

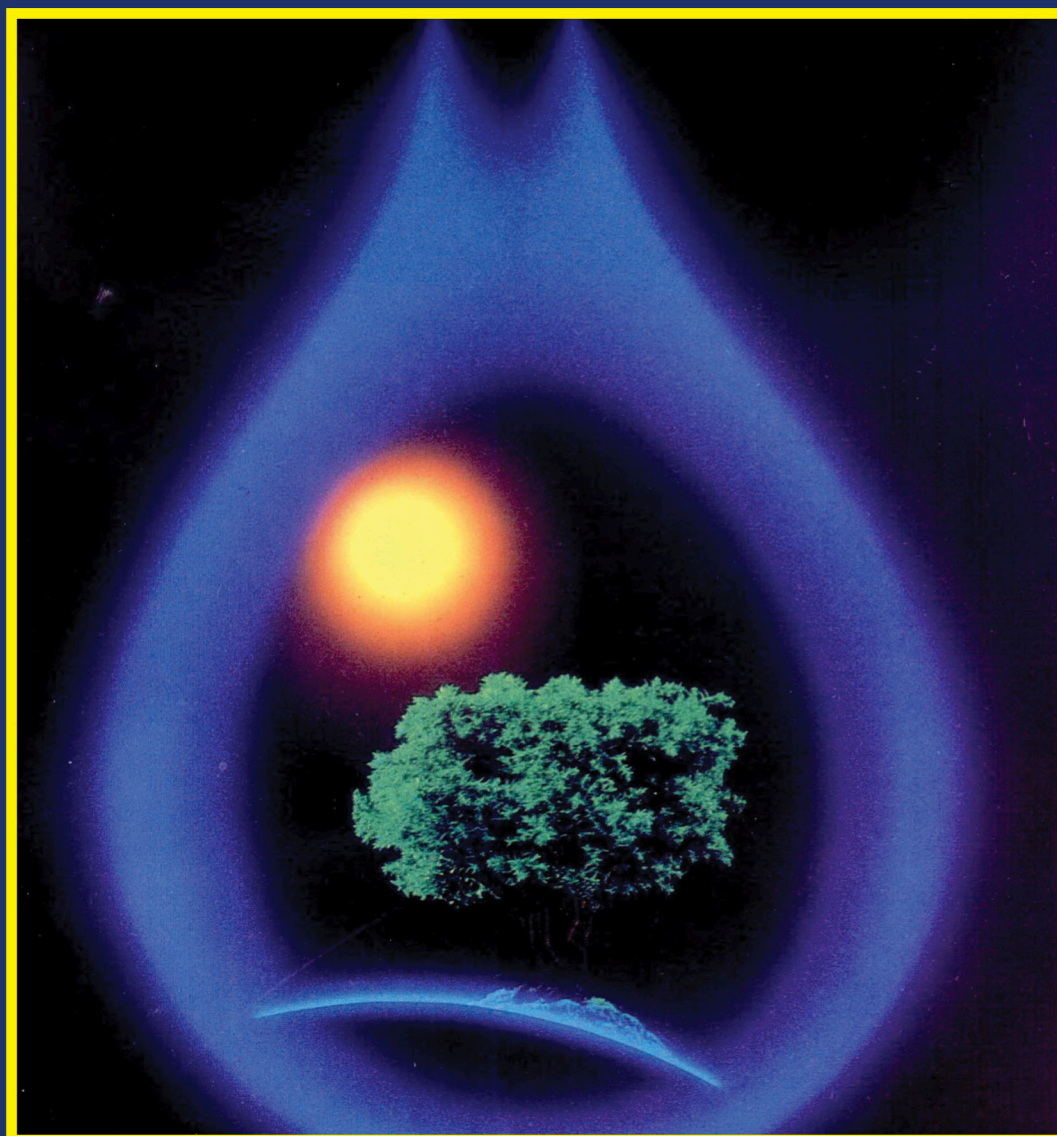


# ASIGURAREA CALITĂȚII QUALITY ASSURANCE

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## ASIGURAREA CALITĂȚII – QUALITY ASSURANCE

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# Product Safety Philosophy

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## Abstract

Product Safety science is a broad and multidisciplinary field governed by a well establish philosophy. The paper analyzes sets of concepts and how them influence the right understanding of the Product Safety, highlighting the ways in which these concepts need to be considered. The intent of the paper is to present that Product Safety is based on the philosophical principles which have clear correspondents on the daily reality.

**Keywords:** Product Safety, Reliability, Risk, Failure, Single Fault Safe

## References:

- [1] ISO/IEC Guide 51:2014, "Safety aspects – Guidelines for their inclusion in standards".
- [2] ISO/IEC Guide 73:2002, "Risk management – Vocabulary – Guidelines for use in standards.
- [3] IEC/ACOS/387/DC:2005, "ISO TMB/WG – Risk management – Guidelines for Principles and Implementation of Risk [1] Management".
- [4] Nancy Leveson, "Safeware: System Safety and Computers," Addison-Wesley, 1995.
- [5] Baram, M., 2007. Liability and its influence in designing for product and process safety. Safety Science 45, 11–30.
- [6] Hale, A., Kirwan, B., Kjellen, U., 2007. Safe by design: where are we now? Safety Science 45, 305–327.
- [7] Tang, C.S., 2008. Making products safe: process and challenges. International Commerce Review 8, 48–55.

# Information Security Implications of Smart Urban Areas

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## Abstract

The purpose of this paper is to provide an overview and raise awareness with regards to the security implications of smart cities. With the advent of “Internet of Things” (IoT) applied to large urban areas, several information security risks evolved. The research was driven by a session of tests carried out on a development board intended for designing and building small IoT projects to study hardware and software limitations. Through the following paragraphs the authors also emphasize the importance of data privacy and protection. The end goal of the paper is to bring attention to the need for security guidelines and compliance standards for mitigating the security risks of smart cities in the context of the new types of vulnerabilities discovered within the emerging embedded architectures.

**Keywords:** Security, Information, IoT, Data Privacy, Data Protection, Information Security, Smart Cities, Internet of Things

## References:

- [1] Introducing the Adafruit WICED Feather Wifi, TOWNSEND K., 2016, <https://cdn-learn.adafruit.com/downloads/pdf/introducingthe-adafruit-wiced-feather-wifi.pdf>.
- [2] The Internet of Everything for Cities, Shane M., Villa N., Stewart-weeks M., Lange A., Cisco, 2013, [http://www.cisco.com/c/dam/en\\_us/solutions/industries/docs/gov/everything-for-cities.pdf](http://www.cisco.com/c/dam/en_us/solutions/industries/docs/gov/everything-for-cities.pdf).
- [3] MQTT Security Fundamentals, HiveMQ blog <http://www.hivemq.com/blog/introducing-the-mqtt-security-fundamentals>.
- [4] Hackers are holding hospital computers hostage, Wired, 2016: <https://www.wired.com/2016/02/hack-brief-hackers-are-holding-anla-hospitals-computers-hostage/>.
- [5] An Internet of Things Reference Architecture, Symantec, [https://www.symantec.com/content/en/us/enterprise/white\\_papers/iotsecurity-reference-architecture-wp-en.pdf](https://www.symantec.com/content/en/us/enterprise/white_papers/iotsecurity-reference-architecture-wp-en.pdf).
- [6] State of the Market The Internet of Things 2015, Verizon, [http://www.verizonenterprise.com/resources/reports/rp\\_state-of-marketthe-market-the-internet-of-things-2015\\_en\\_xg.pdf](http://www.verizonenterprise.com/resources/reports/rp_state-of-marketthe-market-the-internet-of-things-2015_en_xg.pdf).
- [7] Principles of IoT Security, OWASP, reviewed on May 2016, [https://www.owasp.org/index.php/Principles\\_of\\_IoT\\_Security](https://www.owasp.org/index.php/Principles_of_IoT_Security).
- [8] IoT Framework Assessment, OWASP, 2016, [https://www.owasp.org/index.php/IoT\\_Framework\\_Assessment](https://www.owasp.org/index.php/IoT_Framework_Assessment).
- [9] Certification Authorities, Wikipedia, [https://en.wikipedia.org/wiki/Certificate\\_authority](https://en.wikipedia.org/wiki/Certificate_authority).
- [10] How over 30 Jeeps were Hacked into and Driven Away, Hackread, 2016, <https://www.hackread.com/30-jeeps-hacked-driven-away/>.

# Managerial Approach of Occupational Safety and Health According to ISO 45001 in Health Care Sector

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## Abstract

The paper aims at presenting the importance of the occupational health and safety (OHS) management approach in the public health care sector, occupational health and safety management system (OHSMS), according to ISO 45001 – a tool that combines policy, people and means to improve continuously the performance of the organization. It promotes the adoption of an integrated management system in order to develop and improve the public health care sector organizations and develop the protection and prevention policies on occupational injuries and accidents.

**Keywords:** Management, risk, prevention, safety, health, occupational safety and health, healthcare sector

## References:

- [1] Elizabeth Gasiorowski-Denis, ISO 45001 on occupational health and safety has been approved for Draft International Standard public consultation on 12 February 2016.
- [2] Nisipeanu S.E., Manuc D., Chiurtu E.R., Haiducu, M., (2014), Importance of safety and health at work managerial approach in the public health sector, Risk and safety Review, No. 1, 34-35.
- [3] European Agency for Safety & Health at Work, (2015), Information, <https://osha.europa.eu/>.
- [4] European Commission, (2010), Europe 2020 A strategy for smart, sustainable and inclusive growth, Brussels, [http://ec.europa.eu/europe2020/index\\_en.htm](http://ec.europa.eu/europe2020/index_en.htm).
- [5] European Union, (2014), The EU explained: Public health, European Commission, Luxembourg: Publications Office of the European Union, 4-8.
- [6] Eurostat Database, (2014), [http://ec.europa.eu/eurostat/statistics-explained/index.php/Accidents\\_at\\_work\\_statistics](http://ec.europa.eu/eurostat/statistics-explained/index.php/Accidents_at_work_statistics).
- [7] Occupational health and safety management systems – BS OHSAS 18001 moving to ISO 45001.
- [8] Report published in September 2014 by: International Register of Certificated Auditors (IRCA), part of The Chartered Quality Institute (CQI), 2nd Floor North, Chancery Exchange, 10 Funnival Street, London EC4A 1AB.
- [9] ILO, (2013), Reports of the officers of the Governing Body Developments in relation to the International Organization for Standardization, including in the field of occupational safety and health (OSH).

- [10] ILO Governing body, (2013), Institutional Section Further developments in relation to the the International Organization for Standardization, including in the field of occupational safety and health (OSH).
- [11] International Register of Certificated Auditors (IRCA), (2014), Occupational health and safety management systems BS OHSAS 18001 moving to ISO 45001, The Chartered Quality Institute (CQI), 2nd Floor North, Chancery Exchange, 10 Furnival Street, London EC4A 1AB.
- [12] ISO 45001, (2015), Occupational health and safety management systems – Requirements- Draft.
- [13] ISO/CD 45001, (2015), Occupational health and safety management systems – Requirements with guidance for use.
- [14] Occupational health and safety, (2015), <http://www.iso.org/iso/iso45001>.
- [15] Dobos C., (2005), Public healthcare services and social development, Quality of Life Review, XVI,3–4, 373–385.
- [16] Nisipeanu S.E., Haiducu M., Chiurtu E.R., Scarlat I., Avram R., Social Responsibility, a Priority Objective of the Europe 2020 Strategy, 21st World Future Studies Federation World Conference „Global Research And Social Innovation: Transforming Futures“ Bucharest, 26-28 June 2013, <http://www.wfsconference.org/>.
- [17] Nisipeanu S.E., Stepa R., Chiurtu E.R., Haiducu M., (2012), Social Responsibility and OSH in the context of Romanian national SR strategy and the publication of ISO 26000 Guidelines for social responsibility, Book of Abstracts of International Conference „Towards Safety Through Advanced Solutions” Sopot, Poland, 198-199, <http://www.wos2012.pl/book-of-abstracts/>.

# Six Sigma Tools and Eight Key to Risk Management

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## **Abstract**

Six Sigma is a process measurement and management system that enables employees and companies to take a process oriented view of the entire business. Using the various concepts embedded in Six Sigma, key processes are identified, the outputs of these processes are prioritized, the capability is determined, improvements are made, if necessary and a management structure is put in place to assure the ongoing success of the business.

**Keywords:** Quality, Six Sigma, Business, Risk, Management, Risk Management

## **References:**

- [1] <https://www.isixsigma.com/new-to-six-sigma/getting-started/what-six-sigma/>.
- [2] <http://www.sixsigmaonline.org/>.
- [3] <http://www.businessballs.com/sixsigma.htm>.

# Electric Noise and Semiconductor Reliability

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## Abstract

Low-frequency electrical noise is a sensitive measure of defects in semiconductor devices because the noise has an impact, directly or indirectly, on the performance and reliability of the device. Its measurement is particularly important to characterize noise in semiconductor devices.

**Keywords:** Reliability, semiconductor, noise, excess noise, popcorn noise, flicker noise, noise figure, noise mechanisms

## References:

- [1] Băjenescu, T. I., "Excess noise and reliability," Proceedings of RELECTRONIC '85, Budapest (Hungary), 1985, pp. 260–266.
- [2] Jaeger, R. C., Brodersen, A. J., "Low frequency noise sources in bipolar junction transistors," IEEE Trans. on Electron Devices, ED-17, no. 2, p. 128.
- [3] Martin, J. C. et al., "Le bruit en crêneaux des transistors plans au silicium," Electronics Letters, June 1966, vol. 2, no. 6, pp. 228–230. "Le bruit en crêneaux des transistors bipolaires," Colloques Internationaux du C.N.R.S. no. 204(1971), pp. 59–75. "Corrélation entre la fiabilité des transistors bipolaires au silicium et leur bruit de fond en excès," Actes du Colloque Internat. sur les Composants Electroniques de Haute Fiabilité, Toulouse, 1972, pp. 105–119. "L'effet des dislocations cristallines sur le bruit en crêneaux des transistors bipolaires au silicium," Solid-State Electronics, vol. 15, pp. 739–744.
- [4] Brodersen, A. J. et al. (1971): "Low-frequency noise sources in integrated circuit transistors," Actes du Colloque International du C.N.R.S., 1971, Paper II-4.
- [5] Curtis, J. G., "Current noise indicates resistor quality," International Electronics, May 1962.
- [6] Ziel, van der, A., Tong, H., "Low-frequency noise predicts when a transistor will fail," Electronics, vol. 23, Nov. 28, pp. 95–97.
- [7] Hoffmann, K. et al., „Ein neues Verfahren der Zuverlässigkeitsanalyse für Halbleiter-Bauteile," Frequenz vol. 30, no. 1, pp. 19–22.
- [8] Ott, H. W., "Noise reduction in electronic systems," Wiley Interscience, New York, 1976.
- [9] "Noise in physical systems." Proceedings of the Fifth Internat. Conf. on Noise, Bad Nauheim, March 13–16, Springer Verlag, Berlin, 1978.
- [10] Prakash, C., "Analysis of non-catastrophic failures in electronic devices due to random noise," Microelectronics and Reliability vol. 16, pp. 587–588.
- [11] Knott, K. F., "Characteristics of burst noise intermittency," Solid-State Electronics vol 21, pp. 1039–1043.
- [12] Roedel, R., Viswanathan, C. R., "Reduction of popcorn noise in integrated circuits." IEEE Trans. Electron Devices ED-22, pp. 962–964.
- [13] Martin, J. C., Blasquez, G., "Reliability prediction of silicon bipolar transistors by means of noise measurements." Proceedings of 12th International Reliability Physics Symp., 1974.



- [14] Băjenescu, T. I., "Problèmes de la fiabilité des composants électroniques actifs actuels." Masson, Paris, 1981. pp. 163–169. Băjenescu, T. I., "Fiabilitatea componentelor electronice," Editura Tehnică, București, 1996, pp. 312–324. Băjenescu, T. I., Băzu, M. I., "Reliability of Electronic Components," Springer Verlag, Berlin, New York, 1999.
- [15] Firlé, J. E., Winston, H., Bull. Ann. Phys. Society, tome 30, no. 2.
- [16] Blasquez, G., "Contribution à l'étude des bruits de fond des transistors à jonctions et notamment des bruits en  $1/f$  et en créneaux," Thèse doctorat no. 532, Univ. P. Sabatier, Toulouse. Luque, A. et al., "Proposed dislocation theory of burst noise in planar transistors," Electronics Letters, vol. 6, no. 6, 19th March, pp. 176–178. Koji, T., "Noise Characteristics in the Low Frequency Range of Ion-Implanted-Base-Transistor (NPN type)," Trans. Inst. Electron. & Com. Eng. Jap. C, vol. 57, no. 1, pp. 29–30.
- [17] Jaeger, R. C. et al., Record of the 1968 Region III IEEE Convention, 1968, pp. 58–191.
- [18] Giralt, G. et al., "Sur un phénomène de bruit dans les transistors, caractérisé par des créneaux de courant d'amplitude constante," C. R. Acad. Sc. Paris, tome 261, groupe 5, pp. 5350–5353.
- [19] Caminade, J., "Analyse du bruit de fond des transistors bipolaires par un modèle distribué," Thèse de doctorat, 1977, Université P. Sabatier, Toulouse, France.
- [20] Le Gac, G., "Contribution à l'étude du bruit de fond des transistors bipolaires: influence de la défocalisation," Thèse de doctorat, 1977, Université P. Sabatier, Toulouse, France.
- [21] Plumb, J. L.; Chenette, E. R., "Flicker noise in transistors," IEEE Trans. Electron Devices, vol. ED-10, pp. 304–308.
- [22] Oren, R., "Discussion of Various Views on Popcorn Noise," IEEE Trans. on Electron Devices, vol. ED-18, pp. 1194–1195.
- [23] Leonard, P. L., Jaskowski, L. V., "An investigation into the origin and nature of popcorn noise," Proc. IEEE (Lett.), vol. 57, pp. 1786–1788.
- [24] Knott, K. F., "Burst noise and microplasma noise in silicon planar transistors," Proc. IEEE (Lett.), 1970, pp. 1368–1369.
- [25] Yamamoto, S. et al., "On perfect crystal device technology for reducing flicker noise in bipolar transistors," Colloques internat. du CNRS no. 204, pp. 87–89.
- [26] Sherwin, J., "Noise specs confusing?" National Semiconductor AN-104.
- [27] Grivet, P., Blaquièrre, A., "Le bruit de fond," Masson, Paris.
- [28] Ziel, A. van der, "Noise: sources, characterization, measurement," Prentice Hall, Englewood Cliffs.
- [29] Motchenbacher, C. D., Fitchen, F. C., "Low-noise electronic design," John Wiley & Sons, New York.
- [30] Cook, K. B., Ph. D. Thesis, 1970, University of Florida.
- [31] Soderquist, D., "Minimization of noise in operational amplifier applications," AN-15 of Precision Monolithics Inc., Santa Clara, California.
- [32] Bilger, H. R. et al., "Excess noise measurements in ion-implanted silicon resistors," Solid-State Electronics vol. 17, pp. 599–605.
- [33] Băjenescu, T. I., "Bruit de fond et fiabilité des transistors et circuits intégrés," La Revue Polytechnique no. 1367, pp. 1243–1251.
- [34] Wolf, D., editor, "Noise in physical systems," Proc. of Fifth Internat. Conf. on Noise, Bad Nauheim, March 13–16, 1978, Springer Verlag, Berlin.
- [35] Boxleitner, W., "Electrostatic Discharge and Electronic Equipment," IEEE Press, New York.
- [36] Frey, O., "Transiente Störphänomene," Bull. SEV/VSE, vol. 82, no. 1, pp. 43–48.
- [37] Amerasekera, E. A., Campbell, D. S., "Failure mechanisms in semiconductor devices," J. Wiley and Sons, Chichester.
- [38] Kirtley, J. R. et al., Proc. of the Internat. Conf. on Noise in Physical Systems and  $1/f$  Fluctuations, Montreal, 1987.

- [39] Schultz, M., Pappas, A., "Telegraph noise of individual defects in the MOS interface," Proc. of the Internat. Conf. on Noise in Physical Systems and 1/f Fluctuations, Kyoto, Japan, 1991.
- [40] Jones, B. K., "The sources of excess noise," Proc. of the NODITO workshop, Brno, CZ, July 18–20, 1995.
- [41] Sikula, J. et al., "Low frequency noise spectroscopy and reliability prediction of semiconductor devices," Proc. of RELECTRONIC '95, Budapest (Hungary), October 16-18, pp. 407–412.
- [42] Ciofi, C. et al., "Dependence of the electromigration noise on the deposition temperature of metal," Proc. of RELECTRONIC '95, Budapest (Hungary), October 16-18, pp. 359–364.
- [43] Schauer, P. et al., "Low frequency noise and reliability prediction of thin film resistors," Proceedings of RELECTRONIC '95, Budapest (Hungary), October 16-18, pp. 401–402.
- [44] Koktavy, B. et al., "Noise and reliability prediction of MIM capacitors," Proc. of RELECTRONIC '95, Budapest (Hungary), October 16-18, pp. 403–406.
- [45] Yiqi, Z.; Qing, S., "Reliability evaluation for integrated operational amplifiers by means of 1/f noise measurement," Proc. of the Fourth Internat. Conf. on Solid-State and Integrated-Circuit Technology, Beijing (China), October 24–28, 1995, pp. 428–430.
- [46] Guoqing, X. et al., "Improvement and synthesis techniques for low-noise current steering logic (CSL)," Proc. of the Fourth Internat. Conf. on Solid-State and Integrated-Circuit Technology, Beijing (China), October 24–28, 1995, pp. 634–636.
- [47] Merkelo, H., "Advanced methods for noise cancellation in system packaging., 1993 High Speed Digital Symposium, University of Illinois, Urbana.
- [48] Arsalane, M., "Essai de corrélation entre le bruit de fond basse fréquence des transistors et leur fiabilité." Thèse de doctorat, Université Paul Sabatier, Toulouse, 1972.
- [49] Ziel, A. van der, "Noise: sources, characterization, measurement." Prentice Hall, Englewood Cliffs.
- [50] Băjenescu, T. I., "Intermitența zgomotului de explozie „burst noise“,” Asigurarea Calității inr. 4(2005), pp. 11/13.
- [51] Balandin, A., Noise and Fluctuations Control in Electronic Devices, American Scientific Publishers.
- [52] Gribaldo, S., "Modélisation non-linéaire et en bruit de composants micro-ondes pour applications à faible bruit de phase," Thèse de doctorat, Université de Toulouse, 2008.
- [53] Blasquez, G., "General aspects of Noise Phenomena – Application to surface noise," North Holland, Elsevier Science, pp. 363-398.
- [54] Bora, A., and Raychaudhuri, A. K., "Low-frequency resistance fluctuations in metal films under current stressing at low temperature ( $T < 0.3T_{\text{melting}}$ )," Physical Review B, vol. 77(2008), p. 075423.
- [55] Carlson, A. B., Crilly, P. B., Rutledge, J. C., "An Introduction to Signals and Noise in Electrical Communication," McGraw-Hill series in Electrical and Computer Engineering, 2002.
- [56] Chen, Y., Van Vliet, C. M., Larkins, G. L. Jr., and Morkoç, H., "Generation-recombination noise in nongated and gated Al<sub>x</sub>Ga<sub>1-x</sub>As/GaAs TEGFETs in the range 1Hz to 1MHz," IEEE Transactions on Electron Devices, vol. 47(11), pp. 2045-2053, November 2000.
- [57] Ciofi, C., and Neri, B., "Low-frequency noise measurements as a characterization tool for degradation phenomena in solid-state devices," J. Phys. D., Appl. Phys, vol. 33(2000), pp. R199-R216.
- [58] Gassoumi, M., "Etude des défauts électriquement actifs dans les composants hyperfréquences de puissance dans les filières SiC et GaN," Thèse de doctorat, Ecole Doctorale, INSA-Lyon, France, juin 2006.
- [59] Johansen, J. A., "Low-frequency Noise Characterization of Silicon-Germanium Resistors and Devices," Thesis, physics, University of Tromsø, Norway, 2004.
- [60] Jones, B. K., "Electrical noise as a reliability indicator in electronic devices and components," IEE Proceedings, Circuits-Devices and Systems, vol. 149(1), pp. 13-22, February 2002.

- [61] Koverda, V. P., Skokov, V. N., "Statistics of avalanches in stochastic processes with a  $1/f^\alpha$  spectrum," *Physica A*, vol. 388, pp. 18041812, 2009.
- [62] Vasilescu, G., "Electronic noise and interfering signals. Principles and applications," Springer, 2005.
- [63] Vasilescu, G., "Bruit et signaux parasites," Edition Dunod, Paris, 1999.
- [64] Băjenescu, T.-M., Băzu, M., "Component reliability for electronic systems," Artech House, Boston and London, 2010.
- [65] Montgomery, H. C., "Electrical noise in semiconductors," *Bell System Technical Journal*, 31, 5. September 1952, pp. 950-975.
- [66] McWhorter, A. L., 1957, in *Semiconductor Surface Physics*, edited by B.H. Kingston (University of Pennsylvania, Philadelphia), p. 207.
- [67] Giesen, F., "Rauschen in elektronischen Schaltkreisen," 2003, <https://sus.ziti.uni-heidelberg.de/Lehre/Seminar03/01.pdf>.
- [68] Zimmermann, H., *Schaltungstechnik*, T. U. Wien, 2010.
- [69] Cordes, K. H., *Tanh-Modell für die Simulation von MOS- Transistoren*, F. H. Hannover, 2010.
- [69] Jeremias, R. F., *CMOS Bildsensoren mit Kurzzeitverschluß zur Tiefenerfassung nach dem Lichtlaufzeit-Meßprinzip*, Dissertation, Universität Duisburg-Essen, 2009.

## New Wiley Books in Quality and Dependability

We present here recent **books** in quality and dependability (reliability and security) published by the well-known publishing house **John Wiley & Sons, Inc.**

Several of these books will be reviewed in the future issues of the journal *Asigurarea calității – Quality Assurance*. (Prof. Ioan C. BACIVAROV, PhD)

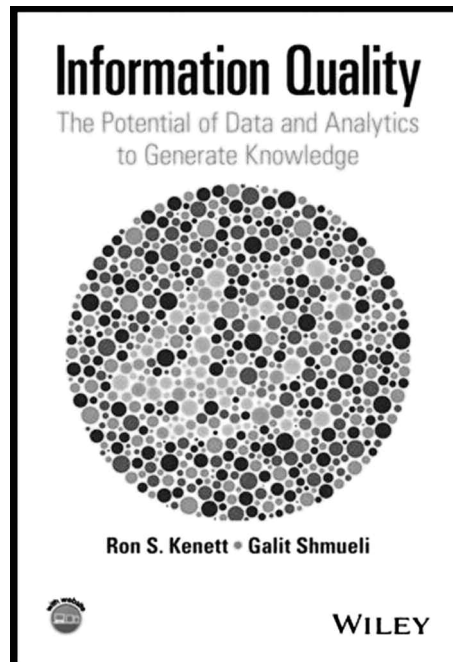


**Managing Quality:  
An Essential Guide and Resource Gateway**  
(6th edition)  
by **Barrie G. Dale, David Bamford, Ton van der Wiele**  
(Editors)  
ISBN: 978-1-119-13092-5,  
352 pages  
(published July 2016)

- ❑ A popular resource for students, academics, and business practitioners alike;
- ❑ Combines the latest information on quality management system series standards with up-to-date tools, techniques and quality systems;
- ❑ Includes insights on quality, operations management, and strategic process improvement;
- ❑ Highly relevant for professionals, particularly those involved with reacting to rapid developments in the global market.

The word “quality” has many definitions, dependent on context and situation. It is often over-used but always in-demand, and it can make or break a business. Quality management is becoming an increasingly vital factor in the success of a product or service, and it requires constant attention and a continuous drive to do better. *Managing Quality* is a comprehensive resource that helps you ensure – and sustain – high quality standards.

This popular and highly successful text on Quality Management has been fully revised and updated to reflect recent developments in the field. New to the Sixth Edition is timely coverage of agile development, emerging markets, product research, evidence based decision-making, and quality control. Some of the material has been re-ordered and changes to terminology have been made to bring the book completely up to date. This book is:



**Information Quality:  
The Potential of Data and Analytics to Generate Knowledge**  
by **Ron S. Kenett and Galit Shmueli**  
ISBN: 978-1-118-87444-8,  
384 pages  
(published December 2016)

Analytics and statistical analysis have become pervasive topics, mainly due to the growing availability of data and analytic tools. Technology, however, fails to deliver insights with added value if the quality of the information it generates is not assured. The book presents the *Information Quality (InfoQ)*, a tool deve-

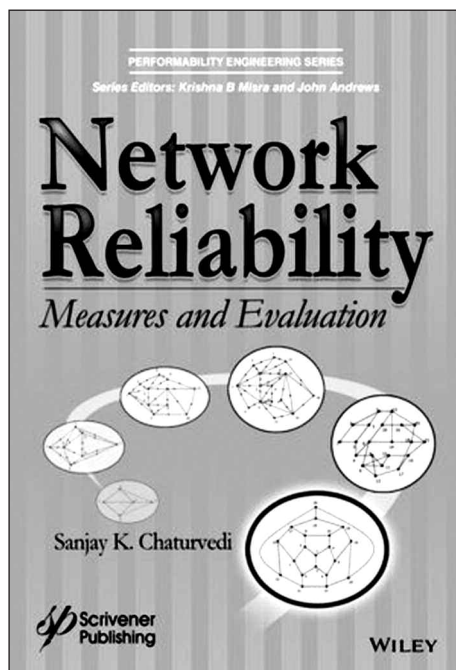
# ASIGURAREA CALITĂȚII – QUALITY ASSURANCE

Ianuarie – Martie 2017 Anul XXIII Numărul 89

loped by the authors to assess the potential of a dataset to achieve a goal of interest, using data analysis. This book:

- ❑ Explains how to integrate the notions of goal, data, analysis and utility that are the main building blocks of data analysis within any domain;
- ❑ Presents a framework for integrating domain knowledge with data analysis;
- ❑ Provides a combination of both methodological and practical aspects of data analysis;
- ❑ Showcases numerous case studies in a variety of application areas such as education, healthcare, risk management and marketing surveys.

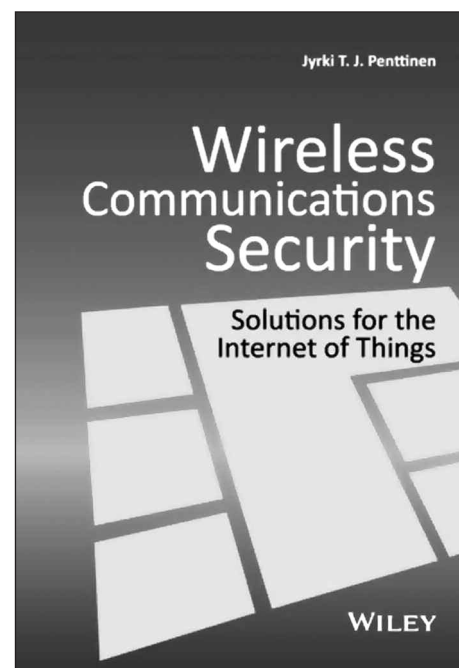
This book will be beneficial for researchers in academia and in industry, analysts, consultants, and agencies that collect and analyze data as well as undergraduate and postgraduate courses involving data analysis.



**Network Reliability: Measures and Evaluation**  
by **Sanjay K. Chaturvedi**  
ISBN: 978-1-119-22356-6,  
272 pages  
(published July 2016)

This book is aimed at providing modelling and analysis techniques for the evaluation of reliability measures (2-terminal, all-terminal, k-terminal reliability) for systems whose structure can be described in the form of a probabilistic graph. Among the several

approaches of network reliability evaluation, the multiple-variable-inversion sum-of-disjoint product approach finds a well-deserved niche as it provides the reliability or unreliability expression in a most efficient and compact manner. The accompanying web-based supplementary information containing modifiable Matlab® source code for the algorithms is another feature of this book. A very concerted effort has been made to keep the book ideally suitable for first course or even for a novice stepping into the area of network reliability; consequently, the mathematical treatment is kept as minimal as possible.



**Wireless Communications Security: Solutions for the Internet of Things**  
by **Jyrki T. J. Penttinen**  
ISBN: 978-1-119-08439-6,  
336 pages  
(published November 2016)

This book describes the current and most probable future wireless security solutions. The focus is on the technical discussion of existing systems and new trends like Internet of Things (IoT). It also discusses existing and potential security threats, presents methods for protecting systems, operators and end-users, describes security systems attack types and the new dangers in the ever-evolving Internet. The book functions as a practical guide describing the evolution of the wireless environment, and how to ensure the fluent continuum of the new functionalities, whilst minimizing the potential risks in network security.