7th National Conclave for Laboratories

"Laboratories: Striving towards Excellence amidst Challenges and Opportunities"

1st National Healthcare Quality Conclave

"Sharing Best Practices"

EDITORIAL

Dear Friends

It is indeed a pleasure to approach our stakeholders through this issue of Quality India. During the quarter, we had two very successful conclaves -- National Conclave for Laboratories (7th) organised by National Accreditation Board for Testing and Calibration Laboratories (NABL) on 23-24 January in Ahmedabad and National Health Quality Conclave (1st) organized by National Accreditation Board for Hospitals & Healthcare Providers (NABH) on 23-24 March in New Delhi.

The theme of the two-day National Conclave for Laboratories was **'Laboratories: Striving towards Excellence amidst Challenges and Opportunities'.** The conclave provided a platform to share and discuss issues related to the testing, medical and calibration laboratories. It focused on development of good laboratory quality management system to meet the standards amidst various business challenges. It also helped to deliberate about the upcoming changes and ways to convert them into opportunities.

Many luminaries talked about new opportunities in business growth in the areas like Gemology, Geo-technology etc. Focus was also given on existing schemes of water testing, cable testing, toys testing etc.

Several global quality experts as well as national experts discussed the challenges, success stories and quality strategies for better laboratory facilities. The inaugural session was addressed by Dr. Jayanti S Ravi (IAS), Commissioner of Health Medical Services and Medical Education, Gujarat; Mr. Tushar M Dholakiya (IAS), Chairman Gujarat Water Supply & Sewerage Board, Gandhinagar; Dr. M M Prabhakar, Additional Director, Medical Education, Gujarat; Dr. D.K. Aswal, Director, National Physical Laboratory, New Delhi amongst others.

During the conclave two new schemes for 'Recognition of Sample Collection Centers/Facilities under Medical Testing Laboratories' and 'Accreditation of laboratories engaged in Calibration of Medical Devices' were also launched. We had several interesting sessions ranging from Laboratory Accreditation – Enhancing Quality of Life, Challenges for Laboratories, Excellence in Quality of Test Results, Opportunities for Laboratories in Business Growth, Fostering New

Initiatives to Changes in ISO/IEC 17025. These sessions were followed by an Open Session wherein several industry related queries were raised by the participants which were answered by a panel of experts and administrators.

All the sessions were very well appreciated by more than 800 delegates. The conclave acted as a platform for sharing new ideas and involved fruitful discussions about promoting and achieving support from all the stakeholders to improve the quality of the testing laboratories all over the country.

The theme of the another conclave, i.e. **National Healthcare Quality Conclave,** was "Sharing Best Practices" and it defined the importance and growing need of sharing best practices, replacing the old ones and building a knowledge sharing platform.

Hon'ble Minister of State for Health and Family Welfare, Ms. Anupriya Patel, inaugurated the Conclave and emphasized the need of Quality of Care in today's ever-changing healthcare environment.

The conclave covered various important topics in healthcare like Medication Management, Infection Control and Prevention, NABH Accreditation and AYUSH, Use of Quality Tools, Antibiotic Policy Implementation, Information Management and Quality Improvements Initiatives in Public Systems. There were discussions for the practical steps required to be taken to improve the system dynamics in healthcare organizations. In order to disseminate the knowledge to the wider audience, parallel satellite sessions were also organized.

The two-day conclave saw an active participation of more than 1000 Quality Professionals, both from the National and International organisations involved in healthcare delivery system.

Both the conclaves were roaring success and we hope the discussions and recommendations thereon will be amalgamated in future functioning of these organisations.

Dr. R.P. Singh
Secretary General, QCI

CONTENT

MEMBERS WRITE

7th National Conclave for Laboratories, 2018

National Accreditation Board for Testing and Calibration Laboratories (NABL) organized its 7th National Conclave for Laboratories on 23rd-24th January, 2018, in the heritage city of Ahmedabad. The theme of the conclave was: 'Laboratories: Striving towards Excellence amidst Challenges and Opportunities'.

Laboratory accreditation is a driving force for streamlining the services of a laboratory towards achieving the highest standards of quality for end-user satisfaction. Accordingly, the Conclave was structured to provide one common platform to share and discuss the emerging issues related to accreditation of testing including medical and calibration laboratories and deliberate on further improving the laboratory management system holistically.

The Conclave received an overwhelming response from laboratories across the country with participation of nearly 800 delegates from various fields of testing, medical and calibration.

Inaugural Session

Key Speakers -- Dr. Jayanti S Ravi (IAS), Commissioner of Health, Medical Services and Medical Education, Gujarat; Mr. Tushar M Dholakiya (IAS), Chairman Gujarat Water Supply & Sewerage Board, Gandhinagar; Dr. M M Prabhakar, Additional Director, Medical Education, Gujarat; Dr. D.K. Aswal, Director, National Physical Laboratory, New Delhi; Dr. R. P. Singh, Secretary General, QCI and Mr. Anil Relia, CEO, NABL.

Inaugurating the conclave, Chief Guest Dr. Jayanti S Ravi stressed on the importance of quality in everyday life and its impact on overall industrial structure which is a crucial element. She appreciated the efforts put in by QCI for quality drive across the country, emphasizing on the need of quality to be the frontrunner in all decision-making processes. While appreciating NABL's contribution in enhancing laboratory quality management system in laboratories through accreditation, the distinguished chief guest highlighted the efforts of Gujarat state in becoming one of the leading states in India in terms of accreditation in health sector. She called upon the laboratories to accept the challenges and enthuse quality by adapting the upcoming changes to assure the nation about the well-being, efficacy and quality of the products and materials used in day-to-day-life.

Mr. Tushar M Dholakia appreciated the efforts of NABL in bringing significant quality changes in the laboratory system and mentioned the efforts of the government of Gujarat in ensuring quality of drinking water across the state by getting it tested from accredited laboratories.

Dr. D.K. Aswal emphasized on the importance of measurement traceability to SI units in laboratory accreditation.

The key-note address was given by Dr. R. P. Singh, Secretary General, QCI, wherein he emphasized upon accurate and precise test results from laboratories, as laboratory test result is an important parameter to ensure quality of life. He also highlighted how a wrong measurement may harm Indian industry thereby draining its resources. He also stated that the conclave has been designed to develop and support good laboratory practices through deliberations among the delegates and experts attending this meet.

Mr. Anil Relia, CEO, NABL, in his welcome address acknowledged the laboratories' determination to accept challenges and adaption to the technical advancements in order to provide efficient, safer and quality services to the industry.

Launching of New Schemes

New Schemes for 'Recognition of Sample Collection Centers/Facilities under Medical Testing Laboratories' and 'Accreditation of laboratories engaged in Calibration of Medical Devices' were launched by the chief guest Dr. Jayanti S Ravi. The objective of the scheme 'Accreditation of Sample Collection Centers of Medical Testing Laboratories' is to assess all declared sample collection centers/facilities of Medical Testing laboratories which will ensure end-to-end sample integrity leading to reliable test results. The scheme plans to give recognition to such sample collection centers/facilities which will help laboratories to gain patients' trust and satisfaction.

The objective of the second accreditation scheme 'Accreditation of Laboratories Engaged in Calibration of Medical Devices' is to ensure correct measurements leading to accurate diagnosis, subsequently helping the medical professionals to decide the appropriate line of treatment.

Launching of Web Portal for Online Submission of Applications

Another highlight of the Conclave was the launch of Online Portal of NABL for Applicant Labs. The online web portal was launched by Dr. Jayanti S Ravi in presence of other dignitaries as well. A live demonstration on the working of online web portal was also given in Conclave for the benefit of laboratories. NABL informed the laboratories that the scope of online portal will be gradually enhanced to include the accredited laboratories and uploading of assessment reports. Mr. Anil Relia told that NABL is in process of making its operations completely digitalized and hoped to achieve it soon.

DAY-I ▶▶▶

Theme Session : Laboratory Accreditation – Enhancing Quality of Life

Key Speakers : Dr. Gaurav Dahiya (IAS), Director, National Health Mission, State Health Society, Health and Family Welfare Department, Gujarat; Dr. D K Aswal, Director, NPL ,New Delhi; Dr. Vasireddy, Chairman, Vimta Labs, Hyderabad ; Dr. Anita Borges, Director, SRL Diagnostics, Mumbai; Dr. H G Koshia, Commissioner, Gujarat Food & Drug Administration; Dr. K B Vaghela, Gujarat Pollution Control Board

The theme session was graced by the above-mentioned eminent speakers who put forth the upcoming challenges, especially in the health sector for providing the quality medical care to all segments of the population. Speakers urged NABL to devise such strategies to provide accreditation to state medical laboratories to make them compliant with specially designed standards matching with minimum expectations.

This session also provided insights into how food quality standards, traceability in measurements and accredited medical testing laboratories impact quality of life. Inputs were also given towards significance of reliable test results in air monitoring and pollution checks to provide safe environment.

Session-II : Challenges for Laboratories

Key Speakers : Professor G. L. Sivakumar Babu, IISC Bengaluru and President, IGS; Mr. Vikas Jaiswal, Deputy Director, NABL; Dr. H K Mishra, Director, Electrical Research and Development Association, Vadodara; Dr. Puneet Nigam, Vice President, Metropolis Healthcare, New Delhi and Mr. C Venugopal, Joint Director, NABL

Second session, chaired by Prof. G. L. Sivakumar Babu, focused on the challenges faced by Indian laboratories in the wake of increasing client expectations. Further, the session deliberated on NABL's effort in establishing joint assessment processes along with regulating agencies thus saving time and money of the laboratories by avoiding multiple assessments.

Application of risk assessment was also discussed wherein it was stated that risk assessment being an integral part of risk management helps an organization achieve and maintain its quality objectives by analyzing the risk in terms of consequences and their probabilities.

Session-III: Excellence in Quality of Test Results

Key Speakers : Dr. Renu Saxena, Professor & Head, Hematology, AIIMS, New Delhi; Mr. Jishnu Chattopadhyay, Quality Manager, Bureau Veritas, Kolkata; Mr. Vinit Shirsat, Chairman, Autocal Solutions, Thane; Mr. Ketan Mehta, General Manager, QA/QC Reliance Industries, Surat; Dr. B R Das, Advisor & Mentor, SRL Limited, Mumbai; Dr. Seema Bhargava, Senior Consultant, Sir Ganga Ram Hospital, New Delhi; Dr. Monica Gupta, Professor & Head, H M Patel Centre for Medical Education, Karamsad

The last session of the day one was chaired by Dr. Renu Saxena wherein

she deliberated on 'how excellence in test results achieves quality of life.' The topics in the session touched almost all the major sectors of economy like healthcare, petrochemical, food, drugs & pharmaceuticals, environment etc. Further, deliberations on Six Sigma approach for process improvement by identifying and removing the causes of defects thereby improving the quality of output was made. In addition, impact of External Quality Assessment Scheme (EQAS), Legal Metrology and Good Laboratory Practices (GLP) on quality of results was also discussed.

DAY-2 ►►►

Session-I : Opportunities for Laboratories in Business Growth

Key Speakers : Mr. Bhavik Rathod, Joint Director (Scientific) GJTI, GWSSB, Gandhinagar; Mr. B B Kutal, General Manager, Polycab Wires Pvt. Limited, Mumbai; Mr. C R Prayag, Deputy Director, Ahmedabad Textile Industry's Research Association; Mr. Mandeep Kumar, Assistant Director, NABL; Mr. Sameer Joshi, Director, Indian Diamond Institute, Surat; Mr. Jitendra Vispute, Joint Director, NABL; Mr. V. Srinivasa Desikan, Director, UL India, Bengaluru; Dr. Anil Handoo, Sr. Consultant & Director, Pathology, BLK Super Speciality Hospital, New Delhi

This session was chaired by Dr. Sumeeta T Soni, Associate Professor, Microbiology, B J Medical College. The day two also began with the same spirit where the speakers talked about the new era opportunities in business growth in the areas like Gemology, Geo-technical etc. Upcoming business prospects in toy testing highlighting import value of toys along with current demand for toys testing laboratories were also shared. Customizing laboratory information for business growth was also discussed upon. Emphasis on need of more and more NABL accredited testing laboratories in testing of particle board and paper was made. Conclave also focussed on existing schemes of water testing, cables testing, testing of radial tyres, testing of Solar PV modules, allied products, LED lamps etc. Distinguished speakers and experts from various fields shared their experience and knowledge with the delegates on the laboratory related important issues in health sector, testing and calibration. Conclave also became a knowledge sharing platform when NABL provided important information on various 'QCOs' i.e. quality control orders issued by ministries of Govt of India. QCOs in the field of toy testing, particle board and paper were discussed in detail to make the delegates aware about the changes being introduced by the Govt of India.

Session II : Open Session

An Open Session was conducted in the Conclave on the second day chaired by Dr. R. P. Singh, Secretary General, QCI along with Mr. Anil Relia, CEO, NABL; Dr. Vandana Jain, Director, NABL and Mr. N. Venkateswaran, Director, NABL. Interacting with the delegates, Dr R P Singh asked the laboratories to provide continuous feedback to NABL on assessments so that the improvement in working methodologies may be kept in momentum. Mr Anil Relia announced the various measures taken by NABL to provide speedy disposal of applications and other related queries. Mr N Venkateswaran addressed the queries related to new version of ISO/IEC 17025 standard, international acceptability of test results, and impanelment of assessors. The session also talked about NABL's take on laboratory needs for a quick recognition in short duration, harmonization of assessment process and quicker decision making, better accessibility to customers by establishment of regional offices etc. Feedback and suggestions made by the participants were also taken up with an aim to improve the services provided by NABL to the stakeholders.

Session III : Fostering New Initiatives

Key Speakers- Dr. J. L. Meena, SQAMO, Govt. of Gujarat; Dr. Vandana Jain, Director, NABL; Mr. Vishal Shukla, Assistant Director, NABL; Mr. Mandeep Kumar, Assistant Director, NABL

Dr. J. L. Meena delivered a detailed presentation of quality initiatives taken in by the state government in Public Healthcare Facilities in Gujarat for Patient Safety. Dr Vandana Jain presented on the quality upliftment needs of sample collection centres and told how accreditation from NABL can ensure the quality in such medical care. Mr Vishal Shukla focussed on the importance of the traceability and described the need of medical devices calibration in the interest of safe and reliable medical care. Mr Mandeep Kumar gave a presentation of the web portal and increasing needs of digitalization of the processes of NABL.

Session IV : Changes in ISO/IEC 17025

Mr. N Venkateswaran, Director NABL, gave an insight of the new version of ISO/IEC17025:2017. NABL described the process of smooth transition to the new version of ISO/IEC 17025 from ISO/IEC 17025:2005. A brief about the major changes in the standard was also shared.

Delegates were highly appreciative of the presentation and NABL's initiative to brief them on the new version of ISO/IEC17025:2017. Mr. Venkateswaran informed the laboratories that the third edition (2017 version) cancels and replaces the second edition (ISO/IEC17025:2005), which has been technically revised. He also talked about the main changes that took place in new standard i.e.

1. The risk-based thinking applied in this edition has enabled some reduction in prescriptive requirements and their replacement by performance-based requirements;

2. There is greater flexibility than that in the previous edition in the requirements for processes, procedures, documented information and organizational responsibilities;

3. A definition of "laboratory" has been added

At the end, Mr. Pankaj Johri, Program Coordinator and Joint Director, NABL, gave a Vote of Thanks to delegates, NABL team and sponsors for their overwhelming response and support in making the Conclave memorable and successful in meeting the expectations of delegates representing laboratories. He gave sincere thanks to the chief guest, other dignitaries and distinguished speakers for sparing their valuable time and hoped to get their continuous support in future as well.

The Conclave ended on a very promising note to chalk out the various strategies and action plan to spread the quality movement across the country through laboratory accreditation and to provide new areas of testing, medical and calibration to laboratories for expanding their business operations.

1st National Healthcare Quality Conclave

National Accreditation Board for Hospitals & Healthcare Providers (NABH), a constituent board of Quality Council of India (QCI), organized its maiden National Healthcare Quality Conclave (NHQC) on 23rd-24th March, 2018, at Vigyan Bhawan, New Delhi. The theme of the two-day Conclave was "Sharing Best Practices" and it defined the importance and growing need of sharing best practices, replacing the old ones and building a knowledge sharing platform.

The two-day Conclave saw an active participation of more than 1000 Quality Professionals, both from the National and International level, including healthcare industry leaders from the Government, Private Sector, Bio Medical Engineers, Physicians.

The Conclave covered various important topics in healthcare like Medication Management, Infection Control and Prevention, NABH Accreditation and AYUSH, Use of Quality Tools, Antibiotic Policy Implementation, Information Management and Quality Improvements Initiatives in Public Systems. There were discussions for the practical steps required to be taken to improve the system dynamics in healthcare organizations. In order to disseminate the knowledge to the wider audience, parallel satellite sessions were organized.

Hon'ble Minister of State for Health and Family Welfare, Ms. Anupriya Patel, inaugurated the Conclave and emphasized the need of Quality of care in today's ever-changing healthcare environment.

Speaking on the occasion, Dr. B K Rao, Chairman, NABH, said, "We made efforts to bring experts from the healthcare field to provide deep insights about its various aspects. Looking at the response one can say that the Conclave has served as a catalyst in defining healthcare sector and Quality. Our goal is to develop a trust among the patients that the NABH certification logo is the logo of authenticity."

Dr Harish Nadkarni, CEO, NABH, said, "The Conclave gave an opportunity for the healthcare organizations and decision makers to explore subjects like Medication Management, Ayush, Antibiotic Policy Implementation together and learn about the upcoming challenges."

The event saw a huge positive response from the participants. The sessions were highly appreciated. Many participants mentioned that "We are very glad to part of this first conclave and learn from the best practices of various organizations."

The topics covered in the Conclave, included the emerging field of Information Technology and AYUSH. The innovative practices shared were an eye opener for the participants. According to the feedback shared by many participants, all the sessions were quite informative. Sessions on the topics like Human Resource, Information technology and NABH's Journey from the Beginning were well received by the audience.

Healthcare professionals were delighted that NABH has initiated this Knowledge sharing platform, where Good Practices of various healthcare systems, NABH-Team either big or small, were shared.

The Conclave was supported by Sponsors and contributors from the major players in the healthcare industry including Dr Reddy's Laboratories, Glaxo Smithkline, Datta Meghe

Institute of Medical Sciences, Wardha Maharashtra.

Bio Merieux, Zebra Technologies, Jhpiego presented their latest products and services in the exhibition.

NABH Team

ZED Processes : Leveraging Technology and Minimizing Use of Paper

"Digitization has created opportunities for everybody to accumulate information in a way they were never able to, and analyse it with a speed that just wasn't there"- Ken Moelis

Zero Defect Zero Effect (ZED) started with the Hon'ble Prime Minister Shri Narendra Modi's vision of encouraging Micro, Small and Medium enterprises towards holistic and sustainable manufacturing. The 'ZERO EFFECT' component of the ZED Scheme aims to push the concept of responsible manufacturing amongst MSMEs, where the negative impact on the environment could be reduced.

> Currently, humans are consuming the largest amount of paper in the history. In the last 40 years, there has been an increase of 400 per cent. Nearly 4 billion trees are being used in the paper industry.
>
> The world is left with only ~3 trillion trees. The number of trees cut down each year is a staggering 15.3 billion and the global forest cover loss is approximately 192,000 sq. km per year (not all is used in the paper industry).
>
> Source : www.time.com

ZED started with a pilot project in 2015 where a large number of documents and data in hard copy were handled for executing the complete process. The national roll out was then notified in 2016 for 22,222 MSMEs, significantly higher than the number of applicants in the pilot phase. This is where the need of technology was deemed critical to implement the scheme in true spirit as collection and retrieval of relevant data and information of all applicant MSMEs is an integral part of the ZED scheme. Keeping the vision to transform India into a digitally empowered society and a knowledge economy, a unique initiative of leveraging technology in the complete ZED ecosystem was thus conceived.

Technology milestones in the ZED journey
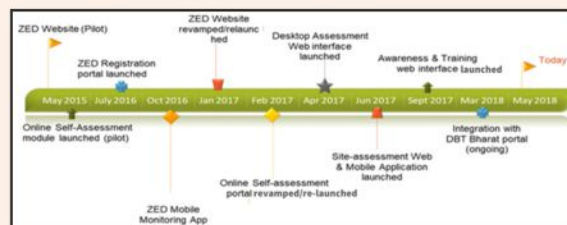
Use of Technology in the ZED Process:

Geo-Tagging and Time-Stamping

In 2016, ZED ecosystem initiated incorporation of Geo-Tagging (capturing geographical identification metadata to various media in the form of latitudes and longitudes) and Time-Stamping (capturing accurate date and time of capturing an activity or an evidence) at various stages of the process.

The 5-day training programs conducted for Master Trainers, Assessors and Consultants, Capacity Building Programs, MSME-DI Training Programs along with all 1-day Awareness Programs are geo-tagged and time-stamped to maintain accuracy of the information. The rationale behind using these advanced features is to ensure that the activity happens in a time-bound manner and provides significant help in monitoring of the process. During the process of Desktop Assessment (DA), the MSME captures and uploads evidence (document/file/photo) for all opted parameters and questions. The evidence are time-stamped for accuracy. Similarly during Site Assessments, when the assessors visit the MSME unit, each activity is supported with geo-tagging and time-stamping feature. Geo-tagging during Site-Assessment is used to maintain the robustness of the assessment process by ensuring real-time monitoring and transparency in the process.

Auto-allocation:

Another feature that sets apart the ZED process is that the Assessments are auto-allocated to the Rating Agencies by the online system using an intelligent algorithm based on certain fixed criteria defined by ZED. This feature highlights the transparency of the entire process by eliminating human intervention or bias.

App-based Assessment:

A paradigm shift from paper-based assessment to App-based assessment was envisioned. Desktop Assessment (DA) process is carried out with the help of a user-friendly app, making it simpler for MSMEs to capture and upload evidence. The Site-Assessment (SA) is also carried out with the help of a customised app. The Site Assessors capture their photos through the "Selfie" option built in the app before starting the process of assessment. This helps in maintaining the homogeneity between assigned assessors and the assessors carrying out the assessment. The "Opening Meeting" option, built in the app, helps in capturing the photographs along with names and designations of the members present during assessment. "Site Tour" option allows assessors to capture relevant photos of the unit, which can be accessed during assessment of parameters. Each parameter is then assessed and relevant option is chosen along with relevant comments and evidence. An interesting feature here is that the assessors carry out the entire assessment by selecting the most appropriate option reflecting the existing state of a particular process without being prejudiced by a score. The final rating is accorded by a separate and independent Rating Committee.

App-based Monitoring and Evaluation:

The ZED model stresses upon continual improvement and the ZED ecosystem also focusses on the continual improvement of the processes. Various components of the ZED Certification Scheme are effectively monitored with the help of a monitoring app. The relevant curriculum of all 5-day Master Trainer, Assessor and Consultant Training Programs, Capacity Building Programs, MSME-DI Training Programs and 1-day Awareness Programs is fed into the online system and monitored with the help of a user-friendly app. Attendance along with photographs of all participants is captured through the app and feedback of the participants are also recorded as a part of the monitoring process. Even the examinations of the various programs are conducted through the app which gives an enhanced ability to evaluate the results quickly and accurately.

Online Portal and ZED Website :

An informative ZED website (www.zed.org.in) has been developed highlighting all the relevant information important for MSMEs and is updated regularly with all the latest news and ZED updates.

At the time of registration, a user-friendly ZED registration link enables an applicant MSME to fill up basic details of his enterprise and register with ZED in a hassle-free manner. The Online Self-Assessment (OSA) module provides detailed information of all mandatory and optional parameters for the MSME as per the mentioned NIC and CPCB category. The process of selecting minimum 10 optional parameters (out of 30 optional parameters) is extremely easy from the users' perspective. Monitoring portal for Desktop Assessment (DA) and Site-Assessment (SA) has been developed keeping in mind data transparency and security as a top priority.

Easy Data Analytics and Auto-generated Reports:

The key pillars on which the concept of ZED Certification Scheme rests upon are gap analysis and continual improvement for MSMEs. Hence, data analytics are of critical significance. Sector-wise score variations, feedback analysis of participants from Awareness Programs are just a few examples of the number of analytics possible. Also, at each stage during ZED Certification process, data analytics are presented to the MSMEs in a simplified manner. Strengths and Weaknesses are shared with to the MSME along with parameter-wise score in the detailed OSA report immediately upon completion of Online Self-Assessment (OSA). After completion of Desktop Assessment (DA), a detailed DA report is sent to MSME that helps it prepare for the Site Assessment. Eventually, upon completion of Site-Assessment (SA), a detailed Site-Assessment (SA) report is sent to the MSME. This detailed report encompasses all the related strengths and Opportunities For Improvements (OFIs) for the MSME. This helps the MSME to chart out its journey on the ZED maturity assessment model thereby moving towards Zero Defect and Zero Effect in its practices.

Integration with PFMS and DBT Bharat Portal:

To ensure transparency in disbursement of Financial Support to MSMEs in the ZED Certification Scheme, the ZED process has been integrated with the Direct Benefit Transfer (DBT) Bharat Portal. This further ensures that subsidy is transferred into the beneficiary's bank account in a time-bound manner. Further, linkage with Public Financial Management System (PFMS) provides better scheme administration and improves accountability in the use of funds allocated under the ZED Scheme. Use of every single rupee under the scheme can be reviewed online at any point of time bringing complete transparency.

Cloud Storage and Data Security:

All the sensitive data and information uploaded by the MSME during OSA, DA and SA and information captured in other processes are stored in one of the most advanced and secure cloud servers accessible only to the registered MSMEs using the unique ZED ID and password. After registering on the ZED portal, the MSME is provided with a unique ZED ID. This unique ZED ID becomes a key for all communication between the MSME and ZED. Similarly, all the Awareness Programs and Training Programs are assigned unique program IDs and all items captured during the program are uploaded on the server accessible through the Program ID and password by authorised personnel.

This prevents physical handling of large number of documents and also maintains data integrity. To maintain homogeneity of data in an organized manner, ZED online system uses a Header Level-Item Level data hierarchy. Online database helps in easy retrieval of data through the dashboard and also assists in analysing the data for further processes.

E-Learning Module:

Sect E-learning modules are created and uploaded on the eQuest portal for helping MSMEs learn the basic concepts and tools for improving their processes. Various tools and interventions are explained in a simplified manner to enrich MSMEs with relevant industry knowledge and quality management principles.

With an aim to visualize every step on the route towards an entirely digital enterprise, the ZED ecosystem has successfully interwoven technological interventions into the ZED Certification Process. Advanced technological features have been incorporated to ensure maximum efficiency and effectiveness. Accuracy, accountability, data security and transparency are the core aspects of ZED Certification Scheme. As India is moving towards digitization, ZED has boldly attempted to chart a path by making the entire process paperless in line with the spirit of 'ZERO EFFECT' while taking our MSMEs on the journey of Zero Defect Zero Effect. Hence, with a vision to foster the concept of Digital India, ZED will certainly prove to be a game changer.

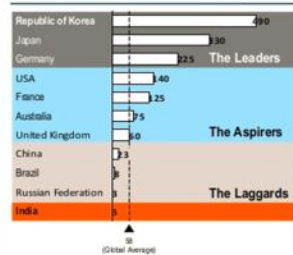**Team ZED**

Rise of Industrial Cobots in India

Dr. Indrajit Bhattacharya
Director, NABET

Indian manufacturing industry has arrived at an inflection point – and is currently not prepared for the changes which Industry 4.0 brings

India currently has only 1/8 of automation rate compared to China

However, rising labour costs, quality considerations and hazardous tasks are forcing Indian manufacturers to opt for industrial robots, despite the relatively high capital costs. And many manufacturers are realising the benefits of installing robots in their plants, as in the long run they save costs. According to Robotic Industries Association (RIA), besides the big three markets for robots in Asia (Japan, South Korea and China), the other countries (including India) saw a 58 per cent growth in demand.

The Indian market for industrial robots is expected to double over the next three to four years. "The primary reason for using robots in India is to get consistent quality that is ensured by the repetitive accuracy of the robot," points out ABB. "Another reason is flexible manufacturing of multiple product models and the need to ramp up production significantly to meet market demands." Most of the industrial robots that are bought by companies are used for a variety of operations, including welding, paint finishing and material handling operations.

The Indian automobile and component sector, which contributes around 7.2 percent to India's GDP, employs around 30 million individuals, along with contributing 25 percent of its total manufacturing to exports. The key concern for the manufacturing sector, particularly medium and small-scale enterprises (MSMEs) is to scale up production even as they face challenges of labour problems and lack of skilled, among other issues.

What is a Cobot?

A cobot is intended to work hand-in-hand with humans in a shared workspace. This is in contrast with full-fledged robots that are designed to operate autonomously or with limited guidance. They support and relieve the human operator of his excess work.

In an auto factory, while the cobot tightens the bolts, the human worker places the tools in front of the cobot. In a biscuit factory, the cobot would package the biscuits while the worker segregates burnt ones not fit for consumption. In a small-scale industry, the cobot is placed on the drilling job while the worker performs a quality check. (Source : The Hindu)

The Cobots, which are designed just like an arm, works alongside a human being to enhance their productivity instead of replacing them.

Universal Robotics (UR), a leading cobot manufacturer, says that its goal is to encourage human-robot collaboration in manufacturing, which helps to deal with labour proactively and also offers higher productivity and precision in the manufacturing process. It's a phenomenal success story in India where cobots are creating jobs and making small businesses competitive, Collaborative robots are 'completely' different from traditional robots, Cobots are easy to use, flexible and safe. The key benefits of cobots were compactness, low payback period, flexibility, lightweight nature, cost-effectiveness, accuracy and safety. Other benefits include zero annual maintenance costs, reduced power consumption and retention of IP within the company. Further, cobot do not add to the maintenance technician's load, since it is relatively maintenance free. With the deployment of cobots, almost 80% of downtime gets eliminated, as per estimates. In other words, productivity gains are significant. Universal Robots has already deployed cobots in the automotive, FMCG, and electronics industries, beside education and R&D centres in India.

Bajaj Auto – First to adopt Cobot; Source : Autocar Professional Jan 2018

Some SMEs now prefer to place a cobot in key functions and use human labour to feed in information and get the basic work done.

Cobots are simple to use, UR said. One could programme a cobot in 40 minutes. For this, you don't need to have a technical background. Safety is an important aspect of collaborative work and cobots score high there. They are flexible and can be used just as a tool, UR said.

In other words, use of cobots helps avoid overplaying the role of a robot which tends to dominate the workflow, relegating human contribution to the background.

A cobot costs ₹14 lakh - ₹22 lakh. Typically, in India, the payback period is 1-2 years. The adoption has been low in India compared with China and the developed world. For every cobot sold in India, 30 are sold in China.
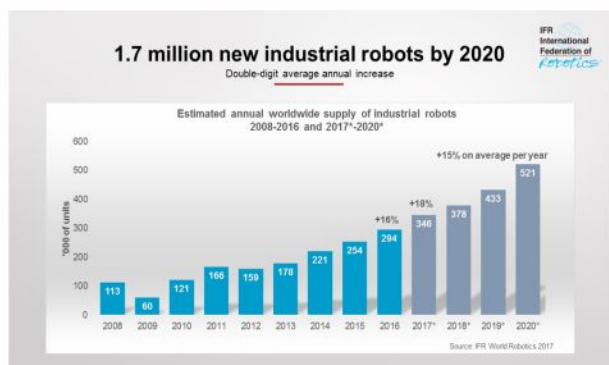
According to the International Federation of Robotics (IFR), in 2014, 2,100 industrial robots were sold in India and it is estimated that this number could rise to 6,000 in 2018. The operational stock of multipurpose industrial robots in India was 11,760 in 2014. In 2015 the estimated figure was 14,300 and it is expected to rise to 27,100 by 2018.
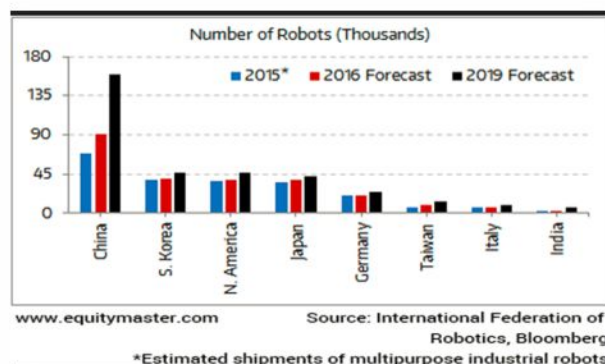
With automation swiftly picking up as a trend across sectors, India's surgical robotics market is estimated to expand at a compound annual growth rate (CAGR) of 20 per cent between 2017 and 2025 to hit the size of $350 million, compared with $64.9 million in 2016. A new marketing intelligence report by BIS Research suggests that the prospects for the surgical robotics market in India in the coming years would be significantly higher than the global average – it estimates the global market would expand at 12 per cent to touch $12.6 billion, against India's 20 per cent rate during the same period.
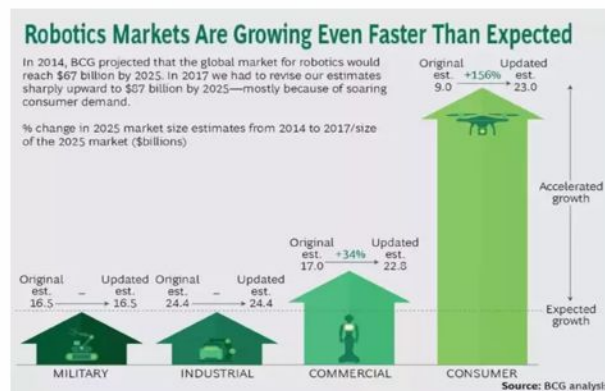
However, driven by 'drones', the consumer robot segment is estimated to outpace the commercial, industrial and military segment several times in the coming years, as per projections by BCG Analysis .

Quality Evaluation and Empowerment of Gram Panchayats (GPs) – An Initiative of QCI

Avik Mitra
Senior Advisor,
NBQP, QCI

Dr. Manish Pande
Joint Director and Head
PAD Division, QCI

One of the main objectives for Quality Council of India has been to take quality at grassroot level so that common man is benefitted. Quality generally is talked about in higher echelons; Quality is perceived and identified with high-end products and services in monetary terms. QCI, over the last couple of years, has aggressively pursued quality in key public services like healthcare and education including vocational training.

QCI believes that empowerment of society through these sectors will help in participation of common man in very fabric of governance. One of the most recent initiatives for empowering of rural population had been the quality evaluation of Gram Panchayat (GP) which would probably be rated as a unique one. It is a matter of great pride that the pilot project launched in the state of Karnataka has been a huge success. 10 best GPs had been recognized through award of certificate by QCI.

There are about 2,55,000 GPs in our Country. They handle financial outlays, draw their own development plans, generate income, levy taxes and prepare annual budgets apart from administering and delivering variety of public services. They have a vibrant democratic system of direct elections, conducted by autonomous Election Commissions. These local self governments are a mini Vidhana Sabhas, so to say. Yet we have not adequately turned our attention to measure their governances and develop tools to help them improve themselves.

A GP which functions and delivers efficiently would also impact favourably the democratic process at higher levels. Based on many suggestions received in this connection, and as a part of our commitment to work for the enhancement of Quality of Public Services, QCI has made a beginning to take up this gigantic task of evaluating GPs on key quality parameters, which impact day-to-day lives of rural population. Larger objective, of course, is to empower rural population through participation in running of the GPs. A modest beginning has been made by selecting 104 GPs, thanks to the enthusiastic initiative by the Government of Karnataka. The experience has been rewarding and encouraging.

Pilot Project in Karnataka

First positive response to our move, as mentioned above, came from the Department of Rural Development and Gram Panchayat, Karnataka Government. The department deserves special mention as it has helped QCI to set up a pilot project for evaluation of GPs, first of its kind anywhere in India. Karnataka Government offered 104 GPs for this project as a pilot study. The scheme was named as Quality Tag scheme as the award winning GPs were to be provided with a Certificate of Achievement.

The Assessment Criteria

The very idea of taking quality into Gram Panchayat System got originated during 6th Conclave held in February 2011. Theme of the Conclave was "The Future of Quality: The National Agenda". We came out with some far-reaching resolves. We have been focussing on creating frameworks which can facilitate advancement of quality at the national level. It was also a coincidence that the Ministry of Rural Development and Panchayati Raj, Government of Karnataka, was looking at creating an award model by which best of the GPs could be identified. Taking cue from it, we started working on a simple model based on parameters like basic education, primary health, sanitation, employment, community development etc. aptly nomenclature as the 7 attributes of quality which are key to ensuring good governance at the Panchayat level. These are now identified and named as 7S model for Panchayat assessment. These 7S are:

1) Shikshana : Education / literacy etc.
2) Swastha : health / immunisation etc.
3) Subiksha : agriculture / SSI etc.
4) Samana : Equality / non discriminations etc.
5) Samparka : Communication / transportation etc.
6) Suchita : cleanliness / sanitation etc.
7) Swabhab : Spirituality / value etc.

An evaluation criteria based on 55 objective elements which were culled out from the 7S model like girl child education, mother care, primary health, gender sensitivity, sanitation, cleanliness, pension, village electrification, road and modern communication was developed and each element was evaluated on a scale of 1 to 5.

Methodology

Presidents and Panchayat Development Officers (PDOs) of the selected GPs were given a sensitizing session prior to actual evaluation. They were supplied with the evaluation schedule and explained in detail what was expected of them against each of the objective element. Training sessions were held in Davanagere in two batches for two days. A total of 54 resource persons, consisting of Assistant Director Level Officers, volunteers from ANSSRDI (an NGO) of Mysore and persons from QCI's own resource pool were trained for performing the task of evaluation. This training was held for two days at Bangaluru. 25 teams comprising of two Assessors each were formed and each team was to visit one GP per day for evaluation work.

Outcome

Based on the evaluation reports, Core Committee of QCI experts selected 10 best performing GPs. These best GPs had been invited to receive the prestigious Quality Tag. The whole process has been structured to have an input- output analysis, create a sense of pride and motivate the GPs to aim for higher level of performance.

The Way Forward

Panchayats are institutes which can bring about rural transformation. The focus of the award was to create a positive climate for motivation through recognition of the Panchayats that have been able to deliver effective services/results to the citizens. The Award framework also provided a tool for continual improvement of various services

In order to assess the impact / outcome of the award, the Council carried out a quick feedback by visiting a few of the award winning Panchayats after a gap of about 5 years. During the visit, discussions with the Panchayat Development Officers established that the rating approach had helped the Panchayats identify areas for improvement. Projects on sanitation improvement, all weather road, supply of RO water, LED lamps for street lighting etc had been taken up subsequent to the assessment findings. The feedback also indicated that there is a strong desire within the Panchayats for sharing of best practices. This apart, the quick feedback also pointed out the need for periodic assessment of all participating Panchayats so that benefits achieved can be sustained.

Looking at the impact and positive outcomes of the Quality Tag Scheme, it is proposed to roll out the scheme across different states. However, to start with, the Ministry of Panchayati Raj may think of taking the following steps immediately:

a) Conduct of 2-days Awareness Programmes for each SIRD in the country.

b) Develop a pool of assessors in each state through conduct of assessor programme.

c) Develop App-based evaluation tool for speedy evaluation of the Panchayats

d) A series of seminars to share best practices.

A strong vibrant Panchayat is a necessity for maximising returns from the various states and national level flagships schemes for rural empowerment and development. This scheme can provide robust support to all these schemes.

Water harvesting structure formed for tackling draught in the GP

GP initiative to make a creche to support young mothers

Feedback from GPO of Award Winning Gram Panchayat (GP)

GPO proudly displaying the development work done post receiving awards

Collaboration Between QCI and NITTTR, Chandigarh : Enhancing the Effectiveness of Capacity Building

Recently, QCI and National Institute of Technical Teachers Training and Research (NITTTR), Chandigarh, signed an MoU. This institutional collaboration seeks to leverage the capabilities of both the institutions for meeting the growing requirements of professionals as well as youths in India. Before delving into the detail, there is a need to shed light on NITTTR, Chandigarh. NITTTR was established in the year 1967 by the Ministry of Human Resource Development, Government of India, with a set of objectives viz. training of teachers of polytechnics (and Engineering Colleges, added later on) through different types of courses, fostering and promoting research in improving classroom and laboratory instructions, preparing and supplying teaching aids and instructional materials, associating with other academic bodies of technical education to achieve quality improvement in academic programmes, collaborating with institutions and organisations in India and abroad having similar objectives and functions, and interacting with industries in formulating training programmes of mutual interest.

Consistent with the above-mentioned goals, NITTTR signed the MoU with QCI which aims to build a long-term relationship and to develop healthy and stable arrangements. The scope, projects, roles, and responsibility of the engagement shall be drawn up with mutual consent of both the institutions. QCI and NITTTR recognise that there is a need to identify new e-Learning courses and institutionalize capacity building by Physical Training Programmes and e-Learning. Under the scope of the MoU, both institutions emphasize the need for conducting educational and training programmes with the blending of physical training and e-Learning mode.

The selected activities are enunciated below which are outlined under the MoU:

- To identify new courses keeping in view the requirement of industry and academia
- Dovetailing Credit Courses and Non-Credit Courses of eQuest in the curriculum
- Identification of tailor-made programmes for industry
- Developing e-Learning course on TQM in Higher Education
- Awarding Certificates to eligible participants
- Converting and developing the existing physical modules in the e-Learning Courses to reach a wider audience as per the NITTTR requirement
- Identification of emerging areas to conduct training programmes with help from the blended learning

In the last couple of years, e-Learning has emerged as a dominant way of imparting knowledge and up-skilling across the globe. With increasing usage of smart-phones and improving literacy rate in India, e-Learning is gaining momentum where collaboration is a driving force. In this backdrop, the educational institutions, the multinationals, the governments, the not-for-profits organisations and the start-ups are collaborating and developing a broad portfolio of e-Learning courses. As the pace of automation is intensifying day-by-day, professionals need to upgrade their skills continuously, and e-Learning is an appropriate answer for such changes.

The e-Learning space is witnessing an impressive growth. A study by KPMG in India and Google, titled Online Education in India: 2021, stated, "The online education market in India currently stands at USD 247 million and is estimated to witness an 8x growth over the next 5 years to reach the USD 1.96 billion mark in 2021. This growth will be backed by a phenomenal rise in the paid user base for online education in India, which is expected to grow from the current base of 1.57 million users to 9.5 million users in 2021 at a CAGR of 44 %." As the study shows, the next five years are expected to present immense growth opportunities for all categories in the online education space. At blended e-Learning platforms like eQuest – an e-Learning platform of QCI -- one can update modules in response to changing requirements of employers in India.

The MoU between QCI and NITTTR offers an opportunity where both the institutions intend to leverage their expertise and vast experience to synergize and enhance the effectiveness of the capacity building. The MoU adds another feather in our collective cap.

eQuest Team

National Accreditation Board for Testing and Calibration Laboratories

New Accreditation Schemes Launched

The 7th National Conclave for laboratories on 23rd-24th January, 2018 at Ahmedabad observed the launch of two new accreditation schemes viz-a-viz 'Recognition of Sample Collection Centers of Medical Testing Laboratories' and 'Accreditation of Laboratories Engaged in Calibration of Medical Devices.'

Recognition of Sample Collection Centers of Medical Testing Laboratories

The objective of the scheme 'Recognition of Sample Collection Centers of Medical Testing Laboratories' is to assess all declared sample collection centres/facilities of Medical Testing laboratories which will ensure end-to-end sample integrity and reliable test results leading to patient's trust and satisfaction.

Accreditation of Laboratories Engaged in Calibration of Medical Devices

The objective of the accreditation scheme 'Accreditation of Laboratories Engaged in Calibration of Medical Devices' is to ensure correct measurements leading to accurate diagnosis which further decides correct line of treatment.

NABL's 2nd Strategic Meet

Getting oneself insulated from the daily hustle and bustle of life and to discuss on the plan ahead, NABL conducted its 2nd Strategic Meet, 2018. The Meet was planned to cultivate a collaborative environment amongst its employees and to channelize their energies aiming towards NABL's growth.

All employees were given an opportunity to put forth new thoughts and ideas across the table. Deliberations on the transition of two important international standards (ISO/IEC 17011 and ISO/IEC 17025), new projects to be undertaken and Gemba Kaizen in accreditation process were the areas of focus during the meet. Projects like computerization & digitalization were also summarised and applauded. In addition, various team building activities were conducted to build confidence and synergy amongst NABL officers.

Dr. R.P. Singh, Secretary General, QCI and Mr. Anil Relia, CEO, NABL, motivated the employee and guided on the action plan that espouses the Goals and Objectives of NABL.

NABL 2nd Strategic Meet (09th -11th Feb'18)

Awareness Program on Calibration of Medical Devices

An awareness program on "Impact of Medical Device Calibration on Leveraging Quality Service" was organized by NABL on 11th & 12th January 2018 at Atomic Energy Regulatory Board (AERB), Mumbai.

The program was graced by Mr. Anil Relia, CEO, NABL; Mr. D K Shukla, Executive Director, AERB; Dr. D.K. Aswal, Director, CSIR-National Physical Laboratory; Dr. S.B. Sinha, Advisor, National Health Systems Resource Centre (NHRSC) and Mr. Avijit Das, Director, NABL.

In the opening address, Mr. Anil Relia lauded the initiative of medical devices calibration and reaffirmed the need for accreditation of laboratories involved in Medical Devices Calibration.

The program deliberated on essential principles of medical device calibration, regulation and control on medical devices, safety aspects in medical devices resulting in quality improvement of healthcare sector.

Dr. D.K. Aswal in his inaugural address stressed on the role of National Metrology Institute in development to establish the traceability in medical device calibration. Mr Avijit Das announced the proposed framework and preliminary outline for Medical Device Calibration Laboratory Accreditation Program. Further, Mr. D K Shukla explained the role of AERB in radiation safety of Medical device.

The program provided an excellent opportunity to all stakeholders, end users, regulators and manufacturers to understand about NABL and its accreditation process. This was also combined with an open forum to enhance the knowledge towards importance of accreditation.

Awareness Program on "Accreditation: Tool for Global Acceptance of Solar and Allied Products"

To support the vision of Government of India targeting 175 GW renewable power generation by 2022, a seminar on "Accreditation: Tool for Global Acceptance of Solar and Allied Products" was organized on 18th January 2018 at Vadodara.

The objective of the seminar was to encourage the use and acceptance of renewable energy (Solar) products/resources by common man. The seminar deliberated on present scenario of conformity assessment structure in India and the way forward to accreditation of PV Module and allied products.

NABL plans to initiate a joint venture with Ministry of New and Renewable Energy (MNRE) for laboratory accreditation to strengthen the reliability, durability and acceptance of Solar Products, which in turn would minimize the risk of onsite failures.

India International Bullion Summit

The India Bullion and Jewellers Association Ltd. (IBJA) organized 'India International Bullion Summit' on 14th & 15th March 2018 at Mumbai. The summit provided opportunity for interaction between the market leaders from the world of Bullion & Jewellery Trade, Precious Metal Mining & Refining Industry, Central & Bullion Banks, Commodity Exchanges, Logistics & Transportation, Media Analysts and Government Bureaucrats.

NABL actively participated in the technical symposium on "India Good Delivery, Hallmarking etc" which was an integral part of the Summit. NABL had delivered a presentation on "Accreditation of Precious Metal Labs & Assaying Center" during the symposium which benefited the participants in understanding the accreditation process. NABL also interacted with the participants from refineries, hallmarking centers, jewellers etc. during one of the panel discussions on "Hallmarking, PMLA & GST-Challenges for Business or Boon to the Industry?"

Visit of Ethiopian Delegation

An Ethiopian delegation, led by H. E. Professor Afeworki Kassu Gizaw, Minister of State, Ministry of Science & Technology, Ethiopia, visited NABL on 12th March 2018. The delegation comprised of Mr. Legasse Gebre (Advisor to State Minister, Ministry of Science & Technology and Director of NQI), Mr. Endalew Mekonen (DG, Ethiopian Standard Agency), Mr. Gashaw Tesfaye (D/DG Ethiopian Conformity Assessment Enterprise), Mr. Arya Fesseha (DG, Ethiopian National Accreditation Office), Mr. Bekele Mangesha (PM Official Social Sector Advisor), Mr. Abayneh Telake (Member of Parliament SCT standing committee) and Mr. Girma Alemar (D/DG Trade Competition and Consumer Protection Authority).

The purpose of the visit was to share the experience and information on the current scenario in the area of Standardization, Metrology, Accreditation systems including consumer affairs and technical regulations.

Discussions on challenges faced to set up an accreditation body, promotion of accreditation in the country, collaborations with Government / Regulators and accreditation of proficiency testing provider & reference material producer were made. The possibilities of future collaboration between the two countries were dwelled upon.

Faculty Development Program/ Internal Trainings Transition to ISO/IEC 17025: 2017

NABL has geared up for a smooth transition and implementation of the new version of ISO/IEC 17025 'General requirements for the competence of testing and calibration laboratories'. This third edition (ISO/IEC 17025:2017) cancels and replaces the second edition of ISO/IEC 17025 for testing and calibration laboratories. This information has been uploaded on NABL's website for an easy access to stakeholders.

To make the testing and calibration fraternity conversant with ISO/IEC 17025:2017, NABL had organized training program-cum-brainstorming sessions for its officials. Also a Faculty Development program was conducted to facilitate further trainings scheduled for its laboratories and empanelled assessors.

S. No.	Program Name	Location/ Venue	Dates
1.	Training Program for NABL Officials on ISO/IEC 17025:2017	Gurugram	February 27-28, 2018 March 8-9, 2018 March 15-16, 2018
2.	Training Program for Faculty on ISO/IEC 17025: 2017	Amritsar	March 23-25, 2018

National Accreditation Board for Education and Training

NABET

"RBI accepts petition of TTPK (GOLD accredited BMO of QCI-NABET)"

भारतीय रिज़र्व बैंक
RESERVE BANK OF INDIA
www.rbi.org.in

RBI/2017-18/129

DBR.No.BP.BC.100/21.04.048/2017-18   **February 07, 2018**

All banks and NBFCs regulated by the Reserve Bank of India

Madam / Dear Sir,

Relief for MSME Borrowers registered under Goods and Services Tax (GST)

Presently, banks and NBFCs in India generally classify a loan account as Non-Performing Asset (NPA) based on 90 day and 120 day delinquency norms, respectively. It has been represented to us that formalisation of business through registration under GST had adversely impacted the cash flows of the smaller entities during the transition phase with consequent difficulties in meeting their repayment obligations to banks and NBFCs. As a measure of support to these entities in their transition to a formalised business environment, it has been decided that the exposure of banks and NBFCs to a borrower classified as micro, small and medium enterprise under the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006, shall continue to be classified as a standard asset in the books of banks and NBFCs subject to the following conditions:

(I)   The borrower is registered under the GST regime as on January 31, 2018.

(ii) The aggregate exposure, including non-fund based facilities, of banks and NBFCs, to the borrower does not exceed 250 million as on January 31, 2018.

(iii) The borrower's account was standard as on August 31, 2017.

(iv) The amount from the borrower overdue as on September 1, 2017 and payments from the borrower due between September 1, 2017 and January 31, 2018 are paid not later than 180 days from their respective original due dates.

(v) A provision of 5% shall be made by the banks/NBFCs against the exposures not classified as NPA in terms of this circular. The provision in respect of the account may be reversed as and when no amount is overdue beyond the 90/120[1] day norm, as the case may be.

(vi) The additional time is being provided for the purpose of asset classification only and not for income recognition, i.e., if the interest from the borrower is overdue for more than 90/120[2] days, the same shall not be recognised on accrual basis.

Yours faithfully,

(S. K. Kar)

Chief General Manager

---

[1] Consequent upon transition to 90 day delinquency norm with effect from March 31, 2018 for NBFCs, provision reversal will be with reference to the 90 day norm
[2] Consequent upon transition to 90 day norm with effect from March 31, 2018 for NBFCs, restriction on income recognition on accrual basis will be with reference to interest overdue for more than 90 days.

> **A representation was made to RBI in person on 5th January 2018 by TTPK, a GOLD accredited BMO by QCI-NABET; a textile industry association in Tirupur, Tamil Nadu.**
>
> **Accepting the above petition, RBI issued a notification dated 7th February 2018 classifying MSME accounts as NPA (Non-performing asset) increased the delinquency period from 90 days to 180 days**

(Inputs by **Mr. Vipin Pant, QCI-NABET** as reported by **TTPK** on Accredited **BMOs-QCI-NABET**)

Initiatives of Environment Division, NABET

Workshop on 'Preparing Good Quality Environmental Impact Assessment (EIA) Report' organised by QCI-NABET, at Pride Plaza Hotel, Ahmedabad, Gujarat, during March 20-23, 2018. On successful completion of the workshop, certificates were distributed to participants

MoEFCC, New Delhi, conducted a meeting with Accredited EIA Consultants on Feb 26, 2018, at MoEFCC (From right - Mr. Manish Kumar Jindal, CEO, QCI-NABET; Mr. Jigmet Tapka-Joint Secretary, MoEFCC; Mr. Gyanesh Bharti (IAS) - Joint Secretary, MoEFCC; Dr. Sharath Kumar Pallerla-Director, MoEFCC; Mr. A K Jha, Sr. Director, QCI-NABET)

MoEFCC, New Delhi, organised an interactive meeting with SEIAA/SEAC/Accredited EIA Consultants (Eastern & North Eastern States) on March 21, 2018, at Kolkata, West Bengal

Lean Training Program for Consultants

The Micro, Small and Medium Enterprises (MSMEs) are a vital part of the Indian economy contributing to over 45% of Industrial production and around 40% of the total exports. MSMEs are the largest contributor in terms of employment generation in the manufacturing sector. MSMEs are present as part of the value chain in almost all distinguished industry sectors like automotive industry, garments and textile industry, leather industry etc.

Recognizing the importance of overall economic growth of a country and the need for enhancing its productivity, competitiveness and employment generation, many countries have initiated institutional mechanism for a national approach on manufacturing.

The Development Commissioner, Ministry of Micro, Small and Medium Enterprises (DC-MSME), Government of India is implementing the Lean Manufacturing Scheme for the benefit of Micro, Small and Medium Enterprises.

The objective of the scheme is to enhance the manufacturing competitiveness of MSMEs through the application of various Lean Manufacturing (LM) Techniques. The general approach involves engagement of Lean Manufacturing Consultant (LMC) to work with selected MSMEs in the chosen clusters with financial support by the Government.

National Accreditation Board for Education and Training (NABET) has been appointed as National Monitoring and Implementation Unit under the scheme.

5-Day Lean Training Program (12th March – 16th March 2018) was conducted for lean consultants who are involved in implementation of lean tools and techniques on ground i.e. in MSME Sector.

The program was organized in collaboration with American Society for Quality (ASQ) at NABET office, New Delhi. The 5-day training schedule was tailor-made to cater to the needs of Lean Manufacturing consultants dealing with MSMEs on a day-to-day basis. 15 Lean consultants from various parts of the country attended the program.

Faculties for Training Program were
a) Shri A.K. Jain, Principal Faculty
b) Shri Ciby James
c) Shri Dhruv Dhar

DAY 1, 12th March 2018

The 1st day saw all participants get familiar with each other and the training material at hand. Mr. Ciby James, trainer from ASQ, conducted the sessions for the day. The Chair Shri A.K. Jain kicked-off the training session by briefing the participants of the objective of the training. The participants responded well to in-training exercises and appreciated the relevance of the exercises so organised.

The day also saw presentation of the MBNQA Business Excellence Model (MBNQA) which focuses on leadership, Strategy, Customers, Measurement, Workforce, Operations and results.

DAY 2, 13th March 2018

Day 2 saw recap of the concepts covered on Day 1 by the trainer Mr. Ciby James. The session saw 7 Quality Control tools (7 QC tools) discussed in great detail and their utilization in countering everyday production problems.

The participants were divided into teams and a production line was simulated. The possible problems in running such a production line were demonstrated and the process of solving such problems by the help of 7QC tools was presented by each team.

The faculty for the 2nd half was Mr. A.K. Jain who tackled the important topics of Balanced Scorecard and Hoshin Kanri (a method of policy deployment). He shared how each of these was undertaken and executed at BHEL. Each of the participants presented their take with on-the-ground examples of 5S, Wastes and Value Stream mapping.

DAY 3, 14th March 2018

Industry expert and guest faculty Mr. Dinesh Bhrushundi from GMR Group undertook the training in the 1st half of the day. He illustrated with

succinct examples the obstacles faced in implementation of Lean tools and techniques at the Indira Gandhi International Airport and the proven methods of success for assuring the sustenance of lean practices.

Mr. A.K. Jain presented his successfully published paper on Quality index to the participants. It highlighted the successful implementation of Quality Index in BHEL and how the same may be replicated in other industries.

The 2nd half was particularly interactive with each of the participants being experts themselves on lean tools such as FMEA, Poka Yoke, Kaizen and SMED. They presented their practices and cleared the concepts of the rest of the participants. Several practical examples were taken and discussed in detail by each participant.

DAY 4, 15th March 2018

Shri A.K. Jain began the training in the 1st half on the 4th day with a briefing on Statistics and the importance of Statistical Control in manufacturing, particularly how critical it is in MSMEs. Case studies highlighting several aspects paramount to accuracy in data collection were shared as well.

Mr. Dhruv Dar conducted detailed sessions on basic statistics and Statistical Process Control (SPC). The wide variety of Control Charts and their applicability to the nature of the data available were demonstrated with many examples. The participants also solved several numerical problems to understand the application of various control charts and distributions (such as Normal Distribution, Binomial Distribution and Poisson Distributions etc.)

The Participants also brainstormed and shared various challenges faced in implementing Lean Techniques in MSMEs. The latter half of the day was dedicated to the study of types of Sampling and the principles of Process Capability. Mr. Dar also touched upon Six Sigma and cited several instances out of his own experience in MSMEs to make the application of SPC and Six Sigma viable in Indian MSMEs.

Day 5, 16th March 2018

The 5th Day kicked off with an at-length presentation on the Zero Defect and Zero Effect (ZED) initiative of the M/o MSME by Shri A.K. Jain. The ZED Maturity Assessment Model was explained in detail and the participants clarified all their queries and shared their thoughts regarding the same.

The participants were then asked to prepare and present their ideas on the industry-relevant topics most prevalent today, such as, Industry 4.0, Jidoka, Developing Lean Culture in MSMEs and Lean Six Sigma in MSMEs.

A brainstorming and Knowledge sharing session was conducted on ideas to improve the Lean Manufacturing Competitiveness Scheme of the M/o MSME. The session was chaired by Dr. Indrajit Bhattacharya, Director, NABET-QCI.

The day ended with distribution of Participation Certificates. The participants shared positive feedback and expressed that they were much enthused to continue the work of implementing Lean Manufacturing in Indian MSMEs and had greatly benefitted from the Training program.

NMCP- National Manufacturing Competitiveness Programme is the nodal programme of the government of India to enhance global competitiveness among Indian MSMEs.

National Manufacturing Policy describe manufacturing as the main engine for the growth of the economy & envisages manufacturing sector to reach a target of 25 percent of the national GDP by 2022

QCI
Creating an Ecosystem for Quality

NABET

LEAN MANUFACTURING COMPETITIVENESS SCHEME (LMCS)

ABOUT THE SCHEME

- **Lean Manufacturing Competitiveness Scheme is a scheme of Development Commissioner (Ministry of Micro, Small and Medium Enterprises) – DC (MSME) under National Manufacturing Competitiveness Programme (NMCP)**

- Objective of Scheme is to improve the competitiveness of MSME Sector through implementation of Lean Tools and Techniques

- 80% cost of implementation being borne by Ministry of Micro, Small and Medium Enterprises (MSME) while 20% cost is borne by MSME unit owner

- Implementation of Lean Tools & Techniques will help MSME Sector in the following area's

  √ Improve Quality   √ Eliminate Waste   √ Reduce Time   √ Reduce Total Cost

MAIN CHALLENGES OF MSME

- **Cost** - Tendency to move up

- **Margins** - Consequently - go down

A MSME UNIT HAS 3 OPTIONS TO MAINTAIN OR INCREASE ITS MARGIN

- **Increase the Sale price** : Not possible as it depends on the buyers' need. (fully external factors)

- **Increase the production /volume** : Not possible due to shortage of space, want of resource (internal factor) and customers' need (external factor)

- **Downwards thrust on Cost** : Only this is possible for a MSME (fully internal factor)

MARGIN

Income

Cost

Scale	Units	Average Investment in P&M (₹Cr)	Total Consultant Fee (₹Cr)	Total Savings (₹Cr)	Consultant Fee Per Unit (₹Lakhs)	Savings Per Unit (₹Lakhs)	Return on Consultant Fee (Ratio)
	A	B	C	D	E = (C/A)	F = (D/A)	G = (F/E)
Micro	59	0.14	2.02	7.64	3.43	12.95	3.77
Small	255	1.94	8.69	75.49	3.41	29.60	8.69
Medium	33	7.46	1.12	15.23	3.38	46.15	13.65
TOTAL	347	₹2.16	₹11.83	₹98.36	₹3.41	₹28.35	8.32

From the above table of data analyzed from 347 completed Lean MSME units; it is observed that Investment in the form of Fees paid to Lean Consultants by GOI & Unit has led to **8.32 times Returns on Consultant Fee over 18 months period.**

[3.77 times for Micro ; 8.69 times on Small and 13.65 times in case of Medium enterprises]

5 S IMPLEMENTATION

BEFORE

AFTER

BEFORE

AFTER

VISUAL MANAGEMENT

BEFORE

AFTER
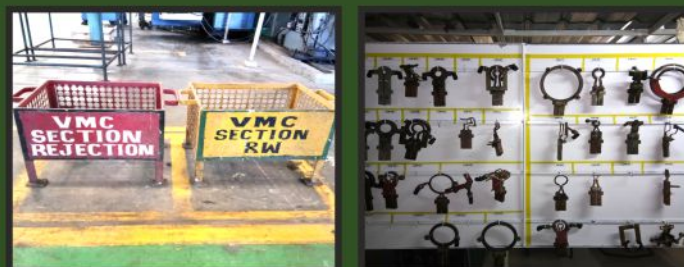
"We are very much thank to DI Mumbai and specially to QCI Delhi for their effort to bring us in Lean Cluster. We have been very much benefited by Lean tools like 5s, cellular Layout, kaizen, Kanban, Poka Yoke, etc. yearly we have got the savings of Rs. 62,13,534. We have been converted from loss making unit to profit making unit due to Lean Mfg. Activity. We will keep this going and sustain in our factory."

- Mr. Milind Patil, Managing Director, M/s Pragati Founders

ABOUT NABET

National Accreditation Board for Education & Training (NABET) is a constituent board of Quality Council of India (QCI).

NABET is a member of Pacific Accreditation Cooperation (PAC) and International Accreditation Forum (IAF).

ABOUT QCI

Quality Council of India is a nonprofit autonomous body' set up jointly by Government of India & Indian Industry to establish and operate national accreditation structure and promote quality through National Quality Campaign.

Indian School Darsait Wins NABET Accreditation

(The Only NABET Accredited Indian School in the Sultanate of Oman!!!)

Dr. Sridevi P. Thashnath
Principal, Indian School Darsait

Indian School Darsait is the first CBSE school, outside India, to be accredited by NABET – the Quality Council of India, through accreditation NO. IS. 1216040.

Our school started its journey through a humble beginning in the Sultanate of Oman in 1992, as a sister concern of Indian School Muscat and became an independent entity in 1994. The primary objective of the school is the holistic development of the students through inculcating values, training them in life skills and molding them into global citizens.

Our vision of becoming the most preferred Indian Community School in the Sultanate of Oman has gradually become a reality through the unstinting support of the management, parents, staff and all other stake holders!

The NABET accreditation has aided the school in conceptualizing national curricular objectives and strengthening quality school governance, which enabled the school to have a dynamic and transparent system in place.

Development of a new mindset and systematic approach among the stake holders to the educational needs of students was one of the great achievements obtained through NABET accreditation.

It has equipped the staff with better understanding of the changing pedagogy by providing them the opportunity to upgrade their skills & knowledge and helping them through improved work environment to develop a quality culture; thus enhancing their abilities to deliver quality education. Hence with the advent of QCI into ISD we have been able to create a set of motivated staff which is one of the most significant contributions of NABET accreditation to this alma mater.

NABET accreditation helped the management pursue their objectives and goals and to focus on long term vision in academic and administrative spheres. Apart from all these, the credibility of the school has increased manifold in the eyes of all the stake holders.

NABET has helped us prioritize and improve Safety Standards that has also led to the initiative - the School Monitored Safe Transport System introduced by ISD and followed by other schools in Oman.

With academic and administrative systems in place, rating the effectiveness of the school functioning and taking corrective measures wherever necessary has become easier. Proper documentation of all the procedures and deeper awareness of each and every one's area of activity has made the functioning of the system efficient and effortless. It has helped the school develop quality consciousness among the stake holders, especially teaching faculty and encouraged the school to pursue continual improvement, bringing Indian School Darsait, synonymous to academic and administrative excellence!!!!!!
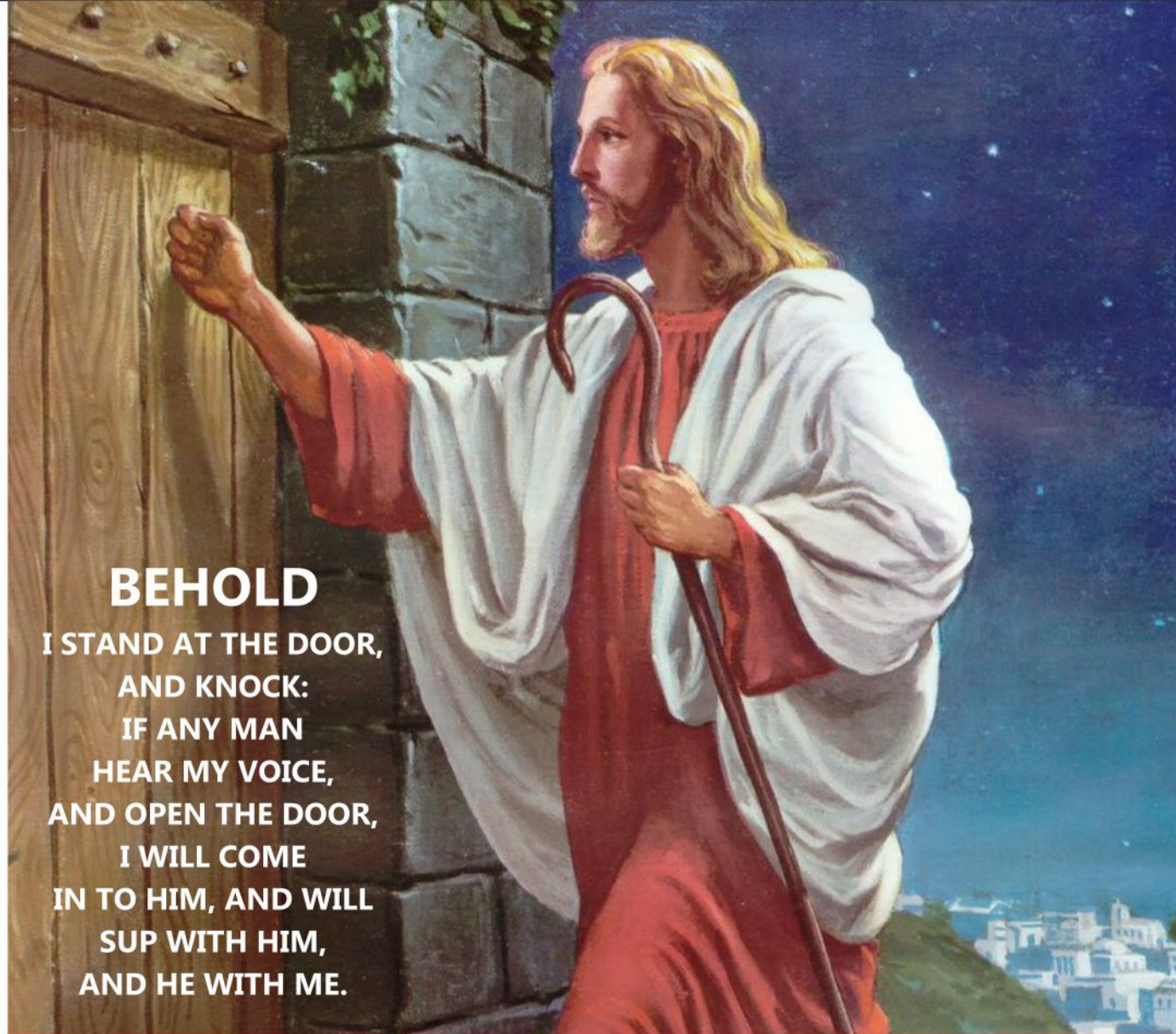
BEHOLD

I STAND AT THE DOOR,
AND KNOCK:
IF ANY MAN
HEAR MY VOICE,
AND OPEN THE DOOR,
I WILL COME
IN TO HIM, AND WILL
SUP WITH HIM,
AND HE WITH ME.

PSALM 122

The peace of Jerusalem

A song of degrees of David.

1. I was glad when they said unto me, Let us go into the house of the LORD. Is 2:3; Zech. 8:21

2. Our feet shall stand within thy gates, O Jerusalem.

3. Jerusalem is builded as a city that is compact together: See 2 Sam. 5:9

4. Whither the tribes go up, the tribes of the LORD, unto the testimony of Israel, to give thanks unto the name of the LORD. Ex 23:17; Deut. 16:16; Ex. 16:34

5. For there are set thrones of judgment, the thrones of the house of David. Deut 17:8; 2 Chr. 19:8

6. Pray for the peace of Jerusalem: They shall prosper that love thee. Ps. 51:18

7. Peace be within thy walls, *and* prosperity within thy palaces.

8. For my brethren and companions' sakes, I will now say, Peace *be* within thee.

9. Because of the house of the LORD our God I will seek thy good. Neh. 2:10

PSALM 121

Help from the LORD

A song of degrees.

1. I will lift up mine eyes unto the hills, from whence cometh my help. Jer. 3:23

2. My help cometh from the LORD, which made heaven and earth. Ps. 124:8

3. He will not suffer thy foot to be moved: he that keepeth thee will not slumber. 1 Sam. 2:9; Ps. 127:1; Is. 27:3

4. Behold, he that keepeth Israel shall neither slumber nor sleep.

5. The LORD *is* thy keeper: the LORD *is* thy shade upon thy right hand. Is. 25:4; Ps. 16:8

6. The sun shall not smite thee by day, nor the moon by night. Ps. 91:5; Is. 49:10

7. The LORD shall preserve thee from all evil: he shall preserve thy soul. Ps. 41:2

8. The LORD shall preserve thy going out and thy coming in from this time forth, and even for evermore. Deut. 28:6

A PEEK INTO 7TH NABL CONCLAVE, 2018

(AHMEDABAD)

Dr. R. P. Singh

7th National Conclave for Laboratories
"Laboratories: Striving towards Excellence amidst Challenges and Opportunities"
23rd-24th January, 2018
Hyatt Regency, Ahmedabad
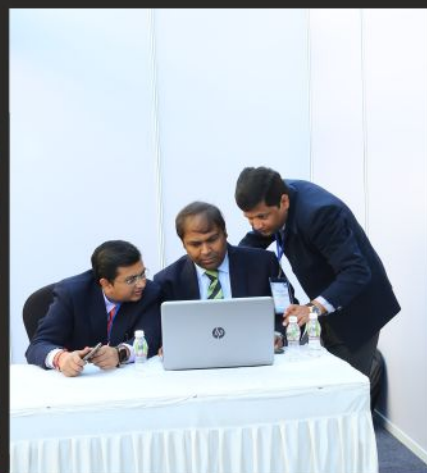
A PEEK INTO 1st NABH CONCLAVE, 2018

(Delhi)

Dr. B K RAO

7th National Conclave for laboratories

Ahmedabad: NABL (National Accreditation Board for Testing & Calibration Laboratories) organised the 7th National Conclave on 23-24th January in the heritage city of Ahmedabad. NABL is a constituent Board of QCI (Quality Council of India). The two day Conclave was organised at Hotel Hyatt Regency and the theme was 'Laboratories: Striving towards Excellence amidst Challenges and Opportunities'. The Conclave provided a platform to share and discuss issues related to the testing, medical and calibration laboratories.

Dr. R.P. Singh, Secretary General, Quality Council of India, said, "The Conclave focused on development of good laboratory quality management to meet the stand- ards amidst various business challenges. It also helped to know more about the upcoming changes and ways to convert them into growing opportunities."

While, Mr. Anil Relia, NABL, stated that the laboratories are determined to accept challenges and the technical advantage to provide efficient quality services to industry.

The second Conclave will be same spirit will be talking opportunity growth in gemology. Also for garding water tes toys testing etc.

દેશમાં ચાલતી 1 લાખ પૈકી માત્ર 1 હજાર લેબોરેટરી જ એક્રિડિટેશન ધરાવે છે

પ્રયોગશાળાઓ માટે એનએબીએચ દ્વારા ૭ મી રાષ્ટ્રીય કોન્કલેવનું આયોજન

લેબોરેટરી ને વિશ્વસનીય બનાવવા માટે કોન્કલેવ નું આયોજન

હર લેબોરેટરી કો વિશ્વસનીય બનાને પર જોર એનબીઓએલ કા 7વાં સમ્મેલન

અમદાવાદ બે દિવસીય રાષ્ટ્રીય કોન્કલેવ યોજાશે

એનએબીએલ ને પ્રયોગશાલાઓં કે લિએ 7 વેં રાષ્ટ્રીય સમ્મેલન કા આયોજન કિયા

લેબોરેટરી ને વિશ્વસનીય બનાવવા માટે કોન્કલેવ નું આયોજન

એનએબીએલ દ્વારા પ્રયોગશાળાઓ માટે ૭મી રાષ્ટ્રીય કોન્કલેવનું આયોજન

બેદરકાર લેબ.ની NABLએ સરકારને ફરિયાદો કરી

STREAM MEDIA ATTENTION
NABH

.....Join the Action

#OverwhelmingResponse to #7thNABLConclave 500+ gathering and still counting ... keep following us to know more! Make In India
Published by Anam Qureshi [?] · January 23

657 people reached
Boost Post

QCI @QualityCouncil · Jan 23
#ISO 17025 revised. 3 years for labs to transition. #MoreEmpowerment given to labs. #RiskAssessment necessary.- Anil Relia, CEO, @nabl #7thNQBLConclave. Keep following us to know more! @AdilZainulbhai @RaviPSingh

7th National Conclave for Laboratories
"Laboratories: Striving towards Excellence amidst Challenges and Opportunities"
23rd-24th January, 2018, Hyatt Regency, Ahmedabad

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Anil Jauhri @aniljauhri · Feb 16
AMTZ, QCI and AiMED sign and exchange MoI in presence of Mr Sudhansh Pant JS, DoP
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You, Rajiv Nath and AMTZ.in
1   12   25

Quality Council of India
Published by Anam Qureshi [?] · March 21
milestone achieved! #QCI signs agreement with UP department of education for improving support services in medical college #QualityMatters Uttar Pradesh

Quality Council of India shared a post.
Published by Anam Qureshi [?] · March 28

NABCB - National Accreditation Board for Certification Bodies
March 27
NABCB speaker delivered a talk on voluntary certification schemes in food sector to participants of seminar organised by PHD chamber of commerce for food processing industry. The seminar was held at Gujarat Chamber of commerce & industry today

597 people reached
Boost Post

ZED
January 8
Govt. of Haryana signs MoU with Quality Council of India. Shri Ashok Sangwan, IAS, Special Secretary (Haryana) and Dr. R. P. Singh (Secretary General-QCI) discu...
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Mr. S S Padh from @QualityCouncil team evaluated SHGs in Berhampur Municipality Corporation for #Swachhata Excellence Award.

#TransformingIndia
#TransformingLives

Boost Post

Quality Council of India
Published by Anam Qureshi [?] · February 23
Dr. SK Mishra, Joint Director, NABET sharing his views on Clean and Sustainable Development at International Conference, NITTR, Chandigargh

Quality Council of India
Published by Anam Qureshi [?] · March 23
Anupriya Patel अनुप्रिया पटेल, Hon'ble Minister of State for Health and Family Welfare, inaugural address at # NHQC18 NABH- National Accreditation Board for Hospitals and Healthcare Providers

1st National Healthcare Quality Conclave (NHQC)
JOURNEY TOWARDS EXCELLENCE

National Accreditation Board for Certification Bodies

Training in revised ISO/IEC 17011:2017 Peer Evaluator Workshop held in Jaipur 22nd-23rd Feb 2018

The revised ISO/IEC 17011 standard has been released in November 2017 and a series of trainings are being organized by APLAC and PAC. Mr. Anil Jauhri, CEO, NABCB, who was a member of the CASCO Working Group 42 as well as the drafting group involved in revision of ISO 17011, is one of the faculty on behalf of Pacific Accreditation Cooperation (PAC) providing trainings on revision of ISO/IEC 17011.

The first training organized by PAC was held at Taipei, Taiwan during 20-21 Nov 2017. This was attended by one participant from NABCB along with 33 other participants from 24 Accreditation Bodies.

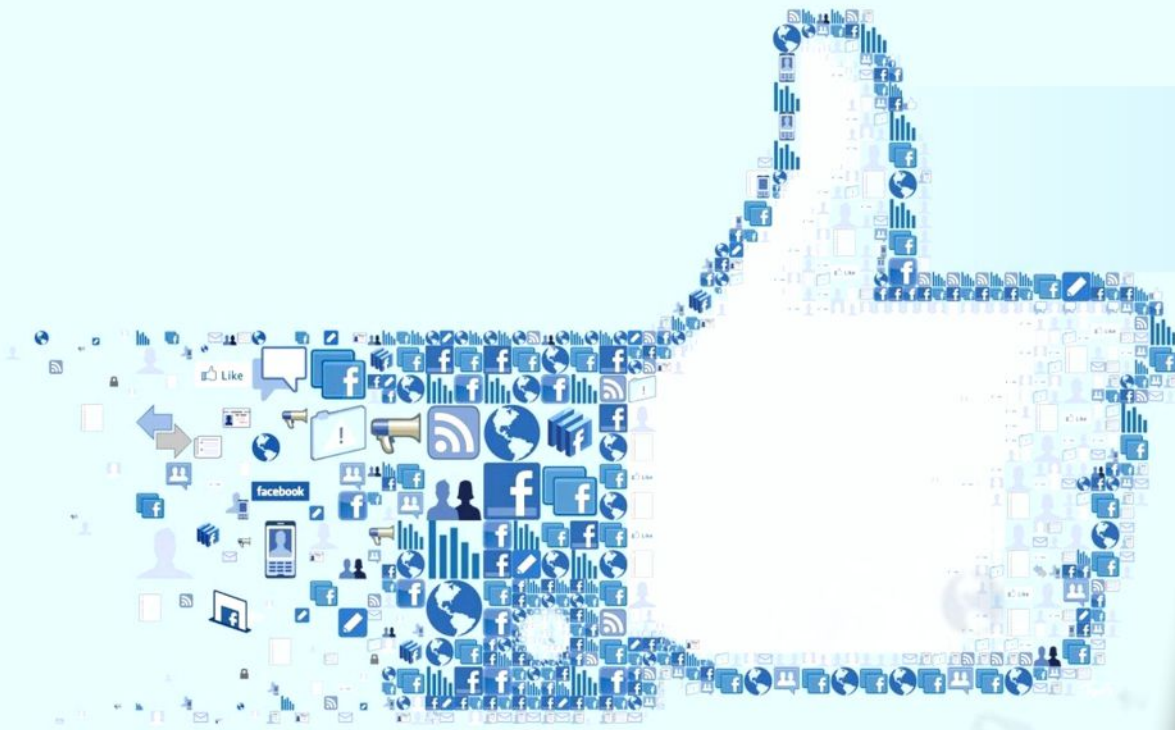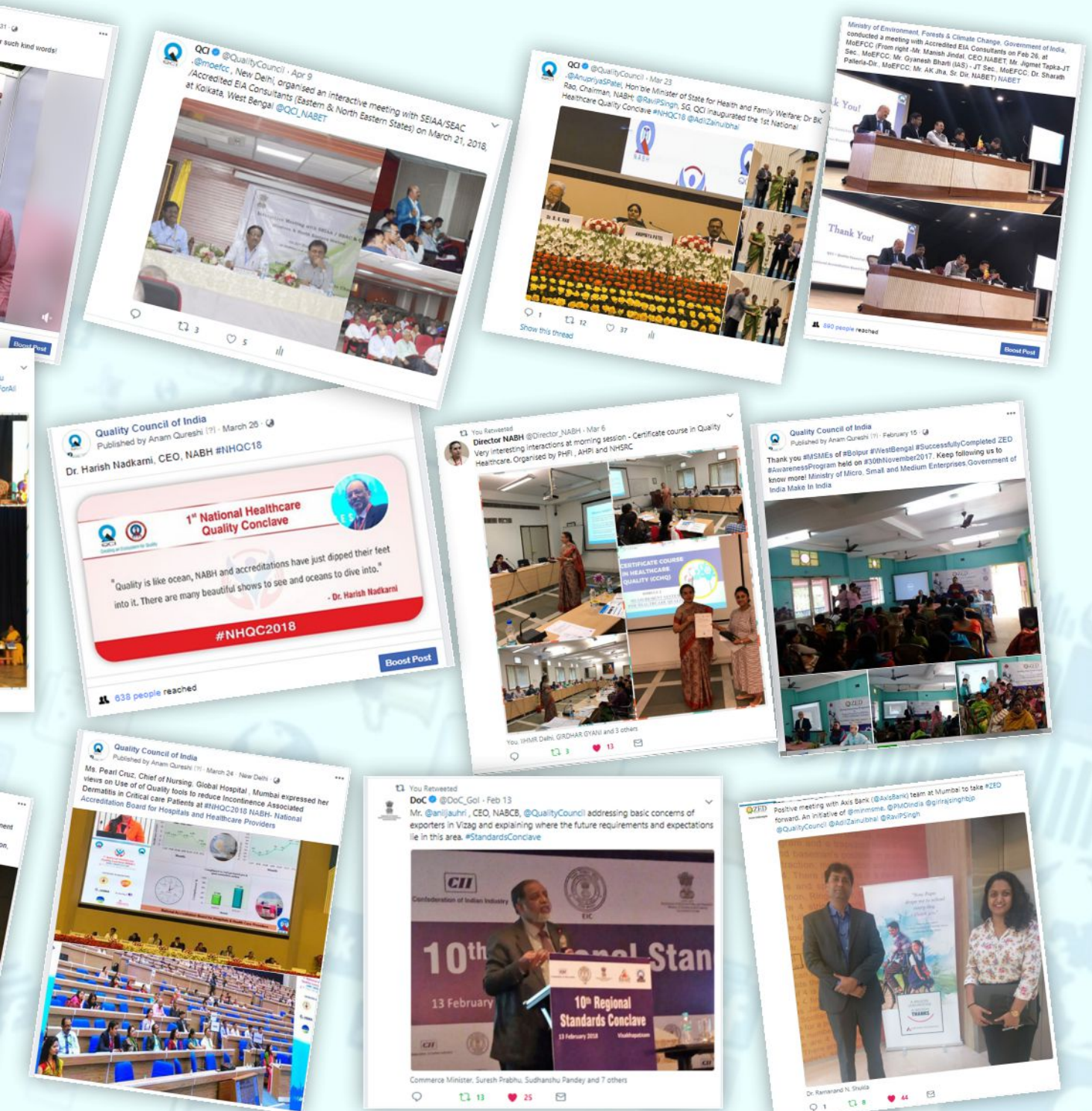Earlier, Director, NABCB attended the ISO regional workshop on revised ISO/IEC 17011 from 28-30 Aug 2017 in Kuala Lumpur, Malaysia..

One NABCB representative also attended the APLAC training organised in Hong Kong on revision of ISO/IEC 17011 on 21-22 Sep 2017.

NABCB also hosted a joint APLAC-PAC peer evaluators workshop on 22-23 Feb 2018 at Jaipur. The purpose of the workshop was to discuss revisions in the new version of ISO/IEC 17011:2017. There were 10 participants including one form South Korea and 09 from India and the faculty for the workshop was Mr Anil Jauhri.

NABCB Inspection Body Meeting

NABCB held a one-day meeting with applicants and accredited Inspection Bodies on 12 March in Mumbai. NABCB conducted an annual meeting with inspection bodies to discuss and deliberate on issues being faced by IBs and NABCB. Mr Shyam Bang, Chairman, NABCB attended the meeting to interact with inspection bodies and find out their expectations related to operations of NABCB. There were discussions on ISO/IEC 17020 clauses related to impartiality, equipment and competence with specific focus on Type A status of IB. NABCB faculty also explained about what is required from inspection bodies with regard to offering witness assessments and defining scope of Accreditation. There was participation from the regulator in Oil and Gas sector (Petroleum and Natural Gas Regulatory Board, PNGRB) to deliberate with inspection body personnel on issues related to accreditation in the same sector. The meeting was attended by 65 participants from different inspection bodies.

NABCB Meeting with Certification Bodies

NABCB held its annual one-day meeting with accredited / applicant Certification Bodies in Delhi on 27 March 2018. The meeting was chaired by Mr Anil Jauhri, CEO, NABCB. During his opening remarks, CEO, NABCB requested CBs to provide feedback on the activities of NABCB and sought their opinion related to NABCB activities. An update was provided on the different meetings of ISO/IAF/PAC and all CBs were requested to join as members of ACBI. He further added that the association of CBs should be an active member of APAC. An update was provided on the different standards under development like ISO 45001, ISO 17029, ISO 14065 and NABCB transition/migration policies for the revised standards.

During the meeting, sessions were conducted on competence requirements as per ISO 17021-1,2 and 3 by Mr. VK Mediratta, Lead Assessor, NABCB.

Ms. Sunita Rawat, Dy. Director, NABCB discussed about the witnessing requirements as per IAF MD 17. MD 17 is intended for consistent application of Witness Assessments across all Accreditation Bodies, where all IAF codes have been merged into a series of technical clusters and critical codes are identified in each cluster.

CEO, NABCB explained about Software implementation by NABCB. He informed that accredited certificates shall be required to be uploaded on NABCB portal starting from 1st May 2018.

Visit of Ethiopian Delegation to NABCB, India

A 10-member Ethiopian delegation led by Mr H.E. Professor Afework

Kassu Gizaw, State Minister, Ministry of Science and Technology, Ethiopia visited NABCB, Quality Council of India on 15 March 2018 to discuss about accreditation and certification system in India. The delegation comprised of other government officials involved in quality infrastructure as given in Annex.

The delegation on the Indian side was headed by Mr Adil Zainulbhai, Chairman, QCI; and Mr Shyam Bang, Chairman, NABCB, Mr Anil Jauhri, CEO, NABCB and officials from other Boards of Quality Council of India like NABH, NBQP, NABET, NABCB, and ZED were also present..

In his welcome remarks, Chairman, QCI stressed that quality was important in all sectors of life and accreditation was being successfully leveraged even in social sectors by the Govt of India.

The Hon'ble Minister from Ethiopia in his opening remarks expressed his interest to cooperate with QCI on the practised quality infrastructure and conformity assessment model in India, to set up similar system for industries in Ethiopia. He also informed that delegation was keen to learn about the processes followed in India during accreditation of conformity assessment bodies and have views, if from trade point of view it was advisable for Ethiopia to grant laboratory accreditation first followed by accreditation of product certification later.

There was discussion about the way Indian accreditation system functions and methodology NABCB adopts to involve industry and the approach NABCB has taken to involve regulatory bodies.

It was agreed in principle that NABCB and ENAO would sign an MoU to cooperate with each other and NABCB would support ENAO to build capacity especially in accreditation of certification and inspection bodies.

First Accreditation under Yoga scheme Worldwide

NABCB accredited the FIRST personnel certification body worldwide for Yoga scheme as per requirements of ISO/IEC 17024. The organisation accredited is M/S APMG India Certifications Pvt Ltd. Bangalore, India. It has been accredited for certification of Instructors (Level 1) and Yoga Teachers (Level 2) under the Voluntary Certification Scheme for Yoga Professionals of the Ministry of AYUSH, designed and till recently operated by the QCI.

With this unique and first of its kind accreditation in the world for Yoga Scheme which could justifiably be considered as another milestone for NABCB, it is now aiming for IAF mutual recognition arrangement for Personnel Certification scheme this year, which would bring along the benefit that its accredited certification bodies will be considered internationally equivalent.

Industry Awareness Programmes

In order to spread awareness on accreditation and its benefits to the industry, NABCB undertakes a series of Industry Awareness Programmes which cover the following topics: Challenges of Standards and Conformity Assessment, Benefits of international equivalence of accreditation for industries, and Guidance on selection of certification bodies for ISO 9001 and other certification. NABCB conducts these programs in association with different industry organisations in India. During this year, NABCB conducted 2 programmes in engineering sector on 23 Jan 2018 at Aurangabad and 16 March 2018 at Coimbatore, in partnership with Engineering Export Promotion Council (EEPC), India. NABCB also conducted two food sector specific Industry awareness programmes in collaboration with PHD Chamber of Commerce and Industry, India on 30 Jan 2018 at Vijayawada and 8 Feb 2018 at Indore. NABCB speakers also had a session on the above topics during the Regional Standards Conclave organised by the Department of Commerce, Government of India on 12 Feb 2018 at Jaipur.

Consumer Awareness Programmes

In order to educate consumers and consumer organizations in small cities about Quality of Products and Services, NABCB organizes Consumer Awareness Programmes in partnership with Consumer Coordination Council (CCC). NABCB conducted one such programme at Kochi on 22 March 2018 at the YMCA International. The participants were informed about Voluntary Standards and Regulations, Role of accreditation, Product and Systems Certification and Complaint handling. Programme was attended by over 100 participants. NABCB plans to conduct more such programmes jointly with the Consumer Coordination Council.

NABCB participates in IAF Evaluation of IAAC

NABCB Peer Evaluator Ms. Shobha Hegde was a part of the IAF evaluation team which conducted the re-evaluation of Inter American Accreditation Cooperation (IAAC), the regional body for accreditation bodies in North & South Americas. IAF witnessed the assessment performed by Servicio de Acreditación Ecuatoriano (SAE), the accreditation body of Ecuador, during 21-27 March 2018. This is the first time, that an NABCB evaluator is a part of an evaluation being conducted by International Accreditation Forum (IAF).

Organizational Excellence Frameworks – How to Fail

A DOZEN REASONS YOUR ORGANIZATION SHOULD NOT DO EXCELLENCE FRAMEWORKS

Prashant Hoskote

I often wonder why some organizations embrace excellence frameworks while others struggle to accept them as a way of life. At meetings and conferences, I am asked a variety of questions – Are these for everyone? Can it really fit in business, healthcare, not-for-profit and even in education sectors? Aren't they complicated? Are there real examples of how and where they truly worked for organizations? Can I really implement something that is so systematic? Don't they cost a lot? These are usually apprehensions of people who want to be talked out of it.

These questions, and others, prompted me to put down some tongue-in-cheek thoughts about why excellence frameworks fail and what these frameworks require. If you intend to implement any excellence frameworks, be it Baldrige, EFQM, Deming Prize, the Australian model, or any such equivalent, be warned.

Reason #12 – No strong external and internal relationships. You have to build strong relationships with external suppliers, partners, stakeholders, as well as build internal relationships with your staff. Additionally, these frameworks require an organization to develop performance metrics on how to measure and evaluate success with those relationships. The danger is, such relationships may break down barriers, improve teamwork, set higher performance requirements, which could actually improve efficiency and effectiveness of operational processes. This could disrupt the status quo.

Reason #11 – Train without action. Organizations often embark on an Excellence Framework by executing a Big Bang training plan to make all staff aware of the framework. As Dr Joseph M Juran once said, "Training without action is always forgotten, training with action is always remembered". Start with the senior leaders, let them be the first few set of Examiners or Assessors. Staff at the grass root level doesn't need to understand what Framework you are using. They only need to know, implement and improve just that part of the framework that impacts them. Aligned training might result in cost savings and targeted improvements. But it could upset your training department if they enjoy deploying high impact, highly branded, costly training programs.

Reason #10 – Disregard free consulting advice. If you use any Excellence Framework and undergo an assessment or examination of your organization, you will receive a feedback report that is the most inexpensive consulting assistance designed to improve your organization. Trained professional examiners or assessors will provide your organization with ways to improve and maximize resources. But we wouldn't want a detailed feedback report from strangers highlighting where you can focus your efforts, especially when some of them don't even understand your industry.

Reason #9 – Think we are doing as best as we can. If you use Excellence Frameworks, you will receive weird looks from other organizations and from insiders who don't understand why the status quo isn't adequate. Your organization will work toward world class performance and outperform your competition. But then, you actually have to improve your organization. Frankly, it can be much easier to run an organization based on experience and gut feel of your managers. After all, that's why you hired them in the first place.

Reason #8 – Confuse activity with results. When you receive your assessment feedback report, two things could happen:

1. Your organization might treat it like an audit report and pick up 'non-conformities' for 'closure'

2. Organizations typically look to address all Opportunities For Improvement at one go and in fact, ignore the Strengths. I am reminded of good old Dr Juran's quote again, "You cannot eat an elephant in one bite, but you can… if you eat it one bite at a time".

Excellence Frameworks encourage prioritization and intelligent use of resources. Money, time, energy, and talent can be better focused on what is important. Such alignment can cause an organization to actually

increase capacity and use fewer resources. *But all this might create capacity for our staff. Reduction of unnecessary hiring could cause turmoil in your Human Resources department.*

Reason #7 – Don't communicate with staff. If you use Excellence Frameworks, senior leadership and management will have to improve communications throughout the organization. This may mean meetings with front line employees (management by walking around) to better understand business issues and how it can be improved, it could mean team huddles, web casts, and town-hall meetings. Leaders and employees will have to be honest and open about what they can, and more importantly, cannot do. *But many leaders may be uncomfortable mingling with staff. They may prefer to just tell them what to do and see what happens.*

Reason #6 – Misunderstand and misuse tools. Excellence Frameworks do not replace tools and techniques such as Lean, Six Sigma, Problem Solving, Kaizen, PDCA etc. On the contrary, these tools are needed to drive breakthrough improvements, reduce costs and improve customer satisfaction. But be careful. *Employees involved in these improvements may become more engaged and outspoken about what processes aren't working. It's a slippery slope from employee involvement to empowerment and on to an employee-driven organization.*

Reason #5 – No action planning. Using excellence frameworks requires planning. You may be required to develop short and long-term goals that have to be deployed across the organization. Something could happen and plans might change. You will be thinking about whether your organization is agile enough to respond to changes. This may force you to develop alternative plans. Then you will want to tell everyone in the organization about your plans so they can help you execute them. *So when will you actually do real work, if you have to plan so much?*

Reason #4 – No benchmarking and best practice sharing. You will want to understand your competitors and how your performance compares with theirs. You will start analyzing your industry and market. This will need you to discover world class organizations that you may want to benchmark with. All this will give you insight into aspects of your business you hadn't thought of. Then you will be thinking about how this knowledge can create a sustainable organization. *See how, once you get started, one thing leads to another and soon you are out of your comfort zone.*

Reason #3 – No organizational alignment. Excellence Frameworks will require daily work to be based on a strategic plan. The organization's Work Systems will need to align with the Strategic Plan. Work will have to be evaluated continuously. Customers/patients will have to be consulted to understand how well you are doing to address their needs and expectations. The framework targets work, people, and projects. *But all this seems like getting too many people to be aligned, all this seems like it's a slow process.*

Reason #2 – No accountability. There's too much accountability and responsibility up and down the organization. You are paid the same whether you effectively apply these world class excellence frameworks or not. You are already tired when you leave work and you don't need a rigid set of priorities linked to your performance appraisal. *All anyone wants is to keep your head down, avoid any extra work and hope for the best.*

Finally, the number one reason organizations fail to achieve success with an Excellence Framework.

Reason #1 – Delegate too much. This might sound cliché but the hard reality is, CEOs often delegate implementation of such things to a 'Quality department' and expect them to wave a magic wand to transform the business. The CEO may be there for an announcement or an introductory training. They may say all the right things, and then tell their Quality department to make it happen. This trite approach can ensure failure. There is a reason why 'Leadership' is the first category in all Excellence Frameworks. This has to be driven by the senior leader, not just in speeches, but in continuous action, visibility and support. Mr CEO, don't even think about implementing an Excellence Framework unless you unwaveringly lead the charge from the front.

All kidding aside, let me get back to the questions I started with which represent concern about starting this journey. I have worked with Excellence Frameworks since over twenty years. I can say without any doubt in my mind that Excellence Frameworks work and can deliver dramatic results. They represent structure and discipline. But they only work if the organization is serious about improvement demonstrates belief, grit and determination. If the organization is not serious, it will only deliver frustration and agony!

In the words of Dr Juran, "Look after the process, and the product will look after itself"!

ABOUT THE AUTHOR

Senior Director – Quality and Service Excellence, Max India, New Delhi, India

Chair, Organizational Excellence Technical Committee, ASQ - Quality Management Division

Vice Chair, ASQ – Quality Management Division - Global (Asia and Australia)

Taking the Internal Quality Audit Process a Step Further

Sushil Bhatia
Manager Quality Assurance
SpiceJet India Ltd.

In a conventional set up of an organization (service or manufacturing), the quality audits are employed as a tool to find gaps between what/how needs to be done and what/how it is being done. Of course, the relations between the inputs, outputs, resources etc have already been defined.

As defined in" ISO 19011:2011 - Guidelines for Auditing Management Systems", an audit is a "systematic, independent and documented process for obtaining audit evidence [records, statements of fact or other information which are relevant and verifiable] and evaluating it objectively to determine the extent to which the audit criteria [set of policies, procedures or requirements] are fulfilled." Several audit methods may be employed to achieve the audit purpose.

When Quality Audit Systems are utilized for internal audit purpose, they can be categorized under First Party Audit. In this case, the audit outcomes are considered as important information for the top management regarding the extent to which the policies and procedures are being complied with within the company, and also any issues which require facilitation by management for allocation of resources, policy decisions etc.

Today, the organizations are looking at optimum utilization of resources, as right kind of resources are becoming increasingly scarce and costly, if not precious. At times, the definition of the resource itself becomes the USP of an organization. For example, in the field of civil aviation, the companies have coined the word "On Time Performance : OTP" to gauge their performance.

Given the actual scenario of an internal quality audit, most of the time, the companies restrict the scope of audits to gauge mere compliance/conformance to policies and procedures. Let's get to the basics of it. An auditor unearths the so called "gap" in a process during an internal audit. In that, he finds that instead of raw material A, the process is using material B, which is not complying with the procedures, and hence the auditor records it as a gap. The question is "why this gap between A and B" is to be unearthed by Auditor, and could not be unearthed by the process owner himself? Is it by chance or by default?

I fully endorse the principle that the role of independent Audit Department cannot be dispensed away with in any organization. However, the question is about the nature of gaps and quantity. Agreed that a newly incepted organization would have lots of gaps in the beginning, but it should mature after some time. After it has stabilized, however, do you actually require an "outsider" to tell you where the gap in your procedure is? To my view, a process owner is supposed to be the master of his field of work. In this context, I would say that an auditor is being utilized to unearth what that process owner is not doing what he is supposed to do.

Now, here is the dichotomy. Organization practices optimum utilization of resources and approves of multi-tasking. However, in this context, I would say, once "mundane" under control, synergies of the auditor can be diverted to value addition work.

PERFORMANCE Vs COMPLIANCE/CONFORMANCE

The compliance/conformance to the regulators' requirements and company policies is in no way less important, especially in the world of civil aviation, where the companies have to comply with international laws also, apart from domestic ones. However, in current times, the purpose of these audits must go beyond traditional compliance and conformance audits. The audits that determine compliance and conformance are not focussed on good or poor performance. An organization may be in compliance with all policies and procedures, but may be a poor performer when we talk in organizational context.

In view of the above, it is mandatory that all process owners be held more responsible towards number of gaps that they leave in their processes, to be discovered later by auditors. This way, the auditors would have more resources to divert to more value-adding activity, rather than encountering "mundane" gaps aplenty, which can be tackled by careful process owners.

EMPOWERMENT OF QUALITY TEAM

No organization can progress without investing into the human resources. An auditor needs to be trained in correct auditing techniques, and needs to be groomed by the experienced Lead Auditor to see "through" the things during audit. In a similar manner, to do a performance audit, the team needs to be properly and adequately trained in the quality tools.

A good organization utilizes a combination of quality tools on appropriate occasions. The team needs to be encouraged to think quality, and all resources, including quality journals; books etc need to be adequately made available. The team needs to be trained in tools, like Kaizen, 5S, Six Sigma, Lean etc.

HANDS-ON PROJECTS

Almost none of the institutes offer real world hands-on projects to the participants. In this scenario, the organization must have a project in mind, while building up the quality teams, so that principles learnt in theory can be practised in the organization itself. In fact, it would be continuous exercise on the part of the company to build up the skills in the hierarchy. For example, in case of Six Sigma, the company would have many green and yellow belts, few Black belts, under Master BB and a mentor.

In the end, what must be remembered is that cost of poor quality far exceeds that invested on building quality.

Business Process Management to Process Reengineering

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A useful Managerial Technique for identification of non-value added processes, reduction in process time & cost and effectiveness of processes for business success

Processes are the basic activities and operations followed during the making of products & outputs, execution of tasks, jobs, services and projects etc. The two important aspects of a Process are--Effectiveness and Efficiency. When we talk about effectiveness, it is the correct selection of processes and for efficiency; it is how correctly it is executed without any failure and deviation. Processes are evaluated as Value Added Process & Non-value Added Process from the customer's point of view and Business Value Added Process from organization's point of view. In improved manufacturing industry most of the processes are fixed with SOPs (Standard Operation Process) for continuous & regular productions but in periodic & customized productions it becomes flexible.


Figure 1: Process for Value Addition

In service sector, where mass customers and citizens receive mass services for various areas of daily requirement sand from the sectors like Banking, Super Market, Telecom, Hospitals, Railways, Public Transports, Airways, Education; public services and schemes are the sectors where various processes are not controlled or fixed or standardized. In these sectors enormous process losses occur due to manual execution and new processes. IT development and interventions of IT Techniques enabled the industry for reductions in process and customer inconveniences and process delays. In any organization the ranges and number of process should be fixed with 5-10% variations in customized or critical situations. Identification of Critical processes and engagement

of efficient & competent manpower would enable any organization to reduce the process time and its delays. Technical & Process Experts or it could be efficient process owners who are the real assessor of the process with innovations in the working areas.

Process and Operation analysis are still not prevalent in India for saving the cost of the production and services. Revolution in IT, which is called Industry 3.0, is an automatic choice to reduce many processes; it reduces the customers' & public involvement. Industry 4.0, which supports automation, is also more effective for reduction and controls the processes. For engineering industries, where aggregate Processes & Operations are in ranges i.e. 200-2000 with forward & backward linkages, passed through various sections & decision making centers and on Internal & External processes, scope and chances of process improvement through reduction & modification of process are comparatively high and Process Reengineering is most effective for that organization.
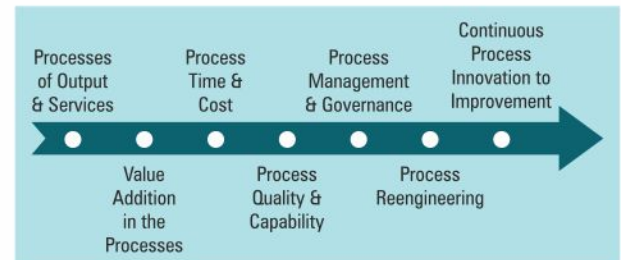
Figure 2 : Basics about Processes

Business Process Reengineering (BPR) and Business Process Management (BPM) are the Techniques through which organization could respond to competitiveness and new market trends.

7 Enablers of BPM : The basic enablers or elements of the Processes make the processes a sustainable based process management which is describes in below given chart.

Process repetition or reprocess and process rejection occur due to mistakes and failures by the process owners. So, process owners should be trained with basic quality techniques to complete it correctly on first time. Process Quality will improve through training, adopting best techniques/technology or by involving experienced process owners. The processes will be more competent when there will be more value additions, innovations in the process, lessening the execution time means no process delay and zero waiting time between processes. Process could be benchmarked only when all the processes are studied and find similarity or broad compatibility in the section, department, services and outputs etc.

About Process Time

Reduction in process time is the main purpose and objective of process management. Two important part of process time reduction are, first – Reduction in Process Execution Time and second – Reduction in Process waiting time. It is observed that due to lack of balances of the Processes, Unplanned Process and Unorganized Structure of an organization, process delay and long process time exists.

About Process Compliance and Competency

When we say process compliance and competency, it is about standards maintained by operators and it's followed up to avoid loss & wastages on timely delivery of goods & services through the techniques of service operations and simple operations.

Figure 3 : Process Competency

Process Change and Improvement

There is not any specific method of process change and improvement but it is a combination of methods & techniques. Organizations could follow the methods as mentioned below:
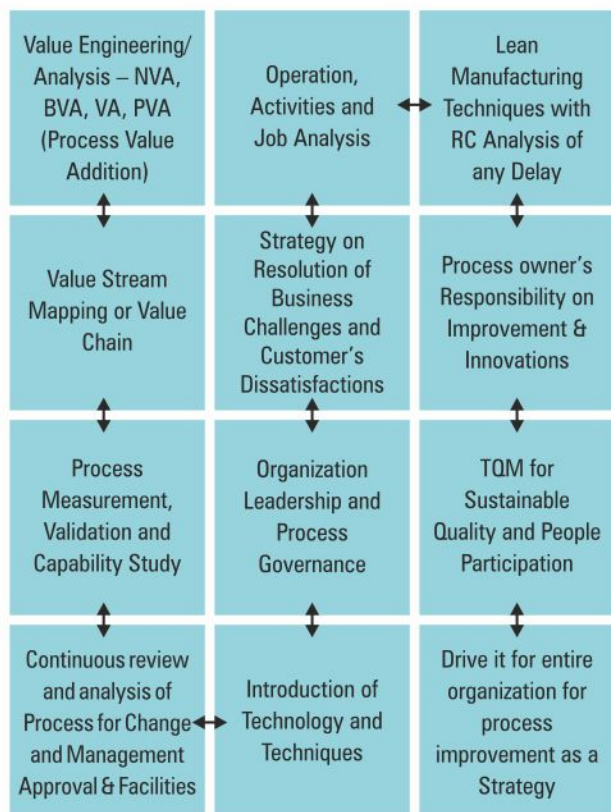

Chart 1: Process Change and Improvement Methods

Efficient Public Services through Better Process Management

It is also observed that most of the government schemes are not implemented on time and public do not realize the benefits of it. It is due to long process time, process gaps, no exercise on planned process flows and time of each process. For public services in Indian, mostly during the project & scheme implementations and also for regular departmental activities, concerned departments and ministries could undertake initiatives on the areas like: on time delivery of services & execution through process planning & analysis and implementation of process reengineering. Process standards are also important with shared responsibility of process owners for on-time delivery and regular exercise on Root-Cause analysis for any delays & waiting with Action Plan for preventing any deviations. Government could save the project administration & monitoring expenses, develop the effectiveness of the projects & schemes and better value additions from the common citizens. Government could think to involve Quality and Productivity Councils or experts for its process improvement.

Conclusion

Process Management, Improvement and Reengineering are not so far valued or implemented in Businesses for identification of non-value added processes & operations, except few industries and limited organizations. Some industries use supply chain management where up to some extent they improve the delivery by controlling the process and reduce the process delays. Management and bureaucrats should be more informative about the Process Management and Governance, its benefits to their business and impact on products & services.

Courtesy:

1) Remaining Management; Putting Process at the Center of Business Management, By Roger Tregear Forwarded by Micheal Rosemann

2) Managing Business Process Flows; Principals of Operation Management, By Ravi Anupindi, Sunil Chopra, Sudhakar D. Deshmukh, Jan A. Van Mieghem, Eiten Zemel

Quality Improvement in Diagnostic Laboratory by Evaluating Pre-analytical Errors

"Mistakes are a fact of life. It's the response to the error that counts"

Nikki Giovanni
(American poet, 1943)

Ms. Purvi Shah (Ph.D)
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Creating a value chain to deliver an excellent customer experience Heightened physician awareness to better clinical outcomes and increasing patient requirement to avail of high quality care, have made it imperative for providers to deliver targeted therapy. This has been made possible by the availability of sensitive and specific diagnostic tests, along with technologically advanced medical devices and equipments.

With economic growth augmenting incomes of the middle and upper classes, their demand for accurate and timely medical care, is likely to increase. As a result, healthcare expenditure commands a greater share of the wallet. People are becoming more aware of their health, due to the improved availability and accessibility of better health-related information. Current trends include continuous monitoring of health status through regular checkups, and of health information by patients the dynamic healthcare landscape in the country will further augment the demand for effective therapeutic modalities. Trends include increasing incidence of lifestyle related diseases, greater awareness of health related concerns, growth of medical tourism, increasing penetration of health insurance in the country.

The clinical/diagnostic laboratory plays an important role in the patient-centered approach to the delivery of healthcare services. Physicians rely on accurate laboratory test results for proper disease diagnosis and for guiding therapy. It is estimated that over 70% of clinical decisions are based on information derived from laboratory test results. The pre analytical phase of the total testing process is complex. It starts with the perceived need for the test and ends with specimen processing. According to the published reliable data, pre-analytical errors account for nearly 50%–70% of all problems occurring in laboratory diagnostics, most of them attributable to mishandling procedures during preparation,

collection, handling, storage and transportation of the specimen. Although most of these would be "intercepted" but such situation can cause inappropriate investigations and unjustifiable increase in costs to the company by generating inappropriate clinical decisions and sometimes causing some unfortunate circumstances. The process of blood testing is also referred as the **"Total Testing Process,"** which begins and ends with the patient. It includes the entire process from ordering the test to interpretation of the test results by the clinician.

THREE PHASES OF LAB PRACTICE	
Pre-analytic	• Patient variables
	• Specimen variables
	• Collection
	• Handling
	• Processing
	• Transportation
Analytic	• Performance of selected laboratory test
Post-analytic	• Test reporting variables
	• Recording
	• Reporting
	• Interpreting

Many studies have reported that the pre-analytical phase of the testing process has direct and important effect on the reliability of patients' laboratory results and consequently, on the Quality of patient care and on patient safety. Thus, recognition of these factors is challenge to Clinicians and Nurses as well. Phlebotomist or Nursing staff plays an important role during collection and handling of blood samples and in also for providing patients with accurate information prior to the tests.
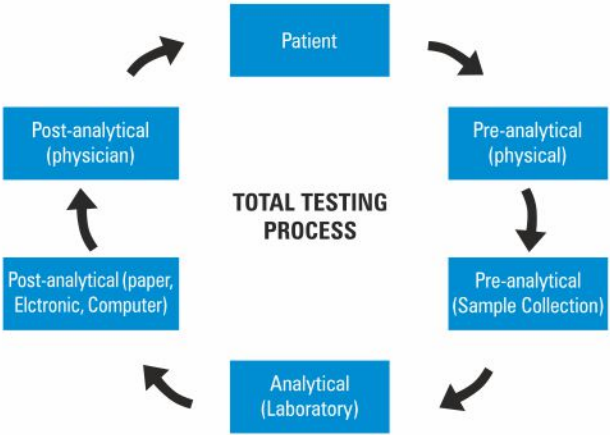
Many areas in healthcare industry are still struggling with the issue of patient safety; laboratory diagnostics has always been a forerunner in pursuing the issue of **"Impact of Pre analytical errors in Diagnostic field"**. Significant progress has been made since the release of International published article" To err is Human." Which is like a bench mark for review of laboratory quality assessment and also guide/updates with recent statistics concerning laboratory errors?

PRE ANALYTICAL
- Incorrect test requisite
- Patient identification error
- Patient preperation error
- Phlebotomy error/sample collection error
- Mislabelling of containers
- Incorrect handeling of sample
- Logistic/transportation error

ANALYTICAL
- Sample lost
- Sample mixup
- Equipment faliure
- Analytical error

POST ANALYTICAL
- Test result lost
- Turn Around Time (TAT)
- Transcription Error
- Incorrect interpretation

Quality systems are the mainstay of clinical laboratory management. The comprehensive laboratory testing process must be continually monitored and evaluated to ensure reliable test results and set the foundation for quality improvement. While such efforts have resulted in significant improvements in many of the processes, but errors still occur. In order to implement corrections and improve the testing process, the laboratories must identify the various sources of errors.

NO	MAJOR SOURCES OF PRE-ANALYTICAL VARIATIONS
	PATIENT PREPARATION
1	BIOLOGICAL VARIATION
	ENVIRONMENTAL CONDITIONS (CLIMATE, POLLUTION)
	POSTURAL CHANGES
	SAMPLE COLLECTION
	PATIENT IDENTIFICATION & SAMPLE LABELING
	TYPE OF DISPOSAL FOR COLLECTING (e.g Needle, Butterfly needle, Cannula)
	CALIBER (gauge) OF THE NEEDLE
2	TOURNIQUET TIME
	CONTAINER (e.g Primary tube)
	ORDER OF DRAW
	PHLEBOTOMY PROCEDURE
	CONTAMINATION
	TUBE/SMIXING OR INVERSION
	SAMPLE TRANSPORTATION
3	LENGTH AND ENVIRONMENTAL CONDITIONS
	PNEUMATIC TUBE SYSTEMS

	SAMPLE PREPERATION FOR ANALYSIS
4	LENGTH, SPEED & TEMPERTURE OF CENTRIFUGATION
	PREPARING ALIQUOTS
	SAMPLE STORAGE
5	LENGTH (STABILITY)
	TEMPRETURE
	FREEZING & THAWING

It has been observed and understood during routine practice that Laboratory testing is a highly complex process and although laboratory services are relatively safe, **they are not as safe as they could or should be.** Clinical laboratories have focused their attention on quality control methods and quality assessment programs dealing with analytical aspects of testing. However, a growing body of evidence accumulated in recent decades demonstrates that quality in clinical laboratories cannot be assured by merely focusing on purely analytical aspects. Our study revealed that the errors in diagnostic laboratory occur more frequently before (pre-analytical) and after (post-analytical) the test has been performed. As per modern approach and new ISO standards (15189:2012), Total Quality, centered on patients' needs and satisfaction, the risk of errors and mistakes in pre and post-examination steps must be minimized to guarantee the **TOTAL QUALITY** of laboratory services.

COMMONLY KNOWN PREANALYTIC VARIABLES		
Patient Variables	**Specimen Collection Variables**	**Specimen Handling Variables**
Diet	Posture	Haemolysis
Body mass	Diurnal variation	Lipemia
Age	Time of collection	Centrifugation
Medications	Fasting status	Processing time
Gender	Tourniquet	Temperature
Smoking	Presence of IVs	Sunlight
Pregnancy	Capillary V/S venous	Evaporation
Exercise	Anticoagulants	Aliquoting
Race	Order of draw	Labeling
Dehydration	Sample mixing (Inversion activity)	Transport conditions

Our study also describes are view of the effect of the pre-analytical phase on the quality of laboratory results. Awareness of pre-analytical errors and to facilitate improvements in the same practice associated with patient preparation, collection of blood, storage, logistics, testing etc. The quality of the pre-analytical phase plays a vital role in obtaining reliable test results, thus promoting patients' health, diagnostics and facilitating analysis of the effectiveness of the treatment. Several steps are been implemented to increase awareness and establish a governance of this frequently over looked aspect of the total testing process. Standardization and monitoring pre-analytical variables is of foremost importance and is associated with the most efficient and well-organized laboratories, resulting in reduced operational costs and increased revenues. This study updates on the total quality management of the pre analytical phase to endeavor further improvement for patient safety throughout total testing process.
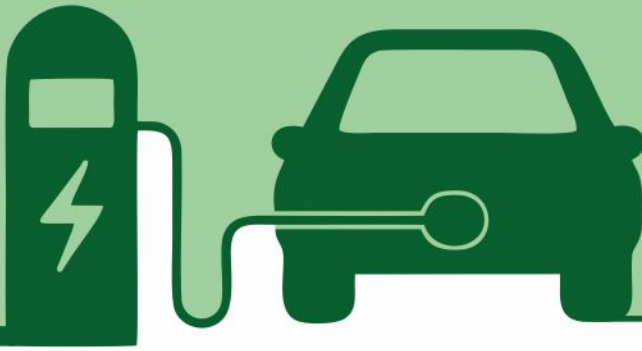
Electric Vehicle:
An Option for Sustainable Mobility Solution for India

India's 2017 population is estimated at 1.34 billion, based on the most recent UN data, and is the 7th largest country by area and the second-most populous country. The mobility of the population, especially in the major metro cities, is a major concern.

The traffic congestion is defeating the very purpose of fast mobility and also posing a concern on the Air Quality. An inadequate public transportation facility in major cities has also prompted more and more private vehicles sales in the country thus contributing to more traffic jams. In FY2017, roughly 17.7 million bikes and scooters were sold in India, making it the largest two-wheeler market on the planet. That's over 48,000 vehicles per day.

With cities growing faster than the infrastructural development, more traffic congestion and subsequent pollution has called for urgent measures like car pooling as mentioned in the Niti Aayog - RMI report.

As per the "Air Pollution Level Health Implications" (0-50) Air Quality Index (AQI) is considered as Good and (51-100) is considered as Moderate hence is acceptable; however, till (151) sensitive groups and beyond that everyone may begin to experience adverse health effects. The warning of unhealthy condition for the entire population starts from (201) AQI onwards.

Internal combustion Engines (ICE) running on fossil fuel are considered to be the major source contributing to it. BSVI is meant to meet global standards and will have a tremendous positive impact on emissions caused by the traffic. In order to meet it Original Equipment Manufacturers (OEM) and Oil marketing companies have invested a lot. Adoption of Hybrid vehicles, powering IC Engines on clean fuels like hydrogen produced from renewable sources or vehicles running on Fuel Cells and Electric Vehicles etc are various options available.

A well–knit and coordinated system of transport plays an important role in the sustained economic growth of a country. When it comes to electro mobility, it is a long-term objective not just for the government but for companies and manufacturers as well.

With rapidly evolving technologies and business models, there is a need to adopt new and fundamentally different pathways to provide clean, cost-effective, and efficient mobility services that are safe, create new jobs, reduce dependence on oil imports, and achieve more efficient land-use in cities with the least environmental footprints and impacts on human health. A rapidly developing India is at the cusp of making such a transition to new mobility solutions. To help draw up

Ajay Kumar Sehgal

strategies to enable making this transition with the collective wisdom of a multitude of stakeholders, Rocky Mountain Institute (RMI) and NITI Aayog took on the ambitious assignment of organizing a first of its kind charrette dialogue process in February 2017.

"India's current mobility system reflects many of the underlying properties of the emerging mobility paradigm. India could leapfrog the conventional mobility model and achieve a shared, electric and connected mobility future by capitalising on these existing conditions and building on foundational government programmes and policies," ---- The report is based on a workshop convened by NITI Aayog and a US-based think tank RMI in February when 75 executives from public and private sectors discussed ways to decongest the present public mobility by designing a sustainable model for the next 15 years.

As per that India could save 64% energy in 2030 by shifting to shared electric mobility. The subsequent drop in petrol and diesel consumption would be 156 million tonnes of oil equivalent (MTOE) or 1.8 tera watt-hour energy -- enough to power 1,796.3 million homes in the country.

Also, by pursuing a future powered by electric mobility, carbon dioxide emissions would drop by 37% in 2030, the report said. It also suggested ways of reducing carbon footprint by measures such as limiting registrations of petrol and diesel vehicles by incorporating a lottery system; a system prevalent in China.

Advantages of Electric Vehicles:

- Energy efficient. According to the U.S. Department of Energy, electric vehicles typically convert 59%-62% of the electrical energy from the grid to power the wheels, compared to conventional gas vehicles, which typically convert 17%-21% of the energy stored in gasoline to power at the wheels.

- Easy maintenance. Electric motors have fewer moving parts than internal combustion engines, so they're often easier to maintain. They also don't require oil or air filter changes.

- Low fuel costs. Electricity is cheaper than petroleum. Electric cars are about one-third cheaper to operate than gas cars on a cost-per-mile basis.

- Eco-friendly. With no exhaust system, electric cars typically have zero emissions. Their rechargeable batteries are also almost 100% recyclable.

- Safe to drive. Electrics undergo similar testing as gas-powered cars. In an accident, air bags will deploy and electricity is cut from the battery. Plus, the fluid batteries actually take impact better than a gas car.

Disadvantages of Electric Vehicles:

- Shorter driving distance. The average range on one battery charge is 50-100 miles – not ideal for those with a substantial commute.

- Long recharge time. Several hours to recharge compared to simply filling up at the gas pump.

- Anxiety. Due to limited range and shortage of recharging stations, it may be a constant concern about running out of power.

- Limited space. Electric cars often have room for only 2 occupants.

- Expensive battery.

India's Initiative:

The government has already started a small but significant beginning aimed at creating sudden disruption. The government initiative will not only spur its own agencies to speed up preparations for electric revolution but also convince automakers that the government means business when it says it will drive out all petrol and diesel vehicles by 2030. "Transformation happens when savvy technologists rapidly reduce hardware costs and innovative entrepreneurs simultaneously develop new business models to economically deploy this hardware. India is a country full of these change makers, and already members of the government, private sector, and civil society are quickly shaping India's mobility transformation," says the FICCI-RMI report on electric mobility in India.

Though world over, electric vehicles are backed by 30-40% subsidy yet as per Mahindra & Mahindra managing director Pawan Goenka, India wouldn't need to offer incentives to push adoption of electric vehicles if prices of lithium-ion battery decline to less than $100 (Rs 6,350) per

KwH by 2022 from about $180 now. With battery prices on a decline, use of electric vehicles for commercial applications is likely to become economically viable in the next five years, Goenka said, speaking at the ETAuto EV Conclave.

Some of the Indian OEMs have already taken the lead in manufacturing of electric cars like Mahindra e20 Plus and Mahindra e-Verito, and Tata Tigor Electric.

Ashok Leyland launched its first electric bus in October 2016, Tata Motors launched its pure electric bus 'Starbus Electric 9m' and hybrid 'StarBus Electric 12m' in January 2017.

The following companies have launched electric pick-up trucks in India:

- Mahindra eSupro, a fully electric van

- Tata Motors, Ace Electric in 2016

- Ashok Leyland, Dost Electric pickup truck

The biggest challenge continues to be battery-charging infrastructure. In order to resolve the issue of charging stations and lack of charging infrastructure in the country, public-private partnerships need to be explored and strengthened based on stabilized grids and clear revenue models. While the government can issue recommendations and advisories for this purpose, it cannot build the entire infrastructure. One potential source of charging stations can be petrol pumps or metro stations. However, they will need to be equipped and powered by renewable energy sources or bio-fuels. Else, the entire purpose of clean energy is lost. India has nearly 56,000 fuel stations. For an-all- electric - car target, India needs to ramp up infrastructure in a big way. Since the operating range of electric vehicles is low, India would need a humongous charging infrastructure.

The government has already made a beginning. In November, Nagpur became the first city in India to have an electric-vehicle charging station by an oil marketing company, Indian Oil Corporation at its petrol pump. The government fleet of electric cars which will hit the roads in 2018 will also bring with itself a limited charging infrastructure

Finally, it is understandable that an EV is not propelled emission free as long as the power is not coming from renewable energies.

The ideal power train of the future will be a mix of electro mobility and ICEs combined with renewable electric power for optimum value delivery till electric vehicles mobility becomes a reality.

Crushed Stone Sand – An Ideal Substitute for Natural River Sand

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Director Material Testing House
(India) Ltd

Infrastructure development is an indicator of the economic well-being of the nation and the concrete is the critical material for the development of infrastructure. Concrete is widely used man-made construction material in the world and is the second most utilized substance on the planet after water as it is one of the major building materials in all branches of modern construction.

Concrete is a composite construction material composed primarily of cement, aggregate and water. Generally aggregates used for concrete are blended with coarse and fine aggregates in certain proportion. The scope of this paper is confined to the fine aggregate.

Worldwide, natural sand available at the deposits of natural streams is used as fine aggregate. However, natural sand resources in many areas across the world are running out, either because of extinction or sterilization of reserves or because of environmental concerns. So, it is a need of the time to find some substitute to natural river sand. Against this background the concrete producers, construction engineers, builders and suppliers of sand are seriously thinking about crushed stone sand as a substitute to the natural river sand.

Crushed stone sand is not new for the construction industry. IS 383-1970 clearly specified this. However, the usage of crushed stone sand is negligible as the natural river sand is available abundantly. But now the situation has changed entirely. The quantum of fine aggregate available is same but the requirement of natural sand has increased several hundreds of times since 1970. To meet this ever-increasing demand for the fine aggregate, there are other alternatives like crushed stone sand or manufactured sand as specified in IS 383: 2016.

Crushed stone, one of the most accessible natural resources, is a major basic raw material used in construction. Since centuries crushed stone coarse aggregates have been used for the production of various types of concrete in construction. However, for the fine aggregate, the construction industry is dependent on natural sands. But, now the industry has realized that the end residue during the stone crushing for coarse aggregates, commonly known as 'crusher dust' can be modified to the requirements of IS 383: 2016 and used for concrete construction.

This paper highlights the technicalities in using crushed stone sand as a substitute for the natural river sand. Now this crushed stone sand is already available in the market though in a very limited quantity. The users are calling this sand as robo sand, rock sand, artificial sand, manufactured sand, stone sand etc. But let's call it **'CRUSHED STONE SAND'** as mentioned in IS 383-2016. We should not call it manufactured sand. As per IS 383:2016 manufactured sand is from other than natural sources, by processing materials, using thermal or other processes. Iron and steel, slag comes under this manufactured sand.

Material described as crushed stone sand can range from unprocessed quarry dust to, at best, carefully processed fine aggregate specifically designed for use in concrete. It can be coarse, flaky, and full of filler ($<75\mu m$), or it can be well shaped and graded, particles in the right size range. One area in which crushed stone sand can score over natural sand is its consistency. Some natural sand sources are notoriously variable, leading to many concrete producers routinely increasing cement content to cover all eventualities. There will be difference in the natural sand in two trucks lifted from the same source. The quality of natural sand is not at all consistent due to seasonal variations. The Civil engineers, builders, contractors agree that the natural sand, which is available today, is deficient in many aspects. It does not contain the fine particles, in proper proportion as required. The natural river sand is the product of sedimentation. Mica, coal, shale and some organic impurities are present in the river sand. The increase in these impurities above the percentages stipulated in IS 383-2016 makes the sand unfit for construction. In many parts of our country, good natural fine aggregate is not available. Often they contain unacceptable amount of organic and inorganic impurities, fine particles and silt. Excess silt in sand interferes with setting time, shrinkage and bond strength. One of the contributory causes of cracks and craziness in plaster is the presence of excessive silt and clay in natural sand.

Generally fine aggregate falling under Grading Zone-II will be ideal to be used in concrete. Details of zone II & III of IS 383 -2016 are furnished in the table:

IS SIEVE DESIGNATION	NATURAL SAND		CRUSHED STONE SAND	
	Percentage passing for		Percentage passing for	
	Grading Zone II	Grading Zone III	Grading Zone II	Grading Zone III
10mm	100	100	100	100
4.75mm	90-100	90-100	90-100	90-100
2.36mm	75-100	85-100	75-100	85-100
1.18mm	55-90	75-100	55-90	75-100
600microns	35-59	60-79	35-59	60-79
300microns	8-30	12-40	8-30	12-40
150microns	0-10	0-10	0-20	0-20
75microns	Max 3	Max 3	Max 15	Max 15

Crushed stone sand generally complies all the requirements specified in IS383-2016. The crushed stone sand is much better than the natural sand in complying these above requirements. Sulphate and chloride content in crushed stone sand available in India are well within the limits and the potential reactivity of this is innocuous and it will not participate in alkali aggregate reactivity. Hence, after taking note of all these points, if the supplier fulfils the above requirements, the Crushed Stone sand is an ideal substitute to replace Natural Sand entirely in Concrete and other works.

Also, we have to understand that the digging of sand from river beds reduces the water head and causes less percolation of rain water in to ground, which results in lower ground water level. The water flowing in the river may be covered with sand, so it is less exposed to sun. In the absence of sand, more water gets evaporated due to direct sunlight. So, after considering all these effects, it is our responsibility to substitute the natural sand with **'CRUSHED STONE SAND'** to save our environment and improve quality in construction.

NABH – The New Turning Era for Indian Healthcare!

Kirankumar Ghanapuram
Consultant – Healthcare Management

Many of us know about National Accreditation Board for Hospitals and Healthcare Providers (NABH) but only few know how exactly NABH is bringing quality in healthcare sector. There is a clear statement of IRDA that all such providers offering cashless services for allopathic treatment shall meet with the pre - accreditation entry level standards laid down by NABH or such other standards or requirements as may be specified by the Authority from time to time within a period of two years from the date of notification 29.07.2016.

An only countable healthcare provider has taken great initiatives on heavy investment for the said statement. In market, every healthcare consultancy is now approaching healthcare provider to wake up and bring seriousness. Many just want to increase their clientele list and few are actually into implementing the standards in healthcare to bring real quality as it's a great opportunity for them in all terms.

In this speed up, healthcare provider does not understand the NABH's requirement, standards & its objective element. And Healthcare provider's many questions are remaining unanswered. **Question starts from -- what is Quality till is NABH mandatory?** All healthcare providers are of course highly educated. Then do you think their questions are inevitable.

Some important questions in this area are – why government has not taken any initiative on accreditation of the hospitals even though they have enough resources with them? **As many hospitals have their own cash & satisfied patients then cashless just a service is generate any real change.** What if government changes and new such other standards or requirements come? If all hospitals apply for NABH within the given timeline, then has NABH proper resources to cope up with it? Are hospitals pre- accredited & accredited getting real benefits from the shareholders/external bodies/insurance/TPA companies? How much of our population is aware about NABH?

Every patient has their definition of quality. For many of them only concession on service bills is actual quality. Then is government & relevant private bodies creating awareness regarding NABH benefits for patient? Is NABH for now really meant for quality? Or quality itself is a marketing tool?

Now one more question arises in healthcare provider's mind here-- should we do this to bring real quality in facility or consider the era as mandatory to solve all the problems? Choice has their own time-bound consequences and your defined vision & mission helps in depiction.
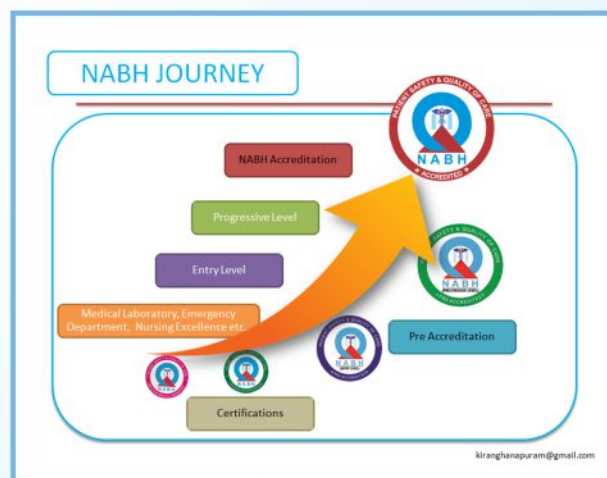
I request every healthcare provider not to depend of others to get these answers. All information is on there on NABH's website. Excellence comes when it starts from you. Real quality is just nothing but strong commitment towards continuous improvement.

Let's share you my own thoughts experienced in healthcare. I believe in NABH standards and this, in fact, fulfils the main objective of NABH, every patient, healthcare provider & shareholder i.e. healthcare quality & patient safety. NABH is asking only the essence of standards not the abundant in facility. I would like to say NABH is the source where you can find all the solutions for the growth of healthcare facility and solve operation management problems.

Why you need to implement NABH standards? Well begun is half done! Requirement is as follows:

- Top management's genuine & strong commitment & direct involvement saves 40% overall budget,

- Proper manpower planning brings teamwork to solve all issues,

- Core team for defining policy & procedures, training, internal & external audits, documentation and

- **Finally Employee motivation is the level of energy, commitment, and creativity.**

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Best Regards,
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For any membership related queries, you may connect:

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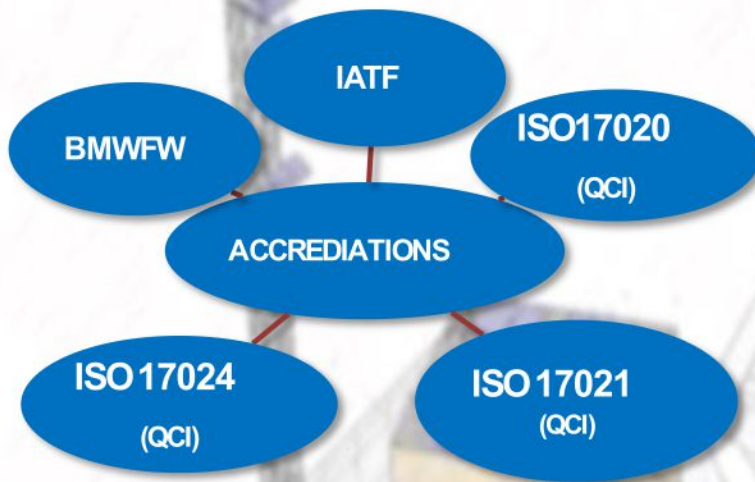
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