



# **BRIEF ON PAKISTAN ENGINEERING COUNCIL**

**SEPTEMBER 24, 2018**



## INTRODUCTION

Pakistan Engineering Council (PEC) - Established under PEC Act of 1976 (Amended upto 1<sup>st</sup> December, 2016).

An apex body to regulate Engineering Profession in totality including Engineering Education.



## INTRODUCTION

### **Vision:**

The Council regulates the engineering profession with the vision that the engineering profession shall function as a key driving force for achieving rapid and sustainable growth in all national, economic and social fields;

### **Mission:**

The Council shall as its mission set and maintain realistic and internationally relevant standards of professional competence and ethics for engineers, and license engineers, and engineering institutions to competently and professionally promote and uphold the standards;



## INTRODUCTION

- Chairman is the Chief Executive of the Council
- Registrar is the Custodian of the Council
- Governing Body is the Principal Executive Authority of the Council
- Composition of Governing Body:
  - a. Sixty six (66) Professional Engineers*
  - b. Minimum twenty (20) years of professional standing.*



## GOVERNING BODY – ELECTED MEMBERS

Designation	No. of Positions	Description
Chairman	01	Elected by All Engineers of Pakistan
Sr. Vice Chairman	01	Elected by All Engineers of Pakistan
Vice-Chairmen	04	Elected from respective Province
Elected Members	40	Elected by respective discipline of Engineers
Total	46	



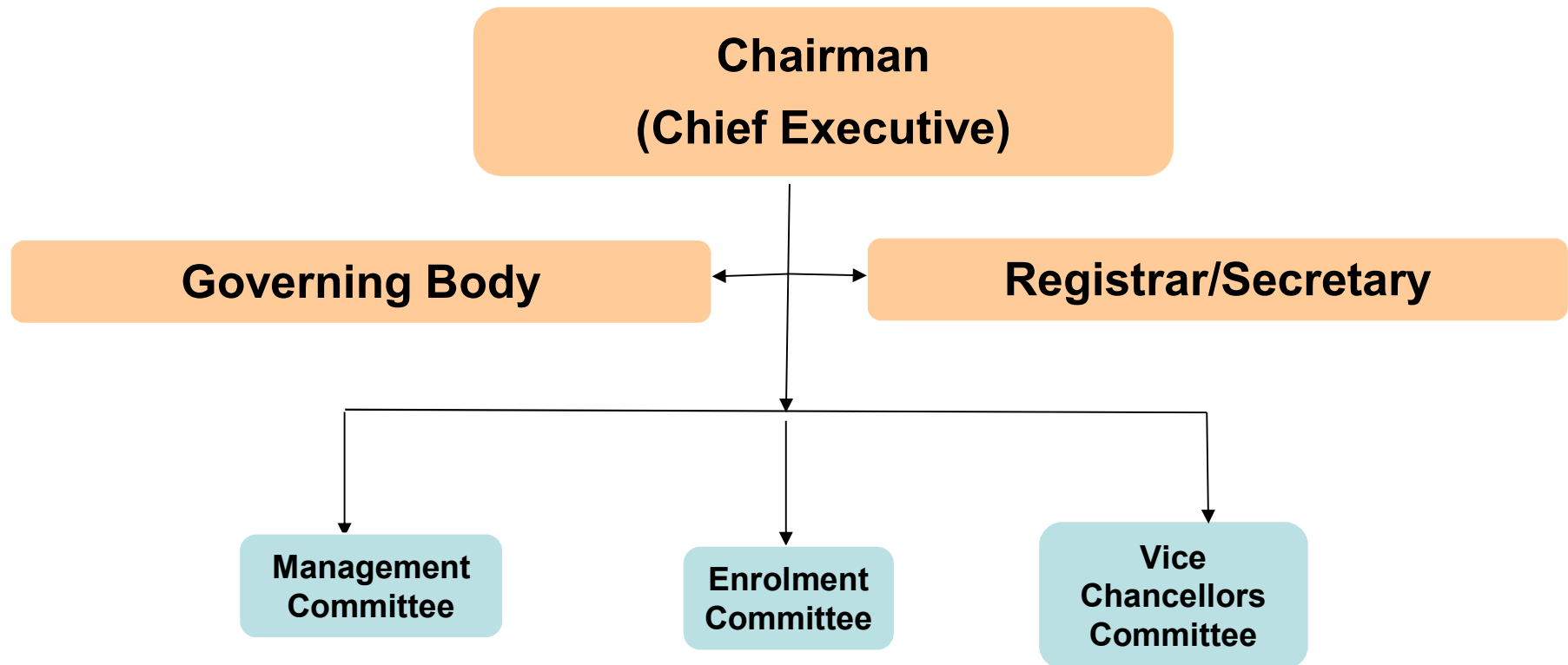


## GOVERNING BODY – NOMINATED MEMBERS

Designation	No. of Positions	Description
Nominated Members (19)		
	03	01 Member – Planning Commission 01 Member – Ministry of Science & Technology 01 Member – Higher Education Commission
	02	01 Member - AJK 01 Member - Gilgit Baltistan (Nominated by the Federal Government)
	04	01 Member from each Province
	05	05 Vice Chancellors of Engineering Universities <ul style="list-style-type: none"> <li>01 nominated by each Provincial Government</li> <li>01 nominated by Federal Government</li> </ul>
	01	Engineer-in-Chief, Pakistan Army
	01	President/Chairman of Association of Consulting Engineers Pakistan (ACEP)
	01	President/Chairman of Constructors' Association of Pakistan (CAP) or their nominee
	01	Elected President of the Institution of Engineers Pakistan
	01	Elected President of Pakistan Engineering Congress
Registrar, PEC	01	Ex-officio
Total	20	



## GOVERNING BODY



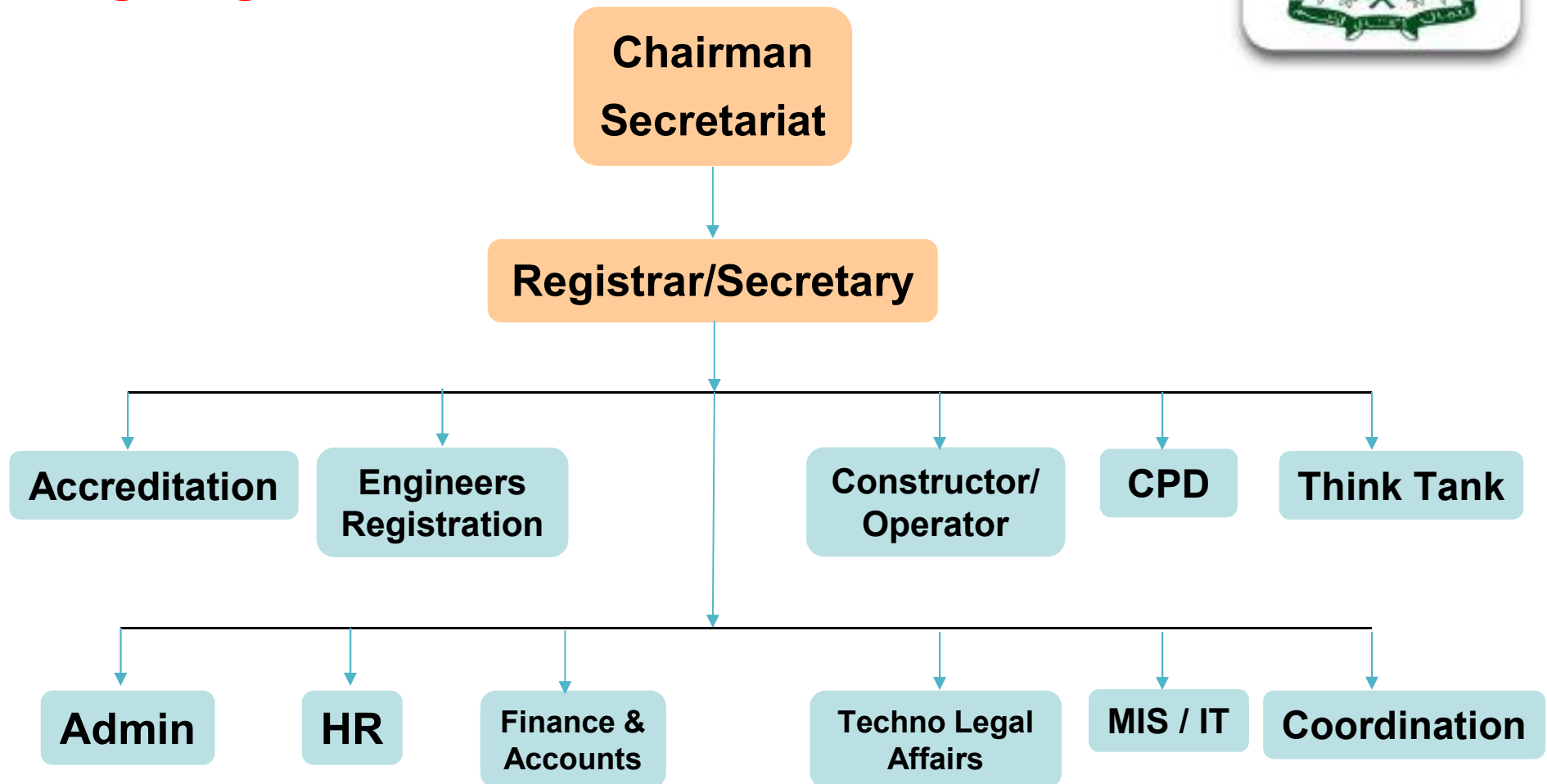


# ***PEC SECRETARIAT***



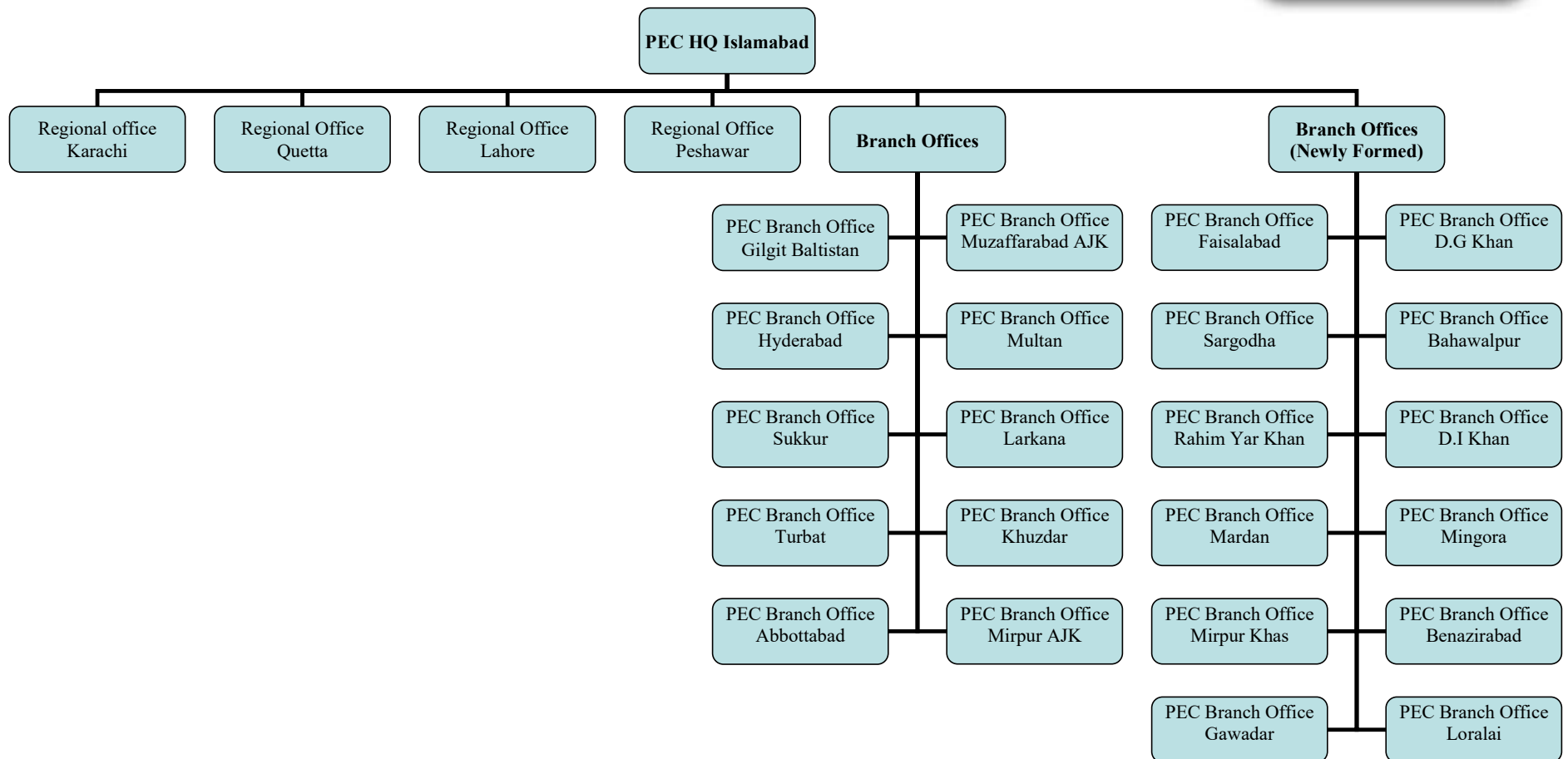


## Organogram of PEC HQ





# PEC SECRETARIAT





## MAJOR FUNCTIONS/ OBJECTIVES

- Accreditation of Engineering Programs
- Registration of Engineers
- Continuing Professional Development (CPD) of Engineers
- Registration of Construction & Consulting Firms
- Assistance to the Federal Government as Think Tank
- Safeguard and Promotion of Engineering Profession in Totality



# REFORMS IN **ACADEMIA**



## Accreditation

• Universities/HEIs	125
• Accredited Engineering Disciplines	29
• Total Accredited Engineering Programs	330
- Programs Under Level-I	288
- Programs under Level-II (OBA*)	42
• Under Process Engineering Programs	115

**\*Substantially Equivalent to Washington Accord (WA)  
Signatories**







## Accreditation Reforms

- Regional Consultative Working Group Meetings
- Imposition of Penalties to Regulate the Byelaws, Regulations and Policies of PEC
  - a. Penalty of Rs.500,000/- per student per program
  - b. Withdrawal/De-accreditation of Programs in case of Violation
    - Introduction of Surprise visits by Task Force for implementation of Reforms policies for quality education
- Decentralization of the Accreditation Committee to provincial level
- Enrollment of Students with PEC
- Policy Reforms to launch new engineering program through Zero Visit
- Up-gradation of EA&QEC to EAB (Engineering Accreditation Board)



## REFORMS IN ACADEMIA



**PURPOSE BUILT CAMPUS**  
Made mandatory for opening of new  
Engineering University



## REFORMS IN ACADEMIA

### **Rs.25 MILLION ENDOWMENT FUND & Rs.20 MILLION CASH**

mandatory in bank to run engineering program.

To ensure the quality education from  
private universities.







**REFORMS IN ACADEMIA**

# **STOPPED**

**OPENING OF NEW UNIVERSITIES  
IN RENTAL OR LEASE BUILDINGS  
TO CONTROL THE QUALITY  
OF ENGINEERING EDUCATION**



# **TO IMPROVE THE QUALITY OF ENGINEERING EDUCATION**

**Curb the over intake of students;  
Imposed Penalty of  
Rs.500,000/Semester/Student**





**INTRODUCED**  
**AWARDS OF TEN MILLIONS**  
**TO ENCOURAGE**  
**R&D AMONGST UNDERGRADE**  
**ENGINEERING STUDENTS**



## **REFORMS IN ACADEMIA**

# **CONSULTATIVE MEETINGS WITH 126 ENGINEERING UNIVERSITIES**

For development of curriculum and to ensure  
quality in Engineering Education



**Consultative Workshop at UET Lahore**



# REFORMS FOR **ENGINEERS**



## REGISTRATION DEPARTMENT

### Registered Engineer (RE)

“Registered Engineer” means a person who holds an accredited engineering qualification, whether working privately or in the employment of an engineering public organization and is registered as such by the Council. Registered Engineer shall perform all professional engineering works except independently signing design.

### Professional Engineer (PE)

“Professional Engineer” means a person who holds an accredited engineering qualification and after obtaining a professional experience of five years, whether working privately or in the employment of an engineering public organization, has passed the prescribed engineering practice examination and is registered as such by the Council.

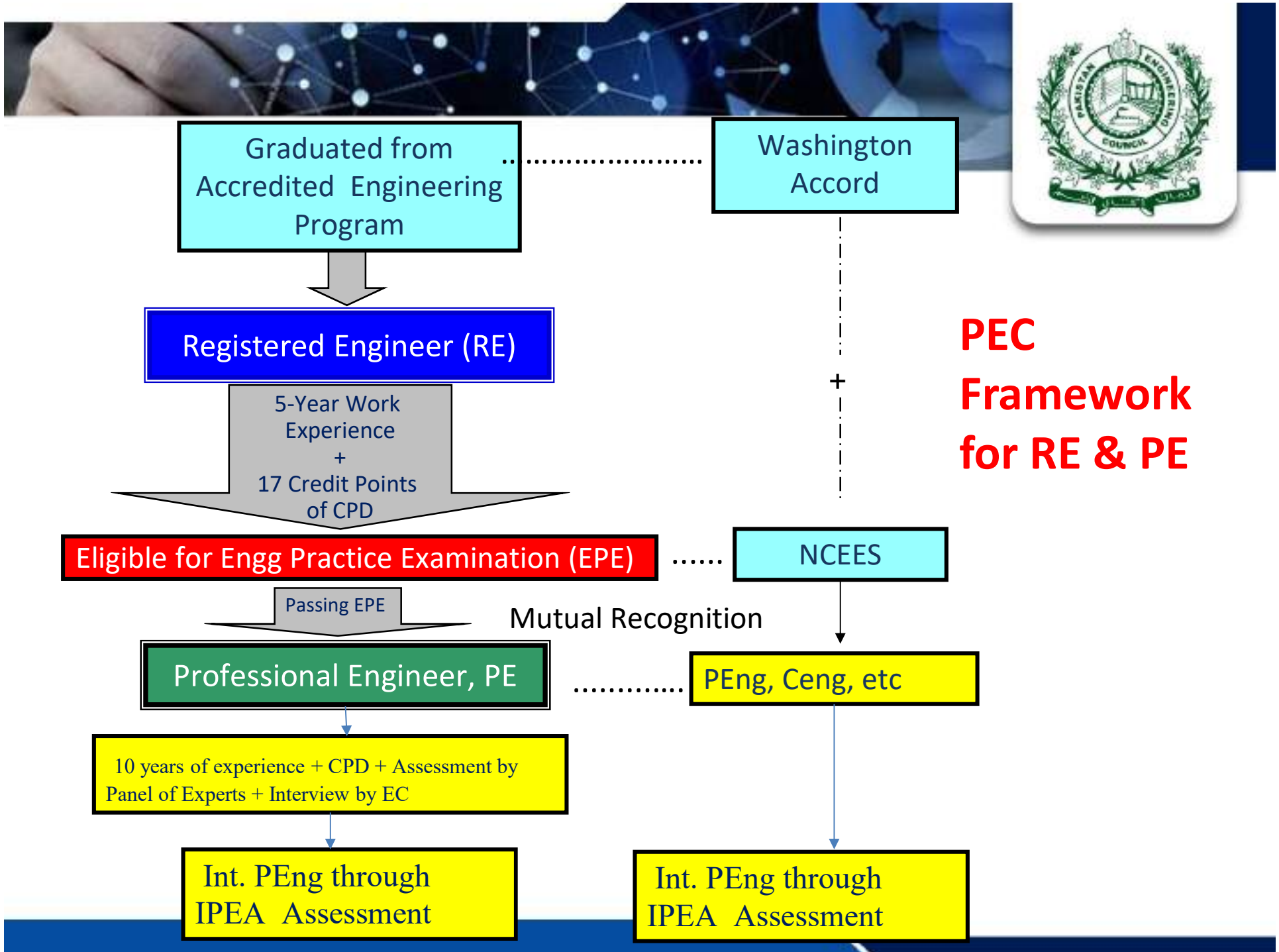




## **REGISTRATION STATISTICS (AS ON 30<sup>TH</sup> JUNE, 2018)**

<b>Gender</b>	<b>R.E</b>	<b>P.E</b>	<b>Total</b>
<b>Male</b>	150,525	87,675	238,200
<b>Female</b>	14,660	2,763	17,423
<b>Total</b>	165,185	90,438	255,623





**REFORMS FOR ENGINEERS**



# **ONLINE REGISTRATION & RENEWAL FOR ALL ENGINEERS**





## **REFORMS FOR ENGINEERS**

**TO ENCOURAGE ENTREPRENEURSHIP  
AMONGST ENGINEERS,  
PEC INTRODUCED LICENSES FOR ENGINEERS IN 5  
CATEGORIES FROM C6/O6 TO C2/O2 ON THE BASIS OF  
THEIR EXPERIENCE ONLY**





## REFORMS FOR ENGINEERS



# 20,000 INTERNSHIPS

- a) RS.15,000/- BY GOVERNMENT OF PAKISTAN
- b) PEC PLACING THE ENGINEER WITH EMPLOYER
- c) PEC ARRANGING RS.10,000 FOR INTERNEE FROM EMPLOYER
- d) PEC OPENING JOB PORTAL TO FACILITATE YOUNG ENGINEERS IN JOB SEARCH



**INTERNSHIP  
ANNOUNCEMENT!**





## REFORMS FOR ENGINEERS



# **MANDATORY EMPLOYMENT OF 70% PAKISTANI ENGINEERS IN FOREIGN COMPANIES**







## **REFORMS FOR ENGINEERS**

**Lahore Office: Inaugurated in May 2018**





## **REFORMS FOR ENGINEERS**

**KPK Office: Will be Inaugurated in October 2018**





**REFORMS FOR ENGINEERS**



**DISCOUNTS ON 900+**  
**NATIONAL & INTERNATIONAL BRANDS**  
**UP TO 30% ON PEC REGISTRATION CARD**





# REFORMS IN **CPD**

(**C**ontinuing **P**rofessional **D**evelopment)



# CPD STRATEGY

## Two-Pronged Strategy :

1. PEC regularly conducts CPD activities for its growing engineering community.
2. CPD activities through PEC accredited Engineering Universities/ institutions/Organizations as PEBs





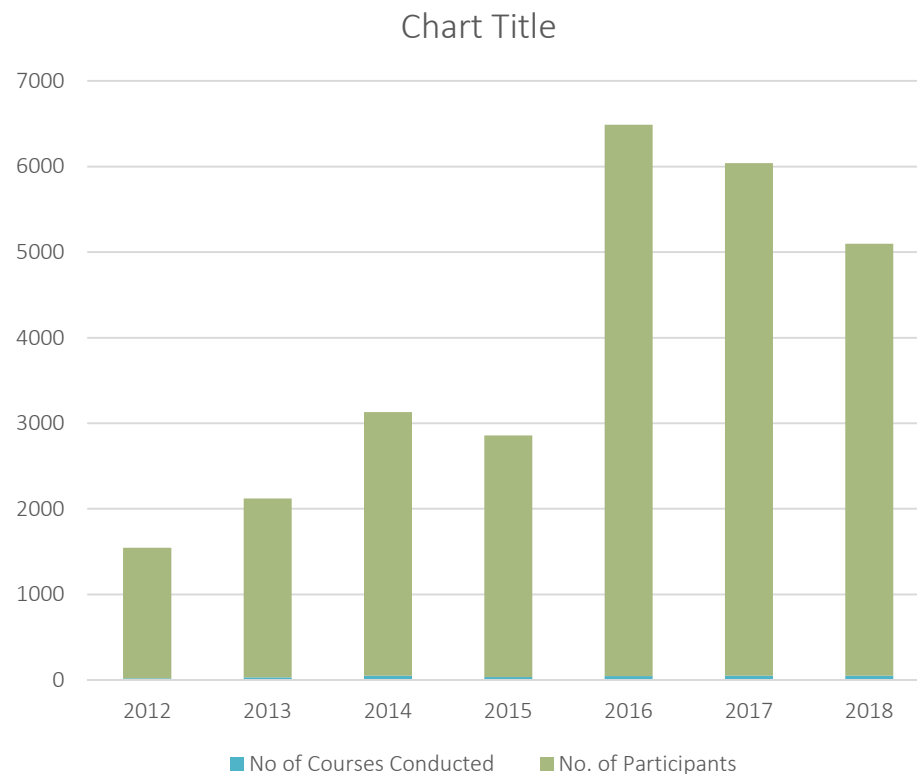
## REGISTRATION OF PEBs

Sr.#	Professional Engineering Bodies (PEBs)	Nos.
1	Engineering Universities/Professional Engineering Institutions	114
2	Professional Engineering Departments/Organizations	15
Total		129



## CPD Courses Conducted by PEC

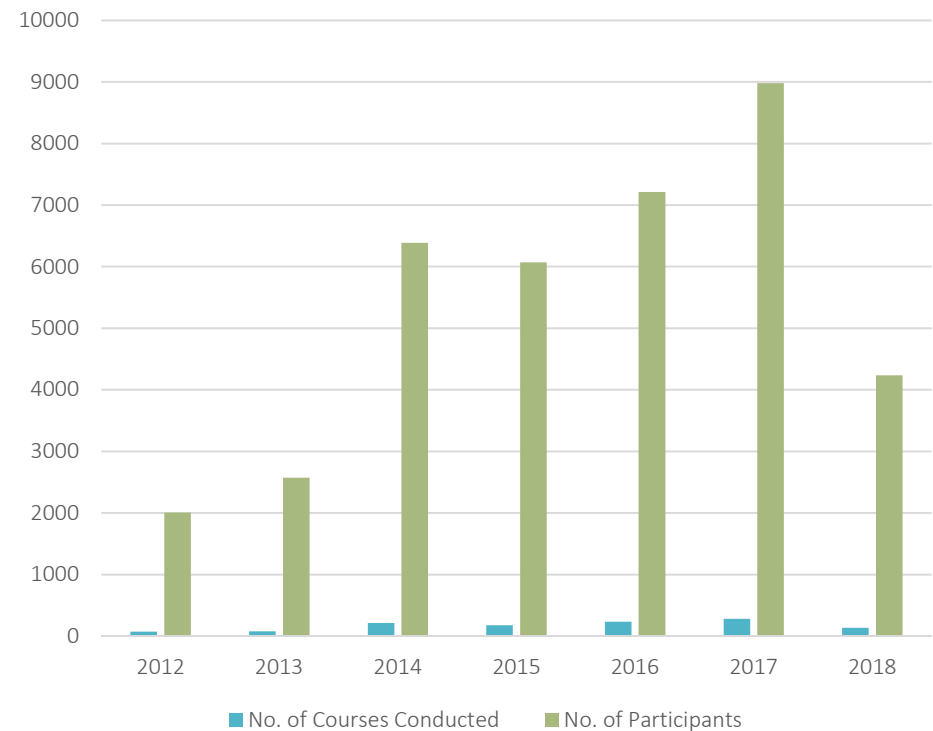
Year	No of Courses Conducted	No. of Participants
2012	19	1527
2013	33	2088
2014	49	3080
2015	35	2823
2016	45	6442
2017	51	5990
2018	49	5050
<b>Total</b>	<b>269</b>	<b>27000</b>





## CPD Courses Conducted by PEBs

Year	No. of Courses Conducted	No. of Participants
2012	73	2005
2013	80	2572
2014	211	6388
2015	175	6070
2016	232	7212
2017	283	8982
2018	134	4234
<b>Total</b>	<b>1188</b>	<b>37463</b>





## REFORMS IN CPD

Launched

# WEBINAR AND VIDEO-LINK BASED CPD COURSES

to enhance the coverage over the entire country.





## REFORMS IN CPD

Introducing

# MARKET-BASED COURSES ENHANCING MANAGEMENT SKILL OF THE ENGINEERS

(presentation skills, time management, project management, leadership etc.)







## REFORMS IN CPD

# TRAINED MASTER TRAINERS FOR OUTCOME-BASED EDUCATION (OBE) AND OUTCOME-BASED ASSESSMENT (OBA) SYSTEMS

with the help of international experts





# CPD REFORMS

## Reforms in Professional Development of Engineers' Framework

### **Amendments in Pattern and Conduct of Engineering Practice Examination (EPE) for Title of Professional Engineer (PE)**

Amendments in PDE Bye-laws have been approved Federal Cabinet and notified on October 31, 2017

- Exam to be conducted in two parts (Part-I and Part-II) instead of three parts, as in practice
- Candidates not qualifying in any one part will be given chance to appear in the same part in the next three consecutive exams, instead of reappearing
- Part-II will include two sections i.e. Section-A (Breadth) & Section-B (Depth), the paper will be discipline-based with choice of specialized area

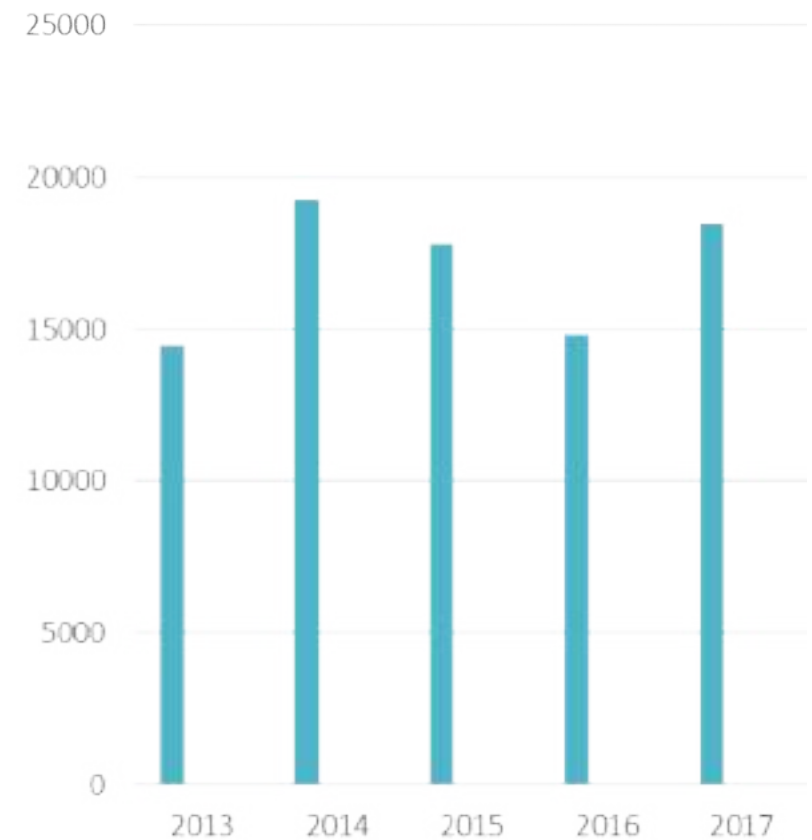


# REFORMS IN **CONSTRUCTION & CONSULTANT COMPANIES**



## LICENSES ISSUED DURING LAST 5 YEARS

Year	Issued Licenses
2013	14501
2014	19243
2015	17824
2016	14823
2017	18497





## Reforms in Registration of Construction Firms

- Biometric verification of Engineers.
- Online registration of Contractors/operators (to be launched by 15<sup>th</sup> Feb, 2018)
- Employment opportunities for 6,720 fresh Engineers
- Incentive schemes for constructors/operators
- Introduction of rented plant and machinery
- Establishment of Facilitation Center





# Amendments in Construction & Operations Bye-Laws, 1987 for Foreign Firms

- Registration of Foreign Firms on annual basis instead of Project specific license
- JV with Pakistani Firms is mandatory for foreign firms
- Foreign firms cannot be registered/participate in Category below C-1 Tenders
- Minimum 70% Employment of Pakistani Engineers
- Prior to 2016, Foreign firms were registered without any consideration of financial soundness. Since 1<sup>st</sup> January, 2016, PEC revised its policy, according to which specific financial soundness is one of the pre-requisites for issue of license.
- Revised definition of Local & Foreign Firms
- Level playing field for foreign companies to build the financial & technical capacity of local construction industry by introducing new construction practices
- One window operation at facilitation center



## REFORMS IN CONSTRUCTION & CONSULTANT COMPANIES



**REVAMPED THE CRITERIA  
OF CONSTRUCTOR & CONSULTANT  
COMPANY REGISTRATION  
TO ENSURE THAT ENGINEERS ARE EMPLOYED  
TO PRODUCE QUALITY WORK FOR PAKISTAN**



## **REFORMS IN CONSTRUCTION & CONSULTANT COMPANIES**

**POWER TRANSFER TO REGIONAL OFFICES FOR  
NEW, RENEWAL AND UPGRADATION OF LICENSES  
FROM C6 TO C2**







## **REFORMS IN CONSTRUCTION & CONSULTANT COMPANIES**

**INCREASED PROFESSIONAL CREDIT POINTS LIMIT FOR COMPANY'S REGISTRATION TO ENSURE QUALITY OF WORKS**







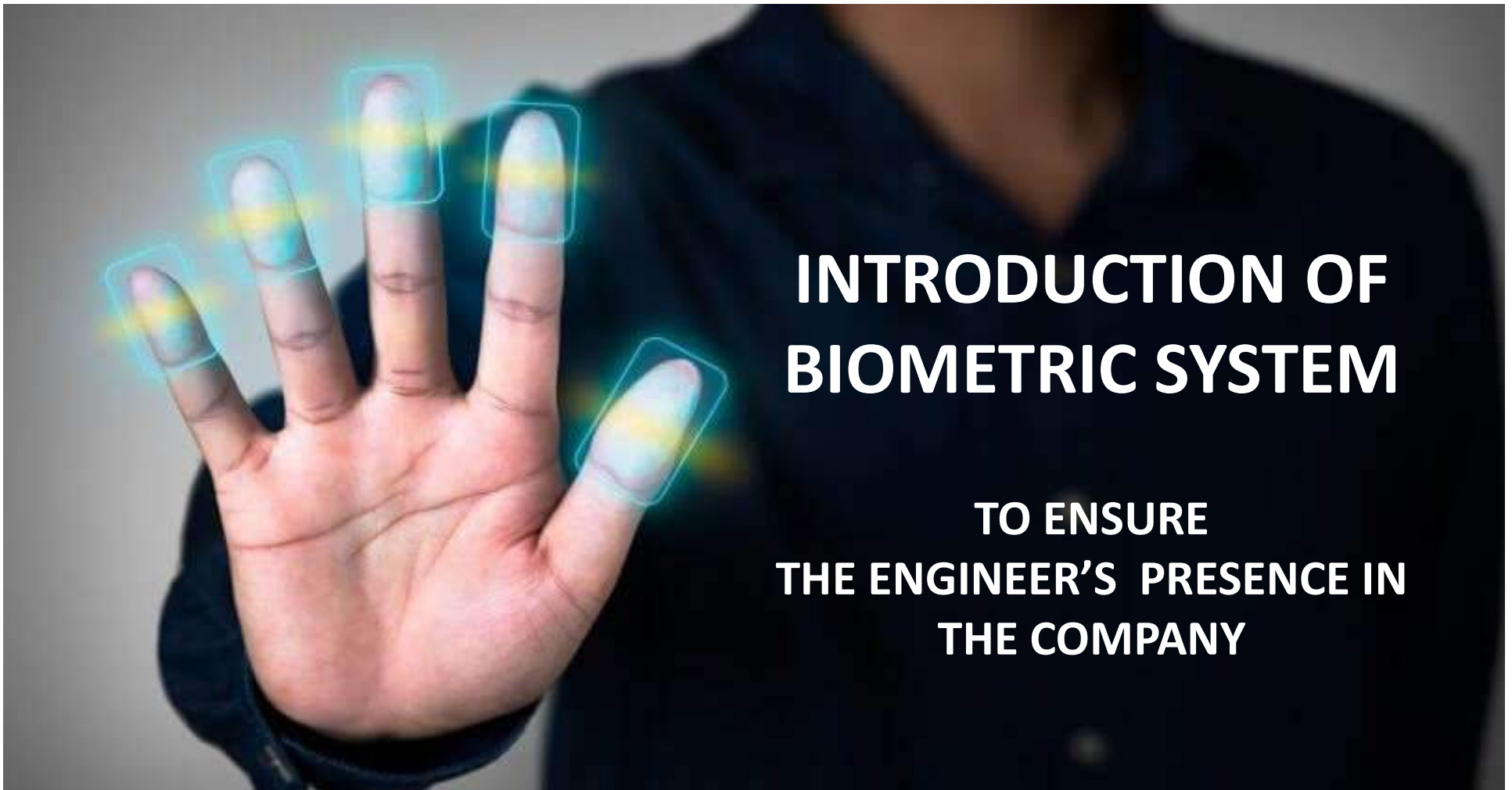
## **REFORMS IN CONSTRUCTION & CONSULTANT COMPANIES**



**INTRODUCTION OF  
ONLINE REGISTRATION &  
RENEWAL SYSTEM FOR  
CONSTRUCTION &  
CONSULTANT COMPANIES  
TO  
ELIMINATE  
MALPRACTICE**



## **REFORMS IN CONSTRUCTION & CONSULTANT COMPANIES**



## **INTRODUCTION OF BIOMETRIC SYSTEM**

**TO ENSURE  
THE ENGINEER'S PRESENCE IN  
THE COMPANY**



## **REFORMS IN CONSTRUCTION & CONSULTANT COMPANIES**

**SIGNED MoU WITH  
CAPEC  
(CHINA ASSOCIATION OF PLANT ENGINEERING CONSULTANTS)**

**TO STRENGTHEN COOPERATION IN THE FIELD OF  
ENGINEERING FOR PAKISTANI CONSTRUCTORS &  
CONSULTANT COMPANIES**





## REFORMS IN CONSTRUCTION & CONSULTANT COMPANIES



MADE MANDATORY FOR FOREIGN COMPANY  
**Compulsory Joint Venture**  
with equivalent Pakistani company  
before bidding the project







## REFORMS IN CONSTRUCTION & CONSULTANT COMPANIES



**STOPPED FOREIGN  
COMPANIES REGISTRATIONS  
IN 5 CATEGORIES  
FROM C-6/O-6 TO C-2/O-2  
GIVING BOOST TO  
PAKISTANI COMPANIES**



## **REFORMS IN CONSTRUCTION & CONSULTANT COMPANIES**

### **INTRODUCED SUPERVISORY LICENSES**

**TO TRAIN YOUNG ENGINEERS WITH CONSTRUCTION & CONSULTANT COMPANIES TO PARTICIPATE IN DEVELOPMENT OF NATIONAL ECONOMY.**

**12,000 ENGINEERS WERE PROVIDED EMPLOYMENT**





# THINK TANK



# THINK TANK

- Acting as a Think Tank of Government of Pakistan
  - Water policy
  - National Energy policy
  - Construction & Infrastructure
  - Education
  - Smart Grids





# THINK TANK

## Think Tank Activities

- Building code of Pakistan
  - Seismic Provisions
  - Energy Provisions
  - Pakistan Electric & Telecom Safety Code
  - Fire Safety Provisions
- Revision of Standard Bidding & Contract Documents



# INAUGURATION CEREMONY BUILDING CODE





# **FACILITATION** FOR ENGINEERS, UNIVERSITIES & COMPANIES



# **NATIONAL AND INTERNATIONAL ACHIEVEMENTS**





**INTERNATIONAL ACHIEVEMENT**

**GLOBALLY RECOGNIZED PROFESSIONAL  
QUALIFICATION IN ENGINEERING**



**INTERNATIONAL RECOGNITION OF  
ENGINEERING EDUCATION  
OF PAKISTAN  
BY WASHINGTON ACCORD  
IN JUNE-2017**



## INTERNATIONAL ACHIEVEMENT



Pakistan Engineering Council  
Authorized to Grant License for,  
**INTERNATIONAL  
PROFESSIONAL  
ENGINEER**  
IN JUNE-2018

International Professional Engineers Agreement (IPEA)



## **INTERNATIONAL ACHIEVEMENT**

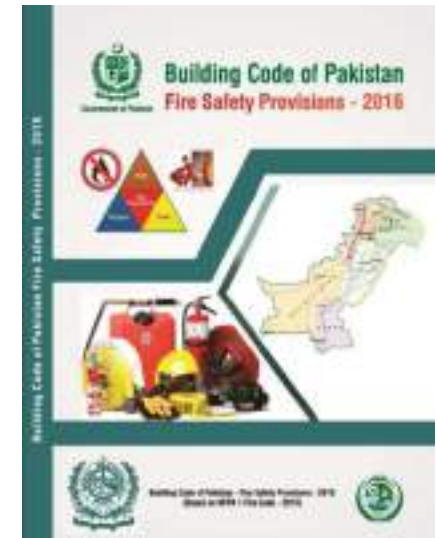
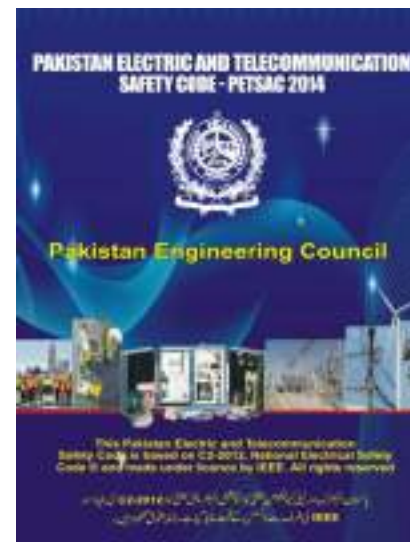
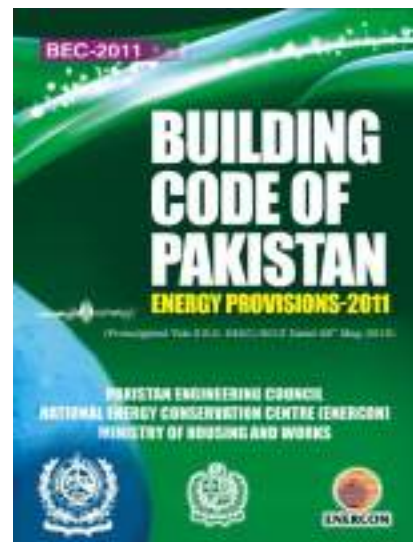
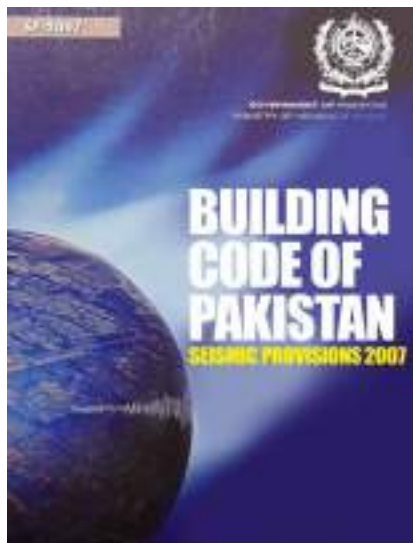
# **Accreditation Recognition by FEDERATION OF ENGINEERING INSTITUTIONS OF ASIA AND THE PACIFIC (FEIAP)**

**Pakistan accepted as Full Member**



## NATIONAL ACHIEVEMENT

# DEVELOPMENT OF BUILDING CODES OF PAKISTAN







# **FUTURE PLANS**



**FUTURE PLANS**

# QUALITY ASSURANCE IN ENGINEERING EDUCATION





## **FUTURE PLANS**

# **REVISION OF CURRICULUM TO MEET THE INDUSTRIAL NEEDS OF 21<sup>st</sup> CENTURY**





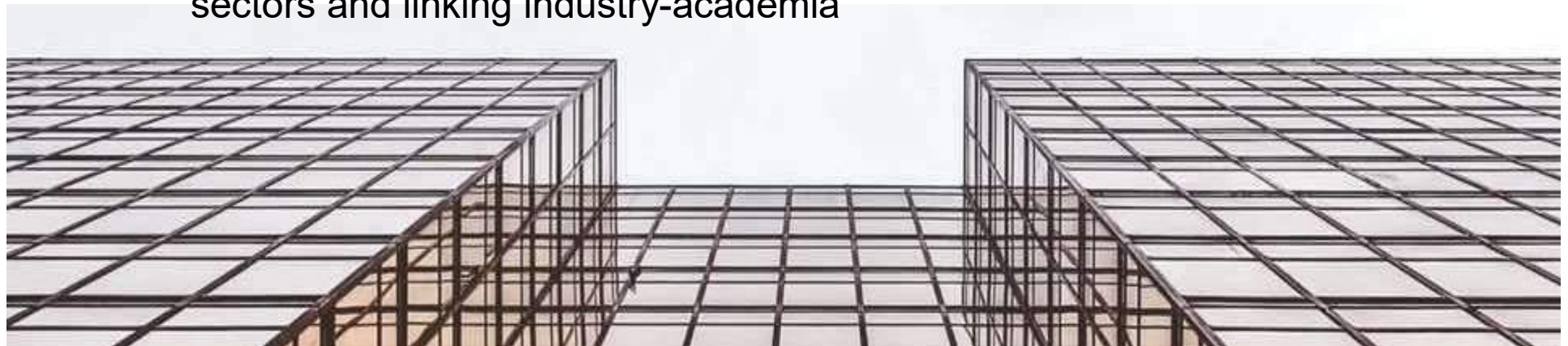


## **FUTURE PLANS**

### **ESTABLISHMENT OF NATIONAL ENGINEERING ACADEMY**

#### **(TRAININGS/CAPACITY BUILDING)**

- For organizing trainings and specialized courses (management & technical) for the professional growth and skill enhancement of the engineers
- Facilitating engineers' activities and welfare programs
- Providing platform for technology parks and incubation centres for various sectors and linking industry-academia







## **FUTURE PLANS**

**CREATION OF**

**TECHNOLOGY CONSTRUCTION BANK**

**BY ENGINEERS FOUNDATION**





## FUTURE PLANS

### ESTABLISHMENT OF SCIENCE & TECHNOLOGY PARK AND INCUBATION CENTRE

to promote Entrepreneurship, Advancement &  
Export of Technology by Engineers





## **FUTURE PLANS**

**“PEC FOUNDATION” TO UNDERTAKE THE COMPREHENSIVE  
PROJECT FEASIBILITY, PLANNING, IMPLEMENTATION & OVERALL  
PROJECT MANAGEMENT FOR DIAMER - BASHA DAM  
BY UTILIZING THE ENGINEERS’ SERVICES FROM ALL PROVINCES**







**FUTURE PLANS**

# **LOW COST HOUSING PROJECT UNDER ENGINEERS FOUNDATION**







Introducing

## **SPECIALIZED AND CERTIFICATION COURSES**

(PMP, OSHA, ISO, CISCO, etc.)

for engineers to increase employment opportunities at national and international





## **FUTURE PLANS**

**TO ENSURE ROLE OF ENGINEERS IN POLICY MAKING,  
PEC PROPOSED**

## **SERVICE STRUCTURE**

**FOR PROSPERITY OF PAKISTAN**





## WAY FORWARD

- Amendments in PEC Act & Bye-Laws
- Service Structure for Engineers
- MoUs between PEC & Ministry of IPC for PMYTS internships scheme through MoST
- Technocrat seat in Senate for Engineers



**THANK YOU**

**PAKISTAN ENGINEERING COUNCIL**