

OPTIMISING PROFITS, PERFORMANCE AND PRODUCTIVITY THRU'...

# TOTAL PRODUCTIVE MAINTENANCE

19-21 June 2006 . JW Marriott Kuala Lumpur

*Manufacturing Operations around the world have experienced improvements in the following areas in a relatively short period of time (6-12 months) through the implementation of TOTAL PRODUCTIVE MAINTENANCE ...*

- 25% - 65%**    *Improvement in Overall Equipment Effectiveness (capacity)*
- 25% - 50%**    *Improvement in Quality*
- 10% - 50%**    *Reduction in Maintenance Expenditure*
- 10% - 60%**    *Increase in Percent Planned vs. Unplanned Maintenance*

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Developed by :



# WHY IT'S CRUCIAL?



## THE WORLD'S BIG BOYS ...

Toyota . Motorola . DuPont . Timken . Proctor & Gamble . 3M  
Harley-Davidson . Allen Bradley . Ford . Exxon Mobil . Texas Instrument  
Kodak . MRC Bearings . Kaiser . Monsanto . Whirlpool . Unilever . Chrysler

## THEIR SIMILARITIES ...

*Building World Class Manufacturing facilities with proven ability to provide products at the  
Lowest Cost Possible, Most Reliable Quality and Shortest Cycle-Time.*

## THEIR COMPETITIVE ADVANTAGE ...

Improved Employee Satisfaction . Competitiveness . Overall Organisational Performance  
Greater Return on Bottom-line . Improved Operational Excellence . Improved Reliability . Improved Quality  
Lower Operational Cost . Increased Equipment Life Span . Improved Customer Satisfaction . Improved in Production Capacity

## THEIR SUCCESS STORIES ...

### - TOYOTA -

Produced a Corolla model every 98 seconds and a Solara every 3.5 minutes

### - MRC BEARINGS -

Reduced unplanned downtime by 98% in one cell and 99% in another - all within one year

### - Monsanto -

Runs its three year old TPM start-up plant at 97% on-stream time while most other units run between 85% and 90%

### - UNILEVER -

Reaped a return of over 30 million dollars, almost 6 times of their initial investment

### - 3M -

Reduced maintenance cost by 60% within three years

## THE ONE **SECRET** TOOL THEY ARE USING IN THEIR JOURNEY TOWARDS **MANUFACTURING EXCELLENCE** ...

*The magic wand of Japanese Manufacturing prowess*

## - **TOTAL PRODUCTIVE MAINTENANCE** -

**Total Productive Maintenance** has become a global deployment of modern manufacturing maintenance system that many major corporations see as the next generation beyond mass production. The equation of Machines and Technology, People and Business, Maintenance and Operators all conspire to the intensification of corporate profitability and longevity.

How much can your maintenance and reliability remain constantly progressive? Over time, there will be **uneven workflow, lengthy cycle-times, equipment failure, increase maintenance budgets, downtime**...Production systems are halted, time is wasted, quality is questioned, customers are unsatisfied. Nevertheless, with all these inefficiencies, there are great opportunities for improvements NOW.

Transform Your Manufacturing Facilities To Compete Successfully With The Best-In-Class.

Achieve Manufacturing Excellence Performance Of Near

**ZERO DEFECTS - ZERO BREAKDOWNS - ZERO ACCIDENTS**

Today!

*IN THIS INTENSIVE, HIGH-LEVEL WORKSHOP, YOU WILL WALK AWAY HAVING POWERFUL GRASP OF WORKING SKILLS TO:*

- **Dramatically reduce** unplanned maintenance hours
- **Double** output in just six months
- **Boost** overall operational, team working ability, and problem solving skills
- **Maximise** returns on critical manufacturing assets
- **Slash** change-over time significantly
- **Identify** typical pitfalls to avoid through TPM and 5S implementation
- **Benchmark** your equipment performance and workforce agility in handling equipment operations against other industries
- **Establish** 5S amongst the non-production departments to deploy day-to-day functions that aims towards Zero Defects and highest productivity
- **Enhance** plant and equipment effectiveness to achieve optimum life cycle of production equipment
- **Obtain** an increase in production quality, improvement in Overall Equipment Efficiency, and worker efficiency
- **Marginally decrease** production costs, loss time, emergency dispatches, unplanned maintenance schedules and downtime
- **Strategically plan** out production capacity to align with customer demand through proper performance measurement tools
- **Successfully grasp** the "state-of-the-art" philosophy and principals in order to perform at world class level
- **Intertwine** the *Technology, Business* and *People* aspect of the manufacturing world through a cost-saving methodology
- **Create** a change in culture within the workforce and their daily job scope

# AGENDA

## Module 1 Insights to Total Productive Maintenance

- Achieving TOTAL company participation
- A TPM perspective of productivity & quality losses in a company
- A systematic approach to implementing a TPM Development Programme
- Goals, targets and measurements in TPM
- The cultural challenges in TPM implementation

## Module 2 Implementation Methodology & Concepts of Overall Equipment Efficiency Improvement

- The Six Big machine losses & definitions
- Defining and understanding Overall Equipment Efficiency (OEE)
- Measuring OEE - differences with utilisation and efficiency measurements
- OEE analysis as a powerful graphical analysis for improvement opportunity
- Definition and Corrective Actions of Speed Loss, Defect Loss, Setup Loss, MTBA, and MTBF Losses

## Module 3 Implementation Methodology & Concepts of Autonomous Maintenance (AM) Development

- The step-by-step approach for developing the 7-Steps of Autonomous Maintenance
- The standards, objectives and detailed approach for the 7-Steps
- Sustaining the Autonomous Maintenance
- The critical role of harnessing production workers in Autonomous Maintenance
- Vital roles of top management in promotion of Autonomous Maintenance
- Critical role of Autonomous Maintenance in world-class manufacturing

## Module 4 Proven Methodology, Worksheets and Audit Standards for All AM Steps

- AM Step 1 - Initial cleaning (restoration & fact-finding)
- AM Step 2 - Eliminate sources of contamination (machine improvement)
- AM Step 3 - Improving accessibility (machine improvement)
- AM Step 4 - Setting up initial production system (maintenance standards)
- AM Step 5 - General inspection skills (user-level trouble shooting)
- AM Step 6 - Autonomous inspection (Advanced Production System)
- AM Step 7 - Self managing work teams (Self-directed work teams)

## Module 5 Implementation Methodology & Concepts of Planned Maintenance

- How to establish lubrication programme to TPM standards
- How to establish Bolt-tightening programme to TPM standards
- Setting up of Maintenance Data systems for MTBF, MTTR, MTBA, OEE
- Role of maintenance department in 7-Steps of Autonomous Maintenance
- Transitioning from Breakdown Maintenance to Planned Maintenance
- Concepts of Time-Based Maintenance
- Concepts of Condition-Based Maintenance
- Daily, Periodic and Shutdown Maintenance

## Module 6 Implementation Methodology & Concepts of Developing Quality Maintenance

- The 4-Ms Approach of Constructing the FMEA for defects of each process
- Company-level Defect-Process mapping through the Q-A Matrix
- Using Why-Why Analysis to find mistakes that causes defects
- How to design a Zero Defect Process (Poka Yoke or Mistake Proofing design)
- Introduction to P-M Analysis for chronic defects and optimisation techniques using DoE

## Module 7 Problem Solving and Reasoning Tool: Why-Why Analysis

Why-Why Analysis is more than simply asking 5 Whys. What questions do you ask when there are more than 1 way to ask a question? Must you ask exactly 5 questions only? No more and no less? Or simply put, when do you know you have got the root-cause answer and should stop asking questions?

## Module 8 ZenPower International's Fast-Track TPM Implementation Model© from AM Step-1 to AM Step- 4 to Establish the Initial Production System in About 50% Less Implementation Time

- Critical success factors or 21 common reasons why TPM may fail
- Why re-invent the wheel? Shorten your implementation and learning curve
- Secrets of fast and effective TPM implementation

## Module 9 The 5S Pillar in TPM (Office, Administrative & Warehouse TPM)

- How administrative non-production employees can be involved in TPM
- How 5S directly improves equipment OEE
- Why administrative, supervisory, ware-houses, offices need 5S?
- What are the wastes they can cause to affect manufacturing excellence?
- JIPM Standards for 5S during implementation

## Module 10 TPM-5S Step 1 - Initial Cleaning and Restoration

- Step 1 Audit standards, Milestone, Worksheets and methodology
  - ◊ Sorting out
  - ◊ Tagging
  - ◊ Baseline of contamination
  - ◊ Mixing and damages of the parts
  - ◊ Documentation or data stored in area
- Visual standards adopted for 5S
- How to conduct top level audits for TPS-5S Step 1

## Module 11 TPM - 5S Step 2 - Eliminate Contamination, Mixing and Damage

- Step 2 Audit standards, Milestone, Worksheets and methodology
- Root-cause Why-Why Analysis of contamination, mixing and damages of the parts, documentation or data stored in area
- Top level audits for TPS-5S Step 2
- Examples and case study

## Module 12 TPM - 5S Step 3 - Improve Accessibility and Stock Management-At-One Glance

- Step-3 audit standards, milestone, worksheets and methodology
- Root-cause Why-Why Analysis of contamination, mixing and damages of the parts, documentation or data stored in area
- Accessing data, parts, documents in 60 seconds, Stock Management-At-One-glance, management by colours and patterns
- Top level audits for TPS-5S Step 2

## Module 13 TPM - 5S Step 4 - Standardise and Merging into the TPM Autonomous Maintenance Production System

- Step 4 audit standards, milestone, worksheets and methodology
- What is standardisation and control – Keeping the gains permanently
- Defining the critical functions of the administrative, office or warehouse and problems encountered through a customer/supplier meeting
- Establish OA Equipment, Cleaning Standards, Minimum Stock Management

## Module 14 TPM - Step 5 - Self Managing 5S Work Teams

- What are the Step 5 Audit standards and expectations
- Learning the structured Step 5 Milestone and methodology
- What is the self-managing scope in TPS-5S
- Establishing the training for self-management
- Practicing the 5-minutes 5S

## HOW THE WORKSHOP WILL BE CONDUCTED

### Pragmatic

Based on research content and real-life experience of the facilitator, the course materials and concepts can be implemented as soon as participants return to the workplace.

### Participative

This workshop is designed to be participative and interactive in nature. Class workshops, team projects and networking sessions contribute to the learning process.

### Solution-Oriented

The hands-on exercises and consultative sessions provide a unique forum to address chronic challenges and develop strategies that maximise returns.

# THE MASTER



Dear delegate (s),

I am excited about bringing our Total Productive Maintenance workshop to Malaysia. I have studied for over 20 years the best manufacturing companies in Asia, met most of the great geniuses and gathered and disseminated their information for international competitiveness. This interactive workshop will transform the traditional lecture into a real-world, hands-on experience combining the presentation of information, discussion, examples, and practical exercises like no other. This workshop will highlight proven techniques on improving Operations Excellence by Decoding The DNA of Total Productive Maintenance.

We **GUARANTEE** that you will leave this workshop with the knowledge and tools to truly revolutionize your quality and productivity journey!

See You Soon in Kuala Lumpur!

Moses Tan

Moses Tan is the Principal TPM Consultant of ZenPower International. Being an experienced TPM expert since 1996, his professional experience in TPM consulting greatly emphasizes on implementation details and methods. With an extended 20 years of experience, Moses was previously a TPM Training Manager with a Japanese-owned Semiconductor manufacturer, Silicon Systems, a subsidiary of TDK, Singapore.

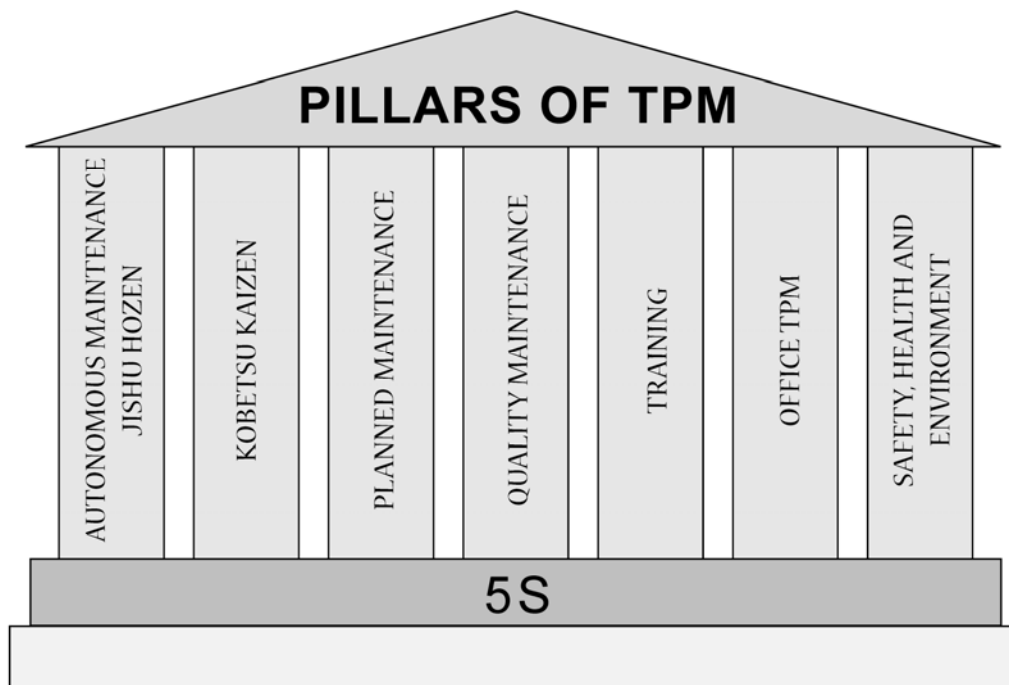
As a Manager, Moses was responsible for managing TPM Office, TPM Implementation and conducting TPM Training, 5S and Kai'zen Employee Suggestion Secretariat and other technical skills related to TPM. Amongst his large clientele, which includes NEC Electronics, Carsem Semiconductor, Hitachi, SCI Manufacturing, NEC Semiconductor, Siemens, Sony Display Device, Sumitomo Bakelite, Infineon, Malaysia Newsprint Industries, Yamaha Motors, Hong Leong, Hitachi-Nippon Steel, Taiko Denki, Guocera, and the list goes on.

He has since consulted with the Processing and Discrete Industries that has significantly improved their ROI after his mentoring. His focus of expertise revolves around Autonomous Maintenance, Planned Maintenance, OEE Improvements, Quality Maintenance, Why-Why Analysis, P-M Analysis. Following a comment from his major client, Moses is recognised as an Expert in both the implementation know-how and methodologies. Moses has conducted numerous public and in-house trainings for MNCs and even prepared his client for the JIPM award. He occasionally contributes to TPM articles for the Productivity and Services Board in Singapore. He has also been recognised for his profession through awards like the **1989 National Training Award for Manufacturing Sector, Singapore; 1992 & 1994 National Training Commendation Award, Singapore; 1995 Essay Prize from Singapore Quality Association for his published article "TQM Implementation in Singapore MNCs"**.

Moses holds a Diploma in Education, Diploma In Electronics Engineering from Singapore Polytechnic, Bachelor in Information Technology from University of South Queensland and MSc in Training (major in TQM) from University of Leicester, UK.

**"Before the implementation of TPM in my plating shop, we are always fighting fires. Our technicians are always busy fighting breakdowns. But just a few months after TPM implementation, we have noticed significant reduction in breakdowns as well as defects. In fact by one year, our breakdowns have reduced by more than 80%, parts lifespan tripled, solder usage reduced by half."**  
- HL Semiconductor

## PILLARS OF TPM



# REGISTRATION...

## TOTAL PRODUCTIVE MAINTENANCE

JUNE 19-21, 2006 . JW Marriott Kuala Lumpur



### PAYMENT

A confirmation letter and invoice will be sent upon receipt of your registration. Please note that full payment must be received prior to the event. Payment may be made via cross cheque / bank draft / electronic transfer, made in favour of

**Intelligence Business Networks (M) Sdn Bhd**  
**160-3-1, Kompleks Maluri**  
**Jalan Jejaka, Taman Maluri**  
**55100 Kuala Lumpur**

*Note: Payments must be received within 5 days upon issuance of invoice*

### CANCELLATION POLICY

Due to contractual obligations, cancellation charges are as follow:

- 20 to 10 days notice - 50 % of the workshop fee
- 9 to 3 days notice - 70 % of the workshop fee
- 2 days or less notice - 100 % of the workshop fee

However, complete set of documentation will be sent to you. Substitutions are welcomed at any time. All cancellations of registration must be made in writing.

**Note:** *It may be necessary for reasons beyond control, to change the content and timing of the event, speaker(s) or venue, every effort will be made to inform the participants of the change*

### HOTEL DETAILS


**JW Marriott Hotel**  
**Kuala Lumpur**  
 183 Jalan Bukit Bintang  
 55100 Kuala Lumpur, Malaysia  
 Tel : 603 2715 9000  
 Fax : 603 2715 8111



Room Reservation shall be made by delegates directly with the hotel. To enjoy privileged room rates, please state you're attending an event organised by IBN. Contact Ms Ros at 03 2716 8106 for reservation.

### AVOID VISA DELAY!

International delegates requiring visas should contact the Malaysian Embassy in their country of residence as soon as possible.



**THE IBN CERTIFICATE**

Delegates who successfully complete this course will receive the prestigious IBN's Certificate of Achievement; a statement of Intelligence endorsed by world renowned subject matter experts.

### Investment

<b>3-DAY WORKSHOP FEE</b> <b>RM 4990</b>	<b>EARLY BIRD REGISTRATION</b> <b>RM 4790</b> (register before 15th April 2006)	<b>GROUP DISCOUNT</b> <b>SAVE ADDITIONAL 10 %</b> (for the 3rd and subsequent delegate from the same organisation)
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**PLEASE COMPLETE THIS FORM IMMEDIATELY AND FAX TO 603 - 9200 7946**

### PARTICIPANT DETAILS

Name 1	Job title	
Name 2	Job title	
Name 3	Job title	
<i>(name in full)</i>		
<b>INVOICE SHOULD BE DIRECTED TO</b>		
Company		
Business Address		
Name	Job title	Dept
Email	Tel No	Fax No
Name of Authorising Manager	Job title	
Signature	Date	

### This Booking Is Invalid Without A Signature

<b>INFORMATION</b> For further information on this event, please contact our Program Managers at <b>603 9206 5800</b> or e-mail: <b>ibn@intel-biznet.com</b>	<b>WORKSHOP SCHEDULE</b>	Registration	0830
		Course begins	0900
		Morning Refreshment	1030
		Luncheon	1300
		Afternoon Refreshment	1530
		End of the day	1700

### The 'BIG SIX' Wastes

TPM will teach you how to recognise and minimise the "Big Six" equipment-related wastes:

- Setup and adjustment
- Reduced speed
- Breakdowns
- Startup
- Idling and minor stoppages
- Defects

**"Under Moses Tan's TPM training and consulting, we have improved our Plant's performance over several years. Now, we are confident and planning to invest and expand our capacity by 100%."**  
 - Ceramics Tiles Industry

### WHO SHOULD ATTEND...

This workshop is exclusively tailored for Senior and Middle Level Management including CEOs, COOs, CFOs, EDs, Senior Vice Presidents, Vice Presidents, General Managers, Directors, Engineers, Managing Directors, Entrepreneurs, Executives overlooking...

- |                          |                                   |                          |                     |
|--------------------------|-----------------------------------|--------------------------|---------------------|
| • Plant Maintenance      | • Inventory Control               | • Engineering            | • Employee Training |
| • Production             | • Manufacturing                   | • Factory Operations     | • Inventory         |
| • Continuous Improvement | • Administration                  | • Industrial Engineering | • Machine Operation |
| • Lean Production        | • Warehousing                     | • Safety                 | • Maintenance       |
| • OEM & OEE              | • TQM                             | • Quality Assurance      | • Plant Industrial  |
| • Reliability            | • Six Sigma                       | • Ergonomics             | • Purchasing        |
| • Supply Chain           | • Lean or Improvement Initiatives | • Employee Reliability   | • Finance           |
| • Operations             | • Office TPM                      |                          |                     |