

# 4<sup>TH</sup> WORLD MAINTENANCE CONGRESS

SINCE 1983, WE OPERATE IN THE BUSINESS CONSULTING, SPECIALIZED IN MAINTENANCE ENGINEERING AND OWNERS OF GSM.NET, A CMMS FOR MAINTENANCE MANAGEMENT. IN 1985 I WAS MEMBER TO DELEGATION AIMAN THAT CAME IN VISIT TO BEIJING, CHINA. FROM 1997 I AM A MEMBER OF AIMAN BOARD.

## AN HOLISTIC VISION OF MAINTENANCE TO REACH A GOOD SUSTAINABILITY

Key Words: Sustainability, Maintenance Strategies, Organization, Reliability, Economy.

- The maintenance will have a strategic role to determine sustainability and profitability, only if it will integrate the maintenance actions with reliability and maintainability.
- The maintenance have a platform of values and objectives destined to assume a main position in the post-industrial culture and ideology.
- An holistic vision of maintenance culture, multi disciplinary and with numerous determinants, puts the maintenance among the main items of competitive advantage, and not only for the industrial companies.

What will people learn from attending your presentation:

- Design Maintenance to get economies and to guarantee sustainability.
- Reliability and Maintenance are two sides of the same medal and they must be faced jointly.
- To set a maintenance system having a strategic perspective, and not tactic or operational.

### Abstract

In 1985, when Luciano Furlanetto and I wrote "Zero Cost Maintenance ", we defined the maintenance "a strategic function for the technological innovation".

Continental Europe attributes an important and strategic role to the maintenance along the whole life cycle of a system, while the Anglo-Saxon countries attribute to the maintenance a tactical and operational role.

Maintenance and reliability are sights how two distinct and separate elements, in the time and in the place. As Paul Barringer sustains, the approaches of reliability and maintenance are distant "as the day from the night", and the maintenance must provide to "fast reparations", because to the "strategic task as the forecast and the anticipation of the breakdowns" he thinks "the engineering of reliability".

Since the function of reliability intervenes in systems design, in breakdowns analysis, and in maintenance design, in USA is to reliability and not to maintenance that is assigned a strategic role.

The consequence is to see maintenance, only for what it concerns the management, neglecting the "strategic" aspects. The result is an increase generalized of the costs directly or indirectly tied up to maintenance and a loss of competitiveness.

Only a convinced "holistic" vision of maintenance, it will make maintenance an element of competitive advantage overcoming the ancient question, a interrogative that at times it becomes a prejudice, if the maintenance were a service "core" or "no-core."

Key Words      Organization, Strategies, Maintenance Kinetics, Economy

- Phases of development of maintenance culture in the '900 and main changing drivers.
- The changes occur in the maintenance, in Italy, between 1983 and 2003 have halved the maintenance costs in relationship to the GDP and therefore brought to make less maintenance, despite in the same period the value of investments in physical assets is nearly doubled.
- The components of a new maintenance kinetics drive by the search of breakdown causes by the continuous improvement and by the intervention timeliness.

What will people learn from attending your presentation:

- To make maintenance with less resources and great effectiveness to all advantage of the sustainability.
- To start formative processes of maintenance staff coherent with the technological development and the increasing complexity of the systems.
- To use maintenance culture to make less maintenance actions.

Abstract

The passage through the boia of year 2000, the urgent international economic crisis and the 11 /9 together to the phenomenon of globalization, they are alone some drivers that have changed the maintenance paradigms.

To them it needs to add other drivers "endogenous": diffusion of maintenance culture in the scholastic systems, improvement in materials resistance, improvement of equipments reliability, greatest involvement of maintenance in design phase, most rapid plants substitution, increasing offer of maintenance services, progressive increase of economic weight of automatized manufacturing respect to process industry, to heavy duty, and to traditional manufacturing.

The new paradigm has emphasized the economic role of maintenance revaluing the ethical dimension of "waste hunting " and, parallelly emphasized the existing reciprocity between Maintenance and Technology, for a long time mutually connected.

If maintenance is observed under the lens of repairer action it appears to disperse in an endless series of characterizing elements that they are not referable to an only maintenance root, and this is due to the variety of underlying systems.

The variety of these systems has induced to think, for a lot of time, that didn't exist an only maintenance but a lot of maintenances, in relationship to the belonging sector.

Abstracting us from the underlying system, we have unified maintenance culture, methods and strategies that are applicable in practice to the whole anthropized environment, and consequently we have individualized some coherent formative path.

On the methodological plan we have formulated a new structure of maintenance culture and we have identified a different kinetics, through which to reach the maintenance objectives key.

## MAINTENANCE: FROM WASTE AND INDIFFERENCE TO THE ETHICS OF RESPONSIBILITY

Key Words      Organization, Strategies, Sustainability, Economy

- The maintenance is often considered as a cost to avoid, rather than as a small sacrifice today to get great benefits tomorrow.
- Rather than care and maintenance, more easily it is found abandonment and crumbliness. And consequently wastes. The Maintenance is a choice of life a mental "habitus", that behaves a revolutionary change of mentality.
- Maintenance can represent a hope for the future of the world, stimulating the citizens to preserve, to reduce waste, to act in safety, to conduct a sustainable existence that makes livable our cities and efficient as virtuous our factories, in respect of the environment and the human life.

What will people learn from attending your presentation:

- The economic value of maintenance: to build a strategic vision on the use of the systems that allows to get economies in the middle long period.
- To set a changing plan, to reason in terms of maintenance and sustainability, that includes a formative path for manager and technicians.
- To overcome the certification limits to appraise the quality of maintenance intervention.

Abstract

Maintenance is a formidable lever of competitiveness for the companies and a style of life for all citizens, allowing to get important economies and guaranteeing together effectiveness and sustainability.

In the industrial company maintenance is often considered a cost, if possible, to avoid. The consequential wastes from the missed maintenance are not immediately visible and the indifference toward this matter doesn't help to have a perspective vision on possible future benefits if compared to inevitable present costs.

And could be made many examples that concern some the whole anthropized space.

To do it brief, it is worth the old proverb: it is anymore an egg today that a chicken tomorrow. But this is not Management.

The Maintenance is an a little attractive activity, it is not as the marketing that makes to sell the products, neither as the last model of supersonic airplane that can reach 2000 km/h. Maintenance activity don't pretend to transform the world, their objectives are not expressible in simple way, they don't have the charm that cut the breath of activity that produces objects with elevated performances, they continually go and periodically repeated, if they are successful their effect is not seen.

Only systems that have a very brief life cycle shun the maintenance. Not as soon as happen a system destined to endure, the maintenance becomes a conclusive item for its economic exploitation.

To engage the users in the maintenance, citizen as company technician, is not easy and behaves a revolutionary mentality changing. Key elements for changing, for both, are: the information (conferences, seminars, congresses) and the formation.

And this is also worth for environmental protection and for safety in work and relaxation place, that share with maintenance the same dimension ethical and social.

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*Graduated in Mechanical Engineering to the Milan Polytechnic in 1982.*

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*In 25 years he has realized numerous maintenance projects for: ABB, Acciaierie Falk, Alfa Romeo, Ansaldo Trasporti, Barilla, BASF, Breda Costruzioni Ferroviarie, Euratom, Ferrero, Fiat Auto, Glaverbel, Italcementi, Merloni, New Holland, Parmalat, Saiwa, Sea, Siram, SNAM, Zanussi and others.*

*Partner founder of Segesta – Associated Consulting – in 1997 and Partner from 1997 to 1999. Partner founder, in 1999, and Administrator of Global Service & Maintenance, Business Consulting Company specialized in Maintenance and owner of Gsm.NET the first maintenance informative system based on Microsoft Framework .NET.*

*He is co-author of five books: Manutenzione a Costo Zero, IPSOA 1986; Manutenzione Produttiva, ISEDI 1992; Manuale di Manutenzione degli Impianti Industriali e dei Servizi, Franco Angeli 1998, Manutenzione e gestione sostenibile dell'ambiente urbano, Alinea 2007; Cultura di Manutenzione, Alinea 2007.*

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