Dan STOICHIȚOIU **Ioan BACIVAROV**
Alessandro BIROLINI **Vidosav MAJSTOROVIĆ**
Editors

QUALITY and DEPENDABILITY

PROCEEDINGS

of the

15th International Conference

on

Quality and Dependability

Sinaia, Romania
September 14th–16th, 2016

SOCIETATEA ROMÂNĂ PENTRU ASIGURAREA CALITĂȚII
2016

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USEFUL INFORMATION

Registration of participants:

- **Tuesday, 13.09.2016, starting with 17^{00}**, in the lobby of Palace Hotel
- **Wednesday, 14.09.2016, 8^{30}, starting with 8^{30}** in the lobby of Palace Hotel ,CCF 2016 Secretariat

Coffee break:

- **Between the 14th – 16th of September 2016,** coffee breaks will take place in the lobby of Palace Hotel

Gala Dinner:

- **Thursday, 15.09.2016, 2000, Hotel International, Restaurant Tirol**

The CCF 2016 Secretariat will be open daily at Palace Hotel, between 830 – 1600

SECRETARIAT:

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CCF 2016

THE 15th INTERNATIONAL CONFERENCE QUALITY AND DEPENDABILITY

WEDNESDAY, 14th of September 2016

PLENARY SESSION 1

Chairmen: ***PhD eng. Dan Grigore STOICHIȚOIU – President of the Romanian Society for Quality Assurance***
PhD Isaac SHEPS - Convener of ISO/TC 176/SC2/WG25 (working group for revision of the ISO 9004)

Moving from Product Quality to Organization Quality to Achieve Sustained Success of an Organization. The Future of ISO 9004
Isaac SHEPS – Convener of ISO/TC 176/SC2/WG25 (working group for revision of the ISO 9004)

The integrated index of business standardization – Research and Development
Vidosav D. MAJSTOROVIĆ, Abuajila M. S RAWENI, Nuri Mohamed Saad ALGHERIANI – University of Belgrade, Serbia

ISO 9001:2015: A Revolution in Management?
Ioan C. BACIVAROV – University "Politehnica" Bucharest

PLENARY SESSION 2

Chairmen: ***PhD. Prof. Vidosav D. MAJSTOROVIĆ – University of Belgrade, Serbia***
M.Sc. Steli LOZNEN – Israel Testing Laboratories Ltd., Israel

Standardul ISO 9001:2015, punct şi de la capăt! J.M. Juran şi versiunea 2015 a lui ISO 9001
Firică POPA – QUALIM SRL

Product Safety Needs a Horizontal Testing Standard?
Steli LOZNEN – I.T.L (Product Testing) Ltd., Israel

Risk approach in an integrated quality-environment management system
Daniela Simona MOLDOVAN – Compania Apa Braşov Romania
Călin Vasile NEAMȚU – Compania de Apa Someş SA Cluj Napoca

Global Harmonization of MED standards
Steli LOZNEN – I.T.L (Product Testing) Ltd., Israel

mHealth and consumer electronics
Steli LOZNEN – I.T.L (Product Testing) Ltd., Israel

PLENARY SESSION 3

Chairmen: ***PhD eng. Prof.univ. Nicolae George Drăgulănescu – University "Politehnica" Bucharest***
Lector univ. dr. Remus Chină – "Dimitrie Cantemir" Christian University, Bucharest

European Quality Assurance in Education and Romania's Position within the European Higher Education Area (EHEA)
Nicolae George DRĂGULĂNESCU – University "Politehnica" Bucharest

Quality in Education Through Quality Management of Informational Flows
Remus CHINĂ – "Dimitrie Cantemir" Christian University, Bucharest

Who is afraid of quality in education?
Manuela STOICA – Grup Şcolar Industrial "Toma N. Socolescu" Ploieşti, Prahova

A Decade of Quality Assurance of Education in Romania – Which are its Outcomes?
Nicolae George DRĂGULĂNESCU – University "Politehnica" Bucharest
Remus CHINĂ – "Dimitrie Cantemir" Christian University, Bucharest

PDCA cycle for school activities of pupils
Georgeta BUCŞAN – Micron TQM

THURSDAY, 15th of September 2016

PLENARY SESSION 1

Chairman: ***PhD Prof. Emeritus Alessandro BIROLINI – ETH Zurich***
PhD eng. Univ. Prof. Ioan BACIVAROV – University "Politehnica" Bucharest, President of ARASEC

Risk Management of Technical Systems
Alessandro BIROLINI – Professor Emeritus at ETH Zurich, Switzerland

A Graph Driven Approach to Data Loss Prevention
Michael BEST – Germany

A System Architecture for Monitoring the Reliability of IoT
Radu BONCEA, Ioan C. BACIVAROV – University "Politehnica" Bucharest

Migration of a SOC to SIC (Security Operations Center vs. Security Intelligence Center)
The use of Honeypots for Threat Intelligence
Ionuț-Daniel BARBU, Cristian PASCARIU, Ioan C. BACIVAROV – EUROQUALROM – ETTI, University "Politehnica" Bucharest

Cloud for Europe Project: New Solutions for Addressing Cloud Security Issues
Radu BONCEA – University "Politehnica" Bucharest
Carmen Elena CÎRNU – National Institute for Research and Development in Informatics

Secure Smart Cities
Cristian PASCARIU, Ionuț-Daniel BARBU, Ioan C. BACIVAROV – EUROQUALROM – ETTI, University "Politehnica" Bucharest

PLENARY SESSION: RELIABILITY OF TECHNICAL SYSTEM

Chairman: ***PhD eng. Prof. univ. Angelica BACIVAROV – University "Politehnica" Bucharest***
PhD eng. Prof. Alexandru STAMATIU – Technical University of Civil Engineering Bucharest

45 years of High Level Technical Education in Reliability in Romania
Ioan C. BACIVAROV, Angelica BACIVAROV – University "Politehnica" Bucharest

Online Platform for Reliability Data Processing
Angelica BACIVAROV, Ioan C. BACIVAROV, Mihai PAULIŞ – University "Politehnica" Bucharest

A Reliable Architecture for a Massive and Continuous Scanner of Web Vulnerabilities in Internet
Eugenie STĂICUȚ, Radu BONCEA, Carmen ROTUNĂ – Romania Top Level Domain, National Institute for Research and Development in Informatics-ICI Bucharest University Politehnica of Bucharest, Faculty of Electronics, Telecommunications and Information Technology

Maintenance Dependence Modeling with Gaussian Copulas
Adrian Stere PARIS, Dana SYLVAN, Constantin TÂRCOLEA – University "Politehnica" Bucharest

Quantum Theory of Reliability Systems
Alexandru STAMATIU – Technical University of Civil Engineering Bucharest

POSTER SESSION

Chairman: ***PhD eng. Prof. univ. Ioan BACIVAROV – Director EUROQUALROM, University "Politehnica" Bucharest***

Certification of Quality Management Systems in Media Industry
David BALME – Challenge Optimum SA, Geneve, Switzerland

Kaizen: Concepts and Misinterpretations
Jun NAKAMURO – Enna Bellingham U.S.A.

FRIDAY, 16th of September 2016

PLENARY SESSION 1

Chairman: ***Alexandru GIURA – ALRO Slatina***
Cristian RONCEA – SRAC CERT

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Alexandru GIURA – ALRO Slatina

Six Sigma Tools and the Eight Key to Risk Management
Marius FLORESCU – CALITATE TOP 21 SRL

Identification, Monitoring and Treatment of Risks in defense against floods; participation in coordinating the management of emergency situations arising from floods, hazardous weather, accidents at hydrotechnical structures and accidental pollution
(according to SR EN ISO 9001:2008, SR EN ISO 14001:2005 and Ord. SGG 400/2015)
Iulia VINTILOIU – "Romanian Waters" National Administration

Managerial Approach of Occupational Safety and Health According
to ISO 45001 in the Health care Sector
Steluta Elisabeta NISIPEANU, Ruxandra CHIURTU, Doru Costin DARABONT – The National Research and Development Institute on Occupational Safety – INCDPM "Alexandru Darabonț" Bucharest

Napoleon the 1st' Leadership
Bogdan VISSARION, Cătălina ȚUȚULEA – SAMSUNG – OTELINOX

Certification – impulse of the profitable business
Luigi ENE, Cătălina ȚUȚULEA – SAMSUNG – OTELINOX

Food frauds – practices, legislation, standards and audit
Cornelia ŞULEA – SRAC CERT

Reflections on the approach of the audit of risks and opportunities, seen through the perspective of the requirements of the new editions of the management systems standards
Cristian RONCEA – SRAC CERT

Organizational entropy and creative potential
Alexandru GIURA, Mariana VASILE – QA Department, ALRO SA, Slatina, Romania

A Generic Example of an Energy Review in Conformity with ISO 50001 Standard
Leonida Brînduş STĂNOIU – Romanian Electrotechnical Committee

CLOSING OF THE CCF 2016 CONFERENCE

Welcome Message

*The primary objective of the **15th International Conference on Quality and Dependability CCF 2016** – a jubilee edition – is to provide an international forum for the dissemination of recent information and scientific results in these modern domains.*

*As traditionally, **CCF 2016** is organised by the **Romanian Society for Quality Assurance (SRAC)**, under the aegis of several important international organisations in the field.*

*We are proud to mention that this edition of the conference has the scientific endorsement of the Institute of Electrical and Electronics Engineers – **IEEE** (Romanian section), the world's leading professional association for the advancement of technology, too.*

*The **International Conference in Quality and Dependability – CCF** is now a well established **brand of excellence** among the international scientific meetings in the inter-disciplinary field of **quality** and **dependability** (reliability, maintainability, safety & security).*

*It is interesting to mention that the **CCF** conference was listed as the 3rd longest running conference in the quality and dependability field in the international specialized assessments.*

*The International Conferences in Quality and Dependability – **CCF** conferences have a long tradition among the specialists of the field. That's why, we consider useful to remember the main moments that marked the evolution of **CCF** – from a national scientific meeting to an important international conference in the field.*

*The first National Conference on Quality and Reliability – **CCF '87**, organised by the Central Reliability Group of MIEt, took place at Poiana Brasov, in 1987. It was then decided that this conference should become a traditional national scientific event in the field. Therefore, the second edition of the Conference, **CCF '88** took place at the premises of 'Minerva', 'Diana' and 'Afrodita' hotels from Baile Herculane, in 1988.*

*After the political changes of 1989, **SRAC** took over this tradition, by organising the third edition of the Conference – **CCF '96** at the Hotel 'Roman' from Baile Herculane, in September 1996. The fourth edition of the conference – **CCF '97** was organised in Sinaia, while the fifth edition – **CCF '98** was organised in Sinaia too, at the 'Holiday Inn' hotel. **CCF '99**, the sixth edition of the conference took place at the Hotel 'Sport' from Poiana Brasov.*

*The seventh edition of the conference – **CCF 2000** was organised at the Hotel 'Palace' from Sinaia in the year 2000; it was a scientific meeting with a wide international participation and, as a consequence, it was decided that the further editions of **CCF** should be included in the circuit of the international conferences in quality and dependability and organised every two years. The national journal "**Calitatea – acces la succes**" and the international journal "**Qualite-Forum Scientifique**" were launched during **CCF 2000**, in the presence of the Editors-in-Chief of the two publications.*

*The next **CCF** scientific meetings, namely the eighth edition of the Conference – **CCF 2002**, organized at the Cazino of Sinaia, as well as the ninth edition – **CCF 2004** – organized at Hotel Mara in Sinaia were unanimously considered as important international scientific*

events in the field of quality and dependability.

*The 10th edition of the conference **CCF 2006** –organized at the Casino Conference Hall from Sinaia – was an anniversary one. More than 70 papers were presented by specialists in the field from 10 countries: Argentina, Australia, Belgium, France, Great Britain, Greece, Moldavia, the Netherlands, Switzerland and Romania, too. A special session of **CCF 2006** marked the centenary of the International Electrotechnical Commission (IEC).*

*During the 11th International Conference on Quality and Dependability – **CCF 2008** specialists from 13 countries, including Australia, Belgium, France, Great Britain, Italy, India, Maroc, Moldavia, the Netherlands, Portugal, Switzerland, Tunisia and Romania presented at Sinaia their points of view in more than 60 papers.*

*The special session "A homage to Joseph M. Juran (1904-2008)" organized at the beginning of the conference represented a tribute to the great "Guru" of quality of Romanian origin **Joseph M. Juran,** the "father" of the modern quality management who passed away at the beginning of 2008.*

*A special session marked the 15th anniversary of the **Romanian Society for Quality Assurance (SRAC**) – the main organiser of **CCF** conferences, too.*

*More than 50 papers authored by specialists from Australia, Belgium, Czech Republic, France, Great Britain, India, Maroc, the Netherlands, Switzerland, Tunisia and Romania were presented during the 12th International Conference on Quality and Dependability – **CCF 2010** organized at the Casino Conference Center from Sinaia.*

*The participants at **CCF 2010** had the special opportunity to meet Professor Emeritus **Alessandro Birolini**, a remarkable specialist in the field – considered as a Reliability Guru – who presented an invited conference. During **CCF 2010** was launched – in world premiere – the 6th edition in English of the monumental book of Prof. Birolini **Reliability Engineering: Theory And Practice** – published by Springer Publishing House and considered by the specialists in the field as a veritable "Bible of Reliability".*

*During the 13th International Conference on Quality and Dependability **CCF 2012 –** organised for the first time in a beautiful area of the Black Sea, at **Neptun** International Conference Center, specialists from 13 countries, including Australia, Belgium, France, Great Britain, Italy, India, Maroc, Moldavia, the Netherlands, Portugal, Switzerland, Tunisia and Romania presented their points of view in more than 50 papers.*

*The special guest of the 13th International Conference on Quality and Dependability **– CCF 2012** was Mr. **Gianluca Mule,** Senior Manager of the well-known **European Foundation for Quality Management – EFQM** who presented the EFQM Excellence Model. The EFQM Excellence Model is the most popular quality tool in Europe, used by more than 30,000 organizations to improve their performances.*

*During the last day of the conference the evolutions and the perspectives regarding the management, engineering and certification of quality and dependability in Romania and abroad were analysed as a part of the special session **ISO 9000 Forum** – a session that marked the 25th anniversary of this famous international standard. This session celebrated the 20th anniversary of the **Romanian Society for Quality Assurance (SRAC**), the main organiser of **CCF** conferences, too.*

*During the 14th International Conference on Quality and Dependability **CCF 2016 –** organised at the Palace hotel from Sinaia, specialists from Belgium, France, Great Britain, India, Israel, the Netherlands, Serbia , Switzerland, Turkey and Romania, too presented about 60 papers.*

*The first day of the conference brought to the attention of the participants an event with an important international impact: **The EFQM Open Doors Day in Romania**, organized by **SRAC** and **EFQM** and with the participation of Grundfos Romania and the Hungarian Association for Excellence.*

*The **CCF 2014** conference was organized in a special year for quality: the anniversary of nine decades from the first control chart introduced by the quality guru **Walter Shewhart** in 1924, which launched the statistical process control and the quality improvement. This moment, considered as the birthday of the modern quality, was the point of departure of an interesting **CCF** debate concerning the evolutions and the future of quality.*

The previous conferences in quality, reliability and maintainability organised in Romania in the last three decades have contributed to the promotion in our country of new ideas and methods in quality and dependability.

*We are sure that **CCF 2016** will constitute a new qualitative step in this process.*

***Quality** and **dependability** have become today undeniable strengths contributing to the development of companies, small businesses or large multinational groups. Their application in different organisations must be the result of research and partnership among industry, academia and business. This conference can contribute to the dialogue between the main actors of the quality and dependability world.*

The points of view of well-known specialists in the field from Romania and several other countries will allow to establish a realistic image of the national and international evolutions and of the perspectives of these modern fields.

*The dynamic political and economic evolutions in Europe during the last decades increased the importance of **quality,** now considered as a strategic tool and a determining factor for the development and enhancement of Europe's global competitiveness.*

*The new **EU**'s Framework Programme for Research and Technological Development – **FP7** and the forthcoming one – **FP8**, can be considered as a major tools to support the creation of the **European Research Area (ERA).** The main topics of **FP7** and **FP8** and some representative projects, especially those in quality and safety/security fields will be analysed in the frame of this conference.*

*The international scientific meetings, such as **CCF 2016** is, could be a contribution to this objective, by reviewing the state of the art, experiences, and new trends in the relevant scientific areas.*

*Several presentation of **CCF 2016** will be dedicated to the evolutions in the European quality on the European scene during these last years, as well as to the national evolutions in this field. The **real** integration of Romanian economy in the unified European structures is an impossible endeavour unless the severe requirements on quality based on the EU's standards are meet.*

*Several organisational, research and educational programs and initiatives in the **quality** and **dependability** (esp. safety/ security) field were developed in Romania in the last years, and they will be certainly analysed in the framework of this conference.*

*Under the conditions of the actual world economic crisis, the debates of **CCF 2016** will try to give an answer to the following question: could be the* optimal managerial and technical strategies based on quality and dependability *an advantage* for companies in their effort to overcome this economic crisis?

*We are honoured by the participation in the 15th International Conference on Quality and Dependability – **CCF 2016** of well-known specialists in the field – academics, managers, practitioners and researchers from **France, Israel, Serbia, Switzerland, U.S.A.,** and **Romania,** too. Their points of view, presented in about 50 papers will be of great interest to the participants at **CCF 2016.***

Among the topics proposed to the specialists by the International Scientific Committee during the 15th International Conference in Quality and Dependability ***CCF 2016,** we could mention the following ones:*

- *Systems of Management: developments, evolution, standardisation (ISO 9000, ISO*

14000, ISO2200, ISO 27000, OHSAS 18001 a.o.);

- ❑ *Quality management – the new standard ISO 9001:2015: perspectives, requirements;*
- ❑ *New approaches: social accountability management (SA8000) and ethics management;*
- ❑ *Integrated Systems of Management;*
- ❑ *Service quality management (education, health care, tourism, banking system, etc.) and evaluation of customer satisfaction;*
- ❑ *Business Continuity Management (BCM)*
- ❑ *Accreditation (certification bodies, laboratories, personnel) and certification (quality systems, products and services);*
- ❑ *Voluntary product certification;*
- ❑ *Total Quality Management, Six Sigma, quality management tools;*
- ❑ *Modern control and conformity assessment techniques;*
- ❑ *Conformity assessment in the mandatory area;*
- ❑ *Modern approaches in dependability, resilience and evolvability;*
- ❑ *Reliability (mathematical tools; design; predictive, experimental and operational reliability; reliability of human factor);*
- ❑ *Maintainability (maintenance management, preventive and corrective maintenance techniques, RCM)*
- ❑ *Education and training in quality and dependability.*
- ❑ *Computer-aided study in quality and dependability*
- ❑ *Quality, reliability and security in the IT&C industry*
- ❑ *Legislation and standardization in quality and dependability*
- ❑ *Social, juridical and economical implications of quality and dependability.*

The special guests of the 15th International Conference in Quality and Dependability ***CCF 2016*** *will be important international experts in the field, namely:*

Prof. Emeritus Dr. ***Alessandro Birolini*** *from Polytechnic Institute (ETH) Zurich, Switzerland, a famous European "Guru" in Reliability, author of the best-seller* ***Reliability Engineering****, a true "Reliability bible" – printed in 10 editions; the Chinese edition of this book, which will be published in 2017 will be introduced in the frame of this conference;*

Dr. ***Isaac Sheps*** *– Convener of ISO/TC 176/SC2/WG25 (working group for revision of the ISO 9004);*

Prof. Dr. ***Vidosav D. Majstorovic*** *from University of Belgrad, well-known Serbian expert in quality management;*

Dr. ***Steli Loznen,*** *Israel – Convener of IEC/TC 62/SC 62A/MT29 & WG14 (working group for preparing the international standards for medical electrical equipment used in medical practice).*

Special emphasis will be given during ***CCF 2016*** *to the problems of* Quality, Security and Risk Management and Analysis, Dependability Modelling and Evaluation, Environmental Management and Quality Assurance in Education. *Sessions with these topics are included in the program of the conference.*

A special attention will be given in the frame of ***CCF 2016*** *to the requirements and implementation of the revised standard* ***ISO 9001:2015****. As a result of an intensive work of the ISO TC 176, the revised standard ISO 9001:2015 was released in September 2015. This moment was considered by several experts in the field as* „beginning of a new era development of quality management systems". *If expectations concerning the revised standard ISO 9001came true – one year after its launch – and the problems it poses for companies implementing this standard will be major issues to be addressed in the frame of* ***CCF 2016****.*

Companies' management must provide the necessary resources and are required to prove the competence of their quality specialist staff. The revisions of ISO 9001 and ISO 14001 as

well as the new occupational health and safety standard ISO 45001, introduced a range of new features. Therefore, organizations should start dealing with these topics right now. These issues will be discussed in several papers presented at the conference, as well as in the roundtable on the "Economic impacts of certification"**.**

A wide selection of papers presented in the frame of ***CCF 2016*** *will be included in the* ***Proceedings*** *of the conference, entitled "****Quality and Dependability****".*

Some representative papers presented during ***CCF 2016*** *are included in this special issue of the journal "****Asigurarea Calitatii – Quality Assurance****" dedicated to the 15th International Conference in Quality and Dependability , too.*

Finally, we would like to thank all the authors who submitted their work, the members of the organising committee, and all those who contributed to the Conference with their efforts and support.

Special thanks to the members of the ***International Scientific Committee*** of **CCF 2016,** *prestigious personalities in the field from 10 countries, who made up an equilibrated and high-level scientific program for* ***CCF 2016*** *and reviewed the submitted papers under severe time constraints; their names are mentioned in these Proceedings.*

We hope that the ***15th International Conference in Quality and Dependability – CCF 2016,*** *organised in a beautiful area of the Carpathians Mountains, at* ***Sinaia,*** *will be a both stimulating and enjoyable forum in which to share current results and trends in quality and dependability.*

We invite you to enjoy the presentations, panels, the technical and tourist visits over the three days of this conference and to participate to the fullest this international event gets underway.

Dr. Dan G. STOICHIȚOIU
General Chairman of CCF 2016

Prof. dr. Ioan C. BACIVAROV
Chairman of the International Scientific Committee of CCF 2016

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Moving from Product Quality to Organization Quality to Achieve Sustained Success of an Organization The Future of ISO 9004

Isaac SHEPS
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Abstract
The success factors of organizations are developing continuously and every few year's new success factors are added to the complex demanding and ever-changing competitive environment in which organizations operate. There is no doubt that the primary focus of an organization should be to achieve higher satisfaction of its customers by implementing rigorous processes to continuously improve its products and services quality - but in the current competitive environment this is not enough to achieve sustained success. Organizations have to move from Product Quality to the next level of Organization Quality by implementing an effective and efficient management system that is led by top management and is focused on the organization ability to meet the needs and expectations of its customers and other relevant interested parties, over the long term as the way to achieve sustained success of the organization.. The new version of ISO 9004 planned to be published in 2018 will provide a guidance to organizations to achieve sustained success.

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The integrated index of business standardization - Research and Development

Vidosav D. MAJSTOROVIC, Abuajila M. S RAWENI, Nuri Mohamed Saad ALGHERIANI
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Abstract
Business standardization developed intensely in the second decade of the 21st century. In the end 2014 (31st of December) there were: (i) 1609294 certificates to ISO 9001, 13485, 14001, 16949, 22000, 27001, 50001 and 22301 in the world, whereby 1138155 certificates were to ISO 9001, and 324148 were to ISO 14001. Total number of standardized management systems (SMS) that is being followed by a certificate is eight and the last to be monitored is ISO 22301 Business Continuity Management. Our research in this paper refers to the definition and determination of the index of business standardization. This parameter can be determined for one or more SMS, at the level of the world, continent, region or country are. This is a qualitative analysis of the application of SMS. This index has three elements, namely: (a) number of certificates per thousand inhabitants, (b) number of certificates contribution to ''creating'' hundreds of thousands of euros GNP, and (c) number of certificates per GNP inhabitants. Finally the integrated index of business standardization (IIBS) is multiplication of these parameters. The paper presents an analysis of this index of the World and EU.

Keywords: Business Standardization, Index, analysis

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Standardul ISO 9001:2015, punct şi de la capăt! J.M. Juran şi versiunea 2015 a lui ISO 9001

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Abstract
La sfârşitul anului 2015 a fost publicat ISO 9001 - Sisteme de management. Cerinţe, unul dintre cele mai cunoscute şi utilizate standarde din lume. În baza experienţei de peste 16 ani ca utilizator al standardului ISO 9001 şi 10 ani auditor şef sisteme de management, autorul face o analiză a problemelor care au apărut la implementarea, aplicarea şi auditul sistemelor de management al calităţii, precum şi a schimbărilor introduse în noua ediţie a ISO 9001.

Keywords: ISO 9001:2015, cerinţe, proces, managementul calităţii, asigurarea calităţii, abordare bazată pe proces, bucla de feedback a procesului, PDCA

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Risk approach in an integrated quality-environment management system

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Abstract
The primordial role in maintaining the integrated quality-environment management system and for the transition to the new ISO 9001:2015 and ISO 14001:2015 standards is the thinking approach based on risk assessment in every stage of the activities/processes. Starting from the premise that there is no economic and/ or social activity without ecological implications, it is necessary for every organization to have management means, planning, organization and a strategic risk approach that is based on techniques and devices for environment protection, promoting the concept of continuous development. Understanding this concept, in compliance with respecting the environment, we will be able to maintain the legacy for the wellbeing of the future generations. This paper presents aspects regarding the improvement of integrated quality-management systems by implementing the risk management process, and the way in which the risk management is done (identification, evaluation, control) in an institution, helping to understand the possible risks a company may be confronted with, in order for these risks to be correctly managed.

Keywords: quality management, environment management, performance, environmental aspect, environmental impact, integration, risk.

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European Quality Assurance in Education and Romania's Position within the European Higher Education Area (EHEA)

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Abstract
The Bologna Declaration - adopted in 1999 by the education ministers of the EC Member States - has encouraged European cooperation in the field of Quality assurance in Higher education, mainly aiming to develop comparable and compatible criteria and methodologies for assessment. EHEA (European Higher Education Area) was invented, drafted and started to be implemented in order to offer some perspectives of progress to European universities, respecting both national diversity and the principles of university autonomy. But EHEA is barely an early stage and further development of it demands new efforts to eliminate existing barriers and to develop a favorable framework in order to promote higher education policies which have to be consistent and adequate to all requirements, both nationally and at European level. Within this process, internal and external assurance quality of higher education can be a catalyst since its purpose is to generate, consolidate and develop the confidence/ trust of all stakeholders in the capability of universities to satisfy all stakeholders' requirements. In spite of the fact that, currently, all the EHEA Member States have already established their own systems of external quality assurance, many researches have found multiple differences - especially regarding philosophy, policies and strategies to address internal quality assurance within universities. This paper refers to progresses made in developing both internal and external quality assurance within the EHEA, focusing on features that are approaching or differentiating the Romanian approach in respect to international references and national requirements.

Keywords: higher education, quality assurance in education,internal quality assurance of education, referentials

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Quality in Education through Quality Management of Informational Flows (Case study: pre - university education system)

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Abstract
The unprecedented technological development we are witnessing the last two decades - especially in the field of information science and technology - has generated a major challenge for the educational system in the area of information flows management within the system. The effective management of information flows is, in the field of education also, an important enabling factor which can immensely influence the quality in education (i.e. the quality within the education system). Within the current configuration of the Romanian educational system, the relevant information flows are running vertically, top-down, from the "top" of the system towards its „base” (including the educational entities), through various information "filters", but they are also running bottom-up, from the system "base" towards the system „top”. The quality and the accuracy of these information flows are representing essential "components" for the operation of educational entities included within the system. In this paper, are trying to emphasize the importance of information flows transmitted within the educational system and the need to implement a quality management system of informational processes and their information flows.

Keywords: system, education, quality, management, informational fluxes

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Who is afraid of quality in education?

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A Decade of Quality Assurance of Education in Romania - Which are its Outcomes?

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Abstract
Year 2005 was the "starting point" of implementing an important step within the Romanian education system - the Quality Assurance of Education. Such an approach should have been an outstanding opportunity for the entire Romanian education system to enter a trajectory of better performances, comparable to those achieved by other university/ school systems, considered to be effective and efficient in some advanced countries. Ten years experience of approaching Quality Assurance of Education is, in our view, a relevant time interval in order to highlight some specific elements of a quality culture and to make their presence felt in the operation and development of each entity (school, high-school/ college / university, etc.) belonging to Romanian educational system. In this paper, authors assessed and analyzed the outcomes of the Romanian approach of Quality Assurance of Education in order to establish if this experiment was in Romania a success story or a failure. Were these outcomes of Quality Assurance of Education, during this decade, really beneficial for Romania’s educational system or the considerable amount of spent financial resources (mostly reimbursable credits) has been irremediably lost?

Keywords: educational system, quality management, quality assurance, process, quality

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PDCA cycle for school activities of pupils

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Abstract
The paper presents the results obtained during the educational program "I can also get good grades!" organized along two years by "Prof. Coman" Foundation and sponsored by SRAC, addressed to pupils of the 7th grade from "Radu Greceanu" Highschool from Slatina, Olt. The pupils learned how to work in a team, how to value their scholar activity and how to use the PDCA cycle for their educational activities, both at school and at home.

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Risk Management of Technical Systems

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Abstract
Besides natural accident/disasters, like earthquakes or floods, to which humankind is often inevitably and dramatically exposed, questions on risk and risk management practically arise in all human activities, at different degree and in a more or less objective form. After a short introduction to the concepts of safety, risk, risk acceptance, and risk management, this contribution focuses on risk management related to repairable equipment & systems for which external influences (human or other) are important, with particular attention to new models for risk analysis, and by introducing the concept of mean time to accident /disaster (MTTA). Not considered is risk & risk management in climate, health and financial fields, as well as in relation to project management, security, sociological & ethical aspects; for all these one can refer to [21, 24, 8], as well as [13, 14, 10, 16, 17, 19, 20, 22]. This contribution is an invited paper at CCF-2016, based on [5].

Keywords: Risk, Safety, Security, System, Management, Risk Acceptance, Technical System, CCF 2016

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A Graph Driven Approach to Data Loss Prevention

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Abstract
Today, one threat to cybercrime is data leakage. Examples for this are the Snowden publications, theft of financial data or wikileaks. In this paper, a concept is shown to visualize the path between the asset and an actor who might leak the data. To prevent data loss, this path must be secured.

Keywords: Cybercrime, Security, Data, Data loss prevention, Graph-driven approach

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A System Architecture for Monitoring the Reliability of IoT

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Abstract
The Internet of Things has gained momentum in recent years, supported by new technologies and computing paradigms such as Cloud Computing and Service Oriented Architecture and an increasing demand from the enterprise. With hundreds of billions of devices to be connected in the near future, IoT will need new methods for addressing key challenges in security and reliability. One particular challenge we will focus on is the ability of the system to prevent itself from failing by continuously introspecting its own state and take decisions without human intervention. We will demonstrate how this can be achieved using new time series databases and monitoring systems such as Prometheus, InfluxDB, OpenTSDB and Graphite. By logging performance and other transaction metrics, the system can use specific algorithms to predict potential issues and react. We will then show how machine-learning algorithms could be used to reveal new insights, patterns and relationships across data.

Keywords: IoT, monitoring, reliability, self-management, time series, automation, Prometheus, OpenTSDB, InfluxDB

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Migration of a SOC to SIC Security Operations Center vs. Security Intelligence Center The use of Honeypots for Threat Intelligence

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Abstract
The purpose of this paper is to emphasize the advantages of transitioning from the classic Security Operations Centers into an advanced model that leverages intelligence to understand and anticipate threats targeting the organization. By tackling the proactive vs. reactive approach towards cybersecurity it is intended to present a comparison between the two models. Initially it focuses on the ability to anticipate threats before they become incidents and also on the drawbacks of the classical SOC including the reactive security posture and monitoring. Furthermore, the article analyzes the impact of such a transition to both processes and people. It is worth mentioning the automation aspect of the migration which enables the human to separate from routine activities, allowing them to focus on the intelligence gathered. As the enterprise oriented tools from various vendors are intended to work for everyone but are optimized for no one, the authors highlight the importance of deploying custom tools supported by knowledgeable engineering teams. On that matter, the final part of the paper is dedicated to honeypot deployment by underlining their benefits from a Threat Intelligence perspective.

Keywords: SOC, SIC, Threat Intelligence, APT, HoneyPots

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Cloud for Europe Project: New Solutions for Addressing Cloud Security Issues

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Abstract
Cloud for Europe strategic objective has been to identify the obstacles for cloud adoption by the public sector and to find solutions for addressing these challenges. One key challenge for cloud adoption is the security of the data, in particular the privacy of the data. Public institutions have been reluctant to moving sensitive data in and out of the cloud, specially the data related to citizens. Thus, C4E has focused its resources on finding solutions to ensure a certain level of security and privacy by acquiring research and development from industry using pre-commercial procurement procedures. As a result, the industry is expected to deliver a federated certified service brokerage, a secure legislation-aware storage solution and a legislation execution methodology or framework. We will describe C4E vision on how these three components could be used for denying unauthorized access to private data and for reacting to security breaches, using a dynamic set of rules.

Keywords: IoT, security, cloud computing, C4E, policy, business rules

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Secure Smart Cities

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Abstract
This article approaches the subject of "Internet of Things"(IoT) applied to larger environments such as Cities and the security risks involved around protecting data. The research was driven by a session of tests carried out on a development board targeted at building small IoT projects in an attempt to study hardware and software limitations. With new embedded architectures emerging, new types of vulnerabilities are discovered, the main goal of this article to promote new security guidelines for mitigating the security risks of Smart Cities.

Keywords: Internet of Things, IoT, Data, Security, Risk, Smart City, Security risk, IoT project

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Online Platform for Reliability Data Processing

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Abstract
Reliability data, obtained from reliability tests, or collected over time from beneficiaries, workshop, are processed based on statistical models that result in estimated values of reliability indices for products considered. You can get numerical values or functions for which further processed allow a full analysis of reliability. The platform developed by the authors addresses the two main methods for assessment of reliability indices: nonparametric and parametric methods. The platform which was developed in MATLAB, it is part of a larger e-learning platform. It is used for training in engineering quality and reliability, particularly in electronics, but can be used by extension in any real reliability laboratory from other areas: mechanical, construction, etc.

Keywords: Reliability, Data, Reliability, Reliability indices, Data, Data processing, MATLAB

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A Reliable Architecture for a Massive and Continuous Scanner of Web Vulnerabilities in Internet

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Abstract
In recent years, the Web has become one of the major vectors for transmitting malware and computer viruses. As a response, nations around the world have established Computer Emergency Response Teams with the purpose of countering the next generation of cyber threats. One such solution is for CERTs to pro-actively scan the Web for vulnerabilities and notify the right persons before malicious users could exploit the vulnerable application. Another solution is to search the Web for compromised and vulnerable applications and take appropriate actions, such as sending simple notifications to application's owner. Either way, continuously scanning of the Web is a complex task which requires a reliable architecture. In this paper we propose a data-centric architecture, with focus on a distributed streaming processing system. We will define a virtual process bus as a group of data channels where a process can take its input from a specific channel and write the result to an output set of channels.

Keywords: cybersecurity, stream processing, distributed processing, messaging, ETL, Kafka, vulnerability

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Maintenance Dependence Modeling with Gaussian Copulas

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Abstract
The main objective of the paper is to study the response variable -joint cumulative distribution function (CDF) - of two controlled variables, mileage (measured in kilometers) and maintenance costs based on which we predict or explain the output variable. The paper proposes a method based on the bivariate cumulative normal distribution with the Nataf model and compares it to the method of transforming the dependent into independent variables with similar results. The methodology is applied to real-life data assessing the dependence between the traffic urban mileage and the total maintenance costs .Based on copula functions, the Nataf transformation is used to handle the dependence of correlated predictor variables and marginal distributions. Copula requires only marginal CDFs and correlation parameters in order to approximate the joint outcome variable. The main idea of the second applied method is to transform the dependent normal random variables into independent standard ones. The two sets of values of the joint predicted variable were compared with suitable outcome.The proposed statistical models have general application and could be used for technical and economical prognoses and schedules.

Keywords: Model, Maintenance, Maintenance costs, Cumulative distribution function, Normal distribution, Nataf model, Copula functions, Prognose

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Certification of Quality Management Systems in Media Industry

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Abstract
Media corporations, unlike any other company, have to satisfy two kinds of customers with potentially contradictory expectations : audience/readership and advertisers. Some of them even have to satisfy governmental expectations and/or requirements which add another layer of complexity in the production of contents. Those of them which aim at providing news to the general public are constantly threatened by biased editorial production due to the number and complexity of interactions with their stakeholders. Some key aspects of topicality necessary to forge public opinion may be simply hidden for untold reasons. Consequently, in order to help media corporations achieve editorial independence while serving the public interest, media professionals from all over the world have brought together their management know-how in a set of duly selected media specific requirements gathered in the so called ISAS MEDIA9001 standard, entirely based on ISO 9001. These requirements stand for the current best management practices so as to not only produce high quality news but also ensure long term sustainability of the media while aiming at serving the public interest.

Keywords: media management, newsroom, editorial independence, public interest, freedom of expression,
censorship, quality management, risk, stakeholders, ISO 9001, ISAS MEDIA 9001.

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Kaizen: Concepts and Misinterpretations

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Abstract
The Japanese word "Kaizen" has become a blanket term for a variety of improvement initiatives. It is sometimes used synonymously with "Lean", which is itself often used synonymously with "Six-Sigma", "5S", and "TPS". Kaizen stands out from this pack of process improvement labels because, more than any other, Kaizen has deep cultural connotations. This article seeks remedy the misinterpretations of Kaizen that have become common outside of Japan. It's objective is to enhance the cultural approach to process improvement within all industries by accurately defining Kaizen and its supporting elements in their original context within Japanese culture.

Keywords: Kaizen, Lean, Hansei, Japanese, Leadership, culture, translation

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Physical and Logical Security Risk Assessment Procedure for SMEs, according to ISO/IEC 27005:2011 and SR ISO 31000:2010 Standards

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Abstract
This paper proposes an assessment procedure for physical and logical risk security for small and medium-sized enterprises. This procedure relies on SR ISO 31000: 2010 and ISO/IEC 27005: 2011 standards, is created step by step as a working model and is sustained by concrete examples facilitating the understanding of the risk assessment and analysis. This procedure is meant to be a useful and an easy tool for specialists who are concerned with security risk assessment.

Keywords: organization, security, risk, standards, SR ISO 31000, ISO/IEC 27005, procedure, risk management
system, information security, risk assessment, physical security

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L'utilisation du logiciel Statistica dans le domaine du contrôle qualité

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Abstract
Aujourd'hui il existe de nombreuses applications de contrôle qualité et plus précisément sur la maîtrise statistique des procédés (MSP). Ces applications sont destinées à détecter une dérive d'un processus afin de réagir au plus vite et sont présentes dans de nombreux secteurs. Dans l'utilité d'appliquer un suivi de processus, il est essentiel de connaître les grands fondamentaux théoriques. On peut suivre la qualité d'un produit à chaque prélèvement d'échantillonnage, par une série de données qui est alors représentées par une courbe grâce notamment aux cartes de contrôle. Le but de l'article reste l'application à l'aide d'une simulation de données sur un logiciel afin d'appliquer ces principes.

Keywords: Contrôle qualité, Maîtrise Statistique des Procédés, Carte de contrôle, Logiciel

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Analytic Study on Cyber-Attacks Structure

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Abstract
Cyber-attacks experienced lately a great diversification and some of them can be classified as global epidemics. There are many kind of cyber-attacks like malware: computer viruses, worms, trojans, adware, spyware, ransomware, rogueware, Distributed Denial of Service, e-mail and web based attacks. This article examines and classifies all these cyber-attacks using the intrusion model Kill Chain, defined by researchers from Lockheed Martin.

Keywords: Computer, Security, Cybersecurity, Cyber-attack, Virus, Analyses, Intrusion model, Model Kill Chain

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On the Ensuring the Resilience in Communication Networks

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Abstract
In many communication networks the resilience to failures and attacks is becoming an essential requirement. In these networks the cost of failures is significant. In this paper, we present strategies for improve resilience for different types of communication network as well as in P2P overlay networks. The attacks analyzed in this paper are the Denial of Service attacks (DoS) in order to assess the damage that difficult-to-detect which attackers can cause. Our methodology is to study DoS resilience via a new and general class of protocol compliant denial-of-service attacks, which we refer to as JellyFish (JF). In addition to the JF attack, the Black Hole attack is studied, too.

Keywords: Communication networks, Resilience, Models, Malicious attacks, DoS attacks, JellyFish, Black Hole

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Using Digital Signature to Ensure Information Security

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Abstract
The digital signature is an encrypted mark of authentication, embedded in documents and emails or used in Internet communications, which ensures the integrity and security of data transmitted. Using the digital signature brings additional benefits: the identity of the signer can be verified, ensure product authenticity and transmitted data encryption. The high degree of security conferred by digital signatures is ensured by the use of encryption with public key and hash functions (which determines whether or not the information has been changed). This paper shows how to use digital signatures and certificates to ensure authentication and encryption of information (from simple text to complex documents).

Keywords: digital signature, digital certificate, hash function, Public Key Infrastructure, encryption

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VoIP - Nowadays Gateway for a Better Unified Communication

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Abstract
The main aim of this research paper is to describe why VoIP is one of the most effective and in vogue technologies in today's communications industry. Having already achieved a positive impact worldwide, by its well-known advantages of the cost savings and high-quality of the voice applied on calls over a flexible voice-data network, the next step is to converge all voicemails, emails, software applications (updates, bills, new features) into one secure database for everyone, everywhere. We made a summarized classification of VoIP Services and an evaluation of QoS services and Security requirements by examining different VoIP scenarios.

Keywords: Communications, Voice, Sound-Quality, Threats, VoIP (Voice over Internet protocol), E2E QoS (End-to-End Quality of Service), PSTN (Public Switch Telephony Network), ISDN (Integrated Services Digital Network), Efficiency, NGN (Next Generation Network).

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Maintenance Testing of a Software Product

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Abstract
Maintainability, along with conformity, reliability and security, is the characteristic of quality that measures effortlessness and promptness to maintain a system or a software product. Maintainability testing is part of non-functional testing in a software product life cycle. Software maintenance testing is triggered by modifications of components or systems already used in production and it is split in four categories: corrective maintenance, perfective maintenance, adaptive maintenance, preventive maintenance. The main reasons of performing maintenance tests are: modification, migration and retirement. An analytical overview of this testing technique and methods are presented. In addition, the last chapter is dedicated to a comparative analysis of tools that can be use for manual, semi-automated, or automated maintenance testing.

Keywords: Maintainability, Maintenance, Software, Maintenance testing, Software life cycle, Testing tools

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On Physical and Logical Security Risks Management in the Context of Convergent Security

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Abstract
In the first part of the paper it is analyzed the concept of converged security, taking into account the new kinds of attacks and rapidly evolving cyber threats in frequency and sophistication. In this context, the problem of risk management of physical and logical security is analyzed. There are considered advanced persistent threats and attacks, malicious attacks etc., in terms of IoT accelerated development of new technologies and their multiple risks in moving the IOE.

Keywords: IT security, Convergent security, Security risk management, Physical and logical security, Convergence

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Process approach of the quality-environment management system according to ISO 9001:2015 and ISO 14001:2015

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Abstract
The process orientated approach constitutes an essential element in maintain and improving the integrated quality-environment management systems through the transition to the new ISO 9001:2015 and ISO 14001:2015 standards. The successful keeping of a performing management in an integrated manner by quality - environment systemic approach allows the investigation of management system and leads to the fulfillment of objectives and targets . The process management according to the international standard ISO 9001:2015 means to apply the methodology “PDCA” (plan-do-check-act) for each process. The motivation to raise a management integrated system, with SMART features and objectives by reporting to standard requirements, has as support internal forces (manager vision) or external forces (requirements related to regulation). This work presents the concept of process approach within the integrated quality-environment management system, considered in the PDCA cycle, including the risk-based thinking approach.

Keywords: process approach, quality management, environment management, integration, risk

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Employee engagement - the key ingredient of business success. Human nature impact on business

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Abstract
Lucrarea se constituie într-o reflexie asupra unui subiect deosebit de fierbinte şi anume valoarea reală a resursei umane pentru afacere. Sunt puse în balanţă coordonatele care definesc utilitatea resursei umane în context organizaţional, coordonate care includ: aspectele psihointelectuale, aspecte relaţionale, mecanisme motivaţionale intrinseci. Pornind de la aceste coordonate sunt trecute în revistă şi evaluate ca utilitate şi eficacitate, posibile căi de acţiune, care să compatibilizeze resursa umană cu deziderateleorganizaţionale. În acest context, ca un corolar al acestor consideraţii se ridică o întrebare legitimă în legătură cu amploarea şi scara schimbărilor organizaţionale şi managerial necesare atingerii nivelului critic de implicare a agenţilor umani şi cooperare a acestora, care să asigure manifestările sinergetice care condiţionează performanţa organizaţională superioară. Această întrebare la care autorii sugerează unele răspunsuri, implică discernerea între nivelele de schimbare organizaţională, sectorială/ naţională/ regională sau o nouă revoluţie a modului în care societatea umană generează valoare.

Keywords: implicarea angajaţilor; eficacitate; efort discreţionar

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Calculating Overall Equipment Efficiency for Management Decision

Shocking OEE and the Correct Performance

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Abstract
Overall Equipment Efficiency (OEE) is the specific metric for Total Productive Maintenance (TPM) approach of achieving production efficiency. In order to take advantage of such approach OEE and its structural elements must be defined and calculated in a manner enabling the management to make the appropriate improvement decisions. This work proposes a changed structure and calculation manner for OEE and its components aiming to provide management with the adequate information for the decision process concerning the systematic achievement of equipment efficiency.

Keywords: Overall Equipment Efficiency (OEE), Total Productive Maintenance (TPM), process flow
simulation, Work in Progress (WIP), productivity, hourly consumption

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Six Sigma Tools and the 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.

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Managerial Approach of Occupational Safety and Health According to ISO 45001 in the 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 integrate 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: occupational safety and health, healthcare sector, management, risk, prevention

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Napoleon the 1st' leadership

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Abstract
Persoană plină de iniţiativă, a cărei amprentă este încă marcantă asupra Franţei şi Europei, cu largi viziuni asupra schimbării şi inovaţiei, strateg recunoscut, orator desăvârşit şi cu o putere deosebită de convingere a auditoriului a dovedit reale calităţi în arta de a conduce sau în leadership în accepţiunea zilelor noastre. Despre liderul militar şi politic care a marcat atât cultura franceză cât şi pe cea universală, care a transformat radical sistemele juridic, politic şi economic ale Franţei se pot scrie tomuri întregi. Scopul prezentării de faţă este desigur mult mai modest: de a face simple conexiuni între capacităţile sale recunoscute şi manifestate cu atâta vreme în urmă şi modernele principii ale ledearship-ului. In cele ce urmează vor fi trecute în revistă trăsăturile şi manifestările dovedite ale acestui lider, corelate cu actualele roluri şi responsabilităţi presupuse de un leadership eficient.

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Certification - impulse of the profitable business

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Abstract
Infiinţată la 1 iunie 1974, odată cu asigurarea fondurilor de investiţii puse la dispoziţie în urma acordului realizat între Banca Internaţională pentru Reconstrucţie şi Dezvoltare şi Banca Centrală de Investiţii din România, Oţelinox Târgovişte deţine în prezent o capacitate de producţie pentru benzi din oţeluri inoxidabile de 60.000 tone/an. Având în jur de 700 salariaţi, compania a înregistrat o cifră de afaceri de peste 33.000.000 Euro în 2015, produsele realizate exportându-se în special în Europa (peste 70% din volumul total al exportului), dar şi în America de Nord, America de Sud, Asia etc. Vorbind astăzi doar despre certificările Sistemelor de Management, prima certificare a fost obţinută în 1996 conform cerinţelor standardului ISO 9002 - Sisteme de calitate. Model pentru asigurarea calităţii în producţie, instalaţii şi servicii, continuând până în prezent cu obţinerea certificărilor: ISO 9001 - Sisteme de management al calităţii. Cerinţe; ISO/TS 16949 - Sisteme de management al calităţii. Cerinţe particulare pentru aplicarea ISO 9001 în organizaţii cu producţie de autovehicule şi de piese de schimb aferente; ISO 14001 - Sisteme de Management al Mediului şi OHSAS 18001 - Sisteme de management al sănătăţii şi securităţii ocupaţionale. Cerinţe.

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Food deceptions - standards, legislation and practice

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Abstract
The idea of drawing up this work emerged due to the attendance invitation for SRAC CERT to Food Fraud Community of Practice, an initiative accomplished with PriceWaterhouse Coopers and Wageningen University. At that moment, we realised that we, the auditors do not fully understand the concept of Food Fraud and that we are ot ready to conduct an audit on this requirement. Therefore I started to study the law, the existing standards, and to read about incorrect practise of companies worldwide. Thus I read in John Spink's book „Food Safety in China: Past, Present and Future" a generous chapter on Food Fraud and the history of food Fraud in China. I have realized the size of the phenomenon worldwide, as of all counterfeit goods, about 10% are food products, and of total merchandised food products, between 1% -3% are counterfeit. This work aims to be an informative material that explain and differentiate related concepts, such as Food Safety, Food Defense and Food Fraud. I extracted from the existing European Union and Romanian Legislation those articles referring to to this type of law-braking. I presented the most frequent and most recent types of fraud in the food branch. I have searched in the quality and food safety standards, for those requirements that explicitely refers to food frauds, or requirements of general standards to which the identified nonconformities of the audits could be enframed and would give evidence of vulnerabilities for the audited organizations. I have proposed several questions for the responsible persons of the organizations, in order to detect possible discrepancies in regard to standrads requirements, legal requirements and clients' requirements.

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Reflections on the approach of the audit of risks and opportunities, seen through the perspective of the requirements of the new editions of the management systems standards

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Abstract
Acest articol prezinta câteva consideratii privind modalitatile practice de a efectua auditul sistemelor de management, orientate pe abordarea riscurilor si oportunitatilor.

Keywords: riscuri, oportunitati, abordarea riscurilor, audit

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Organizational entropy and creative potential

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Abstract
Creativitatea este o resursă vitală a organizației într-o vreme în care inovarea este cuvântul de ordine în tot ceea ce ține de succesul în afaceri ca și în activități nonprofit. De aceea, este esențial ca atenția managementului organizației săse îndrepte către pârghiile care favorizează manifestarea creativă a resursei umane, la toate nivelele și procesele din organizație. În acest context, este important să se identifice aceste pârghii și să fie puse la dispoziția managementului. Lucrarea de față, prima dintr-un șir de lucrări dedicate acestui subiect, pune în legătură manifestările creative în contextul organizațional cu libertatea, în sensul cel mai general, a a gentului creativ. La rândul său, conceptul de libertate este asociat cu o anumită dezordine, în sens pozitiv, de diversitate, flexibilitate, fluiditate, descentralizare etc. Această asociere are avantajul de a permite utilizarea unor metrici specifice care au la bază conceptele de entropie și energie informațională

Keywords: organizational system, creativity, organizational entropy, information energy

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A Generic Example of an Energy Review in Conformity with ISO 50001 Standard

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Abstract
This paper presents a generic example of energy review in conformity with ISO 50001 standard related to a organization which during the analyzed time period that, in the past, was applied successive upgrades, with the consequences of some major modifications of the production, energy use and consumption. A period of time the organization has implemented the energy management system and functioned in a stable manner. This allowed its election as a representative time period for tracking present energy consumption and some relevant variables of the identified significant energy uses. The construction of this example includes that situation in the future time period, equivalent to the one in present, in which organization applies a new upgrade and estimate in this conditions the energy use and consumption. The considered example as other elements of associated energy planning included in this paper provides an approach that could be useful to those involved in the implementation of an energy system management.

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Systems Reliability and Safety Analysis Using Fault Trees. A FTA Software Packages Comparison

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Abstract
In the first part of the paper a critical study concerning the Fault Tree Analysis (FTA) method is made. The Fault Tree Analysis translates the physical system into a logical diagram due to which it is one of the most favored method involved in reliability and safety analysis of high functional importance systems. It was originated from aerospace industry and then adapted by nuclear power plant industry to qualify and quantify the hazards and risks involve in nuclear power generation. The Fault Tree Analysis is a top down deductive approach, in which the causes of an event are deduced. This method gives a visual model of how equipment failure, human error and external factors a.o. contribute to an accident or critical event for the analyzed system. Several symbols and logical gates are used in this analysis. This method was introduced in the Romanian technical literature in reliability field by Ioan Bacivarov in 1977 in a conference given at the 1st National Research Symposium in Electronic Technology [1] and structured in [2].
In the second part of the paper, a procedure for fault trees construction and evaluation based on [5] was developed; · Define the system of interest: the boundaries of interest are defined in this step on which analysis is to be made along with the conditions of the system. · Define top event of the system: Specify the problem on which the analysis will be made like shutdown, pipe rupture etc. · Define tree top Structure: Define the events and the conditions that lead to the top event. · Explore each branch in successive level of details: Determine the events and conditions that lead to the intermediate event and keep repeating this process at different successive levels unless the fault tree is completed. · Solve the fault tree for the combination of events contributing to the top event: Examine all the event and conditions that are necessary for the top event to occur and develop a minimal cut set. · Identify important dependent failure potentials and adjust the model appropriately: Study the event and find the dependencies among the event that can cause a single or multiple events and conditions to occur simultaneously. · Perform quantitative analysis: Use the past statistical data to evaluate or predict the future performance of the system. · Use the results in decision making: Find the conditions in which the system is at most potential hazard and place appropriate measure and recommendations to counter with such risk.
The advantages and the disadvantages of the FTA method are discussed in the third part of this paper. The conclusion is that the Fault Tree Analysis is a very effective reliability & safety assessment tool for reasonably complex systems ; but for very large systems, which includes a large number of equipments and process variables, the fault tree becomes enormous and its quantitative evaluation is complicated and time consuming. Consequently, it is therefore necessary to develop appropriate methods and the use of appropriate software packages, making it possible to build and quantitative assessment of fault trees for very complex systems. Some example concerning the fault tree

construction and evaluation for electronic systems are presented. Several software packages were used into this aim.
In the last paragraph of the paper, the different software packages used for the construction and analysis of fault trees were discussed and compared, namely: SMARTDRAW, FTA SOFTWARE and EDRAW MAX.
- SMARTDRAW allows to make a clear, easy-to-read fault tree diagram in minutes on any device. SmartDraw is easy to use because it does much of the drawing. Just open a fault tree analysis template, choose from the extensive library of symbols, and type in your information. All the logical gates and different event are availabe. But this software is not able to make a fault tree analysis.
- With FTA SOFTWARE, it is possible to build fault tree with different logical gates. All the current events are available. FTA SOFTWARE enable to do fault tree analyse and particulary the quantitative analysis. With this software you can calculate your fault tree probability for mission time or for Steady-state mode. It includes events and intermediary gate probabilities and you can define the mission duration. Well, it enable to generate and download reports for your fault tree with list of Minimal Cut Sets, list of fault tree events and gates. When you finish building your fault tree, download it to your own PC. When you need to work with this fault tree, you can upload it back to our Fault Tree Analysis tool.
- EDRAW MAX is a vector-based diagramming software with rich examples and templates. It is easy to create fault tree diagrams. With this software you can build your fault tree with up-to-date, intuitive and advanced diagram interface with facilitates full control over the diagram. You have many of elements layout, themes, to facilitate thework. You can all the current logical gates and events and this is easy to use the library. Finally you can do both qualitative and quantitative analysis of data.

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