



SAINT
Professional
Body for NDT

20 SEPTEMBER 2018

**Introductory meeting with
Jacob Malatse
DOL**

Mr



HISTORY OF SAINT

- Meeting to discuss a Society held at SEIFSA end 1967
- Established 24 September 1968 by SABS
- First priority was to establish training courses in NDT theory at the Pretoria Technikon
- Unsuccessful attempt to register NDT with ECSA
- Organised a very successful World NDT conference in 2012
- Registered a SAQA accredited Professional Body to satisfy industries call for professional NDT



STRUCTURE

- SAINT is the parent body
- The Professional Body forms part of SAINT, however has its own constitution to satisfy SAQA requirements.



SAQA ACCREDITATION

- The SAINT Professional Body for NDT was registered by SAQA on 30th July 2015
- Acronym SPBNDT
- SAQA ID's
 - 965 SPBNDT
 - 629 NDT Operator
 - 630 NDT Technician



SPBNDT

Non-Statutory

VISION

- Regulate NDT through Professional status suitable to meet the needs of the National Skills Development Strategy (NSPS) and End User requirements by assuring compliance with requirements.
 - NSPS Vision - A skilled and capable workforce that shares in, and contributes to, the benefits and opportunities of economic expansion and an inclusive growth path

MISSION

- To confer a Title and Status of Professional Designation in recognition of a person's expertise and/or right to practice in the occupational field of Non-Destructive Testing in South Africa.

IT IS NOT

A QUALIFICATION OR A CERTIFICATION BODY



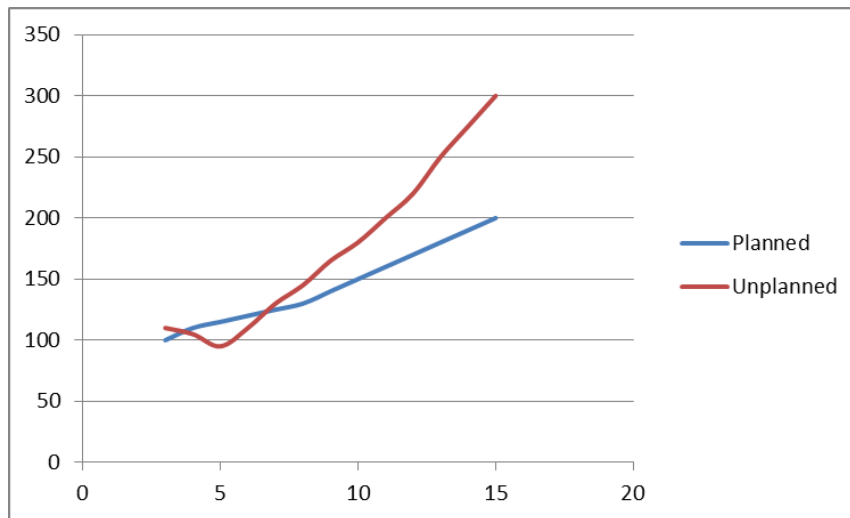
STIMULUS TO PROFESSIONAL STATUS

- The SAINT Professional Body for NDT was instituted as a result from the request of the individual members of South African Institute for Non-destructive Testing (SAINT)



EXAMPLE OF THE NEED TO IMPROVE NDT

○ ESKOM Presentation



WHO USES NDT

- Most industries including but not limited to:
 - Power generation
 - Oil & Gas
 - Petrochemical
 - Railway
 - Transport
 - Marine
 - Civil
 - Aerospace



MARKET VALUE

- World market was USD 7 Billion in 2016
- Expected to grow to USD 12 Billion by 2023
- SA NDT Service market estimated to be R1.6 Billion
 - The demand for NDT is increasing all over the world due to the strong government regulations pertaining to safety and product quality and continuous advancements in electronics, and automation and robots.



MARKET VALUE

- Sales of imported hardware are estimated to be R300M /year
- Sales of imported consumables are estimated to be R50M /year
- Sales of exported locally manufactured hardware is estimated to be R5M/year
- Sales of short course training is estimated at R25M/year

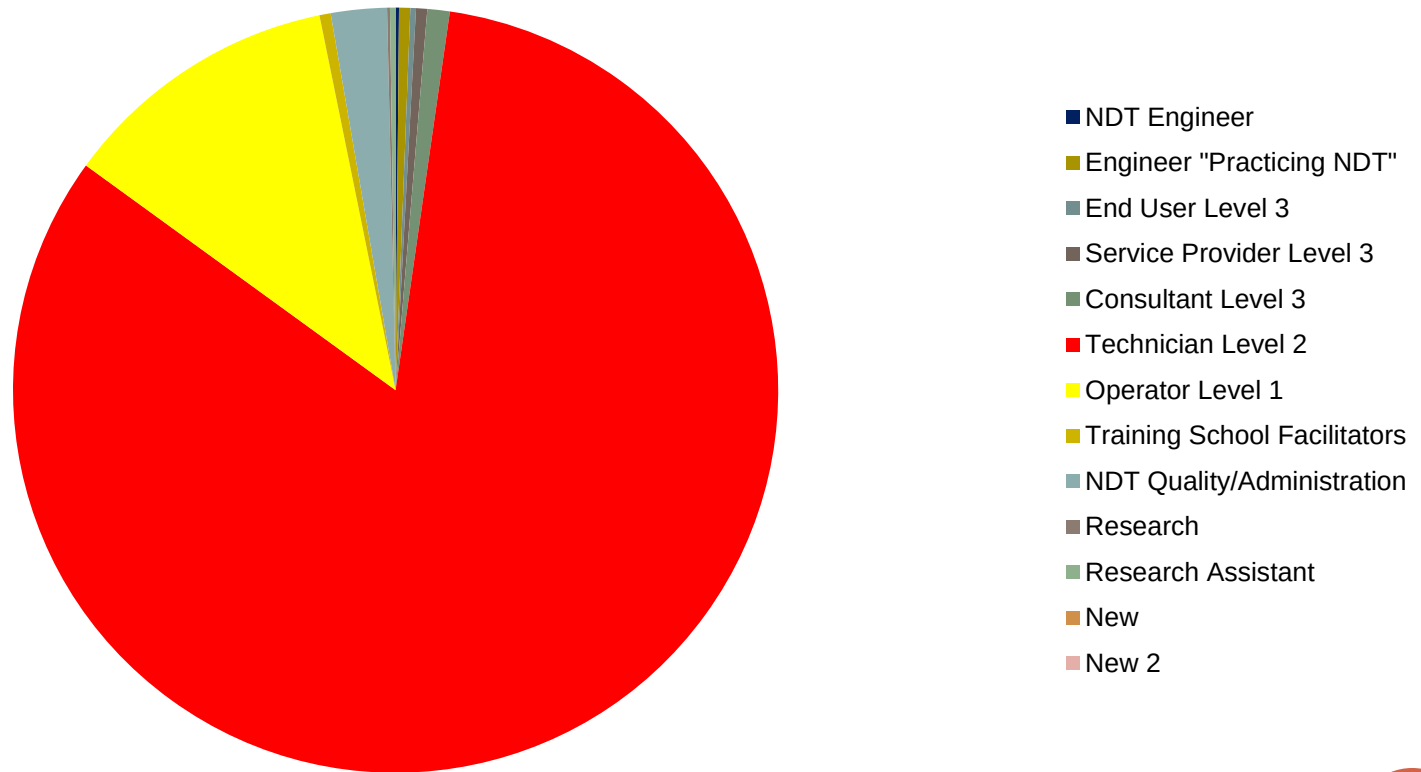


REQUIRED SKILLS

	Today	Attrition %		Total Short Term	Market growth %	Market growth No's	Total Long Term
NDT Engineer	6	0%	0	6	300%	18	24
Engineer "Practicing NDT"	20	0%	0	20	10%	2	22
End User Level 3	10	0%	0	10	100%	10	20
Service Provider Level 3	20	10%	2	18	10%	2	20
Consultant Level 3	40	0%	0	40	10%	4	44
Technician Level 2	3500	10%	350	3150	0%	0	3150
Operator Level 1	500	10%	50	450	0%	0	450
Training School Facilitators	20	0%	0	20	10%	2	22
NDT Quality/Administration	100	10%	10	90	0%	0	90
Research	5	0%	0	5	50%	3	8
Research Assistant	10	10%	1	9	50%	5	14
New	0	10%	0	0	10%	0	0
New 2	0	10%	0	0	10%	0	0



SKILLS OVERVIEW



NDT RESOURCES IN SA

- Services providers = ± 250
- In house NDT = ± 450
- Research organisations
 - CSIR
 - UCT
 - UP
 - VUT
 - Independent companies



QUALIFICATION & CERTIFICATION

NDT Qualification:

Is the demonstration of physical attributes, knowledge, skill, training and experience required to properly perform NDT tasks. An individual must complete an independent qualification examination once the training has been provided.

NDT Certification:

Is a procedure used by the certification body or employer to confirm that the qualification requirements for a method, level and sector have been fulfilled, leading to the issuing of a certificate.



TRAINING FOR QUALIFICATION

- Short courses by traditional training institutes
 - ANDTc Centurion
 - NASA Durban
 - SAIW 3 schools, Jhb, Durban, Cape Town
 - SANDE Johannesburg

- Diploma by Universities of Technology
 - VUT

- Academic by overseas Universities
 - Northampton university, England



QUALIFICATION FOR SHORT COURSES

Qualification includes theoretical and practical training on the fundamentals of the method, practical on-the-job training by the employer and examination by an independent body.

For Levels 1 & 2, the candidate shall satisfactorily complete practical training in the work place under the direct supervision of a Level 2 or 3.

For all Levels, the candidate shall complete a general method and a sector/code/company specific examination. In addition they shall be assessed by practical examination.



CENTRAL CERTIFICATION SYSTEMS

ISO 9712

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SAQCC OR PCN

- These are systems in which the qualification examinations are administered by an independent third-party certification body based on a central certification standard which is sector based. To be eligible to sit for these examinations, prospective candidates must provide acceptable documentation of their training and experience to the certification body in the required sector. Upon successful completion of the third-party examinations, the certification body will issue a certificate attesting to the fact that the named certificate holder has met the requirements and passed the examinations described in the third-party certification system.
- The employer can then choose to accept the third-party certificate(s) as proof of qualification. As with employer-based systems, the employer has the ultimate responsibility to certify (authorize) the certificate holder to perform NDT tasks.



EMPLOYER BASED CERTIFICATION

SNT-TC-1A OR CP189

- These are systems in which the employers is responsible for the administration of the training and the qualification examinations of their own employees, as well as the documentation of the required training, examinations and experience in accordance with an employer-based standard or recommended practice. Most employer-based systems do allow the employer to accept training and examination services provided by outside agencies provided it is properly documented and the employer has determined that the content of those services meet their own company requirements as described in the employer's Written Practice.



EMPLOYER BASED CERTIFICATION

CONT.,

- Upon proof of qualification, the employer may issue a certificate, which can be a formal certificate or in letter format, and can authorize their personnel to perform NDT tasks. In all employer-based systems, the employer is responsible for authorizing their personnel to perform such work. Because employer-based certification is usually tailored to an employer's specific needs, the resulting certifications expire when an employee leaves the company that issued the certification.



LEVELS OF CERTIFICATION

Level 1 Operator

Reference ISO 9712

An individual certified to Level 1 has demonstrated competence to carry out NDT according to written instructions and under the supervision of Level 2 or Level 3 personnel. Within the scope of the competence defined on the certificate, Level 1 personnel may be authorized by the employer to perform the following in accordance with NDT instructions:

- set up NDT equipment
- perform the tests
- record and classify the results of the tests according to written criteria
- report the results

Level 1 certified personnel shall neither be responsible for the choice of test method or technique to be used, nor for the interpretation of test results.



LEVELS OF CERTIFICATION

Level 2 Technician

Reference ISO 9712

An individual certified to Level 2 has demonstrated competence to perform NDT according to NDT procedures. Within the scope of the competence defined on the certificate, Level 2 personnel may be authorized by the employer to:

- select the NDT technique for the testing method to be used
- define the limitations of application of the testing method
- translate NDT codes, standards, specifications, and procedures into NDT instructions adapted to the actual working conditions
- perform and supervise tests
- interpret and evaluate results according to applicable standards, codes, specifications or procedures
- carry out and supervise all tasks at or below Level 2 & report all results of the test



LEVELS OF CERTIFICATION

Level 3 Technologist

Reference ISO 9712

An individual certified to Level 3 has demonstrated competence to perform and direct NDT operations for which he is certified. Level 3 personnel have demonstrated:

- the competence to evaluate and interpret results in terms of existing standards, codes, and specifications
- sufficient practical knowledge of applicable materials, fabrication, process, and product technology to select NDT methods, establish NDT techniques, and assist in establishing acceptance criteria where none are otherwise available
- a general familiarity with other NDT methods



LEVELS OF CERTIFICATION

Level 3 Technologist (cont'd)

Within the scope of the competence defined on the certificate, Level 3 personnel may be authorized to:

- assume full responsibility for a test facility or examination centre and staff
- establish, review for editorial and technical correctness, and validate NDT instructions and procedures
- interpret standards, codes, specifications, and procedures
- designate the particular test methods, procedures, and NDT instructions to be used
- carry out and supervise all tasks at all levels
- provide guidance for NDT personnel at all levels



TRAINING FOR DIPLOMA

- 2 year academic on campus
- 1 year experiential training in industry
 - This is proving to be a major challenge



CURRENT SPBNDT ACTIVITIES

- Representation on SAQCC NDT committee
- Representation on VUT advisory committee
- Representation on SABS TC-135 committee
- Driving the development of the NDT Technician qualification with Merseta at the QCTO
- Improving Radiation Safety in SA
 - Designated to act on behalf of DOH, Radiation Control to ascertain competence of Industrial Radiographers
- Attempting to find a solution to the VUT “work integrated learning” dilemma.



OPPORTUNITIES

Create a forum for the Regulators, Inspection Authorities, End Users, Service Providers and Training Institutes to continuously improve the quality of NDT services in SA through closer collaboration

(Our position to support world harmonisation of NDT is paramount, however certain industry needs may dictate otherwise)

Motivate the inclusion of SAQA accredited NDT Designations into regulations such as Pressure Equipment Regulations (SANS 347), Lifting Equipment Regulations etc. Assure international acceptance of the SA methodology of Certifying/Designating NDT personnel

Expanding SPBNDDT activities into Africa



FUNDING

- SPBNDT is attempting to self fund itself, however is still partially funded by SAINT
- Intends to fund itself through the following;
 - Affiliate membership
 - Designation registrations
 - Registration of Industrial Radiographers for DOH approval
 - MERSETA to pilot the NDTT occupation programme
 - Organisations supporting the National Skills Development Plan.
 - Higher Education & Training
 - Example: Proposal to the National Skills Fund for Graduate and Student Placement Programme in January 2016 unsuccessful. (50 VUT students for experiential training)



STATUS OF THE NQF NDTT OCCUPATION

- MERSETA is the development partner and SPBNDDT is driving the process
- NDT now has its own OFO number with specialisations
 - 311703 Non-Destructive Testing Technician (NDTT)
- Curriculum at QCTO for quality assessment





Thank you

We anticipate a strong working relationship with DOL

