

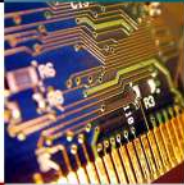
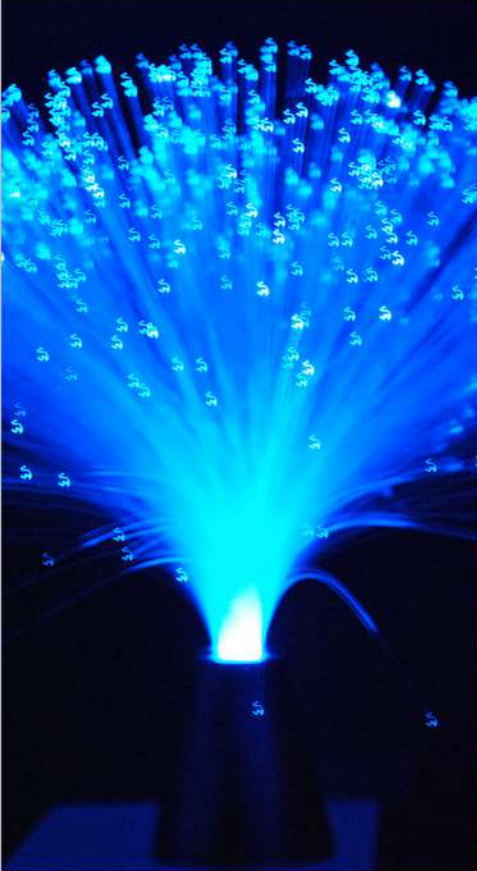


**Ministry of Information  
Technology & Telecom**  
Government of Pakistan

# ANNUAL REPORT



## 2014 - 15



## Corporate Objectives

### Vision

National ICT R&D Fund was established with a vision to transform Pakistan's economy into a knowledge-based economy by promoting efficient, sustainable and effective ICT initiatives through synergic development of industrial and academic resources.

### Source of Funding

**AS PER CLAUSE 4.1 'Guiding Principles' of the Legal, Administrative and Financial Framework of the Company,** the Telecom Act envisages four sources of funding:

1. Grants made by the Federal Government
2. Prescribed contributions by licensees
3. Loans obtained from the Federal Government
4. Grants and endowments received from other agencies

*"In addition, as the R&D Fund Co. evolve, the cash flows from IP commercialization and royalties would also become a source of funds depending on the agreed upon sharing basis between the company and the principal investigator"*

### Core Values

The Management team has adopted the following as company's core values:

- Benevolent Intent
- Transparency
- Innovation
- Professional Excellence
- Integrity

### Message from CEO

National ICT R&D Fund has been committed to the promotion of an innovation centric ICT research and development culture in congruence with socio-economic landscape of Pakistan. Since its inception the Fund has dedicated significant efforts in streamlining an ecosystem which encourages innovation. We at the Fund are aware of the importance of creating an enabling environment and bringing forth talented individuals with the zeal and zest to innovate. The creation of the National ICT R&D Fund and the subsequent years of patronage from the policy makers is also a testament to the commitment of the government to help strengthen this all important aspect.

Research and development focused at innovation is an essential component for creating a knowledge based economy with the aim of sustainable economic progression and a composite social uplift in a society. Several initiatives towards this end have been carried out in Pakistan over the last six decades

with mixed results. At this point Pakistan is facing severe capacity limitations in carrying out applied or fundamental research and development activities at par with international standards. Frequently funds remain available with several funding agencies nationally and internationally. These funds lapse due to lack of capacity in various academic institutions and industry to generate and execute quality R&D proposals.

National ICT R&D Fund envisions enhancing indigenous research and development that will result in sound economic foundation for the nation and creation of job opportunities and wealth generation in the country. This will add to enhance the quality of life for citizens of Pakistan and in years create a national image of the country being a hub for innovation in ICT centric R&D.

Since its inception, 93 high quality technical R&D projects worth about Rs. 1520 million have been approved by National ICT R&D Fund. The details on these and the impact that they created in terms of HR capacity enhancement and critical industry-academia partnership are explained in detail in this report. We have also set the foundation stones for an upward socio-economic mobility through the Prime Minister's National ICT Scholarship Program. The report also covers details on the impact of this unique Scholarship Program. Additionally the report also covers other HRD initiatives that have been initiated by the Fund.

The funding mechanism strictly adheres to international best practices to ensure transparency. Solicitation, Evaluation and Engagement Department operates on an independent and well worked out evaluation mechanism to ensure transparency and eliminate any chance of biasness. The procedure is holistic and open to scrutiny by all stakeholders.

I sincerely hope that this report effectively communicates all the wonderful work that this institution has been doing for the last many years. Alongside it I have also shared the future outlook and where we would like to take this national institution in years to come.

## Corporate Governance

### Board of Directors

S. No	Name	Designation	Status
1	Ms. Anusha Rahman Khan	Minister of State for IT & Telecom	Ex-Officio
2	Mr. Azmat Ali Ranjha	Secretary, IT & Telecom	Ex-Officio
3	Mr. Mudassar Hussain	Member (Telecom)	Ex-Officio
4	Mr. Zahoor Ahmad	Joint Secretary CF-I	Ex-Officio-Representative of Finance Division
5	Mr. Asim Shahryar Husain	Managing Director, PSEB	Ex-Officio
6	Dr. Syed Ismail Shah	Chairman, PTA	Chairman of the Authority

7	Engr. Shahab Afroz Khan	Director (QEC), Dawood University of Engr. & Tech. Karachi	Representative of Academia
8	Mr. Akbar Jamal Shaukat	Program Director (Managing Partner). CNS Group of Companies	Corporate Executive Management
9	Mr. Muhammad Nasrullah	Chief Business Operations Officer, PTCL	Representative of Fixed Line Operators
10	Dr. Shahid Qureshi	Program Director, Center for Entrepreneurial Development, IBA Karachi	Representative of Academia
11	Mr. Khawaja Saad Saleem	Managing Director, Nayatel (Pvt) Ltd, Islamabad	Representative of Data Service Providers
12	Mr. Michael Foley	CEO, Telenor Pakistan Pvt. Ltd.	Representative of Cellular Operators
13	Mr. Syed Muhammad Asif Rumi	CEO, National ICT R&D Fund	CEO of the Company

## Company Information

The company was established in 2006 by the Ministry of Information Technology, under Section 42 of Companies Ordinance. National ICT R&D Fund has taken up a challenging task of capacity building in the arena of ICT and nurturing it towards sustained development of an R&D culture. Joint Industry-academia research is one of the key vehicles we use to promote innovation in the ICT industry and to promote a research culture in our academic institutions.

The emerging information and knowledge age and the accompanying technological revolution are heralding a new economic and social order characterized by the development and exploitation of information and communication technologies (ICT) within all spheres of human endeavor. This era is giving rise to the emergence of information and knowledge based economies with traditional economic, industrial and commercial activities being made more efficient and productive by incorporating knowledge driven processes.

The knowledge and information economy has emerged as a new source for the creation of quality jobs, wealth generation and redistribution, rapid economic development and prosperity as well as a means for facilitating competitiveness. With the emerging information age, information and communication technologies are seen by a number of countries as critical for achieving progress in economic and social development. These technologies are offering developing countries like Pakistan a window of opportunity to leap-frog the key stages of industrialization and transform their agriculture dominated economies into service-sector driven, high value-added information and knowledge based economies that can successfully compete in the global village.



Pakistan has witnessed a phenomenal growth in its telecom industry. The government of Pakistan has mandated that a certain percentage of gross revenue generated by all telecom service providers be allocated to development and research of information and communication technologies with the vision to transform Pakistan's economy into a knowledge based economy by promoting efficient, sustainable and effective ICT initiatives through synergic development of industrial and academic resources. To achieve this vision National ICT R&D Fund has been created. This vision will be realized by pursuing the following goals:

1. Cultivate industry-academia partnership by funding concrete development and research initiatives.
2. Enhance the national ICT related human resource development capacity manifolds by facilitating industrial demand focused human resource capacity building and R&D capabilities in the country and promoting ICT related educational programs and activities.
3. Make Pakistan an attractive destination for service oriented and research and development related outsourced jobs.
4. Use ICT as a tool for wealth creation and upward mobility for economically challenged groups of citizens.
5. Spread the ICT activities on a true national level.

## Board Committees

S. No	Committee Name	Chairman	Members
1	Finance & Audit Committee (FAC)	Mr. Muhammad Nasrullah	Mr. Asim Shahryar Husain
2	HR Governance Committee (HRGC)	Mr. Akbar Jamal Shaukat	Mr. Mudassar Hussain Mr. Muhammad Nasrullah
3	Project Appraisal Committee (PAC)	Dr. Syed Ismail Shah	Mr. Akbar Jamal Shaukat Mr. Shahab Afroz Khan

## Other Committees

In the 34<sup>th</sup> Board Meeting held on 20<sup>th</sup> Feb, 2015, the Board formed a committee for Tech-City Project comprising of following members:

S. No	Name	Designation	Status
1	Dr. Shahid Qureshi	Director of the Board	Chairman
2	Mr. Asim Shahryar Husain	Director of the Board	Member
3	Mr. Akbar Jamal Shaukat	Director of the Board	Member
4	Mr. Syed Iftikhar Hussain Shah	Director IT, MoIT/ED, NITB	Member
5	Mr. S.M. Asif Rumi	CEO, National ICT R&D Fund	Member/Committee Secretary

## Report to Stakeholders

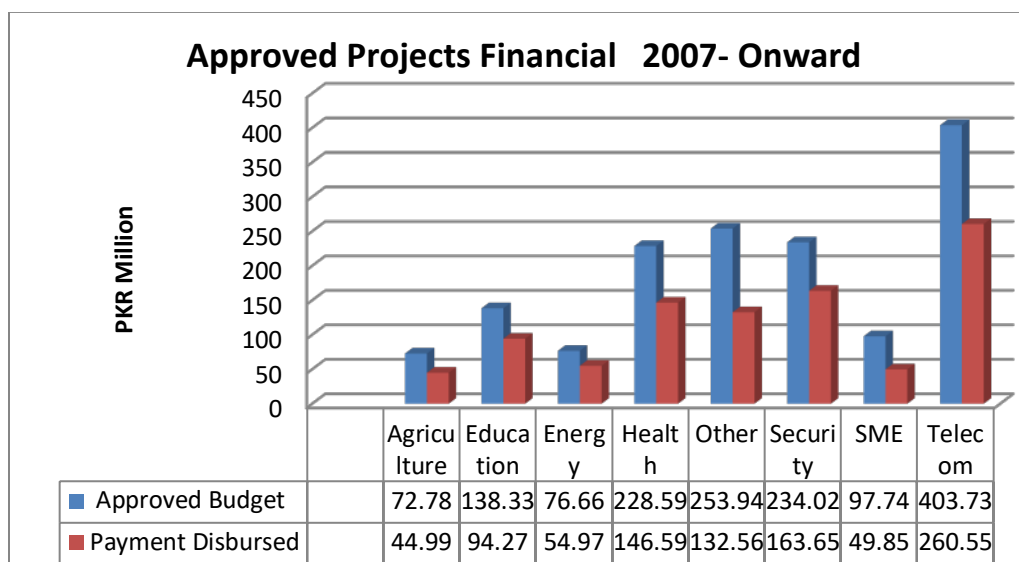
### Review of Company Activities

#### 1. Technical R&D Projects

Company has approved 92 Technical R&D Projects to various Academic Institutions and Industry/Organizations from 2007 to 2015. These projects are related to various thematic areas such as Agriculture, Telecom, Health, Energy, Security, SME and few some other areas which are linked with ICT. Some projects are purely research oriented and from these projects, a number of publications are published in international reputed journals and papers are presented in local international reviewed conferences. Few have potential of commercialization in local market and can provide indigenous solutions.

The projects are funded in the following thematic areas:

S. No	Description	Approved Budget PKR Million	Payment Disbursed PKR Million
1	Agriculture	72.78	44.99
2	Education	138.33	94.27
3	Energy	76.66	54.97
4	Health	228.59	146.59
5	Other	253.94	132.56
6	Security	234.02	163.65
7	SME	97.74	49.85
8	Telecom	403.73	260.55



## Overall Status of Technical R&D Projects

Ongoing Projects	54
Projects Closure in Process	25
Project Successfully Closed	13

## 2. Prime Minister's National ICT Scholarship Program – PMNICTSP

Prime Minister's National ICT Scholarship Program was initiated with the objective to provide access to the deserving talented youth, from Pakistan's (including AJK, FATA and Gilgit Baltistan) rural/non-metropolitan and marginalized areas, to:

- high quality ICT education available in the country;
- upward social mobility through ICT education;
- enhance capacity in the private and public educational institutions offering ICT related undergraduate program;
- enter the ICT industry and develop into world-class ICT professionals.

Since 2007, National ICT R&D Fund is running ECNEC approved National ICT Scholarship Program across all provinces of Pakistan including FATA and Gilgit Baltistan. The program was approved, in February 2008 for five years (2007-2011), with a total budget of Rs. 2.414 billion rupees.

In addition to five years program, National ICT R&D Fund Board had also given approval for a total of 1,500 undergraduate scholarships for Prime Minister's National ICT Scholarship Program for further three years 2012-13, 2013-14, 2014-15 with a total budget of 1.995 billion rupees.

During the FY, the capacity building components of the program were launched again. More than 7000 students, 509 teachers and 169 principals were trained under the "Foundation Training Program", "Training of Teachers" and "Principal's Orientation Program" components respectively. 548 scholarships were offered to deserving talented youth of Pakistan (including AJK, FATA and Gilgit Baltistan).

In the year 2014, the capacity building components were included in the program with the exception of Training of Teachers Program. More than 9,000 students and 152 principals were trained under the "Foundation Training Program" and "Principal's Orientation Program" components respectively. 538 scholarships were offered to deserving talented youth of Pakistan (including AJK, FATA and Gilgit Baltistan).

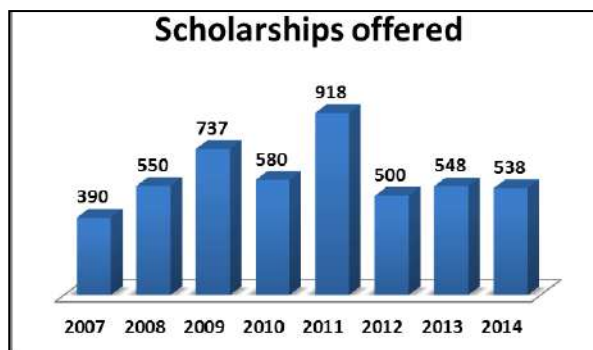
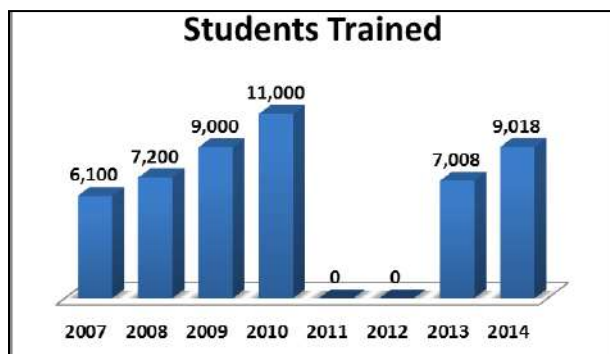
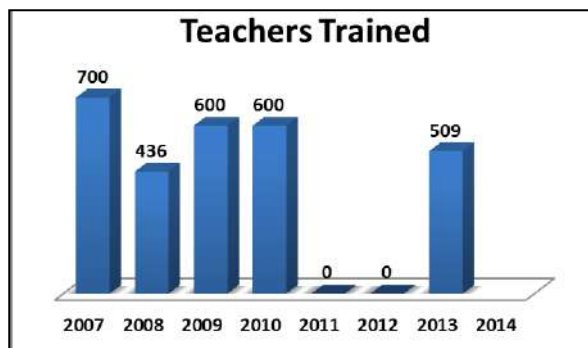
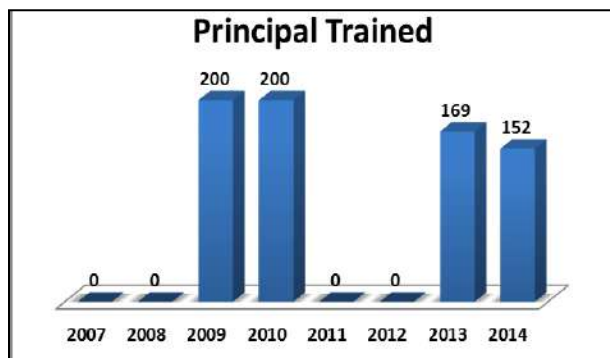
Currently 2,091 students of 2011-2014 batches/intake are studying in 29 participating Universities across Pakistan.

The fully funded scholarship covers admission and tuition fee, boarding & lodging, book allowance, food allowance and stipend for successful selected students to pursue undergraduate degree in ICT Discipline.

Overall program was executed efficaciously and nearly all targets, given by the board, were achieved successfully. Primary significance of the program is its out-reach to the masses of this country. The

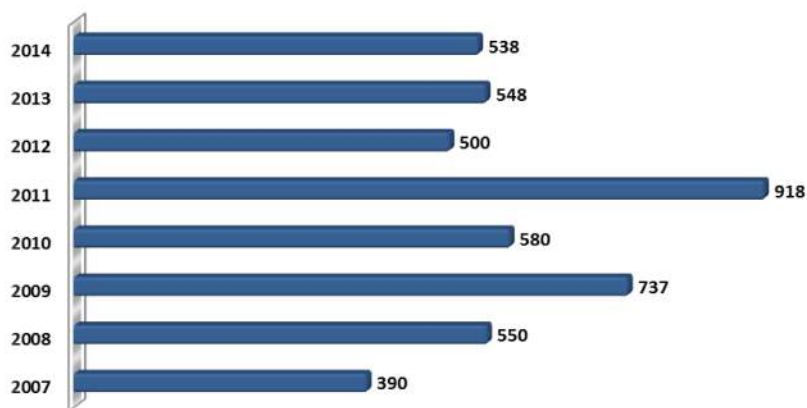
program's vision to trigger a socio-economic uplift of marginalized areas through the intervention of modern state-of-the-art ICT education makes it a one of its kind program with far reaching effects. Program has achieved immense success and popularity across Pakistan. Program was highly appreciated by the Board in previous years and Fund has also received overwhelming response from all the stakeholder encompassing universities, participating schools/colleges, student, parents, ministries and other pertinent stakeholders.

### PMNICTSP Achievements 2007-14

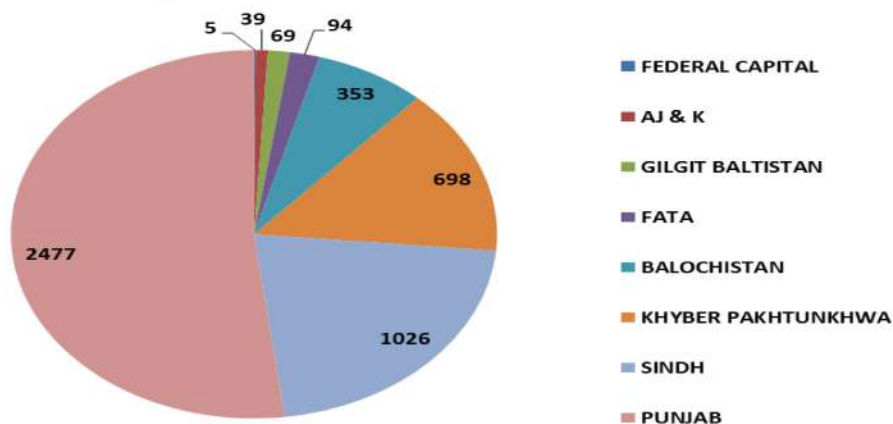




### Scholarships Offered - Year wise distribution



### Scholarships offered - Province wise distribution



### Prime Minister's National ICT Scholarship Program Success Stories

1. **Kaleem Nawaz Khan** hails from Toot Killi, a small village of Mardan. Kaleem's father is a government school teacher who had meager resources to support his higher education after Kaleem completed his HSSC exam securing 78% marks. Prime Minister's National ICT Scholarship Program an HRD initiative of National ICT R&D Fund, Ministry of Information Technology provided him an opportunity to get his BS (CS) Degree from FAST-NUCES from FAST-NUCES Peshawar Campus.

"National ICT R&D Fund not only supported my university expenses but also living expenses during my degree program that enabled me to concentrate on my studies and obtained CGPA 3.71 besides securing 2nd position (Silver Medal) in my Batch. I am very thankful to National ICT R&D Fund ICT Team for this generous support."



“Today at the end of my Degree I’ve not only received Full Bright Scholarship for my MS at FAST-NUCES Peshawar but I’m also working as Lab Engineer at the campus. National ICT R&D Fund helped me to stand on my feet and compete with the world even against all odds. I’m continuing my studies while supporting my family.”

2. **Khalil Hussain** is yet another example of brilliance and dedication who secured Prime Minister’s National ICT Scholarship in 2010 after completing his FSc from Government Islamia Degree College Chiniot, District Faisalabad. The award of scholarship encouraged him to complete his BE in Computer Systems Engineering from Hamdard University, Karachi with a CGPA of 3.88 besides being nominated for a Gold Medal.



His active participation in various competitions, seminars and workshops besides being a high achiever enabled him to get a job of Lab Instructor in the Computer Science Department of FAST-NUCES, Chiniot-Faisalabad Campus.

3. **Rafi Ullah** was selected for Prime Minister’s National ICT Scholarship in the year 2010. He is currently doing his BS in Computer Science from Hamdard University Karachi.



Rafi belongs to Landi Kotal in Khyber Agency. He passed his Matric exams from Hamza Public High School, Landi Kotal and later his F.Sc. from Government Degree College, Landi Kotal.

Rafi has been amongst the top performing National ICT Scholars and his results at the university have been outstanding. He has expressed his gratitude to the National ICT R&D Fund and the Government of Pakistan for his scholarship and is committed to contribute towards the progress and prosperity of his region and the country at large.

4. **Bhagesh C. Maheshwari** was selected for Prime Minister’s National ICT Scholarship in 2010. Based on his outstanding performance in the test he got selected in Pakistan Institute of Engineering and Applied Sciences (PIEAS), Nilore Islamabad (recognized as No.1 Institute of Pakistan by Higher Education Commission) in 2010. Currently he is working as Trainee Electrical and Instrumentation Engineer in Polish Oil and Gas Company (POGC).



#### Core Achievements:

- 1st position holder throughout undergraduate study (2014).
- Winner of the competition Race to innovation in National Electronics Olympiad, GIKI.
- Served as Founding member and Secretary of IEEE Student Branch PIEAS.
- Winner in the Mathemagician and Coding race in IEEE-Week held in NU-FAST.
- Spent a semester in Saginaw Valley State University, Michigan U.S.A as full time student and Cultural Ambassador of Pakistan. (2012)
- Qualified for President List in Saginaw Valley State University, Michigan U.S.A for securing a C.G.P.A of 4.0 on scale of 4.0. (2012)

- Nominated as “Student of the month” by NRHH, in Saginaw Valley State University, Michigan U.S.A. (2012)
- Invited as speaker, by Office of International programs Saginaw Valley State University Michigan U.S.A, during International Education Week. (2012).
- Runner up in Speed programming Competition held in UET Peshawar Pakistan. (2011)
- Recipient of ICT scholarship From Govt. of Pakistan for Bachelor’s degree (2010).

### 3. National Grassroots ICT Research Initiative (NGIRI)

After its approval three subsequent phases of the initiative has been rolled out since 2012. The initiative is aimed to provide funding to Final Year Projects (FYPs) for assisting those undergraduate students of public and private sector universities who are enrolled in degree programs related to Information and Communication Technology (ICT) disciplines. The financial assistance under the program is aimed to enable students undertaking FYPs for building prototypes and working models in order to increase their creativity, innovation and hands-on engineering and development skills.

#### Salient Features of Initiative

1. All the HEC recognized Public and Private Sector Universities are eligible to avail funding.
2. Each campus/institution of multiple campus Universities/Institutions is being treated as an individual Institution.
3. Maximum of up to Rs. 100,000/- can be provided to a single Final Year Project (FYP). The amount is further divided into following budget heads:
 

• Equipment:	Maximum up to Rs. 65,000/-
• Miscellaneous:	Maximum up to Rs. 10,000/-
• Honorarium for FYP Supervisor:	Rs. 10,000/-
• Stipend for students	Rs. 15,000/ (3,750/- per student for up to 4 students)

#### Start & End Period

January – June every year tentatively

#### Key Stakeholders

- ICT Faculty members and students of ICT disciplines of participating universities.
- VCs/Rectors of participating universities.
- HoD of the ICT disciplines of participating universities.
- National ICT R&D Fund Management.

#### Evaluation Procedure

The PAC had authorized CEO to form “Judging Panel”, on advice of GM Monitoring, for evaluation of FYPs. Similarly, PAC also approved that emoluments be paid to the evaluators engaged for evaluation of FYPs for their services in a manner similar to previous years.

## Progress

Since the roll-out of the first phase, this program has generated a lot of traction. Each year, on average 1200-1300 nominations for FYP are received for funding. Similarly, around 70 Public and Private Sector Universities/Institutions are actively participating in this initiative. The program is supporting the undergraduate students in order to increase their creativity and hands on experience by development of prototype/working model of their FYPs. Till date, three phases of the program has been rolled out and its details are as follows:

Year	Participating Universities/DAI's	No of FYPs Evaluated	No of FYPs Approved	Amount Disbursed (PKR Million)
NGIRI 2011-12	68	785	272	15.268
NGIRI 2012-13	78	1016	418	31.7
NGIRI 2013-14	72	1247	430	25.133
NGIRI 2014-15	75	1324	436	29.59
<b>Total</b>		<b>4372</b>	<b>1556</b>	<b>101.691</b>

Similarly, during fiscal year various of our funded FYPs have been awarded national accolades and have been recognized for their creativity and innovation. Few of the noteworthy achievements are as follows:

Two of our funded FYPs of GIKI under NGIRI 2012-13 titled “3D CNC Mechanical Printer” and “Wireless Real Time environmental monitoring of Photo-voltaic System” got 1st and 2nd positions among EE projects in GIKI Industrial Open House and Careers Fair.

Similarly, the FYP “Wireless Real-Time environmental monitoring of photo-voltaic System” has also won Innovation Award in the INNOVATION SUMMIT in Lahore, organized by INSTITUTE OF RESEARCH PROMOTION (IRP). This project is rated among Top 10 out of 200 presented technologies/projects. It was also informed that IRP is interested in commercialization of this project.

## 4. National Internship Program

“National ICT Internship Program” was approved with total cost of Rs. 75.04 Million and to be executed by PSEB in 24 months. The scope is to hire 800 interns from all the provinces of Pakistan according to the specified provincial quota. These interns will be placed in different IT companies for the period of 4 months. A stipend of Rs. 12,000 will be paid to 200 Non-ICT interns and Rs. 16,000 will be paid to 600 ICT interns. At least 200 of these interns will be given training in emerging ICT areas.

### Project Status

The project started in November 2012 and 286 interns have successfully completed their internship in different ICT companies all over the country. 100 interns have been shortlisted for the training program and trainers have also been selected to conduct the trainings. The trainings will start in July 2014 and training areas will be iOS mobile application development, Android mobile application development and agile programming.





## 5. Prime Minister Scholarship Program for Talented Students of Balochistan

National ICT R&D Fund is funding a 05 years (class 8th to class 12th) scholarships program of Rs.675 Million for a total of 450 students under the program titled 'Prime Minister's Scholarship Program for the Talented Students of Balochistan'. These 450 students are divided equally into three batches i.e. 150 students per batch and placed in 29 reputed schools/colleges across Pakistan.

The scholarships award is applicable only to the students of 30 districts of Balochistan. The program started in 2011 and the last batch would qualify in 2017. The program is led by the Capital Administration and Development Division (CADD) and Education Department, Balochistan.

### Project Status

Currently 424 students are enrolled in three batches; 367 males and 57 females. The scholarship covers the tuition fee, boarding & lodging, bi-annual travel charges, stipend, books & stationary and uniforms.

	Allocated Seats	Initially Joined	Currently Studying	Dropouts
<b>Batch-I 2011</b>	150	141	135	06
<b>Batch-II 2012</b>	150	152*	150	02
<b>Batch-III 2013</b>	150	140	139	01

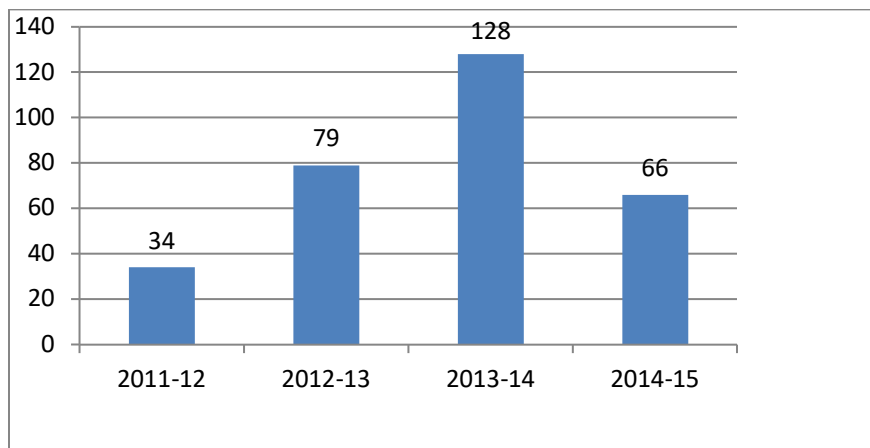
Reasons of Dropouts: Domestic Issues

\*Nine Students didn't avail the scholarship in Batch I, the seats were allocated to Batch II

11 students got distinctions in the following institutions:

1. Chandbagh School Muredke
2. Sadiq Public School Bahawalpur
3. Cadet College Choa Saidan Shah Chakwal

### Financial Status



### Institution Wise Students Enrollment

Institutes	No. of Students
Islamabad College for Girls F-6/1 Islamabad	56
Heavy Industries Taxila Education City	42
Cadet College Choha Saidu Shah, Chakwal	28
The Chand Bagh School, Mureedkay	25
Fazlehaq College, Mardan	22
Pakistan International School & College, Gujaranwala	21
Baqai Cadet College Karachi	21
Sadiq Public School, Bahawalpur	17
Khayaban Public School International, Lahore	17
Cadet College Petaro	17
Cadet College Sanghar	15
Cadet College Palandari, AJK	15
Cadet College Kohat	15
Army Burn Hall College for Boys, Abbottabad	15
Lawrence College, Ghora Gali, Muree	14
Cadet College Pasroor, Sialkot	12
Abbottabad Public School	12
Pakistan Steel Cadet College Karachi	11
USWA Cadet College, Sihala, Islamabad	10
Cadet College Larkana	10
Others	29

## 6. Establishment of VU Campuses in Pakistan

The project “Establishment of VU Campuses in Pakistan” was approved with the objective to fill the educational gap between urban & rural areas by establishing Virtual University (VU) campuses in remote areas of Pakistan. This project has been of socio-economic benefit by creating a pool of qualified professionals from underserved areas of the country by providing ICT related assisted facility so that resources will be available in remote areas to contribute in development of the country.

The approved budget for this project was Rs. 163.11 Million for construction of one purpose built campus and establishment of three rental based campuses. Both the purpose built campus and rental based campuses are operational in following locations:

### a. Jilalpur Pirwala

The campus at Jilalpur Pirwala is the only purpose built campus of Virtual University of Pakistan which spread around 16,000 sq. ft. of area and is located near Tehsil Headquarter of Jilalpur Pirwala. The campus is equipped with state of the art computer lab, seminar room, discussion room and all other allied facilities. Students and teachers from Jilalpur Pirwala and deprived areas like Khanbela , Ghazipur , Jahanpur, Bahadurpur , Kotla Chakar, Laar Janobi , Alipur , Hafgiz Wala, Jugga Wala etc are being benefited from this campus and are enrolled in various program at BS & MS level of Virtual University of Pakistan. At present, 146 students are enrolled in this campus.



### b. Bahawalnagar

This Bahawalnagar Campus of Virtual University is being operated in a rental based building and is located in center of the city on Minchinabad Road. The campus is equipped with state of the art computer lab and necessary allied facilities. Students from Bahawalnagar and deprived areas of its vicinity like Minchinabad, Haroonabad, Chistian etc. are being studying in this campus.



Apart from the regular students of this campus, professionals from industrial and banking sectors are also enrolled in various programs being offered at both Bachelors & Masters level programs of Virtual University.

### c. Makhdoom Rashid

The campus at Makhdoom Rashid is located near rural areas of Multan City and is equipped with state of the art computer lab with necessary allied facilities. Students from Makhdoom Rashid and rural areas of its nearest vicinity like Jahanian, 9 Kassi, Tibba Sultanpur etc. are being studying in various programs offered by Virtual University. Because, it is located near Multan City, an aggressive awareness campaign is being launched by Virtual University to attract maximum number of students. At present, 38 students are enrolled in this campus.



### d. Qadirpur Raan

The campus at Qadirpur Raan is also located near rural areas of Multan City and is equipped with state of the art computer lab with necessary allied facilities. Apart from the students enrolled from Qadirpur Raan, many students from its deprived areas of its nearest vicinity like Khanewal and Talypur etc. are also being studying in this campus. Because, it is located near Multan City, an aggressive awareness campaign is being launched by Virtual University to attract maximum number of students.



### Historical Information of Enrolment Status in each Campus till June 2014:

	Jilalpur Pirwala	Bahawalnagar	Makhdoom Rashid	Qadirpur Raan
Spring 2014	45	12	10	4
Fall 2013	23	13	13	9
Spring 2013	10	7	7	8
Fall 2012	39	13	5	6
Spring 2012	29	1	3	3
<b>Total</b>	<b>146</b>	<b>46</b>	<b>38</b>	<b>30</b>

### VU Campus at Jilalpur Pirwala (Purpose Built Campus)



Roadside View



Campus View





Campus View (in night)



Computer Lab



Seminar Room



Server Room



Main Corridor

### VU Campus at Makhdoom Rashid (Rental based Campus)



Front View



Computer Lab

VU Campus at Qadirpur Raan (Rented Campus)



Front View





Computer Lab

### VU Campus at Bahawalnagar (Rented Campus)



Front View





Computer Lab

### **Establishment of ICT Blocks in Pre-existing Universities/Institutions of Pakistan**

The project “Establishment of ICT Blocks in pre-existing Universities/Institutions” was approved with the objective to benefit the students and faculty of the respective university/institution through crowd sourcing and related ICT activities that would ultimately enable them to develop and enhance the ICT knowledge to become active resource for the R& D initiatives in the country.

The approved budget for each ICT Block in following universities/institutions was Rs. 20 Million.

- a. ICT Block at The Islamia University of Bahawalpur
- b. ICT Block at Lahore College for Women University, Lahore
- c. ICT Block at Aitchison College, Lahore

The construction of ICT Block at The Islamia University of Bahawalpur was completed during the year. However, procurement of ICT equipment is in progress. Whereas, establishment of ICT Blocks at Lahore College for Women University and Aitchison College, Lahore was not started till Jun 2014.

### ICT Block at Lahore College for Women University – LCWU



Main Entrance



Side View



Computer Lab 1



Computer Lab 2



Main Corridor



Data Center



### ICT Block at Islamia University of Bahawalpur - IUB



Front View

### Progress Made by the Fund in Promoting R&D Activities in the ICT Sector

The emerging information and knowledge age and the accompanying technological revolution are heralding a new economic and social order characterized by the development and exploitation of information and communication technologies (ICT) within all spheres of human endeavor. ICT R&D activities act as catalyst for this change. National ICT R&D Fund has been playing a critical role in promoting ICT Research & Development phenomena in the Pakistan by funding related opportunities.

A total of 70 proposals amounting to 1,381.66 million have been processed during the same financial year. Following table summarize important figures for the FY 2014-15.

Category	Number	Budgeted Amount (PKR Million)
Technical R&D proposals	60	1331.83
Human Resource Development (HRD) Proposals	1	39.39
Scientific Events	9	10.44

The proposals received at National ICT R&D Fund are processed with an ultimate goal of providing funding to quality and innovative ideas. During the FY only 10 proposals amounting to 20.88 million were funded. Following table summarize important figures for approved projects:

Category	Number	Budgeted Amount
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		(PKR Million)
Technical R&D proposals	2	13.63
Human Resource Development (HRD) Proposals	0	0
Scientific Events	8	7.25

Scientific Events are funded with aim to provide a platform to academia and industry for sharing their thoughts / ideas on recent R&D trends in the ICT sector. The provided platform is envisaged to yield quality R&D proposals targeting industrial needs of the country. During FY, National ICT R&D Fund has funded following eight (08) scientific events.

Event Title	Budgeted Amount (PKR Million)
International Conference on Aerospace, Science & Engineering (ICASE) Institute of Space Technology, Islamabad	1,130,000
IEEE International Conference on Digital Information Management (ICDIM) Islamia University, Bahawalpur	370,000
International Conference on Emerging Technologies (ICET) MA Jinnah University, Islamabad	600,000
International Conference on Modeling & Simulation (ICOMS) Air University, Islamabad	1,489,500
International Conference on Frontiers of Information Technology (FIT) COMSATS, Abbottabad	1,188,000
National Conference on Information Assurance (NCIA) Military College of Signals, Rawalpindi	1,188,000
International Conference on Open Source System and Technology (ICOSST) KICS-UET, Lahore	399,000
International Multi Topic Conference (IMTIC) Mehran UET, Jamshoro	887,000

## Details of Any Significant Changes or Developments in the Company Establishment

### Compliance with Public Sector Companies (Corporate Governance) Rule, 2013

#### Background:

The Securities and Exchange Commission of Pakistan (SECP) has issued the Public Sector Companies (Corporate Governance Compliance) Rules, 2013, in exercise of the powers conferred by section 506B of the Companies Ordinance, 1984 (XLVII of 1984) read with rule 24 of the Public Sector Companies (Corporate Governance) Rules, 2013.

These guidelines applied to all Public Sector Companies, as defined in the Rules. National ICT R&D Fund being the Public Sector Company falls under the same category.

#### Current Status of Compliance:

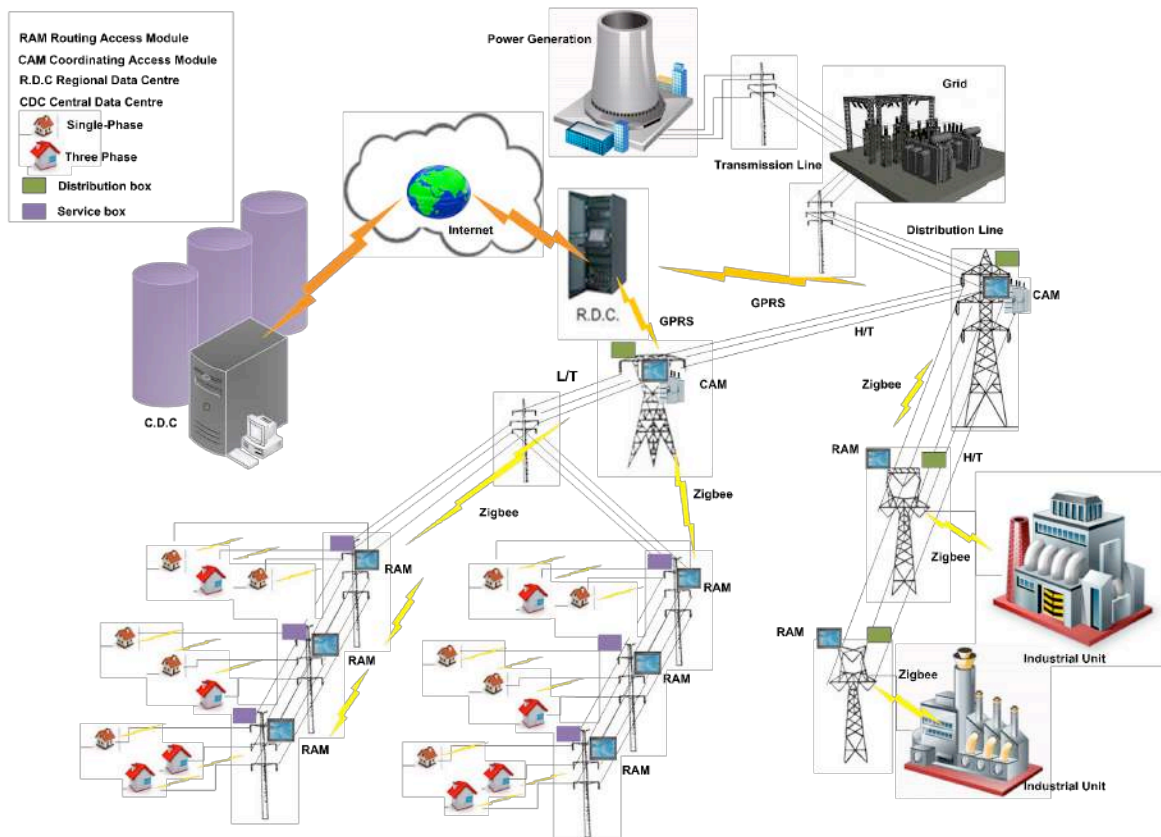
On 13<sup>th</sup> May, 2015, Show Cause Notice has been received by the Company for submission of compliance statement under the rules for the year 2013-14. National ICT R&D Fund has submitted an interim response of the Show cause in consultation with the legal firm on 25th May, 2015.

Services of an external legal firm have been acquired to identify the inconsistencies between the constitutive documents and the Corporate Governance Rules. At present, Company along with external legal firm are working on compliance statement for the year 2013-14, which needs to be submitted to SECP after external audit endorsement and Board's approval.

## Commercialization Potential of Funded Projects

### 1. Design and Implementation of a Prototype for a Secure Billing Framework with Real Time Detection of Malicious End Node Connections using Wireless Sensor Network

This project is about design and implementation of a prototype system for electricity theft detection and avoidance, automatic billing, loss calculation and control. It is an amalgamation of software and hardware design with wireless detection and transformation of data to a centrally managed database.



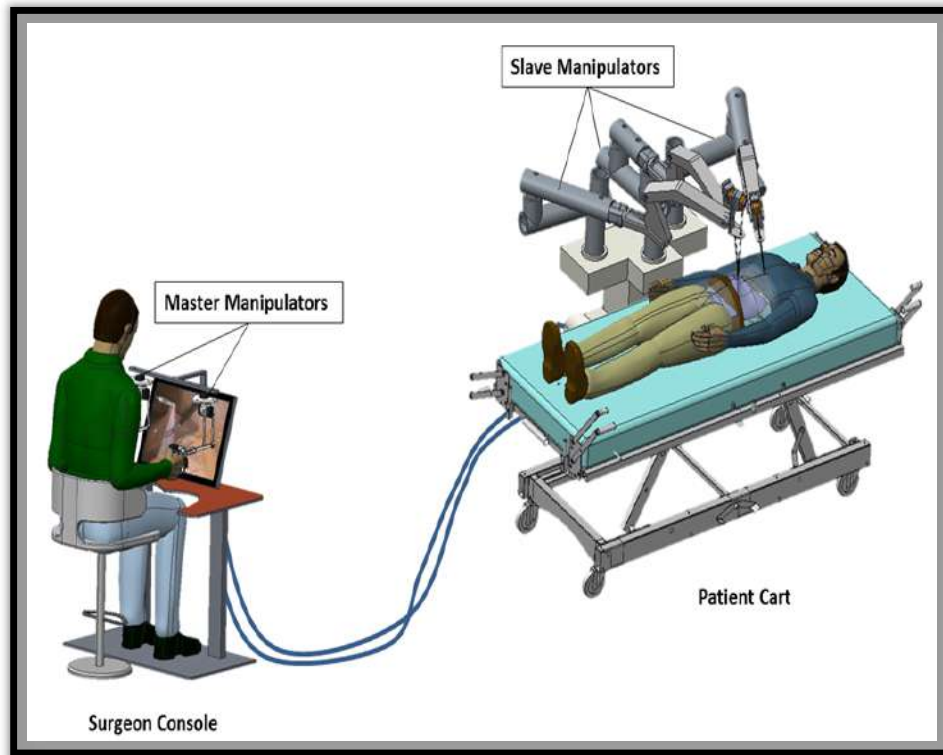
#### Impact/Outcome:

Online monitoring of Active Connections, Real time measurement data generated for the distribution system from the core system to the end consumer. Detection and isolation of

fraudulent connections. Detection of modified (illegal) meters to give accurate consumption of electricity by end consumers and Elimination of Billing Irregularities.

## 1. Development of a Tele-Surgical Training Robot and Simulator

A robot has been created which will enable Doctors to conduct surgery remotely.



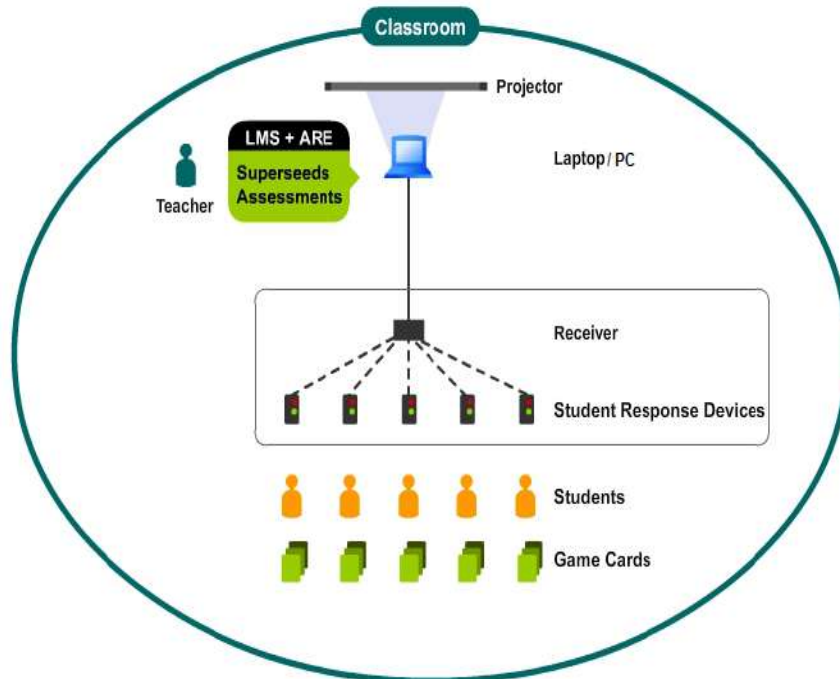
**Impact/Outcome:** The project team has produced a Robot which will be used by Doctors to perform surgical operations remotely. The Robot has been named Al-Zahrawi and was officially launched in an international surgical conference held in NUST SECS.

## 2. Integrated Scholastic Learning System

Content based learning system for 9<sup>th</sup> Grade Mathematics Students. The pilot phase of the project deployed in 04 government schools of Islamabad and later on it will be spread-out to other schools as well. Three Principals and six teachers of these schools have worked as consultants.

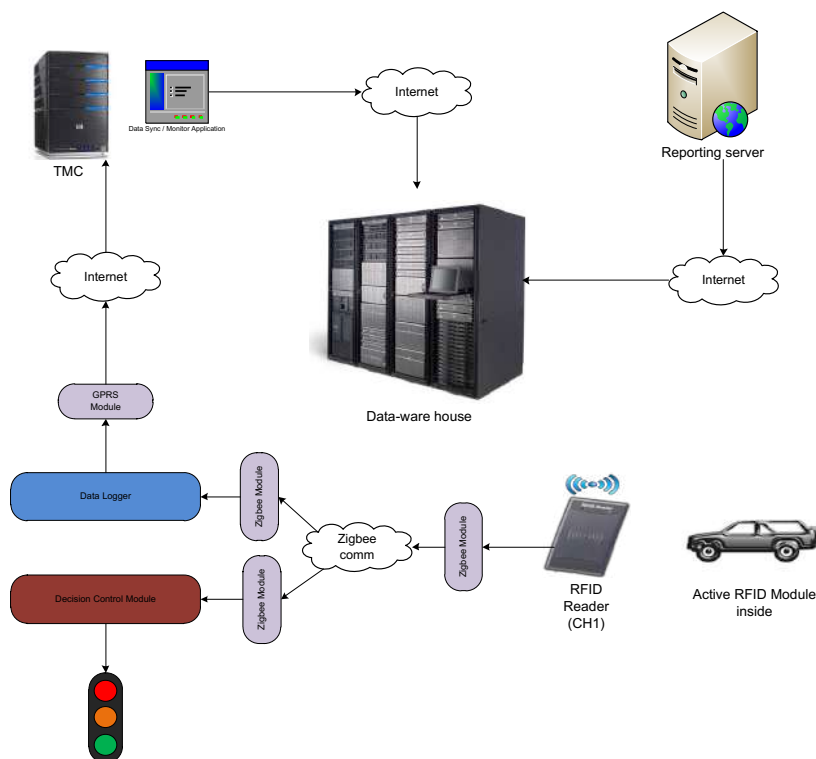
### **Impact/Outcome:**

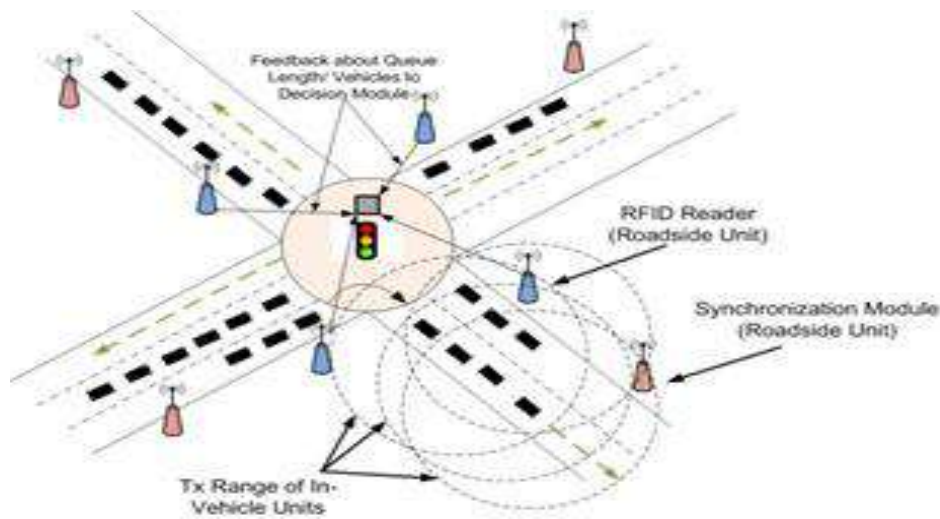
The learning system is demonstrated in local school where students showed their interest by participating in large number. After the completion of the project, PI intends to spread this system countrywide. **The main focus of the project is on development side rather than the research.**



### 3. A Secure and Intelligent Transportation System Using Wireless Sensors for Congestion Control

The project proposes to use wireless sensors to amalgamate and utilize data in order to measure the road traffic congestion in urban areas. Then investigate, propose and implement the most appropriate queuing algorithms from communication theory to regulate traffic and ease the congestion in traffic hotspots during busy hours.

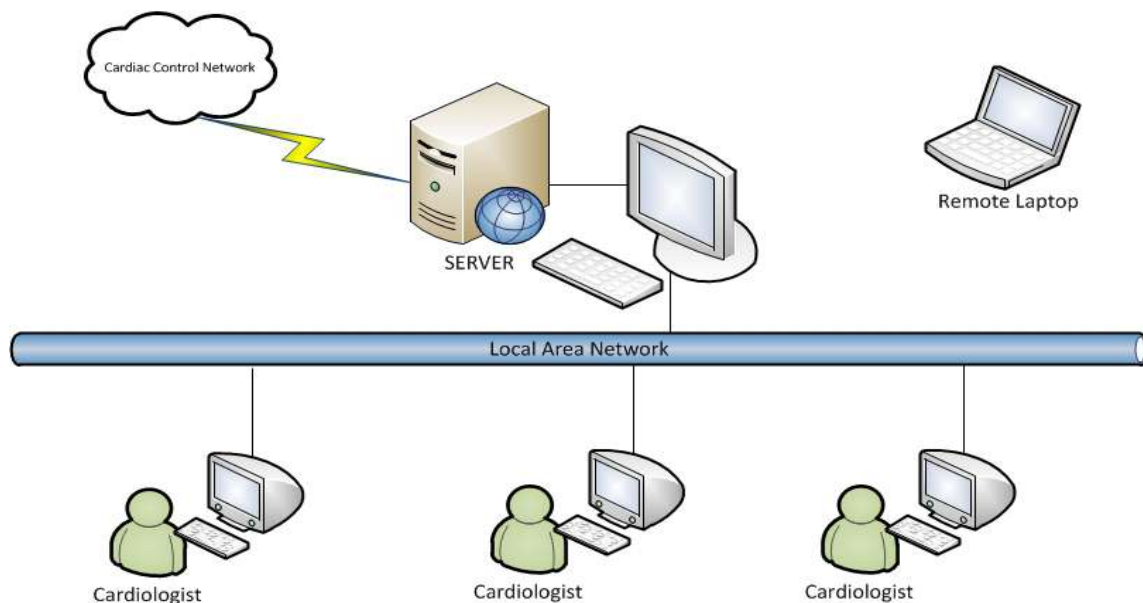




ITS research lab has been setup, providing low cost, innovative and customized solutions to the local industry and market.

#### 4. Intra-cardiac Signal Acquisition, Analysis, and Display (ISAAD) System for Electro-Physiology

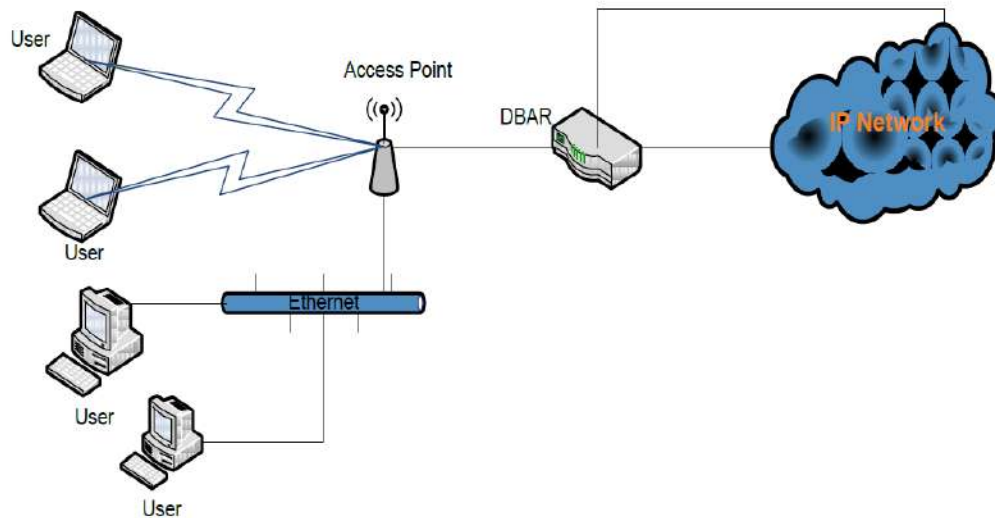
Efficient and cost effective *Intra-cardiac Signal Acquisition, Analysis and Display (ISAAD)* system is being developed. The *ISAAD* system capable of acquiring *intra-cardiac electro gram (ICEG)* signals through catheters placed directly on the heart surface of the patient and analyzes and display it on multiple display units. The capability of the system to intelligently differentiate various intra-cardiac abnormalities and assist physicians in the diagnosis of an abnormal rhythm.



## 5. Dynamic Bandwidth Aggregation in Heterogeneous Wireless Networks for Mission Critical Applications

Developed a wireless router which enables bandwidth aggregation of different internet connections. The device can aggregate different connections like DSL, WiMax, GPRS, Edge & CDMA etc.

An overview of the system is given in the following diagram

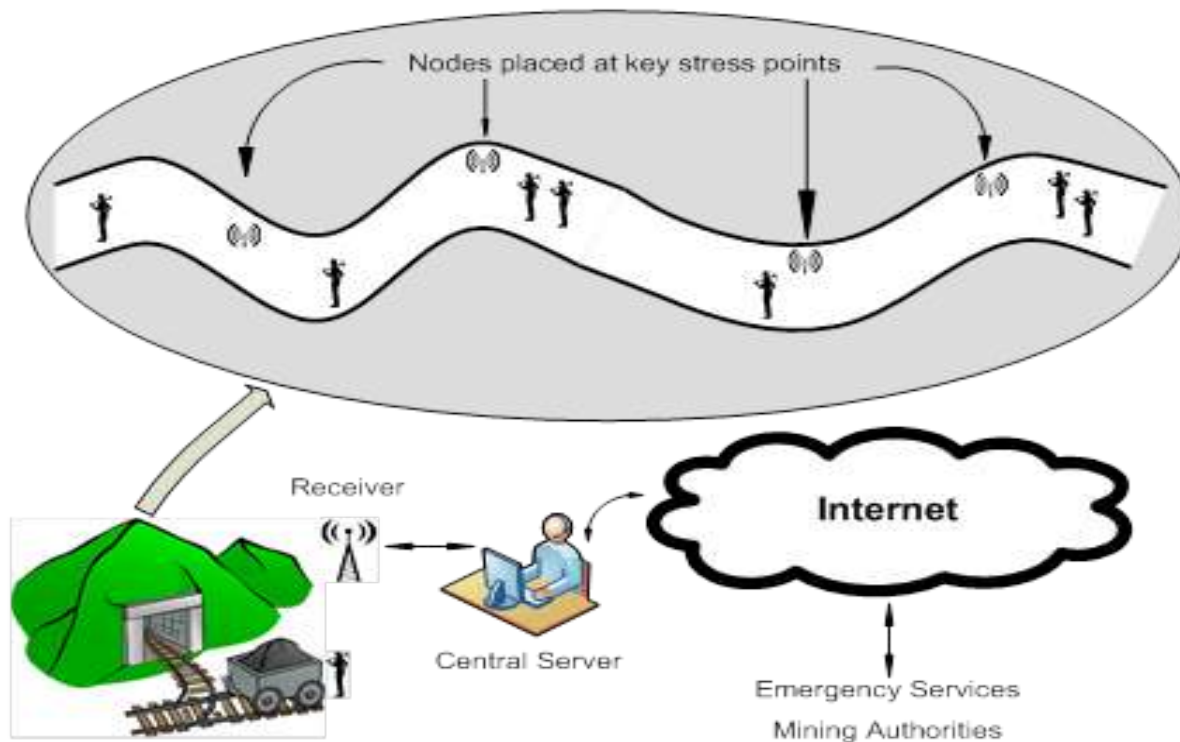


If two connections of 1MB each are connected through the device, it will give internet speed of approximately 2 MB. Another benefit of the device is that if one connection goes down, it will automatically connect through the available connection giving continuity in data transfer. The project has a huge commercial potential.

## 6. Safety Assurance in High Stress Environments

This project developed a safety assurance system for mining industry that will be deployed to monitor the presence, concentration of toxic gases, structural integrity and stability of mine tunnels, water ingress and prevent accidents by detecting any abnormality in any of the above mentioned parameters.

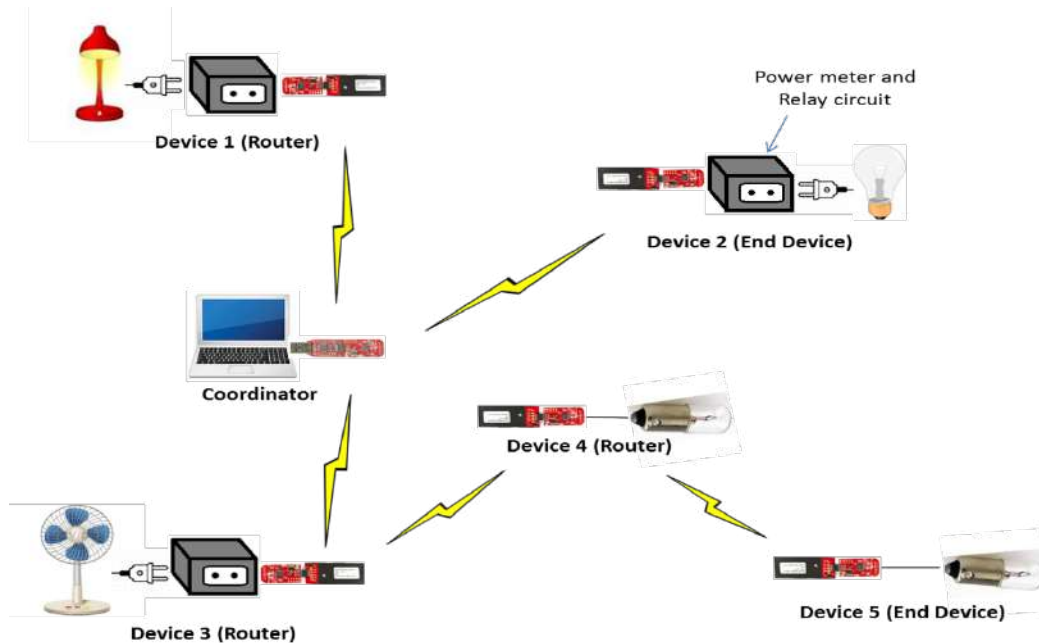




**Impact/Outcome:** A prototype of safety assurance mechanism, ready to be deployed in underground mines as well as in other industrial environments. This system will consist of intelligent sensor nodes which can be fixed throughout the mining/industrial environment to be monitored and a central station would process acquired information and make decisions accordingly.

## 7. Towards Self-Managing Energy Systems in Buildings

This project builds a system that manages and integrates 400 KWH/ month which allow the consumers to state goals, priorities, and constraints on energy usage in a typical building to automatically plan the energy usage through controlling devices and make the consumers, aware of their energy usage patterns and show them the energy and cost savings by modifying energy usage patterns.

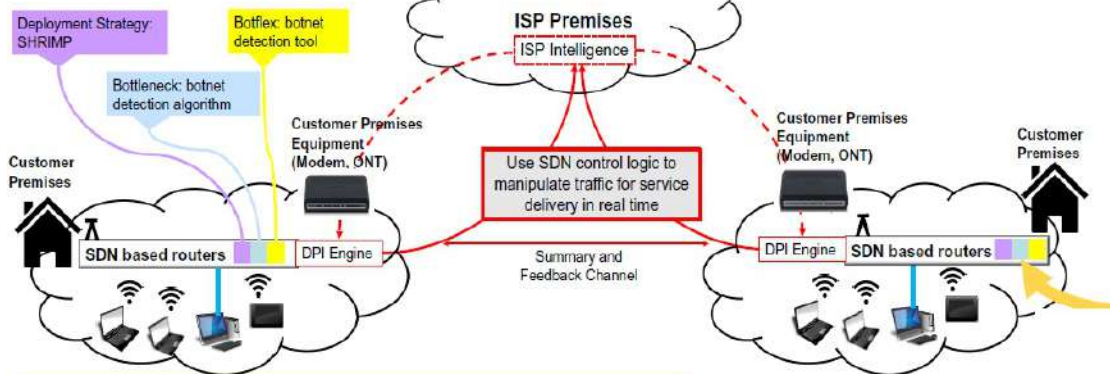


Thus, it has developed a localized low cost Home Area Network implementation for controlling heavy duty electric appliances for energy conservation.

## 8. Design and prototyping of a Software-defined network architecture to detect and prevent real-time botnet attacks

The prototype solution has been built for a current and critical problem faced by ISPs in Pakistan: botnet infections that degrade their quality-of-service and simultaneously over-load their network infrastructure. Furthermore the project would be a model of joint industry-academia research to solve an authentic real-world problem.

### High Level Architecture:



**Impact/Outcome:** The project gave the opportunity to graduate and undergraduate students to work on the state-of-the-art networking technology (SDN) and employ it to solve an aching problem (botnets) in the internet community. This exercise not only broadens their horizon but also inculcate in them the feeling of being the pioneers in the development of a next generation cutting-edge technology.

## Events:

### Formula NUST Racing Team

National ICT R&D Fund sponsored Formula NUST Racing Team in Formula Student (UK). It was Formula NUST Racing Team's second year of participation in the event. The event was a great learning as well as humbling experience for the team. The team through this participation realized the level of competition and the scale of time, dedication and resources required to make it to the top.



### ABU-ROBOCON – Team Pakistan

National ICT R&D Fund sponsored ABU-ROBOCON – Team Pakistan. The team developed systems in competition with many developed countries with the use of latest state of the art technology and robust control algorithms. The repeatability of the systems was emphasized and robustness was practiced to improve the overall performance.

National ICT R&D Fund played a pivotal role in this mega activity where Pakistan's engineering community was provided with a chance to display their talent to the world of engineering.



### Cloud Strategies Seminar

National ICT R&D Fund sponsored Cloud Strategies Seminar conducted by Moving Minds at Islamabad Serena Hotel. Even though cloud computing is gaining momentum in both public and private sectors of Pakistan but there is still a huge gap in the understanding of the technology and the perceptions about it. To address this gap, Moving Minds planned a series of seminars to be conducted in major cities of Pakistan focusing on the understanding of cloud computing and discussing the benefits and advantages of the technology. The participants shared their views and ideas during the networking session and appreciated the efforts of National ICT R&D Fund in promoting cloud computing.



### National ICT R&D Fund Sponsored COMPPEC 2014

National ICT R&D Fund Sponsored COMPPEC 2014 which was organized by College of Electrical and Mechanical Engineering, NUST. The event comprised of an exhibition and competition of projects, in which students of colleges/universities from all over Pakistan showcased their innovative projects. Secretary Defense Lt. General (R) Asif Yasin Malik was the chief guest. The chief guest along with Maj. General Obaid Bin Zakria, Commandant College of EME lauded the support of National ICT R&D Fund to make the event successful especially providing the opportunity to the students from Balochistan and AJ&K to participate in the event for the first time.



### **Robosprint 2014**

National ICT R&D Fund has sponsored “Robosprint 2014” which was organized at University of Central Punjab on 26th September 2014. Robosprint is a National Education Campaign that has culminated into a robotics competition. The event offered students an opportunity to gain tremendous amount of learning in electronics and computer programming. The event attracted over 77 universities and institutions.

### **10th Annual P@SHA ICT Awards 2014**

National ICT R&D Fund Sponsored 10th Annual P@SHA ICT Awards 2014. P@SHA ICT Awards aim to provide recognition to the software and service applications developing companies of Pakistan by providing them an opportunity to gain local, regional and international exposure; acknowledging creativity, innovation and excellence in Pakistan’s Information and Communications Technologies sector. The winners of the P@SHA ICT Awards product categories got an opportunity to represent Pakistan in the Asia Pacific ICT Awards (APICTA) in Hong Kong in November 2014.





# **FINANCIAL STATEMENT**

**AUDITOR'S REPORT TO THE MEMBERS**

We have audited the annexed balance sheet of National ICT R&D Fund ("the Company") as at June 30, 2015 and the related income and expenditure account, statement of comprehensive income, cash flow statement and statement of changes in fund together with the notes forming part thereof, for the year then ended and we state that we have obtained all the information and explanations which, to the best of our knowledge and belief, were necessary for the purposes of our audit.

It is the responsibility of the Company's management to establish and maintain a system of internal control, and prepare and present the above said statements in conformity with the approved accounting standards and the requirements of the Companies Ordinance, 1984. Our responsibility is to express an opinion on these statements based on our audit.

We conducted our audit in accordance with the auditing standards as applicable in Pakistan. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the above said statements are free of any material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the above said statements. An audit also includes assessing the accounting policies and significant estimates made by management, as well as, evaluating the overall presentation of the above said statements. We believe that our audit provides a reasonable basis for our opinion and, after due verification, we report that:

- (a) in our opinion, proper books of account have been kept by the Company as required by the Companies Ordinance, 1984;
- (b) in our opinion –
  - (i) the balance sheet and income and expenditure account together with the notes thereon have been drawn up in conformity with the Companies Ordinance, 1984, and are in agreement with the books of account and are further in accordance with accounting policies consistently applied;
  - (ii) the expenditure incurred during the year was for the purpose of the Company's business; and
  - (iii) the business conducted, investments made and the expenditure incurred during the year were in accordance with the objects of the Company;
- (c) as explained in note 4.8 to the financial statements, expenditure on projects/ programs activities amounting to Rs.690.059 million was recorded when funds were disbursed to implementing partner organisations and internees in terms of related agreements with the Company. Consequently, actual expenditure incurred by implementing partners, unspent balance, if any, and/or amounts payable in excess of the funds disbursed has not been reflected in these financial statements and not subject to our verification.





- (d) in our opinion and to the best of our information and according to the explanations given to us, except for the matter referred to in paragraph (c) above, the balance sheet, income and expenditure account, statement of comprehensive income, cash flow statement and statement of changes in fund together with the notes forming part thereof conform with the approved accounting standards as applicable in Pakistan, and, give the information required by the Companies Ordinance, 1984, in the manner so required and respectively give a true and fair view of the state of the Company's affairs as at June 30, 2015 and of the surplus, total comprehensive income, its cash flows and changes in fund for the year then ended; and
- (e) in our opinion, no zakat was deductible at source under the Zakat and Ushr Ordinance, 1980 (XVIII of 1980).

The financial statements of the Company for the year ended June 30, 2014 were audited by Ernst & Young Ford Rhodes Sidat Hyder whose report dated January 8, 2016 expressed an unqualified opinion thereon. However, the aforementioned report included emphasis of matter paragraph relating to the Company's policy for recording expenditure on projects and program activities on the basis of disbursement made to implementing partner organizations.

Chartered Accountants  
Islamabad  
Date: January 6, 2017

Engagement partner: Asim Masood Iqbal

**NATIONAL ICT R&D FUND**

(A company incorporated under Section 42 of the Companies Ordinance, 1984)

**BALANCE SHEET****AS AT 30 JUNE, 2015**

	Note	2015 -----Rupees-----	2014
<b><u>ASSETS</u></b>			
<b>NON CURRENT ASSETS</b>			
Property and equipment	5	5,073,327	6,472,071
Intangible asset	6	430,500	837,657
		<u>5,503,827</u>	<u>7,309,728</u>
<b>CURRENT ASSETS</b>			
Advances to employees	7	2,546,554	6,304,426
Short term prepayments		13,099,016	11,834,693
Accrued interest on bank balance		6,950,607	8,079,222
Other receivables		64,940	-
Bank balance	8	127,068,896	900,769,095
		<u>149,730,013</u>	<u>926,987,436</u>
<b>TOTAL ASSETS</b>		<b><u>155,233,840</u></b>	<b><u>934,297,164</u></b>
<b><u>FUNDS AND LIABILITIES</u></b>			
<b>FUNDS</b>			
Unrestricted funds		6,709,285	6,709,285
<b>NON CURRENT LIABILITIES</b>			
Restricted funds	9	117,033,182	899,878,804
Deferred capital grant	10	5,503,827	7,309,728
		<u>122,537,009</u>	<u>907,188,532</u>
<b>CURRENT LIABILITIES</b>			
Trade and other payables	11	25,987,546	20,399,347
<b>TOTAL FUNDS AND LIABILITIES</b>		<b><u>155,233,840</u></b>	<b><u>934,297,164</u></b>
<b>COMMITMENTS</b>	12		

The annexed notes 1-20 form an integral part of these financial statements.

*Asst. Secy*

*Yusef Hussain*  
CHIEF EXECUTIVE  
OFFICER

*Shahid*  
DIRECTOR

**NATIONAL ICT R&D FUND**

(A company incorporated under Section 42 of the Companies Ordinance, 1984)

**INCOME AND EXPENDITURE ACCOUNT  
FOR THE YEAR ENDED 30 JUNE 2015**

	Note	2015 ----- Rupees -----	2014 -----
<b><u>INCOME</u></b>			
Grant income recognized	13	816,031,227	868,688,775
Other Income- Interest income on bank balance		31,912,097	16,206,144
<b><u>EXPENDITURE</u></b>			
Project/ program activities	14	690,058,697	729,058,260
Operating costs	15	157,884,627	155,836,659
		847,943,324	884,894,919
<b>Surplus for the year</b>		<u>                    </u>	<u>                    </u>

The annexed notes 1-20 form an integral part of these financial statements.

*affu*

Yusuf Hussain  
**CHIEF EXECUTIVE  
OFFICER**

S.M. Shah  
**DIRECTOR**



**NATIONAL ICT R&D FUND**

(A company incorporated under Section 42 of the Companies Ordinance, 1984)

**STATEMENT OF COMPREHENSIVE INCOME  
FOR THE YEAR ENDED 30 JUNE 2015**

		2015	2014
	Note	Rupees	Rupees
Surplus for the year		-	-
Other comprehensive income/ (loss):			
Other comprehensive income/ (loss) not to be reclassified to income and expenditure in subsequent periods:			
Re-measurement gain/ (loss) on staff gratuity	11.2	1,240,540	(3,987,227)
<b>Total comprehensive income/ (loss) for the year</b>		<b><u>1,240,540</u></b>	<b><u>(3,987,227)</u></b>

The annexed notes 1-20 form an integral part of these financial statements.

Yusuf Hussain  
CHIEF EXECUTIVE  
OFFICER

Sprashay  
DIRECTOR



**Ministry of Information  
Technology & Telecom**  
Government of Pakistan



**National ICT  
R&D Fund**

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6th Floor, HBL Tower, Jinnah Avenue, Blue Area, Islamabad, Pakistan  
PABX: +92 51 921 5360-5 Fax: +92 51 921 5366