18th & 19th November 2010, Boulevard Hotel, KL

Lean Maintenance

Go Lean With Maintenance Excellence

HRDF Claimable From PSMB Under SBL Scheme

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.THE FACT.

You are **Maintenance Manager** of a manufacturing plant. You have the responsibility of maintaining the plant equipment at a high level of reliability within a severely constrained budget. How in the world do you get your arms around this **Beast** we call maintenance and get it under control?

When you have fixed something, fix it again. What is THIS?

The good news that there is a wealth of information in books, magazine articles and internet articles. It is also the bad news because there is so much out there that it is overwhelming. It really does not tell you where to start. In this **2 days Practitioner Workshop**, the expert ***Dr. Carlo Scodanibbio*** will explore **ten** of the **most important concepts** that every maintenance manager must know to put into practice. These will provide a **springboard** to more advanced concepts that will provide increasing value to your organization.

Now You Have OPTION When You Have The Secret Weapon
"Lean Maintenance Operations Vs Traditional Maintenance."

This is an ideal training move beyond talking a good story to the ability to learn the state-of-the-art Maintenance practices. Most importantly, the ability to create buy-in and to sustain these gains over the long term. Lean Maintenance **provides a route map to deliver high levels of reliability and transform the role of maintenance from one of fixing breakdowns to one of releasing new value from operations technology.**

Dr Carlo Scodanibbio builds on those points by discussing **crucial concepts that both reinforce those foundational elements and provide guidance for ingraining them into your organization**. Many of these concepts address managerial tips and techniques that are NOT always addressed in company-sponsored management training programs, but are essential for building an organization that **contains the requisite level of discipline for creating a world-class reliability program.**

As a practical workshop, Lean Maintenance, will take you on a journey from **uncovering waste, designing projects to address the waste, selling the projects to management and delivering the projects.** Every area in maintenance is covered, including your Total Productive Maintenance (TPM) effort, storeroom, Preventive Maintenance (PM) tasking, work orders and computer systems.

What's more, you will be able to immediately what you learn in this workshop to start the process of saving money, energy, or time as soon as you return to work!

Look No Further... You will walk away with powerful skills to:-

- **UNDERSTAND** the basics of **modern Maintenance** and **Plant Management** and the **Lean Thinking philosophy**, **performance goals** and **critical success factors**
- **UNDERSTAND** the real **reasons of failure** of **maintenance operations** managed and planned with a **"traditional" style**
- **TRIGGER** a **different thinking mechanism** suited to **focus** onto **crucial issues** of the planning process
- **USE LEAN** ideas to see maintenance works as **"waste-less flow processes"** and to think about improvement of the whole maintenance function
- **EQUIP** your toolbox with **lean planning tools** and **techniques**
- **LEARN** how to **ensure maintenance works** of any size/ scale will **be accomplished in time**, **within budget** and with overall satisfaction
- **LEARN** how to **transmit lean concepts** to your own people and to external parties such as maintenance sub-contractors
- **IMPLEMENT** strategies to **increase Plant Performance** through lean-thinking people assuring their job satisfaction

Workshop Agenda…

DAY 1

0745 Registration Starts

0800 Welcoming Morning Coffee & Tea

0830 Course Commences

- Introductions
- Review of agenda and participants' expectations and key questions

0845 Session 1: Maintenance, history & main disciplines

- What is "Maintenance"- Definitions and classification of Maintenance operations
- Overview of main Maintenance Operations:
  - **Reactive Maintenance** (Breakdown Maintenance)
  - **Preventive Maintenance** (Scheduled Routine Maintenance)
  - **Predictive Maintenance** (Condition Based Monitoring)
  - **RBI** (Risk Based Inspection)
  - **RCM** (Reliability Centred Maintenance)
  - **IPF** (Instrument Protective Function)
  - **Shut-down Maintenance**
  - **Outage Maintenance**

1030 Networking Break

1045 Session 2: Total Productive Maintenance and The Cultural Change

- The impact of the **TPM (Total Productive Maintenance)** discipline in the Maintenance domain
- "Traditional" TPM goals– today's TPM goals
- Why TPM is considered the starting point of Lean Maintenance and how does it contribute to the lean target
- TPM Basic techniques: Team Exercising
- TPM Core techniques:
  - **TPM Autonomous Maintenance**: the heart of TPM
  - **Standardisation** and **Equipment Maintenance Standards**
  - Maintenance Planning & Maintenance Records
- **Case Study**: A TPM Implementation

1215 Session 3: Viewing Maintenance as project Works, the missing link

- All Maintenance Activities– **not only major Maintenance Works– are Projects Works!** As such, they must be planned and managed accordingly!
- Planning, Scheduling, Controlling Projects: the "traditional" approach
  - Basic reasons for planning
  - The traditional PBS (Project Breakdown Structure)
  - The Project Program (Gantt (Bar) Diagram
  - Project Risk Management

1300 Networking Lunch

1400 Session 4: Traditional Planning vs. Lean Planning

- **Team Exercising**: Traditional Planning vs. Lean Planning– see the differences
- Analysis: Why do we plan "by impulse"? Why don't we have enough time to plan "lean"? Is it really a matter of time or rather of "style of thinking"? Why do we miss the "crucial" points and overlook that "something really important"? Why do we discover "unforeseen/s" and "surprises" during works executions?
- Analysis of the weaknesses and failures in traditional planning: why so many projects are completed late, with cost overruns and dissatisfaction? Why "project performance: is often poor?
- **Case studies**

1515 Networking Break

1530 Session 5: The Second Industrial Revolution

- The root of poor performance date back to over 2 centuries ago. We have gone into 21st century, with enterprises in the 18th & 19th centuries to perform well in the 20th...
- Is our Industrial DNA still polluted by those obsolete principles that gave birth to the first Industrial Revolution?
- **Case studies**
- Introducing the core principles of the Second Industrial Revolution

1715 Open Forum On Day 1 Topics
Open forum & review of participants' expectations and key questions

1730 End of Day 1

DAY 2

0745 Registration & Morning Coffee / Tea

0830 Session 6: Lean Thinking and The Origins of Lean Maintenance

- Today's key to World-Class Performance in all Industrial Sectors: **Lean Thinking**– Basic Core Principles
- Deploying Lean Thinking principles in the Maintenance domain, in the Project world and in the planning area. Targets: Elimination of Waste– establishment of flow
- What is **Lean Project** and **Lean Maintenance Project Management**. Where does waste hide in traditional projects– where does waste hide in maintenance works and how to identify the main items of waste: idling, walking, talking, moving, excessive handling, double-handling, searching, unnecessary work steps, making errors and mistakes, fixing errors and mistakes, misunderstandings, trial-and-errors approaches, overlooking, inadequate or excessive or unnecessary supervision/ control, waste in paperwork, waste of materials and Why maintenance works do not flow
- **Case Studies**: How to reduce waste drastically?

930 Session 7: Maintenance and Flow, new frontiers in the approach to Maintenance

- The starting points: how should maintenance project's processes be planned for subsequent, lean implementation
- How to conceive and visualize flow working processes
- The role of **Creativity** in planning– the relationship between Creative Thinking and Lean Thinking
- The difference between traditional "automated", reactive thinking and "lean", proactive and projective thinking
- **Examples, case studies and open discussion**

1030 Networking Break

1045 Session 8: Operational approaches to Lean Maintenance Planning

- **Lean Planning** operationally
- The concept of the **Last Planner**. How to eliminate all waste in Project and Maintenance works
- How to make maintenance work flow, work-package after work-package, how to conceive "realistic assignments", how to plan them, how to assure a high PPC (Percent Plan Complete), how to improve the PCC even further by using the 5 Why techniques
- **Examples and case studies**

1300 Networking Lunch

1400 Session 9: Lean Maintenance in Practice

- The "lean" approach to **Preventive/ Scheduled Maintenance works**: Why Maintenance Personnel should be Last Planners
- The "lean" approach to **large-scale and Shut-down Maintenance Operation** – the Concurrent Engineering approach– Lean Risk Management or deploying Risk Reduction techniques to assure regular work-flow and respect of the time parameter
- The "lean" approach to **management of external maintenance sub-contractors** integrating them in the works flow. Integration of sub-contractors and suppliers
- **Examples and case studies**
- About **Maintenance Planning Software**: is it really beneficial? Under what conditions? ***Open debate***

1515 Networking Break

1530 Session 10: A new breed of People is required for Lean Maintenance

- **Lean Planning, Lean Maintenance** and **People**
- A new breed of people is required in the modern maintenance world
- The "multi-skill" and "multi-function" factors
- The "empowerment" factor– self-planning & self-control
- Should everybody be a "last planner"?

1650 Open Forum On Day 2 Topics
Open forum & review of participants' expectations and key questions

1715 Giving Out Certificate
Giving out Certificate of Attendance/ Achievement by Organizer

1730 End of Day 2

Workshop Leader

Dr Carlo Scodanibbio, born in Macerata, Italy in 1944, holds a **doctor degree in Electrical Engineering** from Politecnico di Milano in 1970. He has over **40 years of experience** in **Plant Engineering**, **Project Engineering** and **Project Management**, as well as **Industrial Engineering** and **Operations Management.**

He has been **an Independent Industrial Consultant** and **Human Resources Trainer** since **1979** and has worked in a **wide spectrum of companies** and **industries** in many countries including **Southern Africa, Italy, Cape Verde, Romania, Malta, Cyprus, Lebanon, Mauritius, Kenya, Saudi Arabia, Malaysia** and **India**. His area of expertise lies in **World-Class Performance** for **Small and Medium Enterprises** in the **Project, Manufacturing,** and **Services sectors**.

He has co-operated, inter-alia, with several Italian **Chambers of Commerce and Industry**, the **Cyprus Chamber of Commerce and Industry**, the **Cyprus Productivity Centre**, the **Malta Federation of Industry**, the **Mauritius Employers' Federation**, the **Romanian Paper Industry Association**, the **United Nations Industrial Development Organisation**, the **Federation of Kenya Employers** and the **University of Cape Town**.

His courses and seminars, conducted in English, Italian and French, have been **attended** by over **14.000 Entrepreneurs**, **Managers**, **Supervisors** and **Employees**. They feature a **very high level of interaction**, and are **rich in simulations**, **exercising** and **real case studies**. The approach is invariably **"hands-on"** and addressed for **immediate**, **practical application.**

"An excellent course, more than I expected. This was the toughest yet the most informative and best course I ever attended."
Sanet Flooks, Senior Systems Planner, Matla Colliery South Africa

"An excellent course. I think the TPM and Lean cultural revolution was very well presented rather than only mathematic evaluation of a conventional course. I think sincerely this is the need of the day."
Mahesh Habde, Manager, Whirlpool of India Ltd

From Dr. Carlo's Office…

Dear Delegate (s),

Maintenance. It has been officially invented and structured as a plant management discipline over 60 years ago. Technically, it has gone through many and major changes: **maintenance techniques have been improved, modified, widened and new maintenance techniques** have been **discovered** over the **last 2 decades**. Organisationally, however, maintenance has only somewhat changed with the advent of Nakajima's TPM – Total Productive Maintenance. Today, **maintenance is changing again**.

Today, we discover that **"maintenance" does not always deliver what it promises**: plant, machinery and equipment operating efficiently and effectively along their entire lifecycle and at the least possible total cost. The signals are clear and well known: major breakdowns still materialise in spite of excellent preventive maintenance and even autonomous maintenance practices– minor breakdowns, minor stoppages, idling, reduced-capacity operation, quality defectiveness and other malfunctions are still present in the majority of factories and plants world-wide in spite of efforts and investments to reduce them considerably– **maintenance costs** are **still too high** for the level of competitiveness required nowadays– waste (of maintenance manpower, of materials, of operation time) is at un-acceptable levels– large maintenance works and yearly shut-down projects are seldom completed in time and within budget – outage maintenance often becomes panic management.

There is a common denominator to all signals above: **inadequate project management and inadequate planning**– that is, **inadequate thinking**. Most maintenance works – even routine, scheduled maintenance activities – **ARE project works** by their own nature and as such should be handled. However, project management practices are only dedicated (when it so happens!) to large-scale maintenance works and with doubtful effectiveness. Project Management and, even less, Lean Project Management, are hardly known to maintenance people at ALL levels. That's what is lacking.

The **real revolution in the maintenance world** is taking place only now. Under the **Lean Thinking philosophy**, lean principles can and should be deployed also in maintenance activities and made known to all those concerned, including maintenance technicians and workers.

This course will be a **shocking course** for many of you. Because **it demystifies all traditional principles** of the **first industrial revolution** on which the majority of enterprises, still today, are built or around which they operate. By presenting in rather great detail the philosophy of the second industrial revolution applied to the maintenance world and the main tools and disciplines readily available to all enterprises to perform in an "excellent" status, this course is a **door-opener to lean maintenance practices** for whoever is: **ready to listen to message – prepared to abandon obsolete principles, formulas and approaches– willing to get to "lean" status.**

By showing that **"thinking"** is what must change at all levels in the maintenance domain, this course will **prove that higher levels of performance can be achieved if you create the right conditions.**

I hope to see you there,

Best regards,
Dr. Carlo Scodanibbio