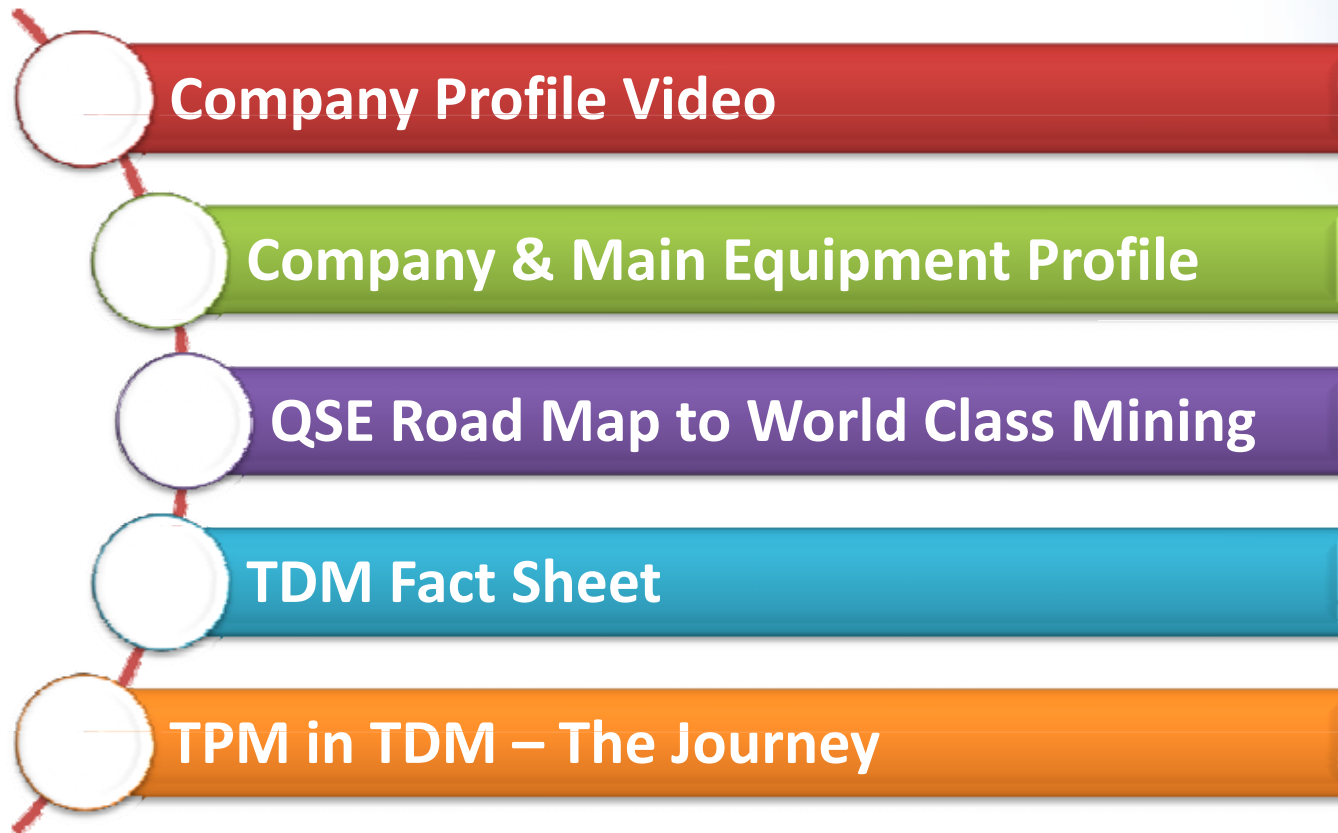




PT Kitadin Journey in achieving TPM³ Level 5 Excellence Award

Tandung Mayang (TDM) Mine Site

Contents



Company Profile Video



Company Profile

PT Kitadin, a subsidiary of PT Indo Tambangraya Megah (ITM), is a coal mining company located in Tandung Mayang site, East Kalimantan, Indonesia.



Location : Tandung Mayang

Area : 2,338 Ha

Production Capacity:

Overburden : 50M Bcm/year

ROM Coal : 3M Ton/year

Company Profile

| Period | Description |
|---------------------|--|
| 1995 - 1996 | Exploration |
| Dec 1999 - Apr 2004 | Production Period # 1 - TDM Concession |
| Apr 2004 - 2013 | As a Mining Contractor at IMM area |
| Jan 2011 - Now | Production Period # 2 - TDM Concession |
| Apr 2011 | Kick off of Fleet Management System (FMS) |
| Sep 2013 | Establishment of a new Company in Mining Contractor Business (PT Tambang Raya Usaha Tama - TRUST) |

Main Equipment Profile

Large Excavator



- Equipment: EX2500
- Capacity: 1,100 BCM/Hr
- Quantity: 4 Units



- Equipment: PC1250
- Capacity: 550 BCM/Hr
- Quantity: 11 Units

Large Truck



- Equipment: HD785
- Capacity: 100 Tons
- Quantity: 36 Units



- Equipment: CAT777
- Capacity: 80 Tons
- Quantity: 5 Units



- Equipment: HD465
- Capacity: 55 Tons
- Quantity: 36 Units

Main Equipment Profile

Auxiliary Equipment



- Equipment: Bulldozer
- Quantity: 12 Units



- Equipment: Motor Grader
- Quantity: 7 Units

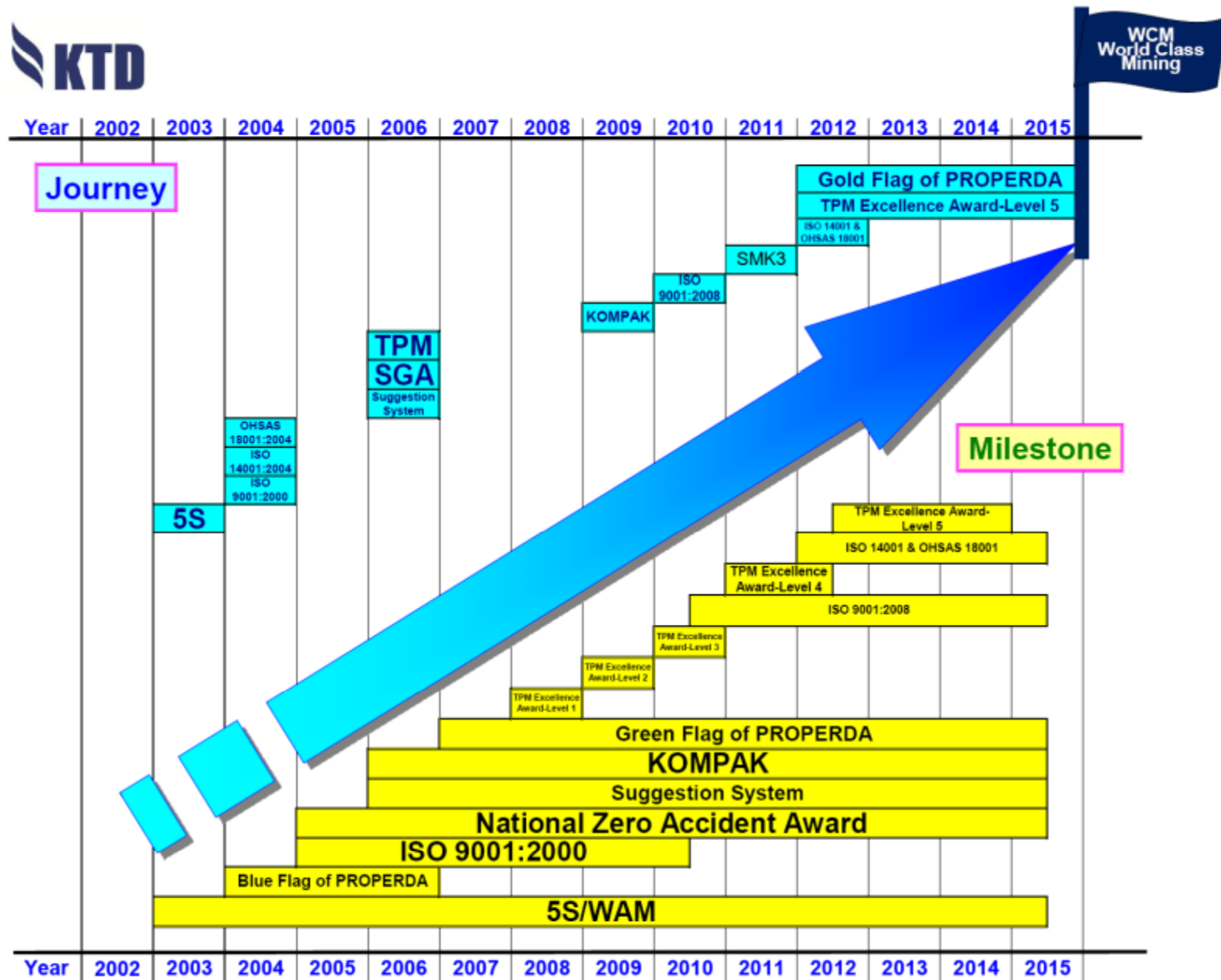


- Equipment: Blast Hole Drill
- Quantity: 7 Units



- Equipment: Wheel Loader
- Quantity: 2 Units

TDM-QSE Road Map to World Class Mining



TDM Fact Sheet

| Achievement | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014* |
|---|-------|-------------------|-------------------|-------------------|-----------|-------------------|-----------|--------------------|
| TPM³ 5 Level Milestone Excellence Award | | Level 1 28 Sep | Level 2 16 Sep | Level 3 29 Jun | - | Level 4 27 Jun | - | Level 5 11 Dec |
| Production Improvement | | | | | | | | |
| - EX2500 (BCM/hr) ⁴ | 937 | 970 | 1,092 | 1,164 | 1,096 | 1,116 | 1,112 | 1,106 ¹ |
| - PC1250 (BCM/hr) | - | 444 | 558 | 619 | 560 | 564 | 588 | 566 ² |
| - OB Haul Distance (km) | 1.87 | 1.48 | 1.31 | 1.29 | 1.26 | 1.26 | 1.48 | 1.36 |
| - OB Dump Volume (M.BCM) | 24.10 | 35.26 | 51.61 | 53.42 | 48.96 | 50.72 | 45.21 | 23.8 |
| - In-Pit Dump Volume (M.BCM) | 6.21 | 19.01 | 32.47 | 41.71 | 26.98 | 36.05 | 45.21 | 23.8 |
| - Percent In-pit Dump (%) | 26 | 54 | 63 | 78 | 55 | 71 | 100 | 100 |
| People Development* | | | | | | | | |
| - KOMPAK & TPM Teams Achievement (Acc. No.) | 6 | 24 | 161 | 217 | 233 | 247 | 254 | 278 |
| - One Point Lesson (Acc. No.) | 249 | 857 | 950 | 1,081 | 1,268 | 2,718 | 2,899 | 3,092 |
| - Improvement sheet (Acc. No.) | 11 | 32 | 184 | 355 | 530 | 1,470 | 1,751 | 1,944 |
| - Frontline Problem Solving (Acc. No.) | - | - | - | - | - | 164 | 435 | 475 |
| Business Outcome | | | | | | | | |
| - Fuel Consumption (Liter/BCM) | 0.96 | 0.93 | 0.82 | 0.78 | 0.86 | 0.88 | 0.90 | 0.99 |
| - Fuel Consumption (Liter/BCM/Km) | 0.72 | 0.78 | 0.73 | 0.70 | 0.78 | 0.80 | 0.77 | 0.88 ³ |
| - Cost Reduction against budget (USD) | - | - | 5,130,513 | 8,143,000 | 4,979,000 | 5,622,524 | 2,762,285 | 3,120,437 |

*As YTD – Dec 2014

¹ World Class Rate of EX2500 = 1,100 BCM/hr

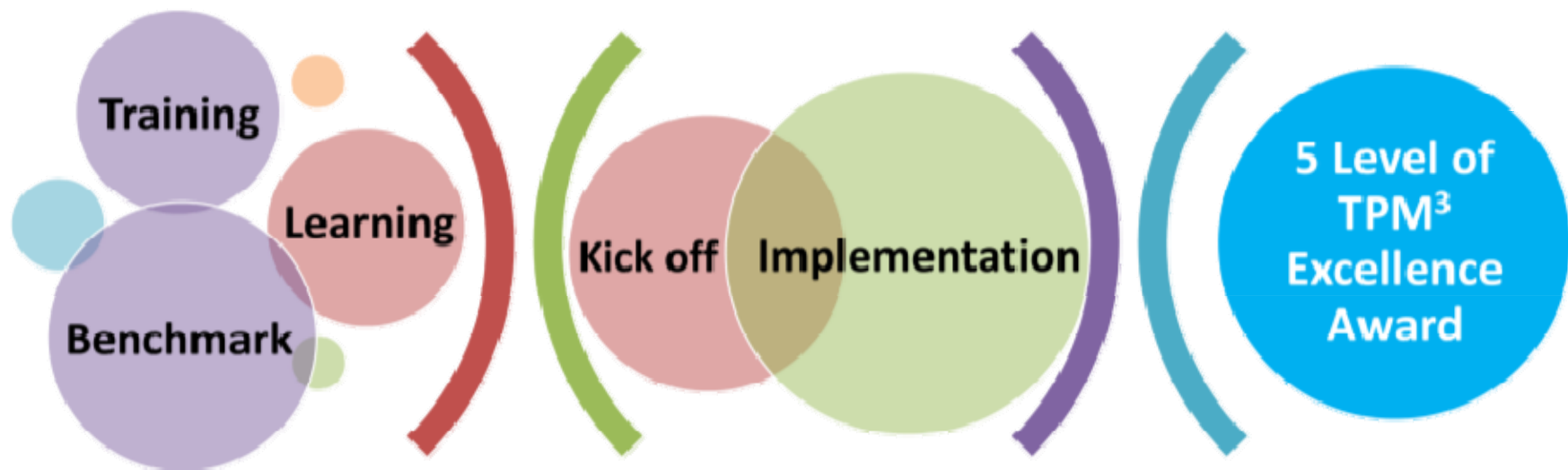
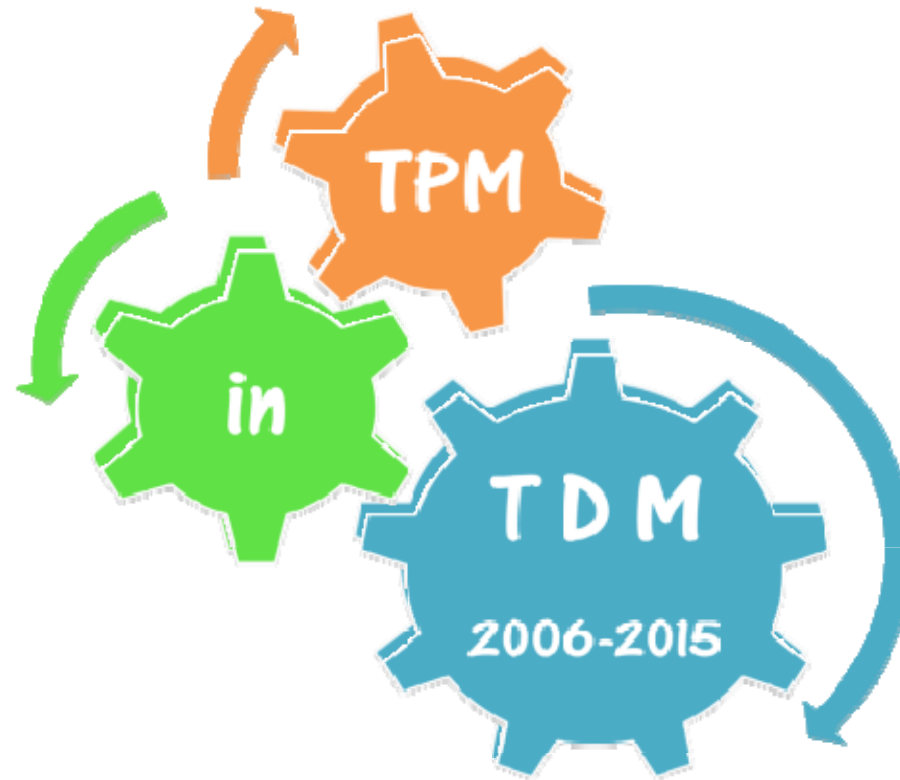
² World Class Rate of PC1250 = 550 BCM/hr

³ IMM Contract rate = 0.86 Liter/BCM/Km

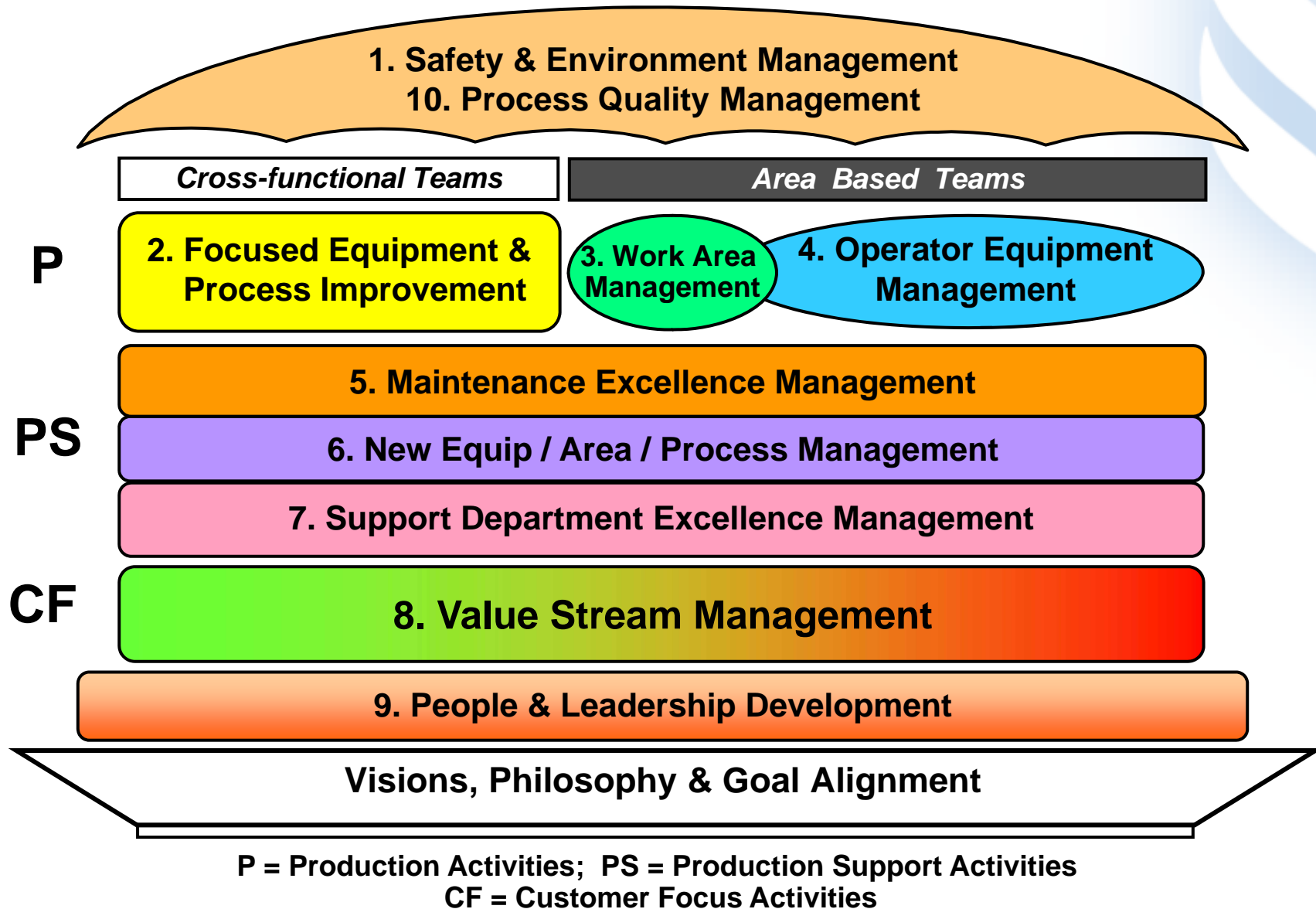
⁴ 708 BCM/hr (Y2005), 817 BCM/hr (Y2006)

OB Density 2007-2011 = 2.23

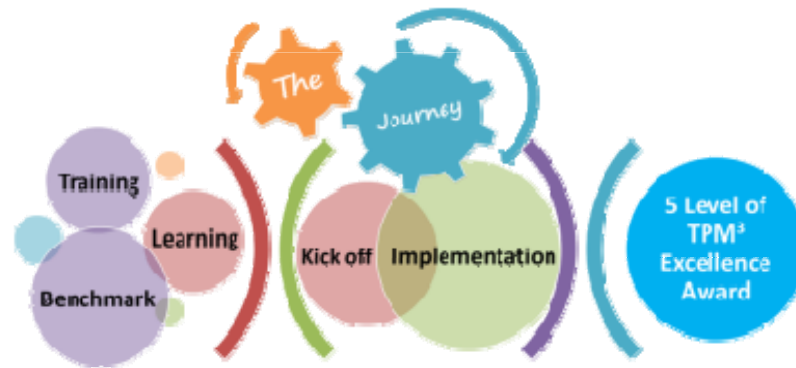
OB Density 2012 = 2.32



TPM³ Improvement Activities



TPM Journey



1. Awareness & Preparation (2-3 weeks)

Initial education, TPM Introduction Strategy, Site Briefing

2. Demonstration & Learning (9-12 months)

Core improvement activities in several pilot areas

3. Assessment & Planning (4-8 weeks)

Site-wide implementation plan based on the learnings

4. Site-Wide Implementation (2-3 years)

Cascade TPM through the site

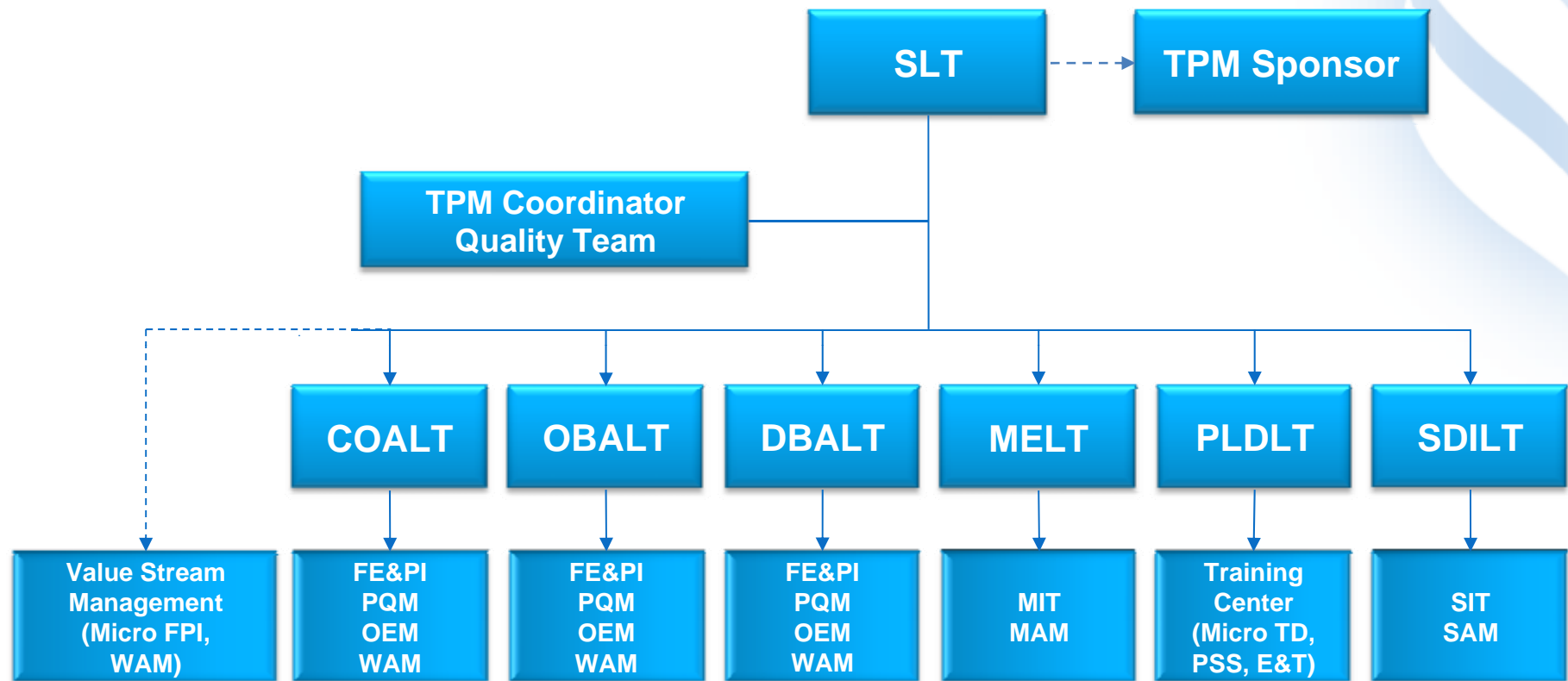
Our TPM Journey



TPM Master Plan to Level 5

| Cycle | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
|------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | Q2/12 | Q3/12 | Q4/12 | Q1/13 | Q2/13 | Q3/13 | Q4/13 | Q1/14 | Q2/14 | Q3/14 | Q4/14 |
| Defined Production Areas | 80% | 80% | 80% | 90% | 90% | 90% | 100% | 100% | 100% | 100% | 100% |
| Defined Maintenance Areas | 80% | 80% | 80% | 90% | 90% | 90% | 100% | 100% | 100% | 100% | 100% |
| Defined Support Areas | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Defined Value Stream | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Core Improvement Activities | | | | | | | | | | | |
| Loss Focus | Micro Macro | Micro Macro | Micro Macro | Micro Macro | Micro Macro | Micro Macro | Micro Macro | Micro Macro | Micro Macro | Micro Macro | Micro Macro |
| Work Area Focus | WAM | WAM | WAM | WAM | WAM | WAM | WAM | WAM | WAM | WAM | WAM |
| Equipment Focus | OEM-6 | OEM-6 | OEM-6 | OEM-7 | OEM-7 | OEM-7 | OEM-7 | OEM-7 | OEM-7 | OEM-7 | OEM-7 |
| Production Support | | | | | | | | | | | |
| Maintenance Focus | MELT | MELT | MELT | MELT | MELT | MELT | MELT | MELT | MELT | MELT | MELT |
| | MITs | MITs | MITs | MITs | MITs | MITs | MITs | MITs | MITs | MITs | MITs |
| | MAM | MAM | MAM | MAM | MAM | MAM | MAM | MAM | MAM | MAM | MAM |
| Support Function Focus | SDELT | SDELT | SDELT | SDELT | SDELT | SDELT | SDELT | SDELT | SDELT | SDELT | SDELT |
| | SITs | SITs | SITs | SITs | SITs | SITs | SITs | SITs | SITs | SITs | SITs |
| | SAM | SAM | SAM | SAM | SAM | SAM | SAM | SAM | SAM | SAM | SAM |
| New Equipment | - | - | - | - | - | - | - | - | - | - | - |
| People Support & Development | E&T | E&T | E&T | E&T | E&T | E&T | E&T | E&T | E&T | E&T | E&T |
| | PSS | PSS | PSS | PSS | PSS | PSS | PSS | PSS | PSS | PSS | PSS |
| Value Stream Management | - | - | - | - | - | - | - | Micro | Micro | Micro | Micro |
| Work Area Management | WAM Office | WAM Office | WAM Office | WAM Office | WAM Office | WAM Office | WAM Office | WAM Office | WAM Office | WAM Office | WAM Office |

TPM Structure



COALT : Coal Winning Area Leadership Team

OBALT : Overburden Area Leadership Team

DBALT : Drill & Blast Area Leadership Team

MELT : Maintenance Excellence Leadership Team

PLDLT : People & Leadership Development Leadership Team

SDILT : Support Department Leadership Team

VSM : Value Stream Management

: 2 FE&PI Teams (Macro & Micro), 1 PQM Team, 2 OEM Teams, 1 WAM Team

: 2 FE&PI Teams (Macro & Micro), 1 PQM Team, 24 OEM Teams, 1 WAM Team

: 2 FE&PI Teams (Macro & Micro), 1 PQM Team, 3 OEM Teams, 1 WAM Team

: 6 DMAs, 6 MITs, 28 MAM Teams, 2 WAM Teams

: Training Center (1 Micro TD Team, 1 PSS Team, 1 E&T Team)

: 8 DSAs, 8 SITs, 20 SAM Teams

: 1 Micro FPI Team, 3 WAM Teams of MGP Department

Defined Production Area

3 DPAs:

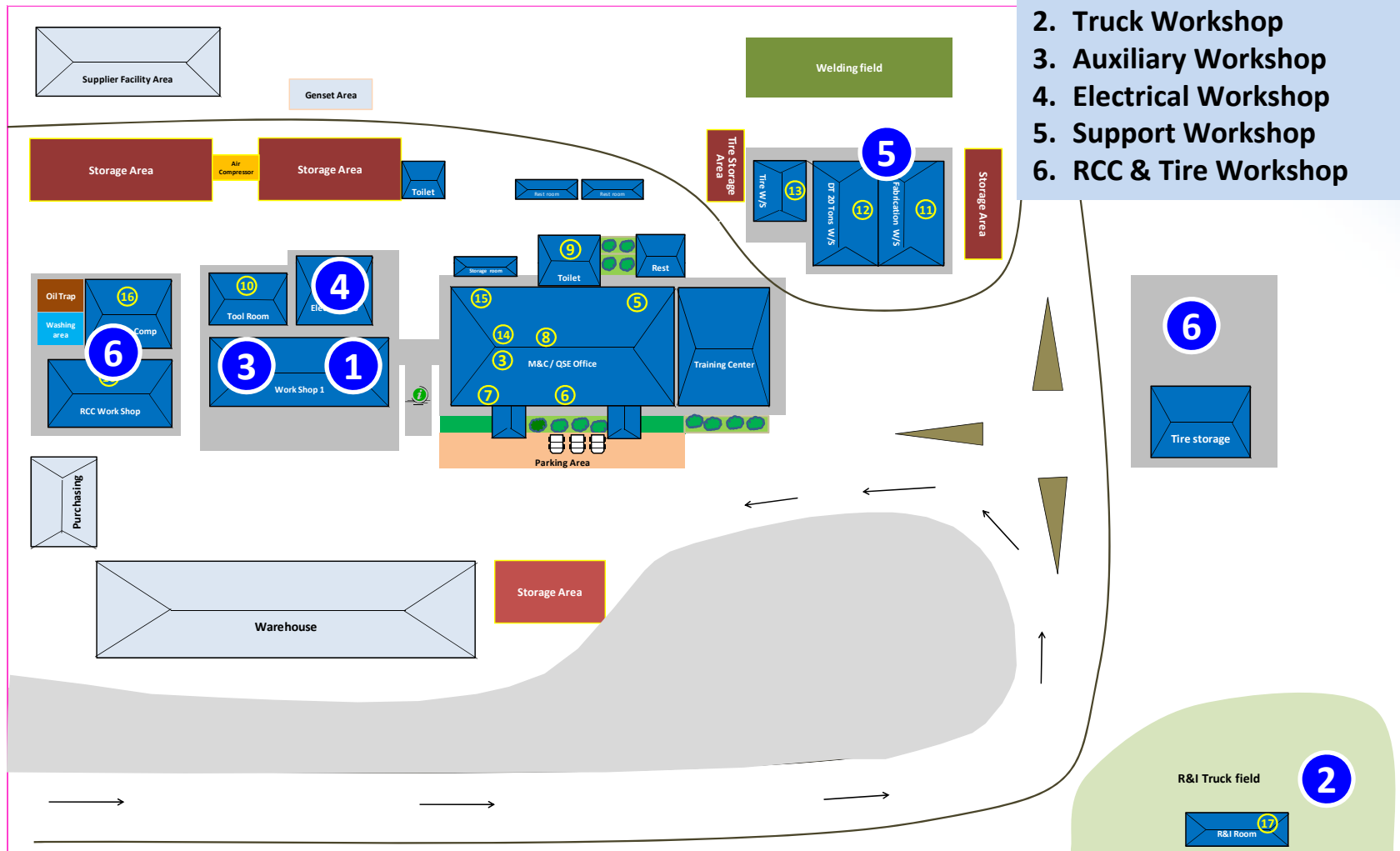
- COALT – Coal Getting Area Leadership Team
2 FE&PI Teams, 1 PQM Team, 2 OEM Teams, 1 WAM Team
- OBALT - Overburden Area Leadership Team
2 FE&PI Teams, 1 PQM Team, 21 OEM Teams, 1 WAM Team
- DBALT – Drill & Blast Area Leadership Team
2 FE&PI Teams, 1 PQM Team, 3 OEM Teams, 1 WAM Team



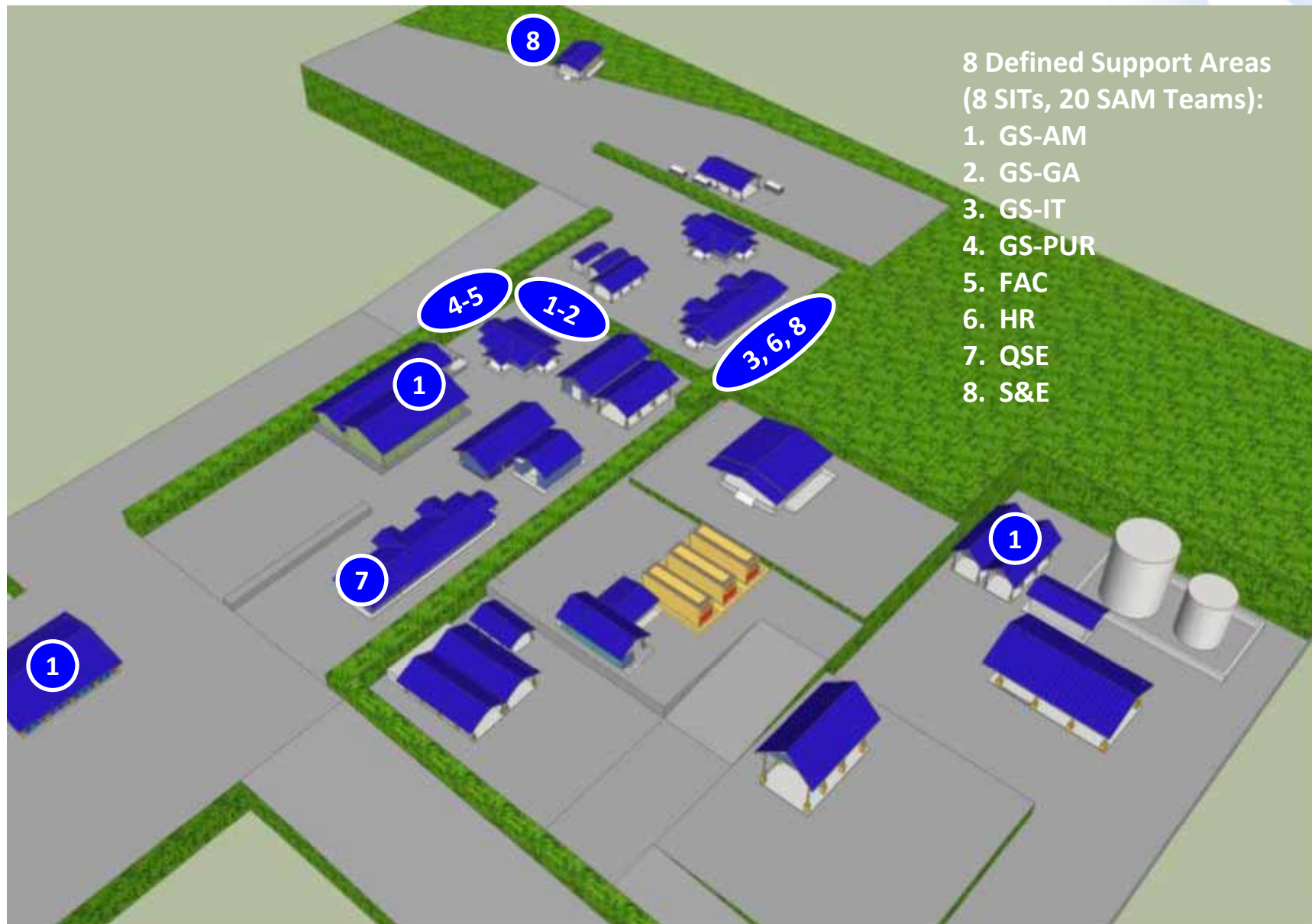
Defined Maintenance Area

6 Defined Maintenance Areas (6 MITs, 28 MAM + 2 WAM Teams):

1. Excavator Workshop
2. Truck Workshop
3. Auxiliary Workshop
4. Electrical Workshop
5. Support Workshop
6. RCC & Tire Workshop

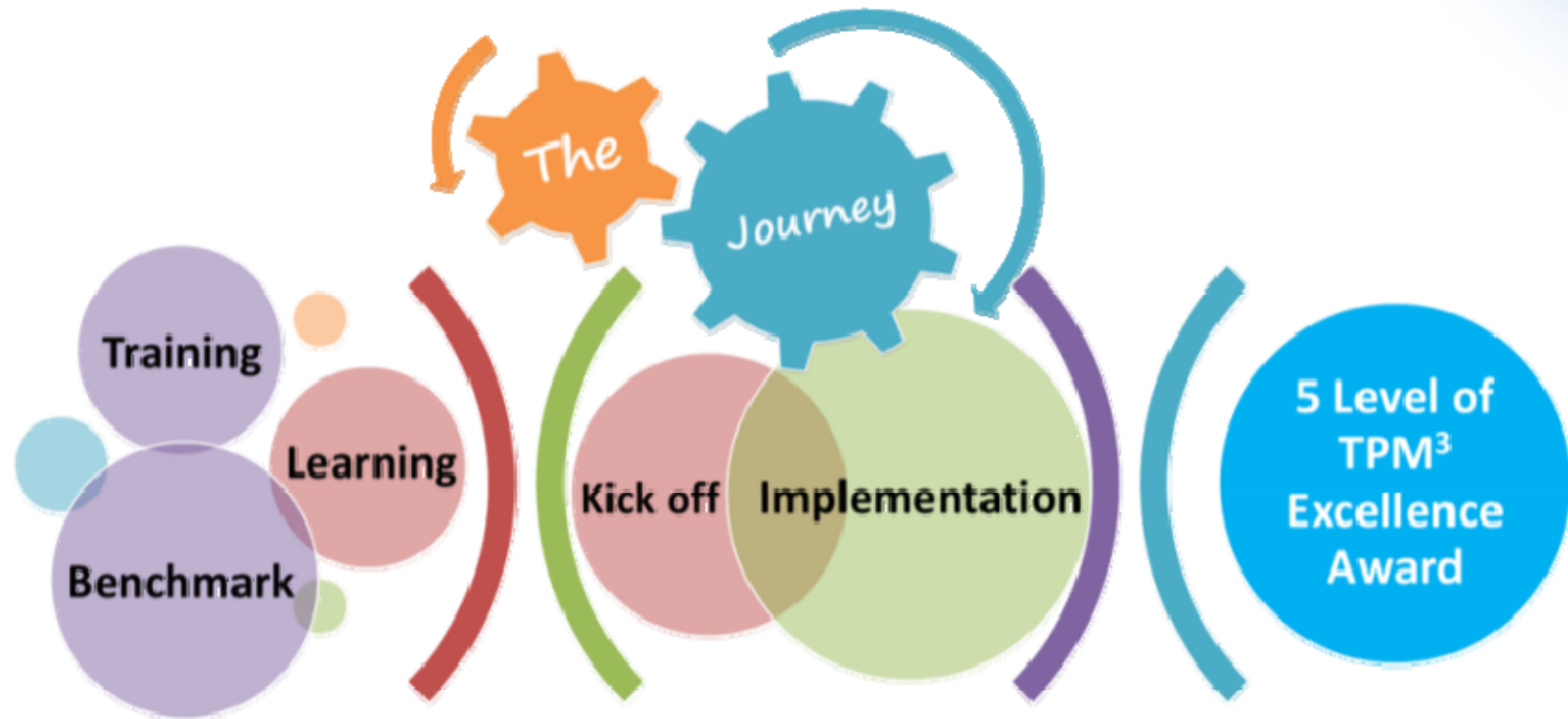


Defined Support Area



TPM Journey Highlight

Awareness & Preparation



It was started with

TPM Introduction Training by CTPM Australasia 1-3 May 2006



Continued with

TPM Learning by Doing Course

at LP2, Lampang, Thailand
14-25 Aug & 11-22 Sep 2006



Next

TPM Introduction Training for TDM Management 6-8 Dec 2006



Then cascaded to all employees



TPM Boards



OPERATION



MAINTENANCE



HEAD OFFICE

TPM Board on Equipment



TPM Promotion by Safety Talk, Banners & Email

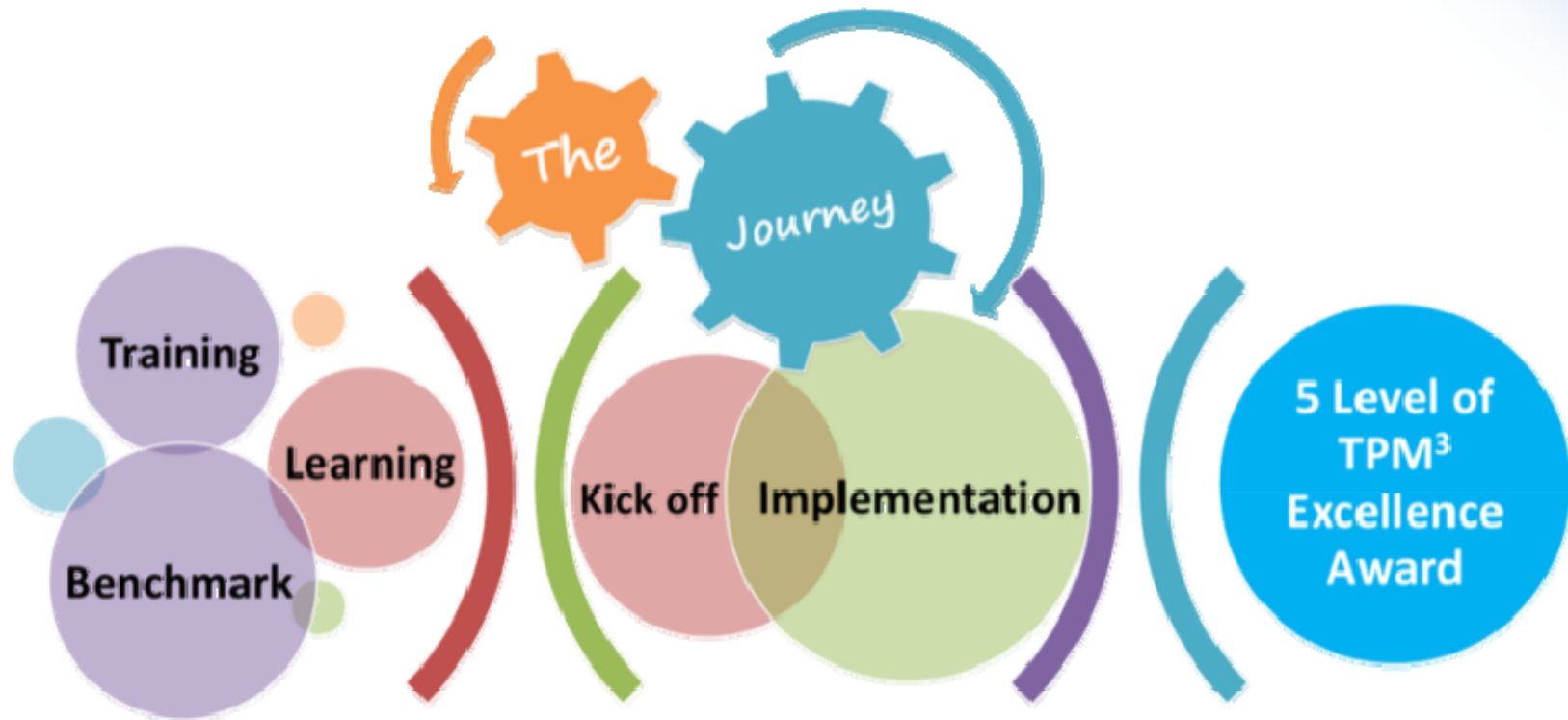


Site Visit by Top Management



TPM Journey Highlight

Demonstration & Learning



Focused Equipment & Process Improvement



**Cross-Functional Team Activity
(To Reduce Tire Consumption of HD-785 & CAT 777)**

Operator Equipment Management

OEM Step 1 – Cleaning for Inspection

- TPM Manager Model #1

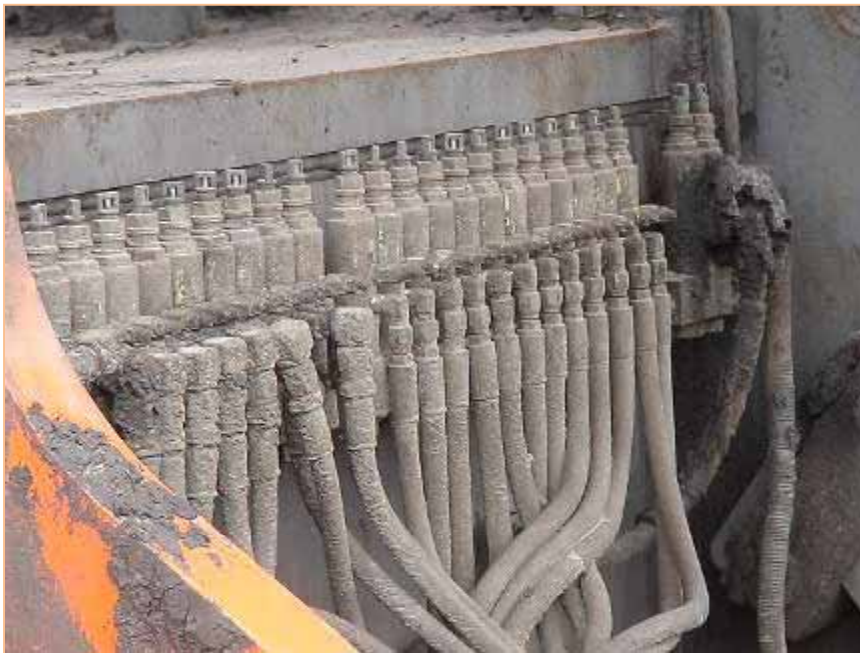


Operator Equipment Management

Finding Abnormalities

- TPM Manager Model #1

UNFULFILLED BASIC CONDITIONS



BEFORE



AFTER

Operator Equipment Management

Finding Abnormalities

- TPM Manager Model #1

INACCESSIBLE PLACES



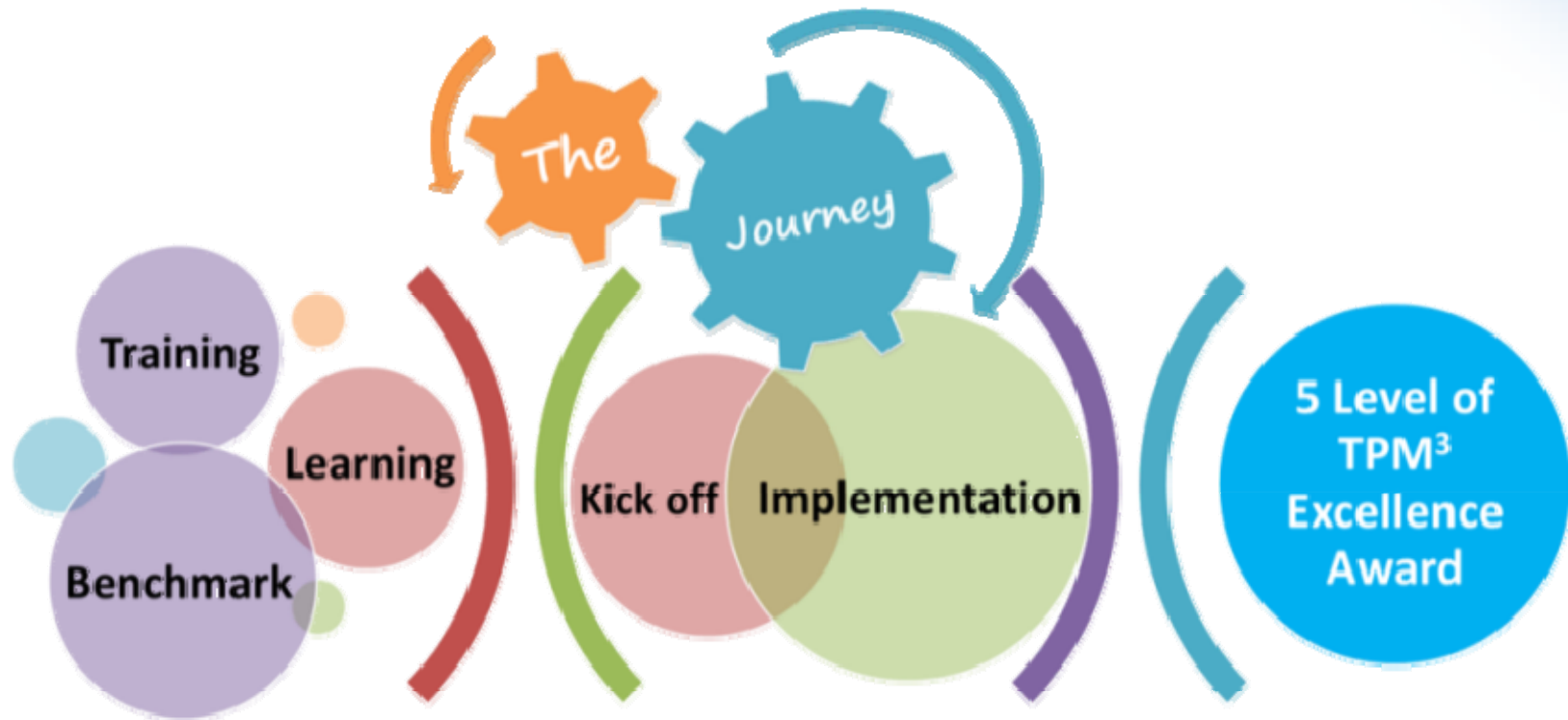
BEFORE



AFTER

TPM Journey Highlight

Assessment & Planning



Operator Equipment Management

OEM Step 1 Self-Assessment

• 25 Sep 2007



TPM3 Level 1 Pre-Assessment

by CTPM Australasia

• 27 Mar 2008



TPM Kick off Day



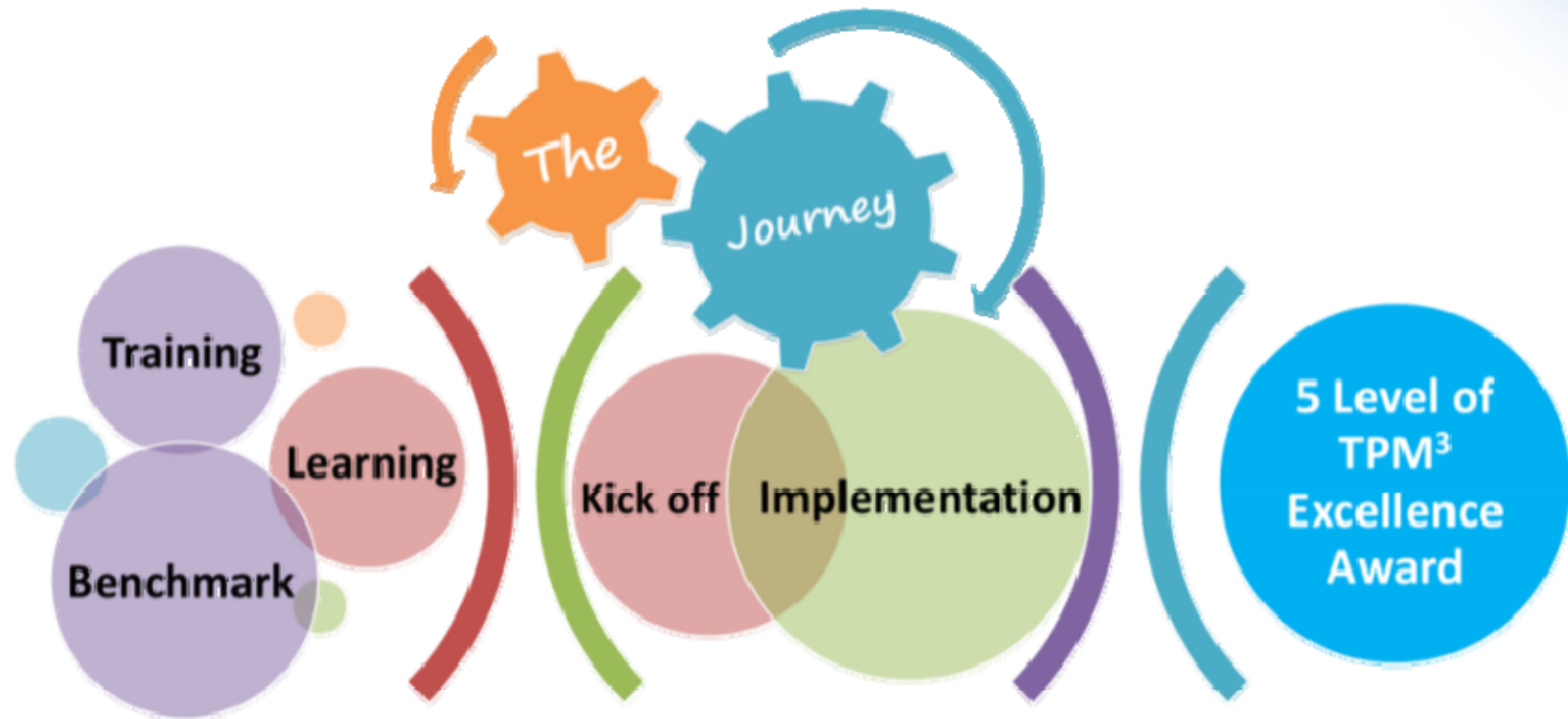
Mr. Chumpon Teeravisutkul
Kitadin TM Mine Head



Mr. Chanin Vongkusolkit
BANPU CEO

TPM Journey Highlight

Site-Wide Implementation



TPM³ Level 1 Verification Assessment

12 September 2008



TPM³ Level 2 Verification Assessment



4 August 2009

TPM³ Level 3 Verification Assessment



29 June 2010

TPM³ Level 4 Verification Assessment



26-27 June 2012

TPM³ Level 5 Verification Assessment



10-11 December 2014



We are happily announcing that
PT Kitadin, Tandung Mayang Site
has passed TPM³ Level 5 Verification Assessment
on 10-11 December 2014 and achieved



TPM³ Level 5 Excellence Award





Issues Faced during TPM Implementation



- Difficulties of TPM implementation at mobile equipment:
 - Operators have to operate the machines from time to time
 - Meeting arrangement for operator of 3 shifts
 - TPM tag implementation
- To commit on regular weekly meeting of Leadership Teams due to too many meetings to be attended and followed up.
- Difficult to match training schedule with operator working time due to it will impact directly to production.
- People aspect due to TDM is a contractor, the operators and mechanics are normally working at pit and rarely doing paper work.





Key Success Factors & Tangible Benefits



- **TPM is strongly driven by site management team;**
 - Mine Head
 - Managers
 - Facilitators (TDM Quality Team)
- **Basic tools such as 5S, suggestion system and small group activity (KOMPAK) are part of TPM support.**
- **Commit to TPM goals by following the schedule in timely manner.**

“What we need is real practice of improvement at TDM operation, not only the award. It strengthens our team’s self-esteem”.
- **Tangible benefits that can be perceived by our employees:**
 - Better workplace condition
 - Better work process/be more easier to work
 - Better production/better income





Enjoy the Journey

The most successful sites are those that have
fun making things happen

Remember:

***“The joy is in the journey,
not just the destination”***



Thank You

