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# Professionalisation A Consulting Engineer Perspective

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# Outline



1. Definitions
  - Professional
  - Professionalization
  - Consulting Engineer
2. Legal Framework for Professionalization of the Engineering Industry
3. Engineering Profession Act No.46 , 2000
4. Role of Voluntary Associations
5. Parties involved in Engineering Projects
6. Trending issues
  - Identification of engineering work
  - Professional Registration
  - Register of Professional Service Providers (RoPSP)
  - Local Government: Municipal Staff Regulations
  - Office of the Engineer General
7. Conclusion

# Definition of a Professional 1



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- A professional is a member of a profession or any person who works in a specified professional activity.
- The term also describes the standards of education and training that prepare members of the profession with the particular knowledge and skills necessary to perform their specific role within that profession.
- In addition, most professionals are subject to strict codes of conduct, enshrining rigorous ethical and moral obligations.



**WIKIPEDIA**  
The Free Encyclopedia

# Definition of a Professional 2

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Cambridge Dictionary +Plus Shop

Meaning of **professional** in English

f x

## professional

adjective

UK /preˈfeʃ.ən.əl/ US /preˈfeʃ.ən.əl/

Add to word list

**B2**

relating to work that needs special training or education:

- *Chris, you're a nurse, so can I ask your professional **opinion** on bandaging ankles?*
- *Both doctors have been charged with professional **misconduct** (= bad or unacceptable behaviour in their work).*

Compare

amateur adjective

+

**B1**

approving

having the qualities that you connect with trained and skilled people, such as effectiveness, skill, organization, and seriousness of manner:

- *It would look more professional if the letter was typed.*
- *She always looks very professional in her smart suits.*
- *You've done a very professional job stripping that floor!*

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**B1**

used to describe someone who does a job that people usually do as a hobby:

- *She's a professional dancer/photographer.*
- *He's a runner who's just **turned** professional.*

+



Cambridge  
Dictionary



# Definition of Professionalization



- The **action or process** of giving an occupation, activity, or group professional qualities, typically by increasing training or raising required qualifications.
- Is a **social process** by which any trade or occupation transforms itself into a true "profession of the highest integrity and competence."

# Definition of A Consulting Engineer



- A consulting engineer according to FIDIC (International Federation of Consulting Engineers) is a **professionally qualified engineer** who operates in private practice.
- This engineer maintains an engineering office, either independently or in association with other engineers, and employs staff to provide consultancy services.
- Consulting engineers play a crucial role in various project delivery systems, including design-build and design-bid-build, offering expertise in design, supervision, and management of construction projects.



# Legal Framework for Professionalization of the Engineering Industry



1. Engineering Profession Act No.46 ,2000
  - Registration of Professionals
  - Education in Engineering
  - Identification of engineering work
  - Code of conduct
2. Council for Built Environment Act No.43 ,2000
3. Construction Industry Development Board Act No.38 ,2000
  - Register of Professional Service Providers (RoPSP)
4. Municipal Systems Act No.32 of 2000
  - Local Government: Municipal Staff Regulations
5. National Framework Towards the Professionalization of the Public Sector – Government Gazette No.49105
6. Other laws and standards
  - South African National Standards
  - Other laws - NEMA , Water Act , Transport

# Engineering Profession Act No.46 , 2000



The Engineering Profession Act 46 of 2000 intends:

- to provide for the establishment of a juristic person to be known as the Engineering Council of South Africa;
- to provide for the registration of professionals, candidates and specified categories in the engineering profession;
- to provide for the regulation of the relationship between the Engineering Council of South Africa and the Council for the Built Environment;



# Engineering Profession Act No.46 , 2000



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## Powers of council with regard to registration

**11.** The council may, subject to this Act—

- (a) consider and decide on any application for registration;
- (b) prescribe the period of validity of the registration of a registered person;
- (c) keep a register of registered persons and decide on—
  - (i) the form of certificates and the register to be kept;
  - (ii) the maintenance of the register or issuing of certificates; and
  - (iii) the reviewing of the register and the manner in which alterations thereto may be effected.

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# Engineering Profession Act No.46 , 2000



## Powers of council with regard to education in engineering

13. The council may—

- (a) subject to sections 5 and 7 of the Higher Education Act, 1997 (Act No. 101 of 1997), conduct accreditation visits to any educational institution which has a department, school or faculty of engineering, but must conduct at least one such visit during its term of office. If the council does not conduct an accreditation visit within that term of office, it must notify the Minister accordingly and provide him or her with reasons for the failure to do so;

# Engineering Profession Act No.46 , 2000



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## Categories of registration

18. (1) The categories in which a person may register in the engineering profession are— 40

(a) professional, which is divided into—

- (i) Professional Engineer;
- (ii) Professional Engineering Technologist;
- (iii) Professional Certificated Engineer; or
- (iv) Professional Engineering Technician; or

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(b) candidate, which is divided into—

- (i) Candidate Engineer;
- (ii) Candidate Engineering Technologist;
- (iii) Candidate Certificated Engineer; or
- (iv) Candidate Engineering Technician; or

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~~(c) specified categories prescribed by the council.~~

(2) A person may not practise in any of the categories contemplated in subsection (1), unless he or she is registered in that category.

(3) A person may practise in a consulting capacity in the category in which he or she is registered.

(4) A person who is registered in the category of candidate must perform work in the engineering profession only under the supervision and control of a professional of a category as prescribed.

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# Engineering Profession Act No.46 , 2000



**19. (1) (a)** A person must apply, in the prescribed application form, to the council for registration in a category referred to in section 18(1).

**(b)** The application form referred to in paragraph (a) must be accompanied by the prescribed fee.

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**(2)** The council must register the applicant in the relevant category and issue a registration certificate to the successful applicant in the prescribed form if, after consideration of an application, the council is satisfied that the applicant—

**(a)** in the case of a person applying for registration as a professional—

- (i)** has demonstrated his or her competence as measured against standards determined by the council for the relevant category of registration; and
- (ii)** has passed any additional examinations that may be determined by the council;

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**(b)** in the case of a person applying for registration as a candidate or a candidate in a specified category, has satisfied the relevant educational outcomes determined by the council for this purpose, by—

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- (i)** having passed accredited or recognised examinations at any educational institution offering educational programmes in engineering; and
- (ii)** having passed any other examination that may be determined by the council; or
- (iii)** presenting evidence of prior learning in engineering.

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# Engineering Profession Act No.46 , 2000



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## Professional conduct

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**27.** (1) The council must, in consultation with the CBE, voluntary associations and registered persons, draw up a code of conduct for registered persons and may draw up a code of practice.

(2) (a) The council is responsible for administering the code of conduct and the code of practice and must ensure that the codes are available to all members of the public at all reasonable times. 10

(b) The council must provide the CBE with copies of both codes.

(3) All registered persons must comply with the code of conduct and the code of practice and failure to do so constitutes improper conduct.

# Role of Voluntary Associations



1. Education and Professional Development
2. Advocacy and Promotion of Member interest
3. Networking
4. Ethical Standards and Self Regulation
5. Knowledge sharing

# Parties involved in Engineering Projects



- 1. Employer** - The party who owns or has an interest in the construction project. They are responsible for financing the project and ensuring it meets their requirements.
- 2. Engineer/ Consultant:** Professionals who design the project and may also oversee the construction to ensure it adheres to the plans and specifications.
- 3. Contractor:** The entity responsible for executing the construction work. They manage the day-to-day operations and ensure the project is completed on time and within budget.
- 4. Subcontractors:** Individuals or companies hired by the contractor to perform specific portions of the project, such as electrical work, plumbing, or painting.
- 5. Suppliers:** Companies that provide the materials and equipment needed for the construction project.
- 6. Consultants:** Specialists who may be brought in for specific expertise, such as environmental assessments or structural analysis.

Looking at the responsibilities above and the provisions of the EPA all the above practitioners should be professionally registered.

The determining factor is what a Person does and not who their Employers is.

All Engineering Professionals should be registered whether in Public or Private Sector /Consulting



# Trending issues -Identification of engineering work



## An Update on Identification of Engineering Work

### What is ECSA's view on competition issues surrounding identification of engineering work?

Engineering work involves actions that; exploit the forces of nature; try to control the forces of nature; exploit natural resources and control complex processes. Doing this work without proper education, training and experience creates risks to health, life, property and the environment. It is hardly debatable that persons who have not been certified competent should be prevented from undertaking work having such risks. ECSA does not see identification of work as a competition issue between registered and unregistered persons; rather the vital issue is the effectiveness of work, the mitigation of risk and the accountability of the persons doing the work.

### What is the process for identifying engineering work?

Two acts, the Engineering Profession Act (EPA) and the Council for the Built Environment (CBE) together define a process that is not without difficulty. ECSA must first define identified engineering work for all categories of registration and submit it to the CBE. Secondly, once the CBE has received the submissions from all six built environment councils, it must formulate its identification of work policy.

The CBE is the required to consult with the councils and with the Competition Commission. This step is not intended to seek permission from the Competition Commission; rather just consultation -- presumably to ensure that the CBE's mind is applied to competition issues?

The final step is for the CBE to identify engineering work: this is the actual decision on engineering work that is identified. Finally, the Minister of Public Works must publish identified engineering work as a Regulation.

### Why is Identification of Engineering Work Necessary?

The EPA prohibits persons who are not registered from performing identified engineering work. The reason for this measure is to protect the public by preventing persons who do not have the necessary competence and are not accountable from doing work that has safety, health and environmental risks. It is important to note that this measure is designed to deal with unregistered people in a judicial process.

This public protection measure is distinct from those that apply to registered persons. They must follow the Code of Conduct and, in particular, not undertake work for which they are not competent by virtue of their education training and experience. A mechanism is available to the public to lodge complaints about the conduct of anyone registered with ECSA. All complaints are investigated and if there is a case to answer a tribunal is held. A registered person who is found guilty is then subject to penalties which include being struck off the register.

## Why is Identification of Engineering Work Necessary?

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Why is it taking so long to conclude - 2000 to 2024 ?

What is currently being done about unregistered persons undertaking engineering work ?

Will it ever be defined noting the cross-cutting factors with other professions like project management ?



# Trending issues – Professional Registration



- Is the 3 year timeline possible ? **In most cases NO !!**
  - Companies train according to their needs
  - Managers have preferences
  - Cost - where companies do not pay
  - Lack of confidence though there is experience

It is two way

**Employer has to provide the environment and Employees have to take the opportunities**

# Trending issues :Register of Professional Service Providers (RoPSP)



- Grades and Professional Service Disciplines
- Cidb Registration Criteria
  - Legal Entity
  - Legislative Requirements
  - Professional Registration of Shareholders
  - Professional Registration of Responsible Professionals
  - B-BBEE
  - Financial Capability
  - Technical Capability
  - Track Record
  - Professional Indemnity Insurance

# Trending issues: Local Government: Municipal Staff Regulations



ENGINEERING PROFESSIONALS COMPETENCY FRAMEWORK– ENGINEER

LEVELS	1	2	3	4	5
<b>TYPICAL DESIGNATIONS</b> (These are a guideline and therefore not limited to)	<ul style="list-style-type: none"> <li>Graduate Trainee: Engineer</li> </ul>	<ul style="list-style-type: none"> <li>Civil Engineer</li> <li>Chemical Engineer</li> <li>Electrical Engineer</li> <li>Mechanical Engineer</li> <li>Other Engineer</li> </ul>	<ul style="list-style-type: none"> <li>Senior Engineer: Civil</li> <li>Senior Engineer: Chemical</li> <li>Senior Engineer: Electrical</li> <li>Senior Engineer: Mechanical</li> <li>Other Engineer</li> </ul>	<ul style="list-style-type: none"> <li>Principal Engineer: Civil</li> <li>Principal Engineer: Chemical</li> <li>Principal Engineer: Electrical</li> <li>Electrical Mechanical Engineer</li> <li>Typically a Section Head</li> </ul>	<ul style="list-style-type: none"> <li>Chief Engineer (Any engineering discipline)</li> <li>Typically, a Departmental Head</li> </ul>
<b>KNOWLEDGE AND SCOPE OF WORK</b>	<ul style="list-style-type: none"> <li>Participates in performing complex engineering tasks under supervision / mentorship of an engineering practitioner; and</li> <li>May be part of a structured training program.</li> </ul>	<ul style="list-style-type: none"> <li>Contributes to various professional engineering functions. Some degree of independence but seeks strategic guidance as required; and</li> <li>Could assists superiors in providing specialist advice to clients.</li> </ul>	<ul style="list-style-type: none"> <li>Performs activities that are complex in nature. Applies an integrated body of knowledge;</li> <li>Works independently and seeks advice as and when required; and</li> <li>May supervise junior engineering personnel.</li> </ul>	<ul style="list-style-type: none"> <li>Manages professional teams and complex engineering functions;</li> <li>Works independently; and</li> <li>May supervise and mentor junior engineering personnel.</li> </ul>	<ul style="list-style-type: none"> <li>Leads and manages complex engineering processes and / or departments;</li> <li>Works independently; and</li> <li>May mentor junior engineering personnel.</li> </ul>
<b>EXPERIENCE</b>	<ul style="list-style-type: none"> <li>No experience required at entry level.</li> </ul>	<ul style="list-style-type: none"> <li>3 - 5 years' relevant experience.</li> </ul>	<ul style="list-style-type: none"> <li>5 - 8 years of relevant experience post registration.</li> </ul>	<ul style="list-style-type: none"> <li>8 years of more relevant experience post registration.</li> </ul>	<ul style="list-style-type: none"> <li>10 years or more relevant experience post registration.</li> </ul>
<b>QUALIFICATION</b>	<ul style="list-style-type: none"> <li>A relevant BEng or BSc (Eng) engineering degree.</li> </ul>	<ul style="list-style-type: none"> <li>A relevant BEng or BSc (Eng) engineering degree and eligibility for registration as Pr Eng.</li> </ul>	<ul style="list-style-type: none"> <li>A relevant BEng or BSc (Eng) engineering degree and eligibility for registration as Pr Eng.</li> </ul>	<ul style="list-style-type: none"> <li>A relevant BEng or BSc (Eng) engineering degree and eligibility for registration as Pr Eng;</li> </ul>	<ul style="list-style-type: none"> <li>A relevant BEng or BSc (Eng) engineering degree and eligibility for registration as Pr Eng;</li> </ul>

1. Implementation of the guidelines.
2. What happens with the ones in positions and do not qualify ?
3. What happens to an Employer who employs outside these guidelines ?
4. Adherence to the EAP by making professional registration mandatory and not only end at eligibility.

# Trending issues



## Office of the Engineer General

Mdu Nzimande and Nhlanhla Maphalala

“South Africa has established other “generals” who oversee, implement and enforce regulations and practices in their respective disciplines, and these include :

- surveyor-general, statistician-general, auditor-general, valuer-general

The common thread among the offices of the generals is that they protect the dignity and practices of the discipline, preserve and enforce rules, and investigate and issue technical reports when transgressions are observed. The powers and functions bestowed upon the offices of the generals ensure that practitioners operate within the set guidelines and remain accountable to an overarching independent body.

The Office of Engineer-General is the missing cornerstone of infrastructure development. There is a need for the government to establish the Office of Engineer-General. We submit that the engineer-general is to be envisioned as the single office of accountability and the voice of engineering wisdom for all engineering matters concerning private, public, social and economic infrastructure.”

[SA Fire: Country urgently needs an Office of the Engineer-General \(iol.co.za\)](https://www.iol.co.za) #EngineerGeneral



# Conclusion



Professional registration is indeed crucial for **ALL** those practicing engineering work.



Obtain your registration now ! This is a certification that validates your qualifications, skills, and adherence to professional standards.



This process ensures that engineers are competent and capable of performing their duties safely and effectively.

# Thank You

