

ASIGURAREA CALITĂȚII – QUALITY ASSURANCE

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Post-Manufacturing Traceability: Legal/Market Trends and Best Practices

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Abstract

Since WTO1 had its agreement on Technical Barriers to Trade (TBT) signed by its members in 1994, manufacturing centers shifted to Asia and more particularly to China which manufacturing exports have been raising exponentially for the last decade. The outsourcing strategy led by global retailers, though it substantially cut down immediate manufacturing costs, also showed a spectacular increase of consumer products notifications and/or recalls, in every field of consumer goods. Meanwhile, neither the import verification programs nor mandatory verification of conformity provide enough guarantees that the retailed products are devoid of any defect or can be recalled in a fast and effective way. Consequently, a new class of regulations was born in 2009, widely based on the post-manufacturing traceability principle. The common backbone of these regulations is analyzed to highlight the key building blocks upon which current regulations are based on. Then, cross industry traceability standards are reviewed and the lessons learnt from the latest pilot projects led in different sector areas will highlight current best practices and stakes while implementing a post-manufacturing traceability system.

Keywords: post manufacturing traceability, product, quality, safety, conformity, authenticity, regulation, market, surveillance, critical tracking events, key data elements, RFID, data matrix, bar code, retail, manufacturing, control, notification, recall, ISO 1736

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Fp-Petri Nets: A Tool for Complex Systems Modelling

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Abstract

This paper presents the results of a study concerning the use of Fp-Petri Nets as a tool for complex systems modelling. Petri Nets (PN) are a formal and graphical modelling tool for discrete event systems. Modelling flexible manufacturing systems (FMS) and solving scheduling problems usually involve very complex sequences that can hardly be modelled with existing CPN. A modelling formalism for sequential processes by means of CPN incorporating polynomial functions into arcs is introduced in this paper.

Keywords: system, complex system, model, Petri Nets, coloured Petri Nets, Fp-Petri Nets

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Modelling Ageing of Optocoupler

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Abstract

Model and studies indicate that degradation of optocoupler is due to mainly LED degradation. The best signature is the CTR degradation which depends on ageing and temperature, ageing LED current and measurement LED current.

Keywords: CTR and LED degradation, ageing, modelling and noise.

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Failure Modes and Mechanisms of Silicon Diodes

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Abstract

The typical failure modes and mechanisms of main types of silicon diodes (pn junction, varactor, switching, Z, avalanche and transitory voltage suppress diodes) are detailed. Also, the possible corrective actions that are aimed to diminish the action of the failure mechanisms are presented.

Keywords: silicon diode, failure mode, failure mechanism, reliability, failure analysis.

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Total Quality Management in Large Organizations

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Abstract

Several organizations are going through periods of downsizing, rightsizing re-engineering, restructuring or other types of reorganization with the ultimate goal of reducing staff numbers, developing a leaner organization and reducing costs. At the same time, many of these organizations have already invested or are investing in continuous improvement activities and adopting the principles of Total Quality Management (TQM). Many are using the quality award models as they strive for business excellence. What happens to quality in periods of downsizing? Can quality programmes survive when quality departments are completely removed, team members are displaced and the situation for many employees who remain becomes insecure? Can TQM assist in the restructuring process? This paper addresses some of these issues.

Keywords: Quality, Organizations, Large organizations, TQM, Reorganization, Downsizing, Reengineering.

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