Creating an Ecosystem for World Class Quality
“Excellence is a continuous process and not an accident.”

Dr. A. P. J. Abdul Kalam
(1931 - 2015)
To succeed in your mission, you must have single-minded devotion to your goal!

Dr A. P. J. Abdul Kalam (1931-2015)

“A disciplined man who taught us how to dream, compassion being his supreme virtue, truly a people’s President ... Sir, you will be missed.”

Adil Zainulbhai
Chairman, QCI
About Us :-

Quality Austria Central Asia Pvt. Ltd. is a joint venture of Quality Austria, Austria and Peacock Global Quality Assurance, India, established in September 2010. It’s one of the leading Certification, Industrial Services (Inspection, Technical Advisory & Surveying Investigation) and Training agency in the fields of health, safety, environmental and business quality. Having substantial experience and one of the best resources to carry out the services, QACA is established to provide reliable services for the benefit of valued customers in wide range of business institutions, industries and project to meet specific requirement and changing customer need.

Since establishment, QACA has been following a culture that values technical expertise and industrial safety. Our engineers’ knowledge, experience and competence have helped us to identify the customers’ requirement and provide cost effective and efficient services to meet specified requirements.

Quality Austria Training, Certification and Evaluation Ltd. are your competence partner for integrated management systems. The services provided by Quality Austria range from trainings in the field of international management trends and techniques via certification of management systems according to international standards and regulations and national guidelines and directives and assessments acc. to the EFQM Excellence Model to awarding the Austria Quality Seal. Having more than 550 auditors, trainers, assessors and technical experts.

The close connection of Quality Austria as a national representative with the international partner organizations IQNet, EOQ and EFQM as well as co-operation of Quality Austria with IPC, VDA-QMC and IATF enable global know-how to be imparted and turn the organization into a competent partner. Quality Austria co-operates with about 100 member organisations world-wide. More than 16,500 organizations in little less than 50 countries already profit from this. Quality Austria’s a stable factor when it comes to create valuable synergies at the economic site of Austria.

Peacock Global Assurance Private Limited has known for Inspection, Surveying Investigation, Technical Advisory & Testing experts. QACA is established to provide reliable services for the benefit of valued customers in wide range of business institutions, industries and project to meet specific requirement and changing customer need. Having industrial experienced experts helping clients to improve their productivity and giving best solutions of their problem.

ZED Initiative by QCI

“Let’s think about making our product which has ‘zero defect’; so that it does not come back (get rejected) from the world market and ‘zero effect’ so that the manufacturing does not have an adverse effect on our environment”

-Hon’ble Prime Minister Shri Narendra Modi

For achieving the goal of ‘zero defect, and zero effect’, Indian MSME’s need to continuously improve their manufacturing capabilities. The Department of Industrial Policy & Promotion (DIPP, Ministry of Commerce & Industry) has initiated a Pilot Project of ZED implemented through Quality Council of India and the National Rollout of the project is soon expected to be launched by Ministry of Micro, Small & Medium Enterprises.
Dear Quality Professionals,

In the last issue of Quality India, I had apprised you about the mega event on Quality which is held every year since 2005 to brainstorm on quality issues in the country and promote quality in every walk of life.

It is a great moment of pride for all of us at the Quality Council of India to be with you again this year to deliberate on the key issues and challenges of Quality.

The Theme this year for the 10th National Quality Conclave is ‘Creating an Ecosystem for World Class Quality in India’, that will help develop successful strategies for an effective ecosystem essential to achieve the stringent Quality targets.

In NQC 2015 many luminaries who have helped develop successful models in other countries have shown interest to be a part of the growth story in India in view of the progressive initiatives of the Government. Several national and international experts including policy makers and decision makers are participating as speakers in various sessions. Most of the delegates are industry leaders and other stakeholders interested in promoting quality along with participation of students who are expected to carry the torch of quality in India.

The NQC 2015 has interesting sessions on the following topics:
1. Emerging Environmental Standards for an improved Ecosystem.
2. Interventions to improve quality in healthcare: Global, regional and country perspectives.
4. Quality in Indian traditional medicine, yoga and Ayurveda.
6. Creating Quality infrastructure, promoting quality of products and services and improving the quality of life.
7. Enhancing Employability through interventions of quality and acquiring skills for mobility across borders.

The National Quality Conclave is a platform for a holistic view to know the best practices around in the world and how India can build an Ecosystem of Quality in every sphere of life. It is an opportunity to interact with some of the best International Experts who drive the quality movement in the world and a platform to build relations with Industry and academia and also to commit to competitiveness in the world market.

On behalf of Quality Council of India, I invite you to be a part of NQC, our flagship Annual Event!

We also will welcome any feedback / suggestions that you may like to give to add further value to the work that we do at QCI and for organising such events more effectively.

Jai Hind!
Today the key ingredients critical to our society for reaching the envisaged goal of a developed economy include the school and higher education, vocational/skills training, effectiveness of Micro, Small and Medium Enterprises (SMEs) constituting a substantial part of industry, and environmental preservation. We quickly need to build quality accreditation structures in these areas for the international acceptability of our youth, be it for higher educational institutes or as skilled manpower or for exports of products and services. National Accreditation Board for Education and Training (NABET) has been at the forefront in creating enabling mechanisms through its accreditation and capacity building schemes to support the national movement. Through the above values NABET team has been ensuring its contribution in the QCI Mission of ‘Creating an Eco system for quality’. NABET has established mechanisms for the accreditation of vocational training organizations including Industrial Training Institutes (ITIs), skill assessment bodies, EIA Consultant Organisations, Schools, Teachers Training institutes, Business Membership Organisations, etc. It is also the National Monitoring and Implementation Unit (NMIU) for the Lean Cluster Project of Ministry of MSME. Besides its various bi-lateral agreements, NABET has also become a full member of Pacific Accreditation Cooperation (PAC), which will pave a way for the international acceptability of NABET schemes especially relating to the skill training and certifications.

Amidst a galaxy of industrialists and business leaders from all over the world, Hon’ble Prime Minister of India, Shri Narendra Modi launched ‘Make in India’, the ambitious campaign to make India a global manufacturing hub. It was a clarion call to invest in India, not just to the big names in the domestic sector but also to the international business community.

Taking a cue from the Hon’ble Prime Minister’s speech, NABET, QCI along with the industry stakeholders, has developed the Zero Defect Zero Effect (ZED) maturity assessment model to assess, rate and handhold the SMEs of India and take them to higher maturity levels. ZED is a model where concept of quality has a holistic change from a tool for compliance to a source of competitiveness. Operationally it is meant to evolve from a total dependency on inspection of the final product to correct defect, to a proactive process of enablers of quality like quality planning, product and process designing, optimum processes, efficient resource management, effective outsources activities and breakthrough outcomes. All along with quality of products and
services equal emphasis is on the elimination of impacts on the environment through adequate planning at product and process design, pre-production (startup activities), production and maintenance activities, post-production (disposal after use) and outcome of environment performance. The net result is compatible to sustainable development. ZED Maturity Assessment Model has been conceived and structured to offergraded benchmark levels of an organization’s performance through a set of standard enablers and outcomes focused on quality and environmental performances in easily understood terms. It aims to rate and handhold all SMEs to deliver top-quality products using clean technology.

The aim is to help SMEs evolve and grow by providing them with adequate training and funding to move up the value chain and produce quality products. The model will sensitise SMEs to emphasise on packaging and branding and simultaneously train them to deliver quality products with zero defects, leading to zero rejection. Clean energy will be a very important aspect of the model. Enterprises will be encouraged and hand-held to adopt clean technology to attain a sustainable growth trajectory. There will be sector-specific assessment parameters for each industry such as food processing, textiles, leather, auto and auto ancillaries, etc.

The ZED Team covered the length and breadth of the country, approaching the SMEs and making them aware of this model and urging them to participate. In this process first hand information on the ‘pain points’ of the SMEs, the engine of economic growth in India, were recorded which assisted the ZED team to suitably modify its approach of the model.

Currently a select list of SMEs from all over India, cutting across various sectors are in the process of undergoing consulting, handholding and finally a site assessment leading to the award of a certification based on the rating obtained. Industry stakeholders such as CII, FICCI, ASSOCHAM and other

E-learning is foundation of implementing ZED maturity model and continual improvement to higher level. Efforts are initiated for E-modules of various elements to enable journey towards Zero Defect and Zero Effect at minimal cost with approach even at farthest corner of the nation. ZED cells are being created to launch this movement with Universities, IITs, IIMs, OEMs and other educational institutions. All these efforts will create a natural pull for international and domestic customers who are very seriously looking for Quality products & services with minimal impacts on environment.

Needless to say, air pollution, poor management of waste, growing water scarcity, falling groundwater tables, water pollution, deterioration in quality of forests, biodiversity loss, and land/soil degradation are some of the major environmental issues India faces today. Simultaneously, the Indian market is growing rapidly and Indian industry is making remarkable progress in various sectors such as Manufacturing, Precision Engineering, Food Processing, Pharmaceuticals, Textile and Garments, Retail, IT, Agro and Service sectors. If the SMEs of India can adopt globally accepted quality interventions and become conscious of environmental issues, it will not be long that India will be one of the most sought after destinations for manufacturing in the world. And ZED can help.
In a presentation made by the Commerce Secretary to the PM in July, 2014, the PM had desired to spread India’s traditional knowledge worldwide with credible systems with specific reference to Yoga which should provide India leadership in assuring quality of Yoga practices across the world.

The Ministry of AYUSH in pursuance of the above and in the wake of declaration of International Yoga Day identified Quality Council of India (QCI) to develop a Scheme for Voluntary Certification of Yoga Professionals recognising that QCI has expertise in developing such quality frameworks based on international best practices.

The focus of the Scheme for Voluntary certification Yoga Professionals, as it is being called, is to certify the competence of Yoga Professionals who provide Yoga lessons/classes as Teachers or by whatever nomenclature they are called.

QCI has designed the Scheme for Voluntary certification of Yoga Professional by adopting the principles and requirements laid down in the international standard, ISO/IEC 17024:2012 (E) General Requirements for Bodies Operating Certification of Persons especially clause 8 that describes the elements of the scheme.

The Scheme aims to certify Yoga professionals using the principles of third party assessment through the following process:

a. Defining the competence requirements in terms of knowledge and skills to be complied with by the Yoga professionals in the form of Competence Standard.

b. Defining the process of evaluation and certification in the form of the Certification Process.

c. Laying down requirements for competence and operation of assessment bodies through Accreditation.

The draft Competence Standard was prepared by engaging group of experts having knowledge on different schools of Yoga.

The draft was presented to a multistakeholder Steering Committee constituted for the purpose and chaired by Sri Sri Ravi Shankar Ji having members from the Government, Yoga Institutions, Universities, Industry Bodies, related Organizations, and individual experts.

It was agreed in the meeting that this Scheme for Yoga Professionals will evaluate three levels of competence, namely, Yoga Teacher, Yoga Master and Yoga Guru (being the advanced level). It was also agreed in the meeting that the highest competence level would be termed as Acharya.

An Expert Group under the Chairmanship of Dr. H. R. Nagendra, Chancellor, S-VYASAYoga University was constituted to modify the Scheme based on directions of the Steering Committee. A pilot evaluation was undertaken to validate the draft scheme and 19 candidates were subjected evaluation as per the updated Competence Criteria (Standard) at the Morarji Desai National Institute of Yoga.

Based on the above, the final Scheme has been presented to the Ministry of AYUSH and was launched on, 22 June 2015 by Hon'ble Home Minister of India Shri Rajnath Singh in the valedictory function of the International Yoga Day celebration with distribution of certificates to candidates who qualified in the pilot evaluation.

The Scheme is mentored by Ministry of AYUSH and owned by Quality Council of India.

For further details on the scheme, please visit www.qcin.org;
Metal Detection in food & beverages, a need of the hour

The Food and Beverage (f&b) services market in India are expanding at a rapid pace. The compounded annual growth rate is currently 25 per cent and is expected to remain so over the next few years. The overall f&b scenario in India has evolved dramatically over the past decade. While in the past, there were only a handful of brands to choose from; now the consumers have difficulty in choosing from the multitude of brands on offer.

By | Dr. Saurabh Arora
Founder, Food Safety Helpline.com

The f&b industry has also attracted good investments in recent years. So, with the booming f&b industry, comes the issue of food safety. In order to ensure that the f&b market keeps flourishing, it is important to focus on the quality of food offered to the consumers.

It is of utmost importance that the food we eat and the beverages we drink are absolutely safe for human consumption. Therefore, carrying out food safety checks is a mandatory requirement for ensuring food safety. F&B need to be tested for a large number of contaminants. Of these, checking contaminating metals is very important, as these have a deleterious effect on health, if the levels are above the specified values. Many metals act as co-factors for enzymes involved in various metabolic pathways. It follows that large quantities of contaminating metals can have an adverse effect on these metabolic pathways, leading to health problems, especially upon continuous, long-term exposure.

The various types of metals, in particular, the heavy metals are widely distributed in our environment, and can enter our food chain though various ways. For example, heavy metals in the streams, rivers and lakes can accumulate in fish, which in turn are consumed by humans, leading to heavy metals entering the human food chain. This is only one example out of a myriad. However, regardless of the mode of entry into the food cycle, they disturb the normal functioning of the body metabolism and can accumulate in the body causing severe toxicity.

A few other metals, namely, sodium, potassium and calcium do not fall within the category of heavy metals, but are nevertheless important for the normal functioning of the body. Calcium is required for muscle contraction and transportation of molecules; while sodium and potassium are required for maintaining electrolyte balance within cells with reference to its extracellular environment. A deficiency of these metal ions can lead to various health problems. For example, calcium deficiency can cause osteomalacia or weak bones, while excess can cause toxicity. Deficiency of sodium and potassium can cause hyponatremia and hypokalemia respectively, while their excesses can lead to toxicity.

**Safety limits for heavy metals recommended by FSSAI**

To protect the consumers, regulatory bodies across the world have established regulations with stringent limits on the permitted levels of heavy metals in different items of food. The Food Safety and Standards Authority of India (FSSAI), the apex regulatory body on food in India, has recommended safety limits for metal contaminants in food and beverages, which should not be exceeded. These are tabulated in Table 1.

**How are metals tested in food and beverages?**

The presence of heavy metal contaminants in f&b makes it important for the food industry to ensure that their products are free from these toxic elements by regularly testing their ingredients and products for compliance with the regulatory requirements.
**TABLE 1: FSSAI RECOMMENDED LIMITS FOR METAL CONTAMINANTS IN FOODS AND BEVERAGES**

<table>
<thead>
<tr>
<th>Metal Contaminant</th>
<th>Article of Food</th>
<th>Parts per Million (ppm) by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Load</strong></td>
<td><strong>Beverages:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Concentrated soft drinks</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Tomato juice &amp; other fruit and vegetable juices</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>Lime juice &amp; lemon juice</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>Tea</td>
<td>10.0 on the dry matter</td>
</tr>
<tr>
<td></td>
<td><strong>Foods:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Edible oils, fats and refined white sugar</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Ice cream &amp; ice lollies</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>Canned fish &amp; meat, meat extracts, hydrolyzed protein, dried and dehydrated vegetables</td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>All types of sugar: raw sugar, sugar syrup, invert sugar, edible molasses, caramel liquid, solid glucose</td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>Iron fortified common salt</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>Meat and meat products</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>Solid pectin</td>
<td>50.0</td>
</tr>
<tr>
<td></td>
<td>Hard boiled sugar confectionery</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>Foods not specified</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Copper</strong></td>
<td><strong>Beverages:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soft drinks excluding concentrates and carbonated water</td>
<td>7.0</td>
</tr>
<tr>
<td></td>
<td>Carbonated water</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>Concentrates of soft drinks</td>
<td>20.0</td>
</tr>
<tr>
<td></td>
<td>Coffee beans</td>
<td>30.0</td>
</tr>
<tr>
<td></td>
<td>Tea</td>
<td>150.0</td>
</tr>
<tr>
<td></td>
<td>Juice of orange, grape, apple, tomato, pineapple and lemon</td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td><strong>Foods:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Iron fortified common salt</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>Pulp and pulp products of any fruit</td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>Infant milk substitute and Infant foods</td>
<td>15.0 (but not less than 2.8)</td>
</tr>
<tr>
<td></td>
<td>Caramel</td>
<td>20.0</td>
</tr>
<tr>
<td></td>
<td>Tomato puree, paste, powder, juice and cocktails</td>
<td>100.0 on the dried tomato solid</td>
</tr>
<tr>
<td></td>
<td>Tomato ketchup</td>
<td>50.0 on the dried total solids</td>
</tr>
<tr>
<td></td>
<td>Edible gelatin</td>
<td>30.0</td>
</tr>
<tr>
<td></td>
<td>Pectin solid</td>
<td>300.0</td>
</tr>
<tr>
<td></td>
<td>Hard boiled sugar confectionery</td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>Foods not specified</td>
<td>30.0</td>
</tr>
<tr>
<td><strong>Arsenic</strong></td>
<td><strong>Beverages (including milk):</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Milk</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td>Soft drink intended for consumption after dilution except carbonated water</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Carbonated water</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td>Juice of orange, grape, apple, tomato, pineapple and lemon</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td><strong>Foods:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Infant milk substitute and infant foods</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>Pulp and pulp products of any fruit</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td>Preservatives, anti-oxidants, emulsifying and stabilising agents and synthetic food colours</td>
<td>3.0 on dry matter</td>
</tr>
</tbody>
</table>
Testing for metals in foodstuff essentially involves the following four steps:

- **Sampling:** The objective of this step is to obtain a small and a representative portion of the large sample in such a way that any subsequent test on the sample will give reproducible results.
- **Destruction of organic matter:** The commonly used methods of destruction of organic matter can be broadly grouped into wet oxidation, dry ashing and microwave digestion.
- **Separation and concentration of the metal:** Once the organic component is destroyed, the element of interest are concentrated by applying physico-chemical methods.
- **Measurement and determination of the metal:** The concentrated element is then subjected to analytical methods to determine its actual level in the original sample of food.

**Which methods does the FSSAI recommend?**

The FSSAI has recommended a number of methods for:

<table>
<thead>
<tr>
<th>Metal</th>
<th>Beverages</th>
<th>Foods</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tin</strong></td>
<td><strong>Beverages:</strong> Juice of orange, apple, tomato, pineapple and lemon 250.0</td>
<td>Processed and canned products 250.0 Jam, jellies and marmalade 250.0 Hard boiled sugar confectionery 5.0 Pulp and pulp products of any fruit 250.0 Infant milk substitute and infant foods 5.0 Meat and meat products 250.0 Foods not specified 250.0</td>
</tr>
<tr>
<td><strong>Zinc</strong></td>
<td><strong>Beverages:</strong> Ready-to-drink beverages 5.0 Juice of orange, grape, tomato, pineapple and lemon 5.0</td>
<td>Pulp and pulp products of any fruit 5.0 Infant milk substitute and infant foods 50.0 (but not less than 25.0) Edible gelatin 100.0 Fruit and vegetable products 50.0 Hard boiled sugar confectionery 5.0 Foods not specified 50.0</td>
</tr>
<tr>
<td><strong>Cadmium</strong></td>
<td><strong>Foods:</strong> Infant milk substitute and infant foods 0.1 Turmeric whole and powder 0.1 Other foods 1.5</td>
<td></td>
</tr>
<tr>
<td><strong>Mercury</strong></td>
<td><strong>Foods:</strong> Fish 0.5 Other foods 1.0</td>
<td></td>
</tr>
<tr>
<td><strong>Chromium</strong></td>
<td><strong>Refined sugar</strong> 20 ppb</td>
<td></td>
</tr>
<tr>
<td><strong>Nickel</strong></td>
<td>All hydrogenated, partially hydrogenated, interesterified vegetable oils and fats 1.5</td>
<td></td>
</tr>
</tbody>
</table>
testing contaminating metals in foodstuff, which have been approved and validated internationally by leading agencies such as the USFDA and the European Food Safety Authority (EFSA) of the EU. It is important to note that approval by international agencies in various countries means that the methods have been standardised and harmonised as per global standards. Therefore, when the Indian food products are exported to these countries and retested before distribution, they will pass the quality and safety checks easily. Some of the approved methods of approved and validated methods that are at the disposal of the food analyst for testing metal contaminants in foodstuff. Importantly, more advanced and automated analytical methods such as AAS, ICP MS, coupled with microwave digestion for sample preparation have immensely streamlined and simplified the whole process of food testing. This has resulted in the generation of more robust data that are reproducible and at par with international standards, which has led to a new era in food testing services in India.

**Most advanced method for testing metals**

The most advanced method for testing metals, which is considered the ‘Gold Standard’ is a combination of microwave digestion for sample preparation, followed by inductively coupled plasma mass spectrometry (ICP MS) for sample analysis. The closed sample digestion technique of microwave digestion system allows for preparing the samples in a closed system at high temperature and pressure without losing any of the volatile analytes such as mercury and arsenic, which are otherwise easily lost when the sample is digested using open digestion with acids or ashing followed by acid treatment. ICP MS gives the advantage of analysing all the metals at the same time with minimum manual intervention, which is required when analysing samples on an AAS with hydride generation and graphite furnace assembly. It also offers unparalleled low detection limits, in the parts per trillion levels range, allowing for the use of smaller sample quantities which can be properly digested giving better recovery and reproducibility of results.

**Conclusion**

From the foregoing discussion, it is evident that testing for contaminating metals is a very important aspect of maintaining food safety. These metals, particularly, the heavy metals should not exceed the permissible limits in food and beverages, as recommended by the FSSAI. Now-a-days, there are a number

<table>
<thead>
<tr>
<th>Metal, Cadmium, Copper, Iron, Zinc</th>
<th>Atomic Absorption Spectrometry (AAS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury</td>
<td>Flameless AAS; Mercury analyzer; Colorimetric dithizone method</td>
</tr>
<tr>
<td>Arsenic</td>
<td>Colorimetric molybdenum blue method; Colorimetric silver diethyl dithiocarbamate method</td>
</tr>
<tr>
<td>Cadmium</td>
<td>Colorimetric dithizone method</td>
</tr>
<tr>
<td>Copper</td>
<td>Colorimetric carbamate method (IUPAC method)</td>
</tr>
<tr>
<td>Iron</td>
<td>Colorimetric method using α- α-dipyridyl</td>
</tr>
<tr>
<td>Lead</td>
<td>Colorimetric method using dithizone and chloroform</td>
</tr>
<tr>
<td>Tin</td>
<td>Spectrophotometric catechol violet method (IUPAC method); Volumetric method</td>
</tr>
<tr>
<td>Zinc</td>
<td>Colorimetric dithizone method</td>
</tr>
</tbody>
</table>
Creating an ecosystem for quality is ... teamwork

By | Dr. T. Devanthi
M.B.B.S., MBA, Dy QMR
Manipal Hospitals, Salem

Creating, implementing and maintaining quality involves a comprehensive contribution of several factors such as sound scientific knowledge, belief in quality, soldiery dedication to the cause, unwillingness to be deterred by the practical impediments, astuteness in overcoming obstacles, instilling knowledge and the spirit of quality in others, immense patience, good communication skills and working in a collaborative manner.

And above all, the willingness to face the onslaught of sceptics in the face of skyrocketing expenses of the organisation towards quality.

We are now at only a nascent stage, because awareness about what is quality, its multiple facets and implications and benefits is understood by healthcare professionals of only accredited hospitals. Healthcare professionals follow the norms in their clinical practice as they think is right, based on the institution in which they have been trained, the quality of which widely varies. They are seldom aware about the standards of quality, especially those about nonclinical aspects which also attribute to quality in patient care and safety.

The first step in the right direction has been the setting up of the QCI and the accreditation process. However, this is only for large and small hospitals, labs, blood banks, etc. There are lakhs of doctors having small nursing homes and private clinics, who will never come into this ambit.

So creating quality awareness in terms of ethics, evidence based medicine, diagnostics, engineering requirements and patient safety has become a part of the medical curriculum through the MCI. Awareness is the road to knowledge gain and practice of quality in their future endeavours, be it even a small OPD practice.

Quality is very hard to practice because of the cost and practical difficulties in implementing it. So in any organisation, the quality manager and the operational manager are bound to have conflicts of interest. The best outcome will be achieved when each values the other’s commitment and understands that collaboration is required to achieve quality patient care, but of course at a certain expense. It is unfair to cry foul when the government allots a pittance for health in our annual budget while we skimp on our quality budget, be it a large organisation or a small practice.

On the other hand, we really need to re-examine the use of certain disposables such as sheets, gowns, expensive devices, etc. It definitely helps in giving quality care, but also contributes to increasing cost to the organisation, for the patient as well to the environment. Use of disposables has to be more rationale, especially in a country where the majority are poor. Quality cannot be ensured by the mere use of disposables, it can be ensured even without disposables.

On the other hand, the government should also allow tax concession on quality expenses of the health care provider.

So creating an ecosystem for quality is a teamwork and not an individual or profession or person effort.
Services Offered

Certification
- GMES, EHS, OHSAS
  - Automotive, Telecom, Railways, Social Audit, Food & Medical Devices
- Training
  - Business Process Improvement Management System
  - Behavioral Training and Safety Training
- Industrial Service
  - Telecom, Automotive, Construction, and Oil & Gas

Expertise in Telecom Sector
- Program Management
- Acceptance Tests
- Non-Destructive Test
- Tower Maintenance
- Tower Loading & Validation
- Structural Analysis & Designing

Avoid risk linked to Quality and Safety problem
Skilled personals with relative experience and qualification
Consultancy to emphasizing in increasing the outcome with quality
Re-assurance of Independent assessments
Minimize down time
Worldwide experience sharing to deliver the best results

700+ Employees
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Worldwide Location Under QACA

Offices in India
### List Of DL Shah Quality Award Winners For The Year 2015 10th National Quality Conclave

**BEST OF BEST AWARD**

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>NAME OF PROJECT</th>
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</thead>
<tbody>
<tr>
<td>Kidney Hospital &amp; Lifeline Medical Institutions, Jalandhar</td>
<td>A Study On Hospital Culture &amp; Its impact On Quality Care</td>
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**PLATINUM AWARD**

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<thead>
<tr>
<th>COMPANY</th>
<th>NAME OF PROJECT</th>
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<tbody>
<tr>
<td>VIVO Healthcare, Gurgaon</td>
<td>Delivering Solutions in Healthcare Education &amp; Emergency Response</td>
</tr>
<tr>
<td>Nethradhama Super Speciality Eye Hospital, Bangalore</td>
<td>Determining The Economic Order Quantity For Patient Files With Continuous Cost Reduction Programme</td>
</tr>
<tr>
<td>Bharti Foundation, Gurgaon</td>
<td>Quality tools applied to reduce and recycle waste at Satya Bharti Adarsh Senior Secondary School, Rauni, Ludhiana</td>
</tr>
<tr>
<td>Fortis Escorts Hospital, Jaipur</td>
<td>CARE-EPIC - Strengthening Patient care through Innovation in Nursing Care Records-“Dock to Stock Cycle Time Reduction”</td>
</tr>
<tr>
<td>Nokia Solutions &amp; Networks India Private Limited, Oragadam</td>
<td>SMT Process Quality Improvement And Capacity Optimization</td>
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**GOLD AWARD**

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>NAME OF PROJECT</th>
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<tbody>
<tr>
<td>SANMINA–SCI India Pvt Ltd, Oragadam</td>
<td>Dock to Stock Cycle Time Reduction</td>
</tr>
<tr>
<td>Wipro Infotech, Bangalore</td>
<td>Electronic Cheque Clearance Processing Time Reduction.</td>
</tr>
<tr>
<td>Essar Steel India Ltd, Surat</td>
<td>To Increase Snorkel life of Vessel at RH-TOB By 30%</td>
</tr>
<tr>
<td>Kalycito Infotech Private Limited, Coimbatore</td>
<td>e-Alerta</td>
</tr>
<tr>
<td>Christian Medical College Hospital, Vellore</td>
<td>Clinical Audit Program-A model for the Nation</td>
</tr>
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</table>
### GOLD AWARD

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>NAME OF PROJECT</th>
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<tbody>
<tr>
<td>BHEL - Bhopal</td>
<td>Improving Quality Process Effectiveness through Integrated Real-Time Quality Management System</td>
</tr>
<tr>
<td>HINDUSTAN CONSTRUCTION COMPANY LTD, Mumbai</td>
<td>Reduction of Weld Repair to 5% Level in Bogibeel Rail cum Road Bridge Project at Dibrugarh, Assam</td>
</tr>
<tr>
<td>HDFC Life, Mumbai</td>
<td>Improvement in Persistency : A Win Win for ALL</td>
</tr>
<tr>
<td>NTPC Limited, Sipat</td>
<td>Cost Saving Through Import Substitution In NTPC Sipat 660MW SC Boilers</td>
</tr>
<tr>
<td>Lupin Limited, Ankleshwar</td>
<td>Intermediate Yield Improvement</td>
</tr>
<tr>
<td>Bennett Coleman &amp; Co. Ltd – Airol</td>
<td>Enhancing Capacity Utilization by 35% through Virtual Integration</td>
</tr>
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### SILVER AWARD

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>NAME OF PROJECT</th>
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</thead>
<tbody>
<tr>
<td>Dr. Bhanuben Mahendra Nanavati College of Home Science, Mumbai</td>
<td>Transformation of Girls Students Into Empowered Citizens</td>
</tr>
<tr>
<td>Tata Consultancy Services (BPS), Chennai</td>
<td>Fraud Detection – Enriching Competent Minds</td>
</tr>
<tr>
<td>Wipro Business Process Services, Pune</td>
<td>Transforming customer experience for UK’s Fixed Line Customers</td>
</tr>
<tr>
<td>DS Spiceco Private Limited, Noida</td>
<td>Quality Improvement &amp; Standardization in Line Cartoon with the Implementation of 7QC Tools</td>
</tr>
<tr>
<td>National Industries, Ludhiana</td>
<td>To Reduce The Cost Of Poor Quality (Cost of Failures)</td>
</tr>
<tr>
<td>J.K. Fenner (India) Limited, Madurai</td>
<td>To Reduce Steam Cost</td>
</tr>
<tr>
<td>Biocon Limited, Bangalore</td>
<td>Rationale For Environment Monitoring Locations Based On Risk Based Approach.</td>
</tr>
<tr>
<td>Xylo Paints Pvt Ltd, New Delhi</td>
<td>Shades of Innovation</td>
</tr>
<tr>
<td>Jagran Prakashan Ltd, Noida</td>
<td>Newsprint Waste reduction</td>
</tr>
<tr>
<td>Nasa Brain and Spine Centre, Jalandhar</td>
<td>Physical Storage of files in Medical record Department : An easy and accountable method</td>
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National Accreditation Board for Testing and Calibration Laboratories (NABL)

NABL has been established with the objective to provide Government, Regulators and Industries with a scheme of Laboratory accreditation through third party assessment for formally recognising the technical competence of laboratories.

Accreditation Schemes

- Testing
  ISO/ IEC 17025:2005

- Medical Testing
  ISO 15189:2012

- Calibration
  ISO/ IEC 17025:2005

- Proficiency Testing Providers
  ISO/ IEC 17043:2010

- Reference Material Producers
  ISO Guide 34

National Accreditation Board for Testing and Calibration Laboratories (NABL) jointly with CII annually organises National Conclaves for Laboratories. The objective of conducting conclave is to generate a multi-stakeholder review, discussion forum and serve as a common platform to share, discuss and evolve policy on all critical and emerging issues relating to testing, calibration and laboratory management practices.

1st National Conclave conducted at Indian Habitat Centre, New Delhi on 04-05 April 2012

2nd National Conclave for Laboratories at Bangalore on 13th September 2015 with former President Late Dr. A.P.J. Abdul Kalam

Looking forward to your participation in

4th National Conclave for Laboratories

Indian Habitat Centre, New Delhi on 14-15th September 2015

3rd National Conclave for Laboratories at Pune on 28-29 October 2015

Contact:
National Accreditation Board for Testing and Calibration Laboratories (NABL)
NABL House, Plot No. 45, Sector 44,
Gurgaon-122002 (Haryana)
Ph.: 0124: 4679700 (30 lines); info@nabl-india.org
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We all should cheer on the announcement of our Prime Ministers’ ‘MAKE IN INDIA’ campaign. The existing packaging industries have great days ahead and also the new entrepreneurs can set up an industry, as the future of Indian packaging scenario is extremely bright.

As in India, through rising consumer demand and new technologies, the Indian packaging industry will change in the near future, with an overview of the industry as well as analysis of emerging trends, growth drivers, major players, and market forecasts.

India has the second largest GDP among emerging economies based on Purchasing Power Parity (PPP). The country is the fourth largest economy in terms of purchasing power parity (PPP). The packaging industry in India is one of the fastest growing industries which has its influence on all industries, directly or indirectly.

Many new trends contribute to an 11 per cent annual growth rate currently seen in the Indian Packaging Industry. Flexible packaging makes transport easier, while green packaging prevents waste. Pharma and food packaging sustain the shelf life of products, preventing loss and increasing the value of merchandise. India is currently 11th in the global packaging industry, but the projected 18-20 per cent growth rate should soon place them in 4th place.

Packaging serves to increase the value of products across a wide variety of industries, and so makes itself a valuable market. Through improved packaging technologies, foods are kept fresh for longer duration, drugs and medicines have a longer shelf life and are packaged safely, and goods can be transported without a fear of damage. These benefits have served the Indian economy well, and new technologies are expanding the economic benefits gained through employment and added product value.

**Industry overview**

The Indian Packaging Industry is growing continuously. The total worth is about USD 24.6 billion. The average annual growth rate is about 13-15 per cent. However, there is great growth potential since India’s per capita consumption of packaging is only 4.3 kgs whereas neighbouring Asian countries such as China and Taiwan show about 6 kgs and 19 kgs, respectively. This clearly indicates that there are many more commodities which need to be marketed in packaged condition and thus, a great business opportunity stands for the Indian packaging industry.

Moreover, the Indian retail market is the 5th largest retail destination, globally and has been ranked the second most attractive emerging market for investment. The market is currently valued at USD 350 million and is expected to rise to USD 1.3 trillion by 2016.
SOLUTIONS THAT DELIVER COMPETITIVE ADVANTAGE
AND GO ON AND ON AND ON...

SGS IS THE WORLD’S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY
Glimpses of 9th National

The 9th National Quality Conclave was held on April 15-16, 2014 at Hotel Le-Meridien, New Delhi. Over the years, the Council has been taking various initiatives to promote the cause of good governance, empowerment and quality of public services and accordingly themes for the conclaves are selected. The theme, for the 9th National Quality Conclave was ‘Build and Sustain a Culture of Excellence through Collaborative Effort’.
Quality Conclave 2014
HMIS: A boon for modern day hospitals

By | Dr. Pranav Thaker
M.S. (ENT), PGDHHM, CIH, EPBM (IIM-C) (Uni. 1st)
(COO & Medical Director, Nirmal Hospital, Surat)

Abstract
A weak HIMS hampers the productivity of a hospital badly. The huge amount of information generated in hospitals is of no use if not captured and analysed properly to increase the productivity and patient satisfaction. Effective strategies must be in place for implementing proper HIMS so that there is a better coordination between different departments and it decreases the discharge time as it is the final step in the hospital experience and is likely to be well remembered by the patient. Slow or unpredictable discharge translates into a reduction in effective bed capacity and admission process delays. We modified and implemented certain changes in the existing software and integrated all the medical and operational modules of the software such as pathology, radiology, patient care and billing. We also tested the effectiveness of the software on the workflow by comparing outcomes between the pre-implementation control group and the post-implementation experimental group. The implementation of the software, resulted in a drastic decrease in discharge time and resulted in increased patient satisfaction and decrease in the number of payment defaulters.

Introduction
Hospital bed demands occasionally exceed capacity, especially during high-census periods such as viral respiratory seasons (winter seasons). When bed demand exceeds capacity, patient admissions and scheduled surgical procedures can be delayed or cancelled. Patients can also be diverted to other hospitals. These changes can lead to major patient/family dissatisfaction, loss of hospital revenue and loss of competitive edge.

The hospital in question is a leading multi speciality hospital of Surat with a catchment area of entire South Gujarat and neighbouring districts of Maharashtra.

Though the patients were satisfied with the clinical services, some of the common complaints patients mentioned in their feedback were:-

a) The discharge process takes three to four hours, even after the doctor had advised discharge.
b) The patients are not informed about the bill amount on a regular basis and at the time of discharge it is difficult for them to arrange for cash when the bill amount is high.
c) The preparation of the discharge summary takes too long and there are too many mistakes in the discharge summary.

<table>
<thead>
<tr>
<th>S.N.</th>
<th>ACTIVITY</th>
<th>AVERAGE TIME TAKEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Time taken for Prep. Disch card</td>
<td>37</td>
</tr>
<tr>
<td>2</td>
<td>Time taken in sending the file</td>
<td>15</td>
</tr>
<tr>
<td>3</td>
<td>Time taken in prep the bill</td>
<td>41</td>
</tr>
<tr>
<td>4</td>
<td>Time taken for clearance of bill</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>Time taken for counseling</td>
<td>11</td>
</tr>
<tr>
<td>6</td>
<td>Time taken by the pt. to vacate the room</td>
<td>14</td>
</tr>
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</table>

Some of the problems being faced by the staff were as follows:-

a) As the discharge process was taking too long, it was getting difficult for allotting rooms to new patients waiting for admission, which often led to dissatisfaction and resentment among the relatives.
b) The medical officers and the consultants complained that the laboratory reports were not coming on time, which delayed the starting of treatment of the patients. The laboratory staff on their part said that though the reports are ready it is difficult to type the reports due to excess workload and shortage of staff.
c) As interim bills were not being prepared on a regular basis, the cases of default of payment were very high which was making it difficult for the management.
d) As the billing clerk has to make all the entries of the
procedures/tests done at the time of making the final bill, it makes the job very lengthy and cumbersome.
e) The discharge process was not proper and it needed to be rectified.

i) **Approach to solving the problem:**
The major problem with the software being used was that all the modules were working as standalone individuals. It was decided to review the HMIS system of the hospital and work on the feasibility of integrating all the major modules of the software which could result in improving the workflow and efficiency of the various services of each department.

ii) **Methodology:**
It was decided to monitor the entire discharge procedure to begin with so that we could identify the areas where we were going wrong and corrective action could be taken.

The discharge process after being studied was divided into the following six parts:

- Time of advising discharge
  - Time of preparation of discharge card
  - Time of sending the file to billing department
  - Time when the final bill is ready
  - Time when the final bill is clear
  - Time of counselling with medical officer
  - Time when patient leaves the room

It was then decided to study the entire discharge procedure of randomly selected patients to arrive at the exact time taken to discharge and to find out the time taken for each process. Ten patients were selected for the study and the breakup of the time taken for each step in the discharge procedure is as mentioned below:

**On breaking up the entire discharge process the following facts came forward:**
It came to knowledge that the two activities that were taking the most of the time were:
- Preparation of discharge card and preparation of the final bill.

We decided to act on the same and the following steps were taken:

a) It was decided to update the inpatient files on a daily basis and the provision for the same was provided at each patient care department.

b) A new post of floor coordinators was created and the primary responsibility of the coordinators was to update the inpatient files and enter any procedure that takes place in the software.

c) The billing module was also integrated with the clinical module and hence any entries made in the clinical module, the entries were reflected in the billing module as well.

d) All the details were being entered online and any patient likely to be discharged the next day, the Medical officer on duty was asked to update the file and keep it ready for the next day.

e) The laboratory module was also connected with the Clinical module.

### S.N. | ACTIVITY | AVERAGE TIME TAKEN
--- | --- | ---
1 | Time taken for Prep. Disch card | 10
2 | Time taken in sending the file to the billing dept | 7
3 | Time taken in prep the bill | 11
4 | Time taken for clearance of bill | 6
5 | Time taken for counseling | 10
6 | Time taken by the pt. to vacate the room | 7

**iii) Impact on product or services:**
The software was implemented on a trial basis for a month’s period. Ten patients were again selected on a random basis and the results were monitored over the same.

On breaking up the entire discharge process after implementing the changes, the following facts came forward:

a) We found that the discharge time came down significantly.
b) Billing module and hence whenever the result of any test was entered in the system, the doctor could view the same in his department without waiting for hardcopy of the report and the charges of the tests were reflected in the bill of the patient as well.

c) As all the entries were being done online, it was easy for the billing department to generate interim bills and inform the patients about their billing status till date.

d) The incidents of default of payment by the patients also came down drastically as the billing staff was able to keep a daily track of the indoor bill of all patients and were able to ask the relatives to clear the outstanding bill from time to time.

e) The reports of patients can be viewed online which helps the clinical team to start the treatment without wasting precious time.

iv) Details of financial gains achieved in tangible terms and improvement of business results :

a) Default in payment of hospital bills which was as high as 10-12 per cent earlier came down drastically to 2-3 per cent.

b) Smoothening of discharge process resulted in increased satisfaction among the patients, which in turn resulted in repeat visits of the patients. It was found on analysing the feedback form of patients that 22 per cent of the patients wrote that they would recommend the hospital to their family members and friends for their health care needs.

c) Improvement in the services resulted in an increase in referral cases from the medical fraternity. The occupancy of the hospital, which was around 45-50 per cent rose to 65-70 per cent.

d) Improvement in the services also motivated other visiting consultants to admit their patients in our hospital.

The project demonstrated the importance of a strong HMIS for efficient hospital bed management and decreasing the discharge time.

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- **A Tool for Improving Patient Discharge Process and Hospital Communication Practices: the Patient Tracker**
  : Christopher G. Maloney, MD PhD,1 Douglas Wolfe, MBA,2 Per H. Gesteland, MD MS,1 Joe W. Hales, PhD,1,2 and Flory L. Nkoy, MD MS MPH1

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Committed to Quality Concrete

Ready Mixed Concrete Manufacturers’ Association (RMCMA), B-5, Ground Floor, Neel Shantiniketan Co-op. Housing Society, Manipada Road, Opp. Mumbai University, Kalina, Santacruz (E), Mumbai 400 098.
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Initiatives taken by Shri Prakash Javadekar, Minister of State for Environment, Forests & Climate Change (Independent Charge), at QCI-EIA workshop, Vigyan Bhawan, New Delhi.

NABH launches brochure in Tanzania

World Accreditation Day celebrated on June 9, 2015 at India Habitat Centre.
Quality Council of India

Dr. R. P. Singh, SG-QCI at the QCI YOGA Scheme launch by Hon’ble Home Minister Shri Rajnath Singh along with MoS Shri S.Y. Naik

Yoga Certification Steering Committee on May 25, 2015 in Bengaluru at Sri Sri Ravi Shankar Ashram

NABH goes to Tanzania
Improving quality, however, is a dynamic process that requires continuous monitoring and an improvement of these structures, processes and outcomes. Measurement and collaborative problem solving form the foundation of a system that strives towards perfection, and so at Medanta. Measurement is the first step towards understanding a process, enabling thoughtful management which eventually leads to continuous improvement. There is an increasing trend of hospitals using business intelligence tools to improve and monitor the quality of health care. Metrics, KPI’s, dashboards, etc. are rapidly becoming the keywords in any health care organisation.

Medanta too, adopted a focussed approach towards quality measurement by defining what were the processes important for quality of care, how they could be measured, who would measure them and analyse them to devise solutions and how the proposed solutions would be disseminated. The result was a dashboard consisting of clinical outcome indicators, clinical operational indicators, patient experience indicators, utilisation and efficiency metrics and volumes and human resource distribution metrics. The dashboard was measured individually for each of the six major Institutes of Excellence at Medanta – cardiac sciences, orthopaedics, liver transplant, neurosciences, oncology and gastroenterology and GI surgery covering a majority of the admissions. The clinical metrics ranged from mortality and morbidity statistics, outcomes like average length of stays, re-exploration and re-intubation rates, complication rates and survival rates; the patient safety indices included adverse events such as medication errors, falls, pressure ulcers, infection rates and other reported events; clinical operational metrics measured adherence to assessment protocols, turnaround times and delays for investigations, bundle compliances, compliance to hand washing and antibiotic protocols; patient experience was measured for all stakeholders involved in patient care; utilisation metrics such as Cath lab and OT utilisation, discharge efficiency were included to improve cost efficiency for the patients and staff patient ratios indicated effective provision of patient care appropriate to their needs.

Measurement of these metrics was streamlined throughout the organisation by adoption of various checklists. The checklists were available on the hospitals intranet, ‘Spandan’, and the stakeholders were equipped with tablets to conduct bedside audits using the checklists. Data from these checklists automatically flowed into the dashboards for each area.

Besides the checklists, tracers were instituted to audit compliance to various processes. Dedicated tracer teams were formed for each area comprising of a representative each from amongst the physicians, nurses, administrators and quality assurance teams. They conducted tracers which included patient tracers as well as system tracers, contributing to metrics included in the dashboard.

The overall responsibility of driving quality into the specialities by using the dashboard as a medium was given to a person embedded in a speciality - whom we designated as the ‘Institute Manager’. Each institute manager was tasked with the responsibility to track metrics and ensure appropriate action and process changes took place in consultation with the Institute Chairman, wherever required.

By instituting a monthly review within the clinical department as well as the management, these dashboards helped spread a much-needed single source of reliable information on strengths and focus areas across the organisation. Everyone from executives to managers to clinicians looked at the same data. When everyone in the organisation had access to consistent, reliable data, it enabled everyone to speak the same language, spread a system-wide standard of care and work together to bring about change.

The results of the dashboard have been very encouraging and we have been able to identify many areas which need enhanced focus. With continued efforts in these areas, improvement in processes and outcomes has been observed over time. An example of process improvement is mentioned:
The next step for Medanta would be to digitise the dashboards and make them as real-time as possible with an interactive interface.

Having institutionalised the dashboards as an objective approach to quality improvement, it was also felt that enhancement of a quality culture required a demonstrable commitment of the leadership towards quality improvement along with a willingness of the leadership to listen to quality concerns of the staff, incorporating their suggestions and feedback into the journey. Hence, leadership walk rounds were started with the intent to engage leaders and frontline staff in a meaningful discussion of quality care and patient safety concerns wherein key representatives of operations, medical administration and nursing meet the area teams in a structured and formalised way. The area teams were hence encouraged to discuss confidently any issues that they were facing that hampered quality, hence promoting an open culture of reporting and continuous improvement.

The walk round schedule was communicated well in advance to the teams to enable them to discuss and prioritise points for the walk round and a site team lead was identified who would be the point of contact for the leadership team. The lead played an important role in introducing the purpose of this activity and timing to the entire area staff so that everyone would have an equal opportunity for engaging with the leadership team and also ensure a focussed discussion around quality care and safety. The lead would also finalise on an interdisciplinary site team so that there is equal representation from all the teams. Data from indicators, incidents were used by staff to further pinpoint critical areas. It also reinforced the concept of a ward unit team coming together and discussing areas of concern or opportunities for improvement. Post the walk round, the lead would finalise on agreed points for resolution along with the leadership team and start closing the points as per timelines agreed. The first follow up meeting would ensue within next 72 hours wherein quick closure items were expected to be closed and a plan for long term action points was discussed. The second review was a 30 day impact meeting wherein status of agreed points was looked at and big impacts that were generated were shared.

The activity demonstrated leadership commitment to safe and quality care showcasing it as a priority for the organisation. The team could also check for themselves how reliable the instituted systems of care were and provide appropriate help to enable teams to be able to improve and address any issues themselves. The first quarter review was done in the quality assurance committee and 90 percent of the operational issues were closed; others flowed into bigger programs such as hospital infection, safety, training and HR programs. The feedback from staff was positive and things moving faster for closure gave the confidence to teams that they could resolve lot of issues themselves thereby encouraging and motivating the teams further.

The figures below are examples of how a walk round schedule was designed, the number of issues identified from the walk round and their tracking for closure.

As we continue our journey towards building an ecosystem of world class quality at Medanta, we shall focus on strengthening a culture of safety and quality amongst all our staff that puts provision of quality care at the forefront of each providers mind. A just culture, active reporting, collaborative resolution structures, ownership for quality, supported by a systems approach and adequate technology interface shall be our way forward to a strong foundation in delivering quality care to all our patients.
Standards are specific to purpose and therefore, it is essential that standards are developed to suit a wide range of requirements which means, these can be applied to a range of organisations and in different situations. To develop such set of standards, one should keep in mind that the requirements defined therein are generic so that they can be applied to different situations without compromising on the intent. NABH uses this methodology in developing standards for its various accreditation programs. The benefit is that the same standards can be applied to organisations anywhere globally, i.e Global Standards with Local Touch. While the intent and outcome of the standards remain same, the requirements which are specific to that particular organisation are also made applicable. In a short span of nine years, NABH has achieved international recognition and has set the benchmarks for other accreditation bodies to follow. NABH is also supporting government initiatives to export medical services under Medical Value Travel (Medical Tourism) through the Services Export Promotion Council, Department of Commerce, Government of India. NABH is also committed to help neighbouring countries in general and SAARC nations in particular by offering special fee packages. NABH is trying to reach out to organisations globally and already has clients from Philippines and Qatar.

NABH has always been fortunate to receive tremendous support from its board, staff, participating organisations and...
The TÜV Rheinland Group was established over 142 years ago and is currently represented by over 120 group companies spread across 69 different nations with over 19300 employees. The Group provides over 2500 services, pooled into 36 Business Fields, which are assigned to six Business Streams: Industrial Services, Mobility, Products, Academy and Life Care, ICT & Business Solution and Systems Certification.

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Email: info@ind.tuv.com | Website: www.ind.tuv.com
Quality in healthcare: Indian Spinal Injuries Center (ISIC) perspective

Quality is continuous improvement in patient care and service, education and research and all other activities in which we are involved in order to make the system a leading standard of excellence within the healthcare industry. Quality healthcare means doing the right thing, at the right time, in the right way, for the right person—and having the best possible results. Quantifying and improving the quality of healthcare is an increasingly important goal in healthcare sector today.

Quality of our hospital is a mutual – continuous effort of doctors, therapists, patients and their caretakers, researchers, payers, planners, educators, etc., to make the change that will lead to better patient outcomes (health), better system performance (care) and better professional development.

For several years, healthcare has been shifting from acute, episodic care to care for chronic conditions. Chronic conditions are now the leading causes of illness, disability and death.

Spinal Cord Injury (SCI) is one of the most devastating ailments, resulting in complete or partial loss of all functions of the spinal cord with varying degrees of paralysis, sensory loss and sphincter disturbance which is permanent and irreversible in cases. It was labelled as ‘an ailment not to be treated’ in the Edwin Smith papyrus 5000 years ago (Feldman and Goodrich 1999). The management was revolutionised during the second world war, when Sir Ludwig Guttman and Dr Donald Munro demonstrated that if managed appropriately such people can get back to a near normal lifestyle from the wheelchair. The management requires a multidisciplinary team approach and involves evacuation and first aid at site of the accident, proper transfer to the nearest healthcare facility for stabilisation and then to a definitive centre providing comprehensive care, including acute management, vertebral fracture management (conservative or surgical), comprehensive rehabilitation including physical, psychosocial, sexual and vocational rehabilitation, community inclusion and a lifelong follow up. The complicated multidisciplinary long term management makes it the most expensive as compared to that of any other ailment. The multi system involvement, the potential for multiple complications, some of which can be life threatening, the multidisciplinary requirement with a need for coordinated intervention based on consensus goals planned involving the team and the patient as well as the family and the long term management increases the chances of errors. Hence quality care assumes special significance in spinal injury management. It is for these very reasons that Quality care becomes challenging in spinal injury management.

We at ISIC work on the established principle that ‘Ultimate goal of quality is zero defect’. The quality achieved at ISIC can be gauged through dimensions of quality in healthcare with six aims of improvement:

1. **Accessible**
   - The Indian Spinal Injury Centre is situated at Vasant Kunj, Delhi, virtually next to the airport. It is easily accessible for patients who come here not only from across India but from all over the world. Further, the whole infrastructure is barrier free and accessible to wheelchair users.

2. **Relevance**
   - ISIC was conceived to provide services in a field in which was none available in the country. The spinal injury of Major Ahluwalia as a result of a bullet injury in Indo Pak war of 1965 and the lack of services for management, set him and a few like minded people thinking about recreating similar services for the citizens of the country who couldn’t afford to avail services abroad as was arranged for Maj Ahluwalia.

   Today, ISIC is a model institution comparable to the best in the world and has become a major referral centre. Its patients come not only from across India, but from all over the world.

3. **Equity of Services**
   - The philosophy of our centre is to provide equal services irrespective of the paying capacity of the individual. ISIC is 146-bedded hospital, in which 15 beds reserved for poor patients who cannot afford to pay. No one is turned away due to lack of funds and there is no discrimination in the quality of medical care.

4. **Effectiveness of Healthcare**
   - ISIC is recognised internationally for having set excellent standards in delivery of medical care. The Centre has a good spinal injury design, latest state-of-the-art diagnostic and surgical equipment and a highly qualified team of doctors, surgeons and health professionals who have all been appropriately trained. ISIC is totally barrier-free with spacious corridors, well lit rooms as well as...
lush green landscape and has the unique advantage of providing everything that a patient would need under one roof with the aim of setting up of processes to ensure a continuous improvement in patient care and services. It has comprehensive services for Spinal Cord Injury management.

Apart from service delivery ISIC has established its Education and Research services in keeping with its institutional and tertiary level character. ISIC has been successfully running DNB courses in Orthopedics and FNB in Spine Surgery. ISIC is also conducting various postgraduate courses such as MPT (Musculoskeletal), MPT (Neurology), MPT (Sports), MPT (Cardiopulmonary), MOT (Neurology), Master of Prosthetics and Orthotics in affiliation with Guru Gobind Singh Indraprastha University, New Delhi.

The centre has a Research Review Committee and Ethical Committee formulated as per the ICMR/ ICH-GCP/Schedule Y guidelines. It has a Clinical and Basic Research Wing ISIC had launched the Spinal Cord Society, the main conference for which is International Spine and Spinal Injuries Conference (ISSICON). This and the other conferences that are organised help to continue and spread the medical education and give opportunity to health professional to participate and present their latest achievements and upcoming challenges. The top management gives adequate emphasis on quality through integrating continuous quality improvement measures in the day-to-day management activities of the hospital. Quality circles have been created through various committees. There is emphasis on a proper work culture, customer/ process focus, employee education/training at all levels of the organisation, benchmarking and quality management/statistical reporting at every level as well as recognition and awards. There is a strong lateral relationship among doctors, paramedical staff and managers with the help of horizontally integrated service units within the pyramidal organogram.

Acceptability

We have an open source option of ‘patient feedback’ where patient satisfaction is gauged through patient feedback forms.

Patient Satisfaction Score Accreditation

ISIC has the following quality accreditations:

- ISO (22000-2005 certified) – food safety management system.
- NABH since 2012 as per the 3rd edition. Recently re-accredited in December 2014 valid till 2018.
- NABL

Challenges & Achievements in Quality Care

Indian Spinal Injuries Centre has faced many challenges in providing quality care such as:

- ISIC is an NGO without any financial support.
- Spinal Injury Management is technically the most demanding services.
- It requires a multi-disciplinary team approach and huge infrastructure.
- It is the most expensive service as compared to other ailments.
- Patients are most often from lower socio-economic background.
- It often afflicts the sole bread earner of the family.
- Even the middle class cannot afford the high costs of treatment.
- Spinal Cord Injured are often paralysed and not able to go back to original vocation.
- There was a lack of availability of trained manpower in this field necessitating human resource development in various medical and paramedical specialties.

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Globalisation and increase in awareness of the people is forcing the industries to become more competitive and sustainable. Firms are relooking their supply chains to make them green by eliminating the energy intensive processes and links. New strategies like reverse logistics are being employed to make the reverse chains a source of revenue. In the new scenario, the industries are integrating their operations and shifting from the concept of pure product centred to a supply service centred as a strategy to gain leverage. This process of servitization has gained momentum due to shrinking markets, product variety and due to motivation of businesses in building long term relationships with customers.

PSS or product service system is the combination of products and services designed and combined together so that they are capable of fulfilling the specific needs of customer (Tischner & Tucker, 2002). These needs include product quality (Garvin, 1984), which includes eight dimensions viz. performance (functional specifications), features (add-ons), aesthetics, conformance, durability, reliability, serviceability and perceived quality. The transition from products or services to relationships involves expansion into the dynamics of value creation considering the relative priority of the dimensions of quality and the relative weight that each customer provides.

The challenges faced by the manufacturing firms when shifting from being a product provider to a product-service provider are multipronged but this system can add economic, environmental and social values for diverse stakeholders in the system. Although in theory, the implementation of PSS leads to higher revenues and margins, but in practice it takes time to build up corporate profitability (Neely, 2008). In addition, the transition from the product-centric strategy to a PSS is intricate (Baines, et al., 2007). There are no readymade solutions for such a transformation as one size does not fit all. Thus, the industry has to develop a suitable business model clearly bringing out how it hopes to create, deliver and capture the economic and social value.

Product based manufacturing and process-based manufacturing have proved to be relatively easy to imitate by competitors, whereas PSS are less easy to replicate. This has pushed many manufacturers to recognise the strategic integration of services as a source of sustainable competitive advantage and corporate profitability (Olivia & Kallenberg, 2003). The concept was introduced by Rolls-Royce in its ‘Power by hour’ offering wherein instead of selling aircraft engines-the solution based offering was offered. This shifted the maintenance and services into the provider’s domain.

Although, the provider gets an assured revenue stream, he is also exposed to more operational risks and uncertainty. There is a trade off that the provider faces between incurring cost and limiting the uncertainty. It also sees a benefit from pooling and centralisation and in the process a new business model is evolved. At the same time the provider has to address the intangible issues such as empathy and assurance which creates ambiguity. As these are subjective dimensions incorporation in the contractual arrangement is imperative.

This progression and change can be seen in Indian situations as well, e.g. Indian Railways is moving towards procurement of solutions for the industrial products instead of outright purchase of the equipment, the microprocessor based governors and turbochargers are based on such criteria. The total cost of the solution is

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**PRODUCT - SERVICE SYSTEM**

<table>
<thead>
<tr>
<th>Value Mainly in product content</th>
<th>PROCESS CONTENT (TANGIBLE)</th>
<th>Value Mainly in service content</th>
</tr>
</thead>
<tbody>
<tr>
<td>PURE PRODUCT</td>
<td>PRODUCT CONTENT (TANGIBLE)</td>
<td>PURE PRODUCT</td>
</tr>
</tbody>
</table>

A: Product oriented
- Product related
- Advance and Consultancy

B: Use oriented
- Product lease
- Product renting or sharing
- Product pooling

C: Result oriented
- Activity management
- Pay per service unit
- Functional result
ascertained including the cost of the product as well as the cost of the AMC and is a win-win situation for both the players. This support helps in tiding over obsolescence issues during technological upgradation and the provider are bound to provide spares over the deemed life of the product even when the model changes. The different users can use this to place individual AMC orders and their feedback is used in the next procurement cycle. Thus not just the procurer but the end user has a say in the matter and is satisfied. As far as the firm is concerned it has bagged not only the initial order but a service contract as well as the railways have to use its services for AMC. Thus it is assured of a market over the life cycle of the product and can itself enter into long term contracts with its suppliers. Thus there is competition and long term relationship at all levels in the supply chain and the market ensures that the user gets value for money.

However, the process is challenging and complex. Determining the expected quality and contracting for the expected outcomes is not simple as the profits may not be shared fairly between the players as each of them tries to increase his share and is driven by different incentives. This can be demonstrated in the case of procurement versus hiring/lease of a car. The car is owned by a person who hires a driver and pays him by the days and some overtime. The payment is received on the basis of kilometre and hours used. The driver of the vehicle has no incentive to run extra kilometres during the stipulated time as there are no incentives linked to it but would like to earn overtime. In case the car is hired on a monthly basis for running on an average 80 kms a day the owner pays the driver for the fuel and his daily allowance irrespective of the hours it is used. In such a case the driver tends to save money if the vehicle is run less and so he creates situations so that the person hiring the same is unable to use it and he can extract some more money from the owner for petty repairs. The driver however ensures that the vehicle does not go under repair for the day as he stands to lose his wage for the day in that situation. The person hiring the vehicle would like to maximise his benefit by using the vehicle for the stipulated kilometre age. The owner's only concern is that the vehicle runs daily so that he can realise the payment for the month and there is less breakdown of the vehicle. It is thus important that the incentives for all stakeholders are tuned for the contract to be successful.

If we look at it from the point of view of the customer, his needs are met over the life cycle of the product and he is assured of the quality of the product and its life. This reduces information asymmetry as the decision for procurement is based not only on the initial cost of the product but the cost over the life cycle for which the supplier is bound to provide the services through warranty or annual maintenance contracts at a pre determined rate. With a payment contract that is delinked to time and material used, the provider benefits from designing long lasting and easier to serve products. Therefore, at the planning stage itself the need analysis and 'Design for services' would also be different then for outright purchase design. This can also considered a sustainable offering as it results in dematerialisation. The provider has full control over the equipment support system and the customer's interference and responsibility is drastically reduced. The silo behaviour between manufacturing and after sales service has to be removed and the issues of life time accountability have also to be incorporated along with life time costing.

References:

MoEF & CC joins hands with QCI/NABET to improve quality of EIAs

Background
Most of the industrial and developmental projects in India need clearance from environmental angle. Such clearances are granted on the basis of specialised reports called Environmental Impact Assessment (EIA) reports. These reports are also being progressively used by the financial institutions for ensuring safe investment and by the corporate sector for due diligence studies for merger and acquisition cases.

The first Notification on the requirement of EIAs for environmental clearance was brought in 1994 by the Ministry of Environment, Forests and Climate Change (MoEF & CC). The environmental clearance process was further re-engineered through the EIA Notification, 2006. All the projects having possible detrimental impacts are classified under two categories A & B as per EIA Notification 2006.

EIA is a multi-disciplinary activity requiring inputs from a team of experts having exposure and knowledge about the proposed project and in the various specialised fields, namely air pollution, water pollution, solid waste, ecology and environment, social issues, land use, risk assessment, geology, soil, noise and vibration, etc. It was a new field of specialisation in the country and not many competent agencies were available after the first EIA Notification in 1994 to take up such studies. In fact, even many individuals were preparing the EIA reports without having the requisite expertise, competence and resources.

To address this shortfall, then Ministry of Environment & Forests (MoEF) was looking for a methodology to identify and register consultants in the country capable of preparing such multi-disciplinary reports. Realising the need of improvement in this sector, the National Accreditation Board for Education & Training (NABET), a constituent Board of Quality Council of India (QCI), the National Accreditation Body, jointly set up in 2005 to develop a Scheme for Accreditation of EIA Consultant Organisations.

Achievements So Far

The Scheme has been able to achieve following:

i. For the first time in the country, a list of capability verified EIA Consultant Organisations is available in the public domain with sectors of expertise, category, contact details, etc.

ii. The ‘fly by night operators’ have been weeded out from the scene.

iii. The crucial concept of team work by the ‘EIA Coordinator’ and ‘Functional Area Experts’ for preparation of quality EIA was recognised.

iv. The concept of system based approach for EIA preparation,

and now there are 171 accredited EIA consultants in the country. List of accredited consultant organisations with the sectors accredited for is posted on the QCI/NABET website and is updated on the fifth day of every month.

The Accreditation Process

QCI/ NABET Scheme for Accreditation of EIA Consultant Organisations is based on detailed assessment of following aspects:

i. Human resource (experts to be involved in preparation of EIAs meeting therequirements of qualification, experience and competence).

ii. Requirements of field investigation and laboratory arrangement (in-house or external).

iii. System based approach towards EIA through Quality Management System to ensure capacity building of the consultant organisations over time.

iv. Tracking the quality of EIA Reports prepared by the consultants after accreditation.

v. Organisational commitment for ‘continual improvement’ through improved facilities, resources, trainings, etc.

The accreditation process follows the well accepted international approach of an Initial Assessment (IA) followed by Surveillance Assessment (SA) and re-assessment at the end of the accreditation period for granting Re-accreditation (RA). Accreditation period is for three years with a Surveillance assessment after 18 months. Achieving ‘continual improvement’ is the corner stone of the Scheme. Regular training workshops for assessors are also organised to fine tune the assessment process and keep them updated in this continuously evolving field of Impact Assessment.

QCI/NABET has been seeking the feedback from stakeholder’s right from the initial phase of the Scheme. As many as 27 interactive workshops have been organised across the country to engage consultants, regulators, experts and civil society representatives over the years.
instead of being person specific, brought in the country. This will ultimately strengthen the EIA preparation process in the country.

v. Recognition given to human resource at all levels
   a. Functional Area Associate : 0-5 years’ experience
   b. Functional Area Expert Cat B : >3 years’ experience
   c. Functional Area Experts Cat A : >5 years’ experience
   d. EIA Coordinator Cat. B : >5 years’ experience
   e. EIA Coordinator Cat. A : > 7 years’ experience
   f. Team Member : Provision to enter in new sector/area
   g. Mentor : Provision for experts with vast exp.

vi. Self-realisation by professionals of being an ‘Expert’ of particular sectors/ functional areas and a career progress path.

Some Interesting Information on the Scheme

QCI/NABET makes all efforts to make sure that the message is given strongly to the accredited consultants that quality of EIAs prepared by them needs to continually improve if they want to retain their accredited status. Minimum two EIA reports prepared by an accredited consultant organisation (ACO) undergo in-depth scrutiny by NABET assessors during the assessment process. An analysis of change in quality of EIAs for 20 ACOs as observed during two subsequent assessments (SA & RA) is given below in Fig. 1 and Fig. 2.

Perspective of Ministry & Industry in Joint Workshop

This workshop was inaugurated by Shri Prakash Javadekar, Hon’ble Minister of State (Independent Charge) Environment Forest and Climate Change in presence of Dr. Prodip Ghosh, IAS, Ex. Secretary, MoEF & CC; Mr. Adil Zainulbhai, Chairman QCI and Dr. P. B. Rastogi, Director MoEF & CC, Govt. of India and Dr. R. P. Singh, Secretary General, QCI. The workshop was attended by about 300 delegates comprising MoEF & CC officials, members of state level regulatory authorities, representatives of accredited EIA consultant organisations and industry.

Shri. Prakash Javadekar, Hon’ble Minister of State (Independent Charge) for Environment, Forest & Climate Change, Govt. of India initiated his address by saying that ‘Change of work is rest’. The Hon’ble Minister talked about the various steps that the Ministry has taken to expedite the process of environmental clearance. 2200 applications have been processed on-line. The process will be gradually extended to the States also. The standard TO ` for 39 Sectors issued by the Ministry will help further to reduce the timeframe for environmental clearance. He added that decisions should be policy based and not on a case to case basis. The Hon’ble Minister requested everyone to give suggestions and become partners with the Ministry. He mentioned that the Ministry is working on standards for the use of animals for medical testing. While coming to EIA, he talked about the existence of two types of consultants - one for actually carrying out the study and other for liaison. He assured all that there was no necessity of the latter and the work would be done without their visiting the Ministry. Aspects of land acquisition and relevance of Social Impact Assessment for the same was also discussed.

Further, Hon’ble Minister supported the need of accreditation for EIA consultants. He added that EIAs should be of high quality and ‘cut and paste’ approach must be strictly avoided. He mentioned that conditions of the environmental clearance (EC) should be reasonable, need based and practical. Conditions of EC must be followed and implemented. He
assured that appraisal process will be proper. He also added that in 17 critically polluted areas already identified, pollution monitoring devices will be put for 24/7 monitoring. While talking about the stay order issued by various High Courts w.r.t. the OM for accreditation of EIA consultant organizations, the Hon’ble Minister assured for issuing necessary Notification.

The workshop was also addressed by eminent national and international speakers from environmental consultants and industry. Mr. Piers Touzel, ERM-Asia Pacific Region, gave an overview of international practice for Environment and Social Impact Assessment (ESIA). He talked about the system being followed in China and Australia accompanied by case studies. Mr. Touzel mentioned that ESIA is an evolving process. Regulations need to be renewed on a regular basis. He further added that challenges in India are not unique. International experience offers some learning points.

Shri M. K. Singh, IAS, JS, MoEF & CC addressed the delegates and participants. Referring to Mr. Touzel’s presentation on a case study of Australia, where the sometimes large number of conditions are given for environmental clearance, Mr. Singh commented on the similarity of situations faced in both countries. Talking about the Scheme for accreditation of EIA consultant organisations he added that QCI’s efforts in being the first to evolve such unique scheme is appreciated. From his recent experience in Japan he quoted that people were surprised to know about the existence of such a scheme and appreciated the accreditation process. Dr. Satish R. Wate, Director, NEERI gave an effective presentation on requisite of a good quality EIA. He explained as to how EIA helps in inclusive development. Industry representatives gave their perspective and offered suggestions on improving the accreditation and appraisal processes in the country. Representatives of accredited EIA consultant organizations also presented their views on bringing in a culture in the country for preparing quality EIA reports. Prof. C K Varshney, Professor Emeritus, JNU added that as there was a dearth of experts in the EIA field and QCI must come up with training programmes for capacity building in this field. He further added that quality is a journey where the destination is never reached. There is a great opportunity to improve the EIA process.

**Awareness Workshops Across the Country**

Scheme for Accreditation of EIA Consultant Organisations is being implemented since Dec 2009 in line with the MoEF office memorandum dated Dec 2, 2009. Since then, two Versions of Scheme i.e. Version 1 and 2 were released on Jan 2010 and Aug. 2011 respectively. NABET has now updated Scheme and released Version 3 including the re-accreditation as mentioned below:

- Incorporating Initial Accreditation (IA) process – Version 1, Jan 2010
- Incorporating IA and Surveillance Assessment (SA) processes – Version 2, Aug 2011
- Incorporating IA, SA and Re-accreditation (RA) processes – Version 3, June 2015

To appraise the consultants and prospective applicants on requirements of Version 3, a 2 day workshops were conducted in Mumbai, Hyderabad, Chennai and Ahmedabad in Jun-Jul, 2015. Two more workshops are scheduled to be conducted in Kolkata and Delhi in the last week of July 2015. Workshops were attended by participants from applicant/accredited consultant organisations, members of the State Expert Appraisal Committee, State Level Environment Impact Assessment Authority and Pollution Control Boards.

**Way Forward**

QCI/NABET is open to new ideas which may help improving the accreditation mechanism further. However, to expect that accreditation of EIA Consultant Organisations alone would bring improvement in the quality of EIA may not be fully justified. Government and QCI need to work together to a) further professionalise the appraisal process and b) incentivise the consultants producing good EIA and c) implement the EIA/EMP report on project site with desired efficacy.
# DNV GL Business Assurance

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  - ISO 22301
With over 38,000 people in 1,000 locations in more than 100 countries, Intertek is the industry leader because of its vast experience, consistent growth and a very rich history. Be it in its dealings at local or global platforms, Intertek makes sure that its services meet quality, health, environmental, safety, and social accountability standards for virtually any market around the world. Having earned extensive global accreditations and recognitions, their knowledge and expertise in overcoming regulatory, market and supply chain hurdles is impeccable. The history of Intertek dates back over 130 years and its evolving journey so far is an impressive one. Rajesh Saigal, Regional Managing Director, Intertek, South Asia, shares that by offering comprehensive solutions and services based on their industry specific knowledge and technical expertise, Intertek works as a service provider platform for its clients.

By | Neha Mehta
**How Intertek works to deliver quality services?**

Intertek works in the quality services domain. Our core role is to act as partners in progress. We work as a solution provider; we don’t just cater to our clients requirement, we create a understanding with them in their overall business dynamics and the kind of markets they are looking to enter and then redefine the quality value proposition for them. We touch every aspect of their business which further helps them to become a successful trader across the world. We have been successfully using feedback mechanism of Net Promoter Score (NPS) to gauge the satisfaction levels of our clients and analyze our performance matrix to improve the quality of service.

**How Intertek deals with the quality standards in the international platforms which have become so discerning at present?**

When it comes to quality, the very perspective towards it can be different for different countries, industries as well as at the local levels. In a consumer driven industry, it is very important for any organization to choose its partners wisely in order to have harmonious coordination with them which results in the optimal levels of quality. We have dedicated team players in every stream and when it comes to quality standards, no ambiguity in any form is entertained in our organisation.

**What are the quality measures you follow in your laboratories?**

With a global footprint and legacy of helping some of the best brands of the world, we have developed various quality control matrices and segregated in terms of products and process be it in terms of various parameters, overall lifecycle of the organisation, client interaction or employee engagement, our perspective towards quality is quite vast and we make sure that these parameters are taken care of from all the angles, through our conduct with our own management or dealings with our clientele base.

**Have you taken any steps to reduce energy costs and environmental impact?**

We have a twofold approach when it comes to environmental concerns and the optimal use of resource during our operations. Firstly, as far as our existing labs and offices are concerned, we have got them audited from the energy saving and safety point of view. To aggressively work towards the environment we have made our Mumbai lab totally paperless i.e. all lab related work is carried out using state-of-the-art technology with zero paper usage. In terms of new investments, we are designing new labs in such a way that they are equipped to use renewable energy. We are making initial investments within the labs in order to completely do away with the huge power consumption to a large extent. Also, some of our tests require uninterrupted power due to which we have to use generators which in turn pollute the environment as well as are expensive in terms of diesel consumption. In order to minimize this, we are trying to transform the mechanism and move to battery or inverters type of uninterrupted power supply solutions so that pollution can be reduced.

**How do you create transparency and facilitate communication in the management of energy resources?**

In the age of technology, we have incorporated lab performance system; it helps us to share and monitor employee health and safety, energy conservation, social compliance and not just the revenue information. We are regularly updated about the performance levels which are of various labs across the organisation. HR shares these parameters on monthly basis so all the labs know what other labs are doing and learn the best practices.

**How your company takes care of corporate social responsibility in this competitive scenario?**

We were among the early movers to foray into this part of the industry and have a dedicated team working full time into Corporate Social responsibility. We are involved in a number of activities in collaboration with various charitable organisations and NGOs. Some of them include blood donation camps, dedicated mobile health vans, night shelters, and getting the road safety and health care infrastructure for poor people. We are in regular contact with civic authorities and organise meetings with Municipal Corporation of Delhi (MCD) and Delhi development Authority (DDA) to bring to light many issues that affect people at large.

**Any plans for 2015-2016?**

We are looking forward to expand our work platform in softlines(textile testing) in the coming years. We are also investing in leather and footwear testing, building products testing, automotive testing, petroleum and oil testing. Lots of growth plans are in the pipeline for the next year to achieve 4x4 vision.

**Which kind of product testing is high in demand at present?**

Since we work with Bureau Of Energy Efficiency (BEE), Ministry of Power, Government of India, energy efficiency of ACs and refrigerators is in demand. Apart from this, school uniform testing and water testing by Bureau of Indian Standards (BIS) is high in demand. We are also foraying into LED and battery testing in addition to IT/AV product testing that we currently do.

**How Intertek builds its trust amongst the perspective consumers especially in relation to electrical products?**

In terms of our responsibility towards consumers as well as government, we actively take part in all the development initiatives that are being launched by our Prime Minister Narendra Modi from time to time. One of the examples is Charging Bharat concept which has been showcased in our offices and portrays how Intertek’s quality services are impacting the life of consumers, whether they are at home, office or village. This enables heavy industries to grow along the lines of renewable energy and also helps in assisting various original equipment manufacturers (OEM) with diverse technologies.

Intertek’s quality service gives trust and assurance to the end customers that they are using the best quality products as per the industry standards.

**Any other information you would like to share?**

We are a committed corporate social responsible employer. Having been in India for the last 22 years, we are keen on making ‘Make in India’ initiative launched by our Prime Minister Narendra Modi successful. We are working with Quality Council of India and are an active part of Mr. Modi’s Zero Defect- Zero Effect programme. We are also working on skill enhancement initiative and development as well as Digital India campaign.
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Authorized Representative for India, Sri Lanka & Bangladesh
IRCTC firm in taking the performance levels Higher

Since its incorporation on September 27, 1999 as an extended arm of the Indian Railways to upgrade, professionalise and manage the catering and hospitality services at stations, on trains and other locations and to promote domestic and international tourism through development of budget hotels, special tour packages, information and commercial publicity and global reservation systems, IRCTC have been playing a very major role in eliminating the loopholes in the Indian Railways.

It has taken many steps from time to time so as to provide the travellers with a comfortable journey. A toll free no. 1800-111-139 was also launched for swift redressal of complaints and suggestions conveyed by passengers on the phone. In order to facilitate another option of lodging a complaint/suggestion by the passenger, facility of receipt of complaint through SMS on phone number 9971-111-139 was also started; this enabled the travelling passengers to have easy access to the complaints redressal system without any other charges.

On-line Complaint Management System was also introduced to facilitate the passengers for lodging their online complaint by logging on to their website at www.irctc.com. Indian Railways became the first company in the country to provide customer complaint services on a mobile app besides providing the facility online by launching a complaint management system (Coms). The Coms comprises the mobile app, an online portal backed by a centralised grievance redressal monitoring system and a mobile network messaging facility.

IRCTC is managing currently 19 Rajdhani, 13
Shatabdi, 16 Jan Shatabdi, 6 Duronto Express, 9 Garib Raths, 205 Mail/Express trains and 118 trains have train side vending facility. It has country’s largest catering and e-commerce firm, the corporation caterers roughly 10 lakh meals in 255 trains and sells over two lakh tickets through its websites daily.

In order to ensure the quality of food being served in the Indian railways, IRCTC is getting the customer satisfaction surveys done on all trains through third party agencies. These customer satisfaction surveys are done twice in a year. So far, Customer Satisfaction Survey has been conducted on 530 trains. There has been an improvement in the performance of the catering department as per the surveys conducted in Duronto, Rajdhani and Shatabdi Express.

Mobile kitchens in three Rajdhani trains have received highest food safety certification, FSMS ISO 22000:2005. The mobile kitchens thus accredited and certified include Mumbai Central – New Delhi Rajdhani Express; Ahmedabad- New Delhi Swarnajayanti Rajdhani Express; and August Kranti Rajdhani Express between Nizamuddin and Mumbai Central. This is the first time IRCTC’s mobile catering units have been audited and certified by a third party certification company. The certification is provided under the accreditation of National Accreditation Board for Certification Bodies (NABCB). Apart from this, 10 NRC units and a total of 32 units, including food plazas, FFUs and Food courts got Hazard Analysis and Critical Points system (HACCP) or ISO 22000:2005 accreditation.

A leading market research Agency has been engaged to measure the degree of satisfaction of rail travellers on various aspects such as Food & refreshment, Bed rolls and linen, Staff Behaviour & Compartment related aspects to identify the areas for improvement. This parameterisation of the
Complaint Handling system has been done to get more specific details of complaint which will further help in improving the system. The factors responsible for deriving the overall on-board experience for the travellers have been classified into the following four broad aspects:

i) Compartment Related Aspects

ii) Food & Refreshment Related Aspects

iii) Staff Behaviour Related Aspects

iv) Linen & Bedroll Related Aspects

To check the quality of Food & Service, Customer Satisfaction Surveys through third party professional agencies were introduced and was segregated as a completely different section to analyse the complaint redressal system every minute.

Over all improvement of 4 per cent has been observed in IRCTC related aspects which include cleaning and sanitation, food storage, personal hygiene, personal practices, presentation, etc. In order to maintain the quality of services on-board trains, control rooms have been set up in New Delhi, Mumbai, Kolkata, Chennai and Secunderabad. These Zonal Controls have been strengthened and equipped with phone, fax and PC with broadband connectivity, and are operational round the clock, seven days a week. Central Control office at New Delhi regularly coordinates with all the five zonal offices for effective monitoring of the complaints & catering activities.
Preventive and punitive actions have been taken based on the nature and seriousness of the complaint. All the complaints were addressed and methods such as penalizing licensees, D&AR action against staff, counselling and warning were adopted at appropriate levels. Hygiene laboratory in Central kitchen in Noida has been upgraded to include more parameters and techniques for testing raw and cooked food in static and mobile catering units. The microbiological tests for the cooked food, raw material as well as equipment/utensils and hand swabs are conducted regularly in lab to ensure the highest possible hygiene standards in food being supplied from the kitchen.

Keeping in view the impact of food safety on public health, food safety audits are also being conducted in IRCTC by third party agencies. The performance in case of trains came out to be around 80 per cent and in case of Static units 70 per cent. In case of non-railway outlets, the food safety and hygiene audit came out to be 85.5 per cent.

As far as IRCTC is concerned, observing the evaluation of the steps taken by it, it is very keen to improve the quality of services being offered in the Indian Railways. But at the same time it is not responsible for any kind of illegal catering that takes place on Indian the railway system.

Enjoy the delicious KFC food delivery services in IRCTC

Going a step ahead in its catering tourism in Indian Railways, IRCTC and KFC have partnered and this partnership has enabled the delivery of finger licking KFC food at passenger’s seat in the railways.

In action since 20th July, at present, this facility is available only on 12 trains passing through New Delhi railway station. However, it will be expanded to Vishakhapatnam, Hyderabad (Kacheguda) and Bangalore (Yeshwantpur) stations over few days very soon. Consumers can visit the IRCTC website or call on 18001034139 (Toll Free) to place their order. A password will then be sent by KFC to the consumer’s mobile phone which will have to be mentioned at the time of delivery.

KFC is the second fast food chain to tie up with IRCTC after Domino’s Pizza. Domino’s began experimenting with train deliveries earlier this year and now they offers deliveries on more than 200 train services.

To ease tatkal pressure, Railways to divide AC and non-AC class booking

New Delhi: To ease pressure, Railways has decided to stagger booking of tatkal tickets by allowing reservations in AC class from 10 am to 11 am and non-AC class from 11 am.

The new tatkal booking schedule will come into effect in the next couple of days, a senior Railways official said.

The Railways is also toying with the idea of giving refund on cancellation of confirmed tatkal tickets, the percentage of which would be calculated based on a time frame.

The public transporter has decided to rechristen premium trains as “Suvidha” trains with an overhaul in the fare structure, and cancellations and bookings facilities, Railway Board Member (Traffic) Ajay Shukla said.

Announcing the changes in timing of tatkal bookings for AC and non-AC classes, he said the measures were taken to ensure “fast service while booking online and reducing passenger rush at the counters”.

Talking to reporters, Sharma said the IRCTC website had recently registered three crore hits in a day, slowing the server in the process.

Besides, he said plans are a foot to refund a percentage of fare on cancellation of confirmed tatkal tickets, which is hitherto unavailable.

“We are considering to refund certain percentage. We will have a time frame and if a passenger cancels (a tatkal ticket) within the time frame, he will be refunded accordingly,” he said.

Refunds will also be available on cancellations of tickets of premium trains and such refunds would go “up to 50 per cent”, he said. At present, no such facility is available, making such services unpopular among a segment of the customers.
Quality Services

This SBU provides comprehensive inspection, certification and training services across all infrastructure sectors including Power, Hydrocarbons and Metals & Minerals.

It has the experience of serving more than 1,000 clients spread across 40 countries. This opportunity to engage and understand unique customer requirements enables it to build customer centric systems and reporting formats.

This year, the SBU has ventured into 'Operation & Maintenance' projects in its domain and has acquired a food certification company “FoodCert”. The SBU is known for its responsiveness and on-time completion of assignments. It has a high customer retention rate which is a testimony to the value it offers.
Your testing, certification, inspection, auditing and training partner.
charging bharat.
New paradigms to support the spread of air traffic

In the forthcoming years in India, the growth of aviation is expected to be staggering and to serve that growth, the capacity of airports, both in absolute numbers and also the capacity of individual airports, has to speed up.

By | Robey Lal

The continuously increasing volume of air traffic, numbers of aircraft and the users desire for affordable comfort will drive the expansion of the aviation network. To satisfy these demands the issues to be addressed must concurrently focus on safety and affordable convenience. But for the moment, let us home in on the issues related to increasing capacity at, and of, the airports.

The initial step is a call for greater collaboration between the carriers, the airport planners and operators, and the government. The roles of the three could well start with the role that the government has to play. An important factor, which needs to be recognized as it defines the operation of the aviation industry more than that of many others. The interventions include:

- The tariffs that may be set by the airports, whether in the public or the private domain, are detailed by the regulations of the government. In India there are a wide variety of tariff regime mechanisms for a comparatively small number of airports. The tariff structure ought to progress from one to another, from minor to major airports regardless of ownership, harmoniously, so that the stakeholders can foresee a stable financial regimen ahead.

- Secondly, there are two authorities, civil and military, which prescribe the aeronautical standards of planning and/or operation of Indian airports. The levels followed by the two oft-times differ. I hasten to add that there are also inconsistencies in prescription; implementation and regulatory oversight of the standards observed between airports, and especially between civil and defense controlled ones. These variances need to be addressed and a uniform pattern, which enhances safety, based on the civil regulations, must be enforced at airports serving the public.

- A similar situation exists regarding operational performance standards, i.e. the quality of service, provided by the airport operators. Only a few of our airports set their standards of performance and strive to achieve them. The Ministry and AERA must approve and introduce measureable standards of performance for all airports. Presently, a sample survey of passengers is used to judge how a few, select airports fare vs. others around the world. Though useful, at best these are subjective reactions of users. What will help users throughout India is that the regulators set measurable levels of service to be provided at all airports, for passenger and cargo terminals, and hold the operators, AAI and private parties, accountable to achieve them.

Secondly, the current approach in airport planning is to prepare a traffic forecast for 15 to 25 years and then develop terminal and support facilities at the airport to match that forecast. The rest of the land is then considered for commercial exploitation. However, experience has shown that such forecasts, in a volatile aviation market, can be wide off the mark. The end result is that airport facilities are playing catch up with the traffic volumes rather than preceding the demand. Therefore, a planning paradigm used for planning of airports to ensure that a longer-term view is taken is required.

The priority ought to be to maximize the capacity of aeronautical services provided at the airport for the long-term on the land available. The land at an airport is the most precious of resources and its use for operational purposes must be top priority. Only after it is ensured the operational needs over an extended period of time can be served then one must allow the rest of the airport land, and in its near vicinity, for commercial development and increasing non-aeronautical revenues.

Such planning ought to be related to the economic benefits that the airport brings to the region and the city that it serves. Present economic analysis seems to consider airports and facilities as...
TTPK

TTPK’s Vision:

TIRUPUR THOZHIL PATHUKAPPU KULU (TTPK) was established in a situation when the Dyeing units were closed due to Pollution issues. Tirupur Thozhil Pathukappu Kulu (TTPK) started on April 2011, as no associations or NGOs in Tirupur has not taken any steps to re-open the closed dyeing factories and common effluent plants. TTPK then organized many protest and made the state government to reopen the dyeing units and announce some monetary benefits to the dyeing industries. TTPK’s vision is to Protect the Tirupur Industries and assist them to excel in their business.

TTPK’s Mission

Tirupur provides direct and indirect employment to about 2 million people in this region. The stakeholders of this cluster faces unique problems in their day to day business affairs, with that in consideration, TTPK has 10 Organizing Committee Members to drive the association, and 30 Members in Executive Committee to approve all the plans and activities carried out by TTPK, also, an intellectual expert group from all spheres of Business Process are being engaged with TTPK to explore solutions.

TTPK’s Goals:

Our goal is to assist and support the Initiatives which nurture the business growth and the City’s progress. We are committed to transform the Tirupur as a Best Knitwear Business destination of India. Assisting the Business community in identifying New Markets, establishing Ethical practices for sustainable business among Buyers and Suppliers, Creating a Confederation of all associations to address the issues faced by the industry stakeholders, and drive them to achieve the Vision 2020 “One Lakh Crore” Exports

RoadMap:

TTPK formed a Panel of Subject Matter Expert to address & provide advisory services to the Members as well as the Stakeholders of this cluster on Legal, Export, Technical, Finance and Human Resource domains. The main objective of forming this Panel is to engage the companies to the right experts and get their problem solved through Single hassle free manner in an affordable cost. Facilitating the Training programs, Market Promotional activities and implementing the necessary Business Process Improvement initiatives to achieve the Vision 2020.

TTPK’s Services

TTPK Support to avail State & Central Government Schemes

TTPK Assists Members to received delay payment through the Provision of MSME Act...

TTPK Assists Banking & Financial Support Services for MSME’s

TTPK Conduct Technical Seminars & Training Programs

TTPK’s Initiative to promote Tirupur Brands to Other states through TAF(Tirupur Apparel Feast )

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standalone commercial entities and the development proposals have to be justified on their financial returns. This is done despite the fact that the economic gains are felt far and wide. So airports must be a part of regional planning, and their operators ought to get economic and financial benefits for providing the service. Thus, a model, which balances the service that an airport provides to the community with the financial returns to the operator from the community it serves, ought to be introduced. While the development of airports in the future are likely to increasing invite participation of private players, the profits the private parties will gain will need to be balanced with the public good.

There are always interested parties in the development of large airports, where traffic is assured and communities and operators look upon their airports and terminals as iconic designs in the urban landscape. But the discussions of major airports and their development are not touched upon here. As a large number of comparatively small airports are to be developed across the country, the issues of planning ‘en-masse’ must be based on a new paradigm. Greater coordination between the major stakeholders in planning the development of airport facilities needs to be introduced. This is especially valid for now, since there is discussion of 50 or so new airports to be developed in a short period of time. The development plans will have to take into consideration innovative and proactive plans to deal with the high costs of providing security, and Air Traffic Control and even the specialized Airport Fire & Rescue services.

Currently, each airport developer wants a unique design, iconic terminal to make their mark in the industry. But examples now exist abroad where a client developing and operating airports, the floor areas of the terminals, the facilities in terms of security procedures and equipment, the specifications for information systems, the baggage handling systems, signage’s etc. are to similar specifications, and the demands for utilities are quite comparable throughout the range of terminal designs. The items that have to be adjusted to local conditions in each terminal are the HVAC system to deal with environmental variances, structural needs for soil conditions, and aesthetic needs reflecting local material and design compulsions. Such detailing facilities can be undertaken relatively quickly. Subsequently, if airports are bundled, then acquiring equipment can be centralised resulting in financial savings during capital expenditure and in maintenance.

Similarly the needs for the supporting infrastructure, including aprons, car-parking area, ARFF building and equipment are quite standard, and the airport terminal complex layout and land-use plan can be adjusted to site conditions.

The carriers, which in India apparently want to operate A320 and B737 and rarely anything smaller, even like ATR 72, have to be a party to such long term plans, to define possible aircraft introductions. The regulators have to set planning and operating standards, and the tariffs must be controlled, for the good of the airlines and users, and maybe even result in prescribing a range within which costs of development have to be maintained. Such actions cannot be taken only by calling tenders, but the industry must meet to develop the broad guidelines on which to develop ‘consumer and user’ driven plans for the industry.

Therefore, it is my view that when dealing with large numbers of small airports, with basically similar needs, these issues ought to be considered and uniform requirements leading to a uniform base plan allowing for variations in detailing for local conditions, be undertaken. The result will be quick development of airports, savings in preparatory time and capital expenses and also long term operational and maintenance savings. Such work is being provided to clients abroad where air traffic is growing. Increasing numbers of communities are asking for air services, and private and public agencies are cooperating in developing the infrastructure. Some of this work is with major inputs provided by Indian consultants. Thus, it is time to get away from individualistic facilities to consumer oriented airport facilities across India.
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Insurance is the subject matter of solicitation.
3rd July this year was the birth centenary of Professor Kaoru Ishikawa, who is credited with the idea of Total Quality Control (TQC), a system of company-wide quality control in which all company members—from top management to operators on the shop floor—participate. Before the World War II, products exported from Japan had a well-earned reputation for being cheap and shoddy. Immediately after the war, Ishikawa worked along with like-minded colleagues and quality experts of his time to develop and disseminate the concepts of quality control to Japanese industry. Through his research he brought an innovative change to business management principles and style of operation: broad involvement in quality, not only top to bottom within the organisation, but also from start to finish in the product lifecycle. By mid 1970s and early 1980s, Japanese quality superiority was a major reason for a dramatic shift in share of market from the West to Japan for a wide range of products such as colour TV sets, automobiles, and large scale integrated circuits. Today, Japan is a nation of industrial might and technological prowess Ishikawa can surely be considered to be a key contributor in the quality revolution that took place in Japan, a major reason behind that country’s post-war economic miracle.

After the War, the Economic Stability Board got together to improve competitiveness of Japanese industry. In the autumn of 1948, the Board asked the union of Japanese Scientists and Engineers (JUSE) to begin investigation and research into statistical quality control. JUSE in turn set up an experts’ group, which came to be known as Quality Control Research Group (QCRG). The group began work on how to reconstruct Japanese industry through the practice of quality control. It decided that quality control should be researched more deeply, analysed and presented in such a way as to disseminate it throughout the Japanese industry. Ishikawa became a member of QCRG, investigating and researching statistical quality control that was introduce from the United States of America. He soon realised that corporate quality control activities should be undertaken by all ranks and departments of a company, not just by a small group of specialists, as was the case then. Thus was born what Dr. A. V. Feigenbaum called Total Quality Control (TQC) in his 1951 book of the same name, which was later renamed in 1990s as Total Quality Management, or TQM.

Ishikawa cooperated in administrating and lecturing diverse seminars on quality control, for business executives, engineers, factory foremen, workers, marketing departments, purchasing departments and others. He not only ensured realization of these seminars, but also served as organizing committee chairman or member or as a speaker for a majority of quality control seminars. JUSE published the ‘Hinshitsu Kanri’ in March of 1950 as a journal to provide pertinent information about quality control. In 1952, Ishikawa became Chairman of the editing committee of this magazine, position that he held until 1978. During this period, he worked to ensure that the journal took the lead in the field of quality control in Japan. In early 1960s, it professed the famous slogan of ‘Use quality control to liberalize trade,’ while promoting...
free trade in the face of what seemed a more defensive stance on the part of industry. Soon thereafter, with the publishing of the TQC lecture series 'Quality Control Carried Out by Everyone', the journal took the initiative in moving from statistical quality control (SQC) to total quality control (TQC). Based on the idea that even if management and engineers know about quality control, it will not be successful unless workers at the job site also understand it, Ishikawa aggressively pursued this idea in the 1960s through the publication of a text aimed at job sites and articles about round table discussions aimed at the job site. Upon seeing the strong positive reaction to these efforts the editing committee members of Hinshitsu Kanri decided in 1962 to publish a quarterly magazine called 'Genba To QC' (Quality Control for Foremen), which is currently called 'QC Circle'. In the foreword of the first number of this magazine, Ishikawa proposed the formation of QC circles in order to educate and disseminate the principles and practice of quality control to the frontline operators. He served as chief editor to this magazine until his death, thereby making immense contribution to the diffusion of TQC.

To honor the achievement of W. E. Deming, who visited Japan in 1950 and 1951 and strived to guide Japanese companies in improving quality of their operations, products, and services, JUSE instituted in 1951 the Deming Prize as an award to honour those individuals or companies that served to advance quality control in Japan. Ishikawa was a long-time member of the committee and was the vice chairman (1962-1985) of the Deming Application Prize Subcommittee with Professor Shigeru Mizune (1962-1980), Professor Tetsuichi Asaka (1981-1984) and Professor Ikuro Kusaba (1984-1985). It is customary to ask the head of the Agency of Industrial Science and Technology in the Ministry of International Trade and Industry (MITI) to take on the position of Chairman of this sub-committee.

As a result, it is the deputy chairman who carries out the substantive operation of the committee. Ishikawa, Mizuno, Asaka and Kusaba played a major role in establishing a suitable examination system, which led to honouring companies that had achieved excellent results in quality control. Thus, their work has had a huge impact on raising the standard of quality control among Japanese companies. Since improvement in product quality was not possible without public understanding, Ishikawa proposed to celebrate November as 'Quality Month' in order to appeal the case for the importance of quality and raise quality awareness among people. This practice of Quality Month is followed even today in Japan, a custom that has proliferated outside Japan as well. Ishikawa also engaged in a wide range of research concerning quality control. He published his findings in many books and papers, which have received many awards. In 1952, he was awarded the Deming Prize for Individuals by the Deming Prize Committee for his early achievements as a QC Research Group member.

With his colleagues, Ishikawa endeavoured to promote the awareness, spread and development of quality control to support the growth of industry, pouring his unflagging efforts into the promotion of QC activities. As a result, he and his colleagues succeeded in creating a unique Japanese approach to quality control. In the process, he also developed outstanding, first-rate quality gurus from among the next generation. His disciples (and disciples of disciples) include famous names such as Masumasa Imaizumi, Hitoshi Kume, Noriaki Kano, Yoshinori Iizuka, Hiroshi Osada, Kazuyuki Suzuki, and Yukihiro Ando. No other quality guru in the world can claim to have created such a big army of followers who have been researching new methods in quality management, and carrying on the work of spreading the knowledge of TQM. Ishikawa thus was an excellent organizer who developed a national quality control movement that involved many people throughout a wide range of disciplines. Ishikawa Diagram also called the cause-and-effect diagram or the fishbone diagram is a well-known and universally adopted method for problem solving in diverse situations. While many will know Ishikawa as the man behind this time-tested tool, his contribution in quality management undoubtedly extends far beyond. He led an acceleration in the global exchange of quality methods, tools, and operating philosophies by founding the International Academy for Quality (IAQ), the International Conference on Quality Control (ICQC, today called the ICQ), and also by opening the door for overseas enterprises to challenge the Deming Prize. He was invited to many countries to advance their quality efforts, including the United States, Taiwan, China, the United Kingdom, India and many others, where he introduced and instructed in the holistic way to apply Japanese TQM methods. As a member and vice chairman of the Deming Application Prize Subcommittee, he advocated the ‘open door policy’ for the Deming Prize. His strong leadership resulted in overseas companies being allowed to challenge Deming Award in 1989. Since then, as many as 45 overseas companies-over half of them Indian-have successfully challenged Deming Prize, improving their global competitiveness.

Professor Kaoru Ishikawa's life has many lessons for us in India: in government, in academia, and in industry. As we embark on the road to 'Make In India', it is absolutely necessary to raise the global competitiveness of the Indian manufacturing sector. While areas of regulation, infrastructure, skill development, technology, availability of finance, exit mechanism and other factors need policymakers’ attention, we as a nation must focus on raising the quality of everything that we do.

In order to bring about that competitiveness. If we want to realise an Indian Manufacturing Miracle within the next decade we need to disseminate the already developed and proven concepts of TQM not only in the industry, but also throughout the society at large. What Japan did in its post-war years can be an example for us to emulate.
What has changed in ISO/FDIS 9001:2014 with respect of appointment of a Management Representative in organizations?

FDIS 9001:2014 does not require a person to be specifically assigned as a Management Representative. Though the explicit requirement for the appointment of management representative has been removed, the activities that the MR undertakes are still required.

Who will take the role and responsibility of MR activities?

The responsibilities of those activities are required to be fulfilled through top management. There is more emphasis on the top management involvement, implementation and performance on the organization’s management system.

Will the top management also act as MR?

Top management needs to assign the responsibility and authority for ensuring that the management system conforms to the requirements, maintains integrity and delivers their intended output. This can be achieved through assignment to one person. If, however, the range of roles is broader than that of one person, then, an organisation will need to show how these have been assigned to appropriate personnel.

In new version there is requirement for top management to take accountability for the effectiveness of the QMS.

How does this change help the Management System?

The change reinforces a need to see the quality management system embedded into routine business operations, rather than operating as an independent system in its own right with its own dedicated management structure.

Top Management ‘quality leadership’ responsibility is tied to closer links between the management system and product/service quality. So there is more emphasis on their direct involvement.
**Documented Information**

**What has changed in ISO/FDIS 9001:2015 in respect of documentation requirement?**

As part of the alignment with other management system standards a common clause on ‘Documented Information’ has been adopted without significant change or addition.

Where ISO 9001:2008 would have referred to documented procedures (e.g. to define, control or support a process) this is now expressed as a requirement to maintain documented information.

Where ISO 9001:2008 would have referred to records this is now expressed as a requirement to retain documented information.

**You mean there are no mandatory procedures and records required in ISO/FDIS 9001:2015?**

Yes, there are no mandatory procedures and records as it was in ISO 9001:2008. In that, the words such as ‘documented procedure’ and ‘records’ are not used within the standard, except as a note in the definition of ‘documented information’.

What the FDIS says is that the organization’s QMS is to include documented information that are required by the standard, as well as documented information determined by the organization as being necessary for the effectiveness of the quality management system.

So, you may say that there are mandatory ‘documented information’ required by the FDIS.

**Then what does an organization do with its existing procedures and formats?**

The procedures and formats can be retained as it is, if required to the extent necessary to support the understanding and operation of the process. The nature and type of documented information that an organization needs to maintain or retain is dependent on the context and its operating environment.

**Is it true that there is no requirement of a Quality Manual?**

The word ‘Quality Manual’ has not been used within the FDIS.

The organization needs to decide whether a Quality Manual (as in ISO 9001:2008) is required to support the effectiveness of the quality management system. If the answer is ‘yes’, organization may choose to have a Quality Manual.

Authors: Mr.S.Chattopadhyay-General Manager & Country Coordinator- LRQA-Mumbai  
Mr.Vinay Khator-Assessor- LRQA-Mumbai
The everyday usage term ‘quality of a product’ is loosely taken to mean its inherent degree of excellence. In industry, this is made more precise by defining quality to be ‘conformance to requirements at the start of use’. Assuming the product specifications adequately capture customer requirements, the quality level can now be precisely measured by the fraction of units shipped that meet specifications.

But how many of these units still meet specifications after a week of operation? Or after a month, or at the end of a one year warranty period? That is where ‘reliability’ comes in. Quality is a snapshot at the start of life and reliability is a motion picture of the day-by-day operation. Time zero defects are manufacturing mistakes that escaped final test. The additional defects that appear over time are ‘reliability defects’ or reliability fallout.

The quality level might be described by a single fraction defective. To describe reliability fallout a probability model that describes the fraction fallout overtime is needed. This is known as the life distribution model.

Accurate prediction and control of reliability plays an important role in the profitability of a product. Service costs for products within the warranty period or under a service contract are a major expense and a significant pricing factor. Proper spare part stocking and support personnel hiring and training also depend upon good reliability fallout predictions. On the other hand, missing reliability targets may invoke contractual penalties and cost future business.

Companies that can economically design and market products that meet their customers’ reliability expectations have a strong competitive advantage in today’s marketplace.

Sometimes equipment failure can have a major impact on human safety and/or health. Automobiles, planes, life support equipment, and power generating plants are a few examples.

From the point of view of “assessing product reliability”, we treat these kinds of catastrophic failures, no differently from the failure that occurs when a key parameter measured on a manufacturing tool drifts slightly out of specification, calling for an unscheduled maintenance action.

It is up to the reliability engineer (and the relevant customer) to define what constitutes a failure in any reliability study. More resource (test time and test units) should be planned for when an incorrect reliability assessment could negatively impact the safety and/or health.

Reliability theory developed apart from the mainstream of probability and statistics, and was used primarily as a tool to help nineteenth century maritime and life insurance companies compute profitable rates to charge their customers. Even today, the terms ‘failure rate’ and “hazard rate” are often used interchangeably.
DNV GL Business Assurance

We help you build ‘Sustainable Business Performance’ through our global certification, verification, Assessment and training services.

Environment Management
- Features
  - 14001
  - FSC Chain of Custody

Energy Management & Asset Management
- Features
  - ISO 50001
  - ISO 55001

Health and Safety
- Features
  - OHSAS 18001

Quality Management
- Features
  - ISO 9001
  - ISO TS 16949
  - AS 9100
  - ISO 13485
  - TL 9000
  - and more...

Food and Beverage
- Features
  - ISO 22000
  - FSSC 22000
  - GMP/PDN and FAMI-QS
  - BRC Global G.A.P
  - HACCP
  - IFS International Food
  - SQF 1000/2000

Product Certification
- Features
  - MDD
  - PED, CPD
  - ProSustain
  - ATEX
  - IECEx

Sustainability
- Features
  - ISO 26000
  - SA 8000
  - ETHICS, Fraud and Corruption Management

IT Services and Security
- Features
  - ISO 27001
  - ISO 20000
  - ISO 28000
  - ISO 22301
Our Valuable Customer