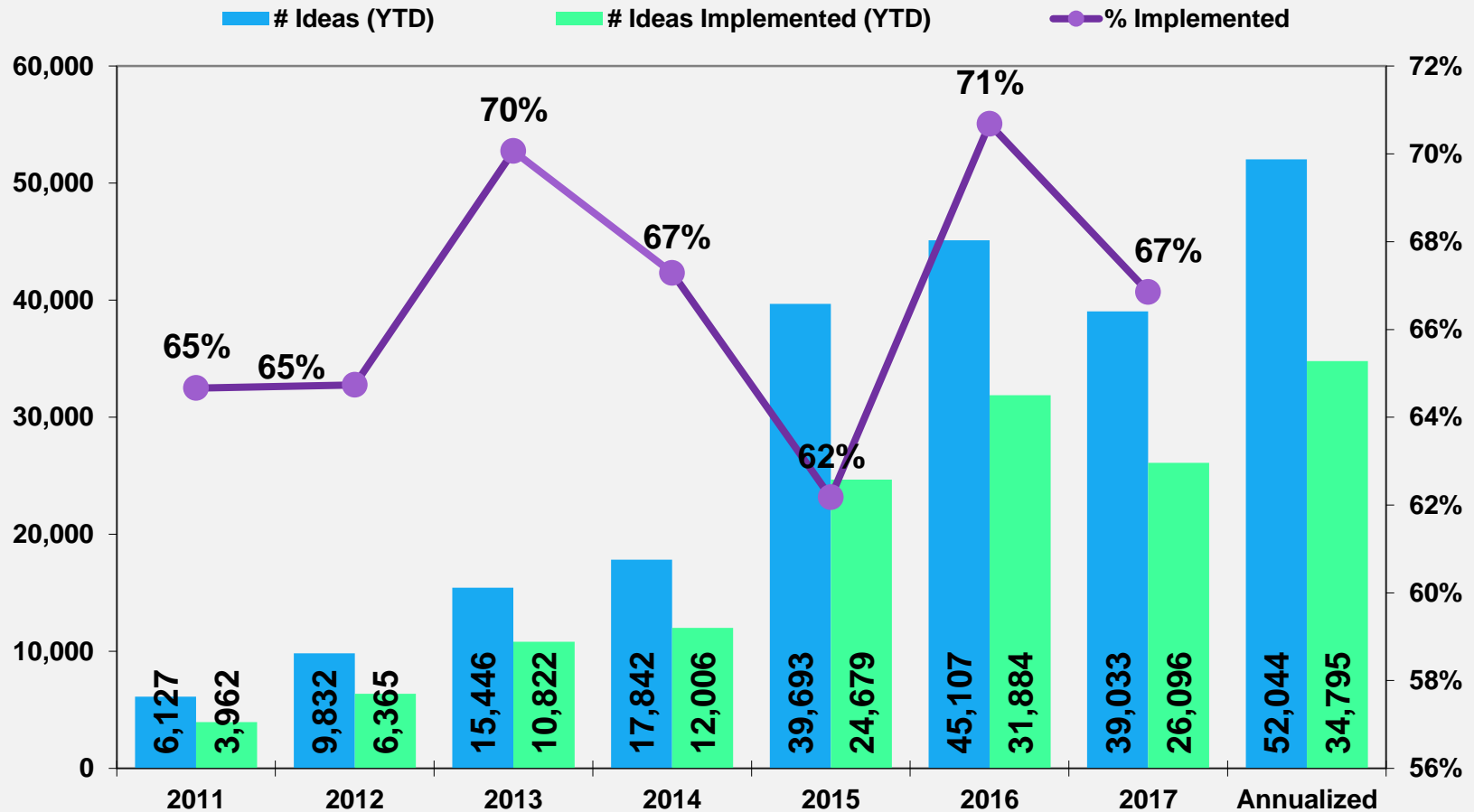


## ERT Idea Categories 2017



# Global Suggestion System

Total Suggestions – Advanced and Implemented



# Program Challenges



Orienting employees to their OWN job;



Emphasizing the value of incremental improvement;



Responding to ALL suggestions in a rapid manner



“No heaving over the wall to others!”



Getting ALL comfortable with target of 2x per month;



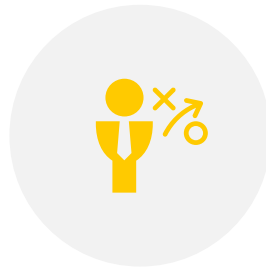
## Participation

- 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...**

# ROI



- 
- Over 45,000 suggestions made in 2016, 14% increase YOY
  - Current idea implementation rate of 71%
- 
- Over 4000 Kaizen events completed around the world, which translates to 10 of these every day
  - A productivity improvement of 7%; \$5 Million in savings
- 
- Earnings per share increased by 4%, despite a 9% reduction in sales
  - Operating Margins increased by 10%
- 
- LTAs reduced by over 22%
-





# CONCLUSION



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.**

**Session No: WS/34**

**Suggestion Systems: The DNA of Continuous Improvement**

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