

# INTSIMBI – The National Tooling Initiative of South Africa



**OVERVIEW OF THE NTI TO PARLIAMENTARY  
PORTFOLIO COMMITTEE – AUG 2015**



**nti**



# Two main focus areas of the NTI

1. Re-development and alignment of SA's manufacturing skills delivery capacity with that of leading re-industrialising manufacturing economies globally,
2. Providing focused Enterprise Development support to SMME's in the TDM sector through benchmarking and intervention support to stimulate competitiveness improvement, localisation of tooling and job placement of learners exiting the new skills delivery system



# Deloitte Global Manufacturing Competitiveness Research 2013-2015 Highlights

- More than 10 million manufacturing jobs unfilled
- Top 10 manufacturing economies core focus on talent-driven innovation
- SA ranks 24<sup>th</sup> on global manufacturing competitiveness
- SA position expected to deteriorate

# GLOBAL COMPETITIVENESS DRIVERS



## Government forces



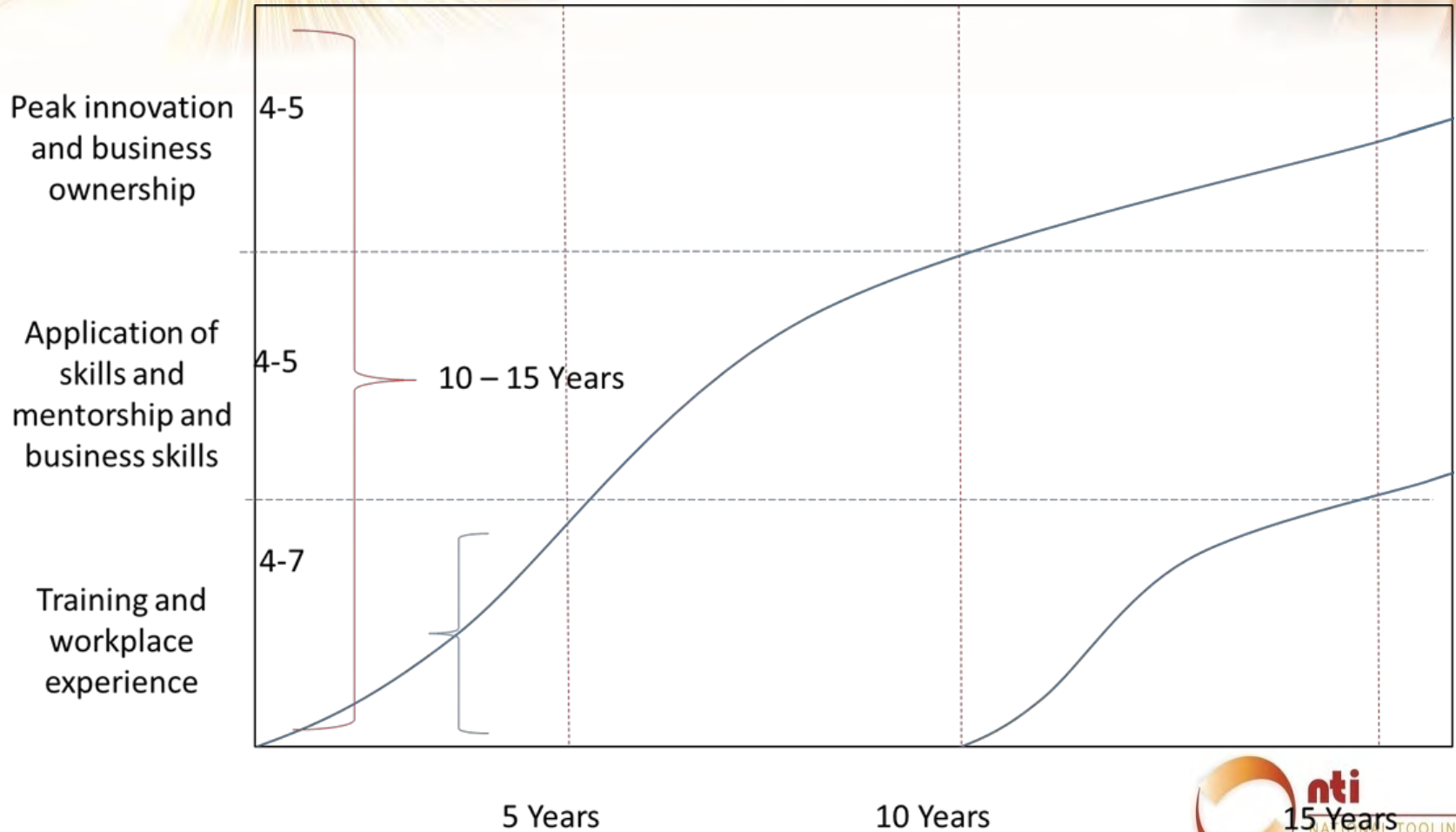
## Market forces

# Contributors to decrease in manufacturing GDP

Decline 22% - 11% over last 10 years

- Increase in skills gap
- Lack of innovation capacity
- Technology stagnation
- Recapitalisation
- Lack of comparative market demand (production volumes)

# Development cycle – manufacturing skills



# Development cycle – manufacturing skills

South Africa's advanced manufacturing and TDM Sector Skills pipeline suffered two to three cycles with very little input and output from the existing educational system contributing to the SKILLS GAP.



# Manufacturing and TDM Sector Growth and Transformation Barriers

- Low profitability and low ROI
- < 10% (Auto and FMCG Production)
- 3-6 % TDM Sector
- Cost reduction pressure
- Higher labour and raw material costs
- >30% investment in R&D and technology
- Low BBBEE investment and new business creation





# The TDM Sector Solution - Pilot

- TDM a critical sub-sector that enables manufacturing
- Radical changes in technology and customer (industry/learners) needs call for new innovative skills delivery systems
- A solution in this sector demonstrates the approach required for a solution in the broader manufacturing sector.

# TDM Sector Talent-driven Innovation System

Talent  
Identification/sourcing  
system

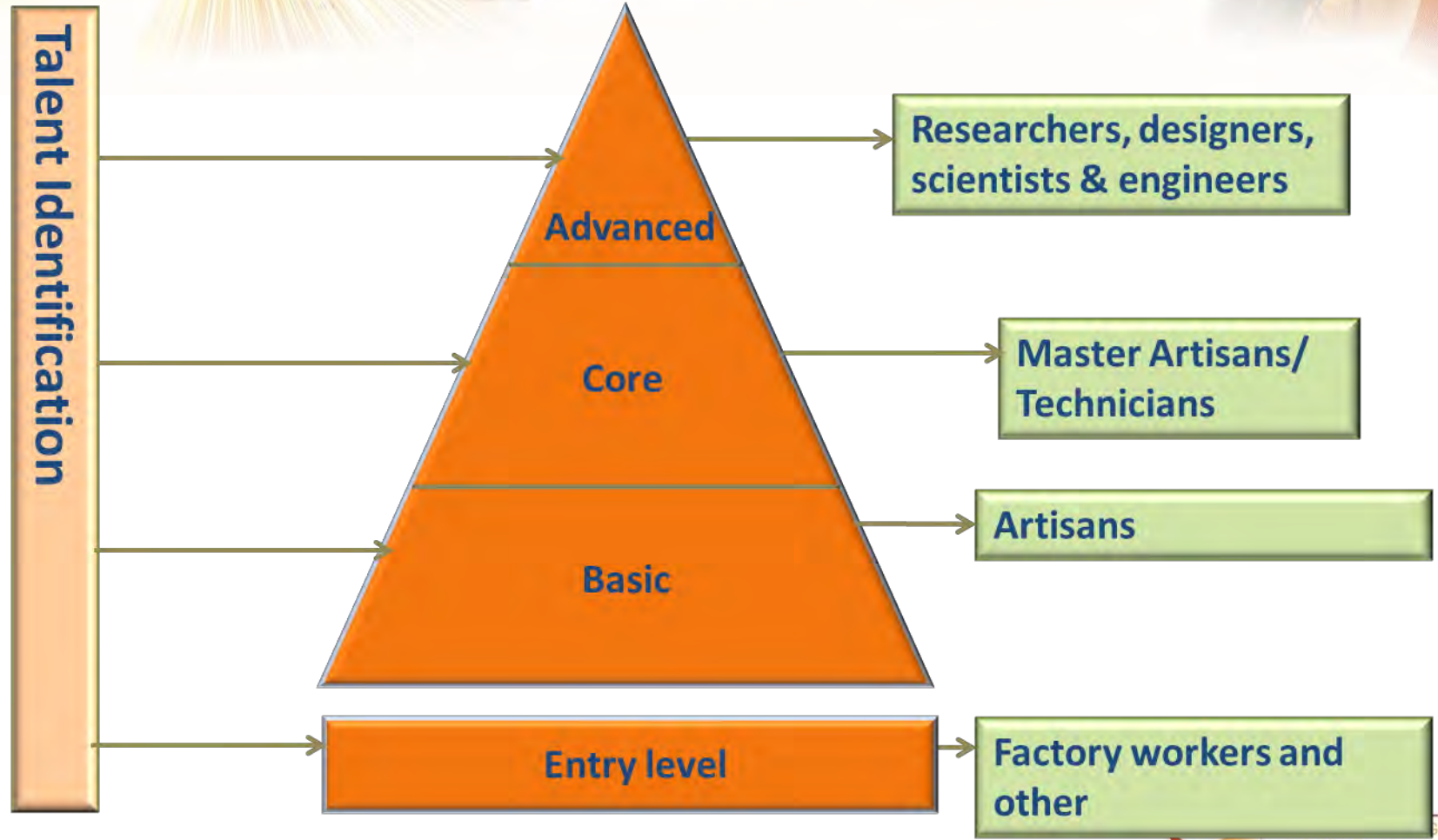
Skills Development  
System

Talent & Skills  
Deployment

Creates Innovation  
Capacity in Sector



# Talent-driven Innovation



# Talent Identification/sourcing system



# Skills and competency development

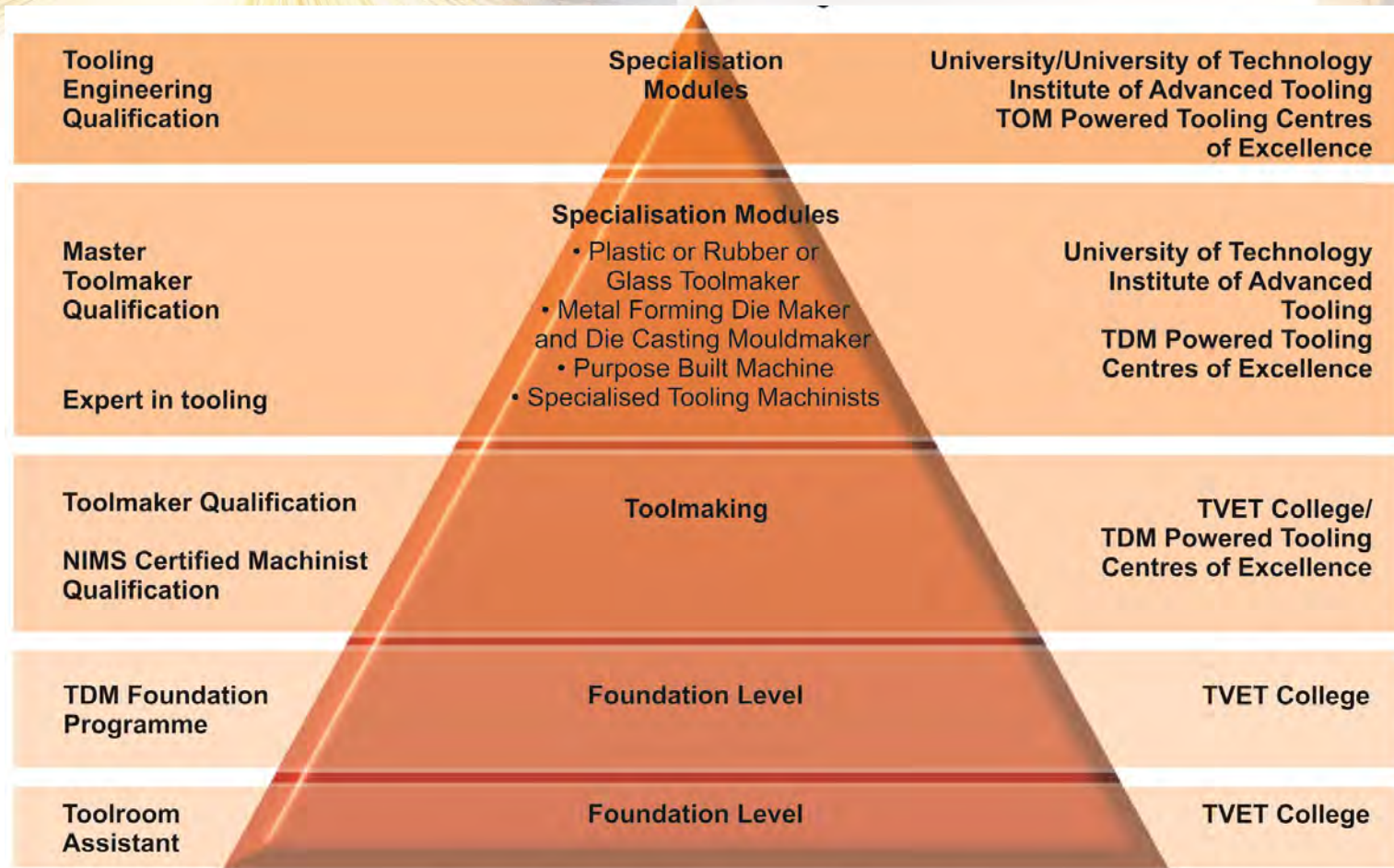


Figure 3.1: TDM Programme Structure



# Key customer requirements

- International standards and certification
- Sector specific competencies
- Articulation and career pathing
- Modularity, flexibility and cross sectorial application
- Skills delivery capacity over entire skills value chain (entry level to high end skills)
- Lower drop out rates and higher qualification rates

# TDM Sector Qualifications

- Toolroom Assistant: merSETA (SP 0627/11-17);
- Foundation Programme certified by the industry body (TASA);
- NIMS Certified Machinist accredited by the National Institute for Metalworking Skills (NIMS), based in the USA;
- 17 Modular part qualifications (NIMS)
- Toolmaker: South African Qualifications Authority (SAQA ID: 91796);
- Expert in Tooling: Aachener Werkzeugbauakademie(WBA);
- Master Toolmaker (SAQA registration in progress);
- Masters in Tooling Engineering (qualification development in progress).

# Talent Driven Innovation Deployment



**Apprenticeship Rotational Placement System – On-the-job training**

**Company-Student-College Relationship Building & Management**

**Post Qualification Placement**

**Student Tracking & Performance Analysis**

**Talent Warehouse & Continuous Development**





# Schedule

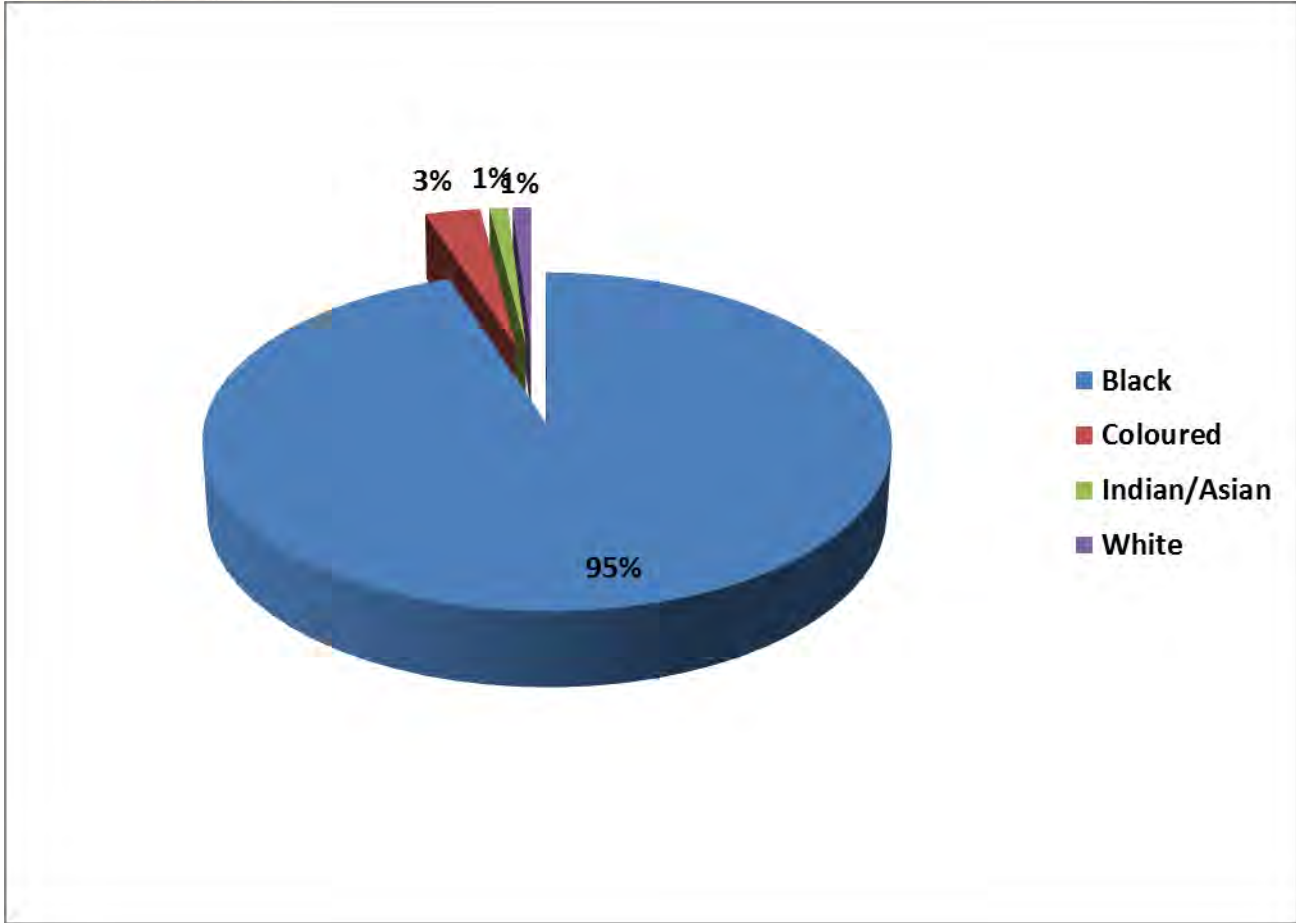
- Design and development of system
- Delivery Capacity Building
- Implementation
- Pipeline capacity building
- Sustainability Capacity Building
- Cross sectorial expansion

# Partner Training Institutions

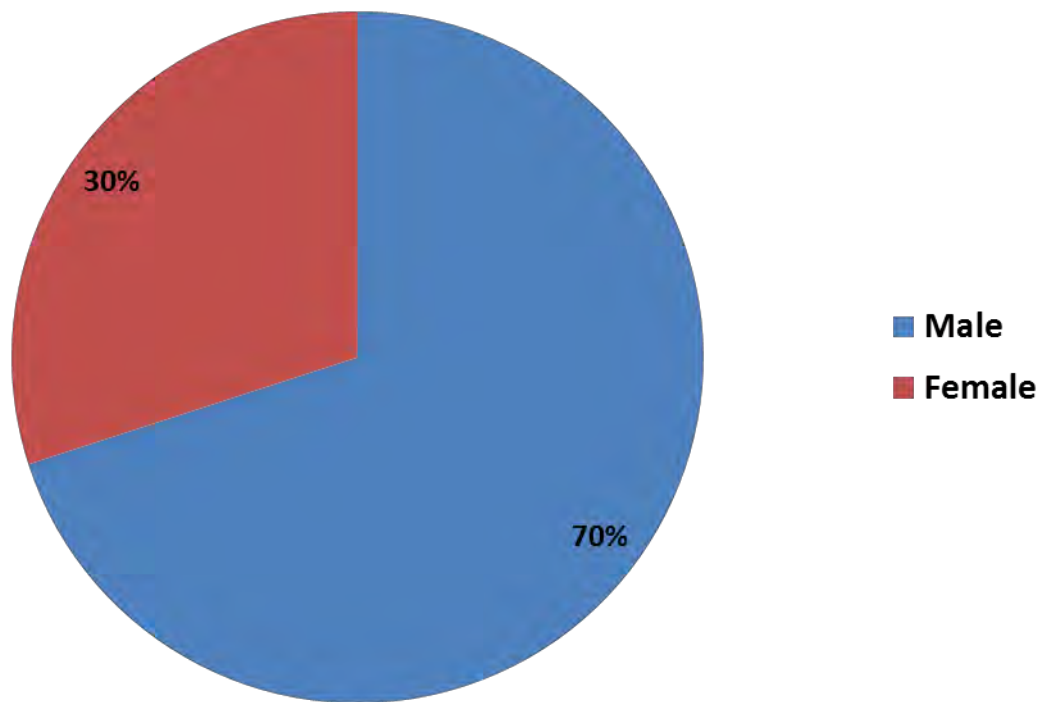
- Northlink TVET College – Wingfield
- College of Cape Town TVET College – Cape Town
- Coega Training Centre – Coega
- Border Training Centre – East London
- Umgungundlovu TVET College
- Coastal TVET College – Durban
- Ekurhuleni East TVET College - Kwa-Thema
- Nuclear Skills Development Centre at NECSA
- Denel Technical Academy – Kempton Park
- Tshwane South TVET College – Tshwane
- Tshwane Leadership and Management Academy – Pretoria West
- City of Tshwane Hammanskraal – Faranani
- Lephalale TVET College – Lephalale
- Nkangala TVET College – Nkangala
- ELTC Glencore - Eastern Limb Training Centre – Steelpoort



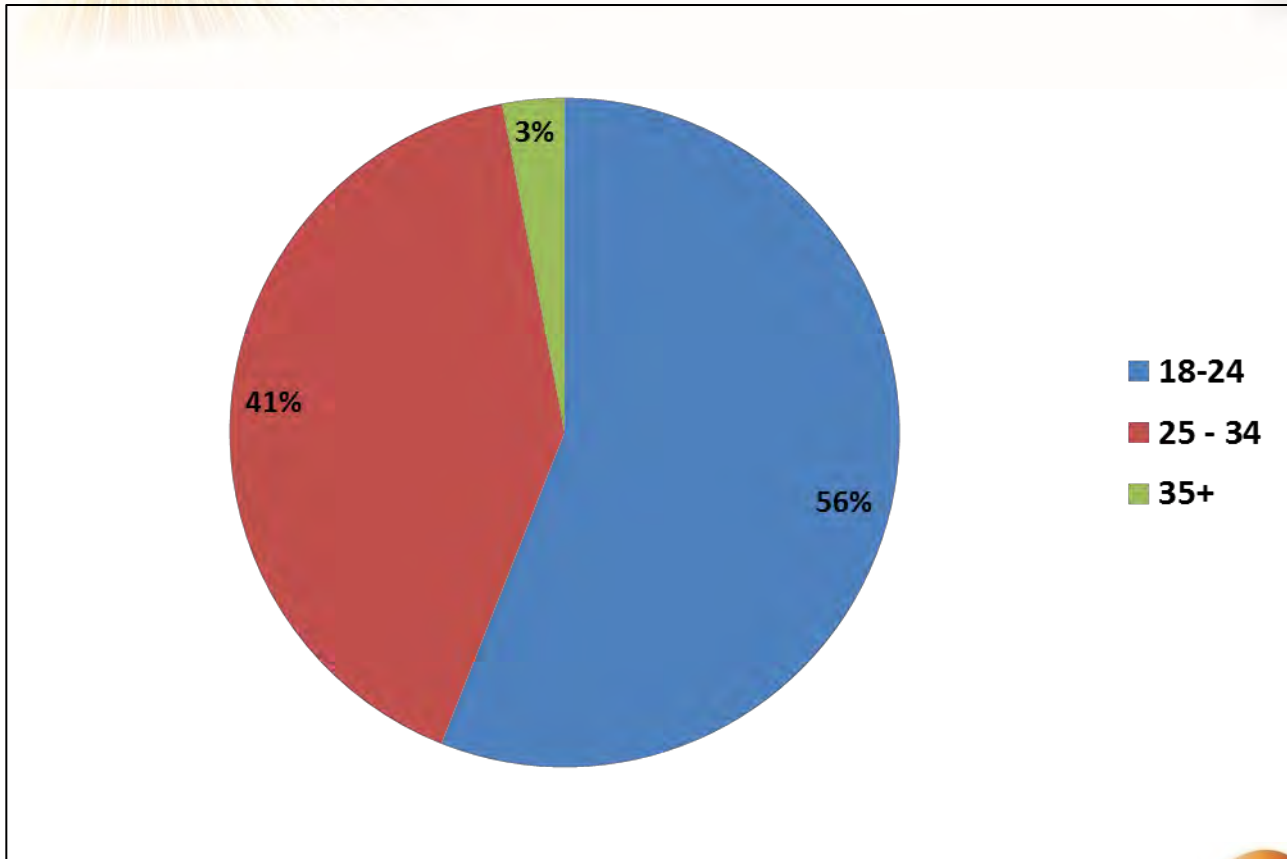
# TDM Pilot - Population Distribution



# TDM Pilot – Gender Distribution



# TDM Pilot - Age Distribution





# Beneficiaries

1610 learners between 2010 and 2017

98% from previously disadvantaged communities

>75% black

< 2% white

20% from rural community environments

30% female

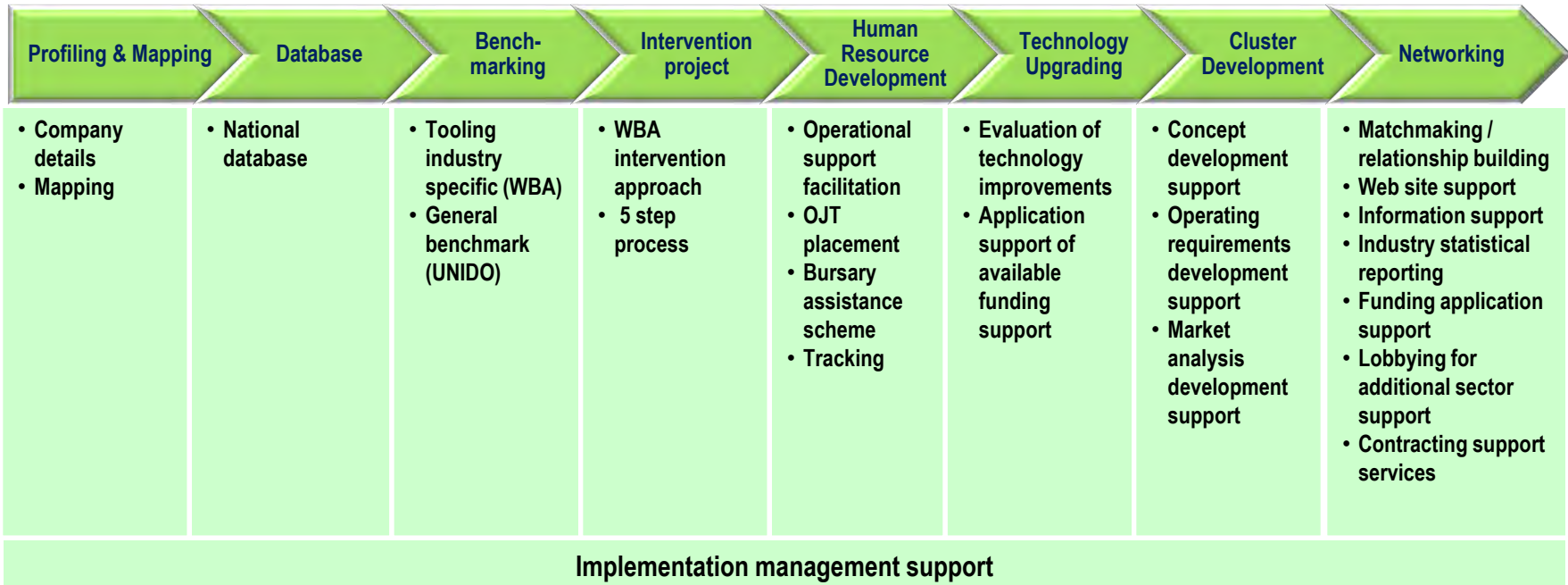
> 80% retention rate

> 85% permanent job placement rate

> 200 companies actively participating

# Enterprise Development Programme

## Value chain



# Enterprise Development

Journey towards International Competitiveness

Start your journey  
with us...



5

## Improvement

Tooling companies are empowered to further excel by adopting a continuous improvement culture throughout the organisation.

4

## Implementation

Tooling companies are responsible to implement the mutually agreed measures. Implementation assistance can be provided by the NTIP where required.

3

## Intervention Design

Short, medium and long term initiative are identified based on the analysis conducted. These initiatives are detailed into smaller action steps for the company to implement.

2

## Analysis

To assist tooling companies further, a comprehensive consulting project is initiated. The WBA approach is followed and requires active company participation and commitment. After a thorough analysis phase, strengths and potentials are identified to achieve the future concept.

1

## Benchmarking

A comprehensive benchmarking exercise evaluates company performance against local and international peers. This provides a foundation to start the journey.

## Platform

The NTIP has formed a strategic partnership with the WBA institute (the world authority on tool making technology and competitiveness). This provides insight into industry trends research and a proven industry consulting approach.





# Capacity Building to Date Project Growth in Company Participation



# Transformation Strategy

IDC Funding support for:

- NTI Programme Entrepreneurs investment into existing TDM business
- NTI Programme Entrepreneurs investment into new TDM business coupled to localisation opportunities from SIP Programmes

# Solution expansion

The success of the NTI Pilot Programme to date has prompted several other key sectors of advance manufacturing:

- Foundary
- Welding
- Precision Machining
- Fabrication and Boiler making

to start lobbying for expansion of the TDM sector solutions to these sub sectors.

This will require substantially expanded funding support.

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**Thank you !**



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