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Newsletter July, 2016

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Chairman's Message

We are fortunate that Allah subhana-hu-wa-ta'ala has given us the opportunity to celebrate yet another Ramadan to fast, pray, and seek absolution in this holy month. Despite the fact that we are faced with a daunting task of fasting in long and hot summer days, while the days may be long and sweltering, I am confident that we will all find comfort in our faith, family and community to remain steadfast and committed.

As one of the five pillars of Islam, this blessed month, provides us with a chance to re-commit our faith in Almighty Allah, and re-affirm the principles of charity, compassion, and devotion. Fasting is not merely a physical restraint, fasting is meant to humble oneself and increase moral discipline as well as serve as a reminder of the plight of those less fortunate who live in hunger and deprivation. Ramadan is all about caring, sharing, family and getting closer to Allah. Let us pray that our fasts are purely for the sake of Allah, free of other motives, like reward, material benefits, etc. Let our fasting be to show Allah our gratitude, commitment, and total submission to His will. A'meen.

By the time this publication goes into print we would be nearing the end of this holy month and preparing for Eid-ul Fitar. On behalf of MTI family, I would like to wish all of you a blessed Ramadan and an advance Eid Mubarak. Stay blessed!

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Reconciliation of Government Electricity Billing"

The author is graduate in Mechatronic Engineering coupled with diverse experience in commercial & project management, presently working as Marketing Executive.

Pakistan's largest province Punjab took an initiative to deploy AMI project for Reconciliation of Government Electricity Billing. Micro-Tech Industries (MTI), Pakistan, has been entrusted to implement this AMI deployment. The project aims to reconcile the electricity billing done by the utilities of all the government workplaces by deploying CT operated AMI meters and Head End System. The main objectives of the project are:

Reconciliation and comparison of Electricity billing of the provincial government connections with that of bills served by the utilities to reduce the billing disputes

Introduction of AMI and other technologies in areas with strong potential for performance improvement

Improvement in billing, collection and revenue management

MTI will provide a comprehensive AMI solution on turnkey basis. The offered solution is a combination of smart components, carefully designed and robustly tested to be field proven. The solution is not only at par with local requirements but marks an exception in many traits including ease-of-use, flexibility, scalability and interoperability.

Keeping in mind the project scope, MTI will deliver the complete solution that comprises not only smart energy meters but also other major solution components to help achieve the project objectives. Besides, MTI will provide project implementation services based on a rich hands-on experience of implementing complex AMI solutions such as Load Data Improvement Project (LDIP), AMI Project for MEPCO & PESCO etc.

The key components comprise GPRS enabled LT Type smart energy meters, MTI Smart Eye MDC and MTI Galaxy. The GPRS enabled smart energy meters will provide important data & information that facilitate automatic collection of metering & billing data. These are advanced three-phase multi-tariff LT type static energy meters, equipped with GPRS communication capability for smart metering. Whereas, MTI Smart Eye MDC, a powerful tool that receives and stores a stream of metering data (meter reads, instantaneous, peak load, events, alarms etc.) which can be easily retrieved by the customer on schedule & demand basis. The third component offered by MTI is an inimitable web enabled user interface application, MTI Galaxy. This user-friendly Graphical User Interface (GUI) will empower the end users to monitor consumer load profiles and other metering data stored in the database through any web enabled device. Furthermore, this application allows the users to generate various types of graphical and tabular report. At a single point in time, several users can access the application using an authorized user ID and password.

A Network Operations Center (NOC) will be established at clients designated site. Moreover, hands-on training will be provided to both the management/end users and IT staff. This will enable the customer to become familiarize and self-reliant in the use of system.

Considering the projected benefits, MTI's smart metering solution will not only streamline and foster the reconciliation of billing system, but also adequately reduce the billing disputes, provide enhanced performance and on time realization of electricity bills.

Strength Through Adversity

An interview by Nadeem Akram

Jonathan Harnisch, wrote in The Brutal Truth “The strongest people are not those who show strength in front of the world but those who fight and win battles that others do not know anything about.”

I thought that Jonathan has hit the nail right in the head after my chat with Saeed Ahmed, our Purchase Officer. I am sure people who had a long association with him at MTI know about his struggles and how he fought his way through the adversity and overcame all obstacles that life threw at him. Saeed was a happy-go-lucky kind of lad enjoying his studies at Forman Christian College, Lahore when fate dealt its first card. His father passed away leaving a heavy burden on his shoulders. Saeed, unlike many who would have buckled under the pressure of taking care of a mother and eight siblings, simply woke up one day and decided to take life head-on. He managed to find a job in House Keeping department in one of the hotels in Lahore. When asked by the scribe, if he has a problem with this mention, he held his head high and said “No” in a resolute manner. However, few months down the road, he realized that the wages were not enough for his family’s subsistence; hotels in Pakistan are infamous for underpaying their employees and the hotel that Saeed worked for was no exception. He asked around, and one of his acquaintances referred him to MicroTech Industries, then housed at Shimla Tower. He joined MTI as a helper in Procurement department and will be celebrating his 16th anniversary with MTI next month.

He never lost sight of his dream to do a Masters in Economics.

He was not shy to share his initial

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period at MTI. As a helper, his job was to assist local purchasing as well as goods delivery to the office. He recalled that since he did not know how to ride a bike, so delivery of goods was a tedious affair. At times he would use a rickshaw and others he would ask an office boy to take him on motorbike to pick up deliveries. He proudly shared, that since there were no loaders on MTI payroll those days, so often he would carry a sack of sugar or flour on his back to the Stores. Eventually he learnt how to ride a bike and carried on with his tasks in the best possible manner. With a smile he shared an incident, where a new person was hired as a Purchaser. He said that he told his boss that the new employee would not last very long and that is exactly what happened after returning from the market the very first day, the boy just vanished in thin air. With the passage of time, Saeed kept on moving up the career ladder, but all this time he never lost sight of his dream to do a Masters in Economics. After getting off work, he would go to a private evening college to earn a Bachelors degree, which he did. He amusingly shared how he discussed his desire to do MA Economics with one his relatives and the latter just laughed it off saying he couldn’t do it! But nothing could deter Saeed’s resolve and he proved that not only could he get his Master’s degree in Economics that too in English!

Saeed is presently working as a Purchase Officer and enjoys the respect and trust of not only his manager but is also widely respected in the organization. He enjoys his job and is proud of his achievements during the last fifteen years or so. There are two successes that he is particularly proud of: One he was made responsible for the shifting and installation of machinery from Shimla Towers to present location. The transition was smooth and his efforts were duly recognized by MTI. The second being, installation of transformer at this premises. He recalls that it was late in the evening when he was tasked to procure a Busbar and other material. He managed to get everything overnight and installation was done as scheduled.

I had several interactions with Saeed prior to this meeting, and I found him to be a very amiable, down-to-earth and a man of humble disposition. When asked, why he stuck around when he had improved his educational qualification, his answer was precise and to the point. Respect, teamwork, trust and care something money cannot buy. When asked what improvement he thought should be brought about at MTI. Again, his answer was short, “Performance appraisals should be performance based and on merit” Our meeting ended at that note, however, I could not stop thinking about a man who did not let his dreams die, he took the bull by the horns and showed the world how it is done, who sacrificed his personal life for the sake of his family, who ensured that his siblings are well settled before he decided to get married.

The interviewer is an Human Resources professional and is presently working as Head of Human Resources.

“Performance appraisals should be performance based and on merit”

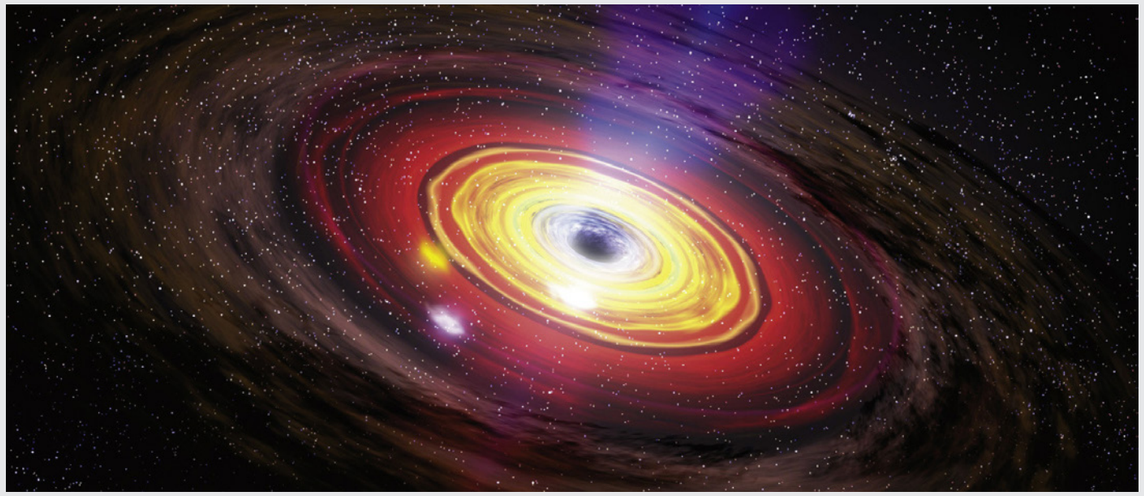
One of our very best

It is a matter of great honor and pride for MicroTech Industries, that Mr. Abdul Ghafoor, General Manager, Engineering was bestowed with National Excellence Award, by Institution of Engineers, Pakistan in May. To celebrate and recognize his achievement, a reception was held on May 10th, 2015. Speaking on the occasion, CEO Nauman Saeed complimented Mr. Abdul Ghafoor for being recognized as the best amongst numerous Engineers from Pakistan. In his acceptance speech, Mr. Abdul Ghafoor thanked everyone for celebrating a proud moment in his life, and dedicated this success to his team in particular and MTI in general for their assistance and support.

The possibility of looking back in time by

Gravitational Waves

by Rashid Mian



In the Qur'an, which was revealed fourteen centuries ago at a time when the science of astronomy was at embryonic stage, the expansion of the universe may have been pronounced in the following terms:

And it is We Who have constructed the heaven with might, and verily, it is We Who are steadily expanding it. (Qur'an, 51:47)

Until 20th century, the only dominant view in the world of science was that "the universe has a constant nature and it has existed since infinite time." However, modern research, observations, and calculations carried out by means of modern technology have revealed that the universe in fact had a beginning and that it constantly "expands."

At the beginning of the 20th century, the Russian physicist Alexander Friedmann and the Belgian cosmologist Georges Lemaitre theoretically calculated that the universe is in constant motion and that it is expanding. This was confirmed by the use of observational data in 1929 by Edwin Hubble While observing the sky with a telescope. Hubble established that the stars emit a light that turns redder according to their distance. In short, the stars were moving further and further away, all the time. The stars and galaxies were not only moving away from us, but also from each other. A universe where everything constantly moves away from everything.

So this mean we can imagine the universe to be the surface of a balloon being inflated. In the same way that the more the balloon is inflated, the further away the points on its surface move from one another. Cosmic objects/bodies also move in the universe in a similar way from one another as the universe expands.

Galileo used light waves to create his telescope four centuries ago, and changed our views about the universe and even shook the Catholic Church. Then, around the time of World War II, radio waves were discovered to create radio telescopes capable of detecting quasars, colliding galaxies and even black holes. Now we are witnessing the third great revolution in telescopes, the use of gravity waves will open a new episode in astronomy.

Although light travels at a very fast speed, even then it takes time to cover large distances. Thus, when we see the light of very distant objects in the universe, we are actually seeing light emitted from them a long time ago: we see them literally as they were in the distant past. Sun is only about 8 light-minutes away. The most distant things that astronomers can see are about 18,000,000,000 light years away. Thus, the light that we presently see from these objects began its journey to us about 18 billion years ago. Since that is close to the estimated age of the Universe, this light is a kind of "fossil record" of the Universe not long after its birth! Thus the observation of very distant objects is in a very real sense equivalent to looking backwards in time. For the first time, waves from the very instant of creation might be observed with the help of gravitational waves, giving us "baby pictures" of the universe as it was born.

Historically, scientists have relied primarily on observations with electromagnetic radiation (visible light, x-rays, radio waves, microwaves, etc.) to learn about and understand objects and phenomena in the Universe. But EM waves have some serious limitation i.e. they can't provide information about events of the universe that does not radiate electromagnetic radiation like colliding black holes, which emit little or no electromagnetic radiation, and secondly since electromagnetic radiations interact with matter as they travel through the universe so imported information is being lost. So because of the above two main limitations a major part of the universe was hidden from the human eyes.

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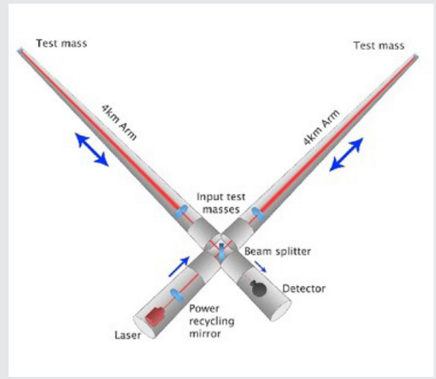
Gravitational waves are ripples that carry energy across the universe and are different form the electromagnetic waves. They were predicted to exist by Albert Einstein in 1916 as a consequence of his General Theory of Relativity. Detecting and analyzing the information carried by gravitational waves will allow us to observe the universe in a way never before possible. It will open up a new window of study on the Universe.

Gravitational waves can be detected with an instrument called LIGO(The Laser Interferometer Gravitational-Wave Observatory). In principle, detecting gravitational waves is quite simple; in practice, it's maddeningly difficult. What physicists are trying to do is measure small fluctuations in the distance between two objects separated by a known amount. That's the principle behind state-of-the-art gravitational wave detectors. Two mirrors are hung very far apart forming a primary arm (4KM long), while another two mirrors are set up perpendicular to that. A beam of laser light is passed through a beam splitter and allowed to bounce back and forth between both arms' mirrors, many times, before returning to its source. "If the two arms have identical lengths, then interference between the light beams returning to the beam splitter will direct all of the light back toward the laser," "But if there is any difference between the lengths of the two arms, some light will travel to where it can be recorded by a photo detector."

The National Science Foundation (NSF) began funding the research for gravitational waves in the 1970s. LIGO is a joint project among scientists from several colleges and universities. Scientists involved in the project and the analysis of the data for gravitational-wave astronomy are organized by the LIGO Scientific Collaboration which includes more than 900 scientists worldwide, as well as 44,000 active users.

LIGO is a masterpiece of complex and sophisticated engineering. Super-stabilized lasers, enormous vacuum systems, the purest optics, unprecedented vibration isolation, and servo controls all works together for one singular purpose i.e. to sense the transient passage of a gravitational wave and eliminate noise. Noise, such as physical vibrations from the environment (from cars driving on nearby roads to waves crashing on distant ocean shores), quantum fluctuations within the laser itself, nanometer-scale changes in the shapes of optics, even molecules crossing the path of the laser could hamper LIGO's efforts to make its sensitive detections.. The complete LIGO is so much greater than the sum of its individual parts.



On September 14, 2015, gravitational waves were finally directly detected by LIGO's interferometers. What physicists' measured were small fluctuations in the distance between two objects separated by a known distance. This accomplishment was achieved because LIGO is designed to sense a change in arm length of about 10^{-19} m (10,000 times smaller than a proton). Achieving this degree of sensitivity requires a remarkable combination of technological innovations in precision lasers, vacuum technology, and advanced optical and mechanical systems.

The LIGO detected the waves from a collision between two black holes with masses of about 36 and 29 times that of the sun (described as 36 and 29 "solar masses"). But the merger of these 65 solar masses in total created a resultant of just 62 – so what happened to the other three? These were used to power the burst of gravitational waves, in a spectacular demonstration of Einstein's famous formula, $E=Mc^2$, where mass and energy are equivalent.

Detecting a gravitational wave is like noticing the Milky Way (which is about 100,000 light-years wide) has stretched or shrunk by the width of a pencil eraser.

The next generation of gravity-wave detectors might be put into space, and might eventually be sensitive enough to detect the most revealing radiation of all, the radiation from the instant of Genesis. One can calculate that the next generation of space-based gravity wave detectors might eventually be sufficiently sensitive to detect gravity shock waves from the big bang (the creation of universe).May be we will never be able to commercialize or weaponize gravitational waves themselves. However, they will carry information to us about some of the most extreme environments in the Universe which we can use as a laboratory for environments we cannot create here on Earth. That's the exciting thing about science - you never really know the full potential of new discoveries until it actually happens.

The contributor has a BE in Telecom Engineering, having a long association with MTI, is presently working as Deputy General Manager Engineering.

Intelligence is Important but Integrity Matters More

by Lolly Daskal

When you think of leadership, you want a wise leader who is quick on their feet and sharp in their vision and intelligent in their decisions.

But there is something that triumphs intelligence when it comes to leadership.

Because even for the quickest, smartest, best leader, if they don't have integrity all the intelligence is for naught.

As we have learned in history and in current events, high intelligence is no guarantee of good judgment, and good judgment is closer to wisdom than high intelligence is.

When we lead with integrity, our leadership is asking us to meet reality with the core of who we are—and frankly that takes courage.

Integrity trumps intelligence when the leader knows ...

Brains are good but character is better.

Our work environments are designed for us to be nimble and smart, but intelligence doesn't get people to connect with you or follow you. It's your character that shines as an example. It's the leaders with a strong moral character and good old-fashioned values who stand above the rest.

Wisdom is fundamental but trust is vital.

You don't gain wisdom by thinking highly of yourself, but you can gain admiration and appreciation when you lead from trust. When you lead with trust you connect your heart to another. And where people feel caring and connection, where fear is minimized, trust can grow freely.

Cleverness is helpful but honesty is nobler.

Cleverness and intelligence may get noticed and even remembered, but when you lead with honesty you lead with a noble heart. The more honest you are with yourself and with others, the more purpose and meaning your life can hold. If your leadership is honest, everything else will follow.

An analytical mind is critical but an open mind is pivotal.

The facts, the spreadsheets, the figures are all important, but an open mind allows others to be heard and understood. Listening with an open heart is priceless beyond what any figures on a spreadsheet can measure.

Expertise is significant but humility is honorable.

Humility of heart is the first step toward both virtue and wisdom. A lack of wisdom and intelligence can be compensated with scrupulous integrity, but without humility you leave yourself no room to learn and grow.

Integrity is the most important of all the virtues.

It's a requirement for accomplishing anything of value. When you become a leader of integrity, your leadership is clearly defined and meaningful.

Integrity is the sum of who you are. Guard it, nurture it—and lead with it.

Lead From Within: Integrity is not a process or a practice, but a principle that leaders treasure when they know what matters.

Lolly Daskal is the president and founder of Lead From Within a consulting firm -

Lolly Daskal is the president and Founder of Lead From Within a consulting firm specializing in executive leadership coaching and customized leadership programs.

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New Joiners of MicroTech Industries

Mr. Akhtar Nawaz Bhatti has joined us as Screen Printer. He brings with him experience in assembling, repairing and testing.

Mr. Muhammad Ashraf has joined us as helper in Production department.

Mr. Hafiz Shoaib Ahmed Raza has joined us as Technician. Shoaib has done BSC (Hons.) with majors in Electronics from Govt. College University Lahore.

Mr. Muhammad Qaiser has joined us as Technician. Qaiser is an Associate Engineer with majors in Electronics.

Mr. Muhammad Muneeb has joined us as Helper in Production Department.

Mr. Muhammad Yasir has joined us as Helper in Production Department.

Mr. Azhar Iqbal has joined us as Helper in Production Department.

نوٹ: آئندہ شمارہ میں اُردو آرٹیکلز بھی شامل کیئے جائیں گے۔اُردو لکھنے کے شوقین خواتین و حضرات اپنے کالمز، آرٹیکلز، شاعری نیوز لیٹر میں شامل کرنے کے لیے ایچ آر ڈپارٹمنٹ میں جمع کروا سکتے ہیں

Product Line

ENERGY METERS (GPRS, RF & Static)

Single Phase Meters

3-Phase Whole Current Meters

3-Phase LT/HT Meters

SOFTWARE

Smart Eye Control

Smart Eye MDC

Smart Eye Desk

MTI Galaxy

PDC Live Monitor

ADMS

Smart Eye Mobile

MicroTech Industries (Pvt.) Ltd.

Plot # 2, Street # 2, Attari Industrial Estate, 18 Km. Ferozepur Road, Lahore, Pakistan.
PABX : +92-42-35990015, Fax: +92-42-35924780, E-mail: marketing.info@mtilimited.com, Web: www.mtilimited.com