

# Expanding Artisanal Pathways through TVET into the Green Economy

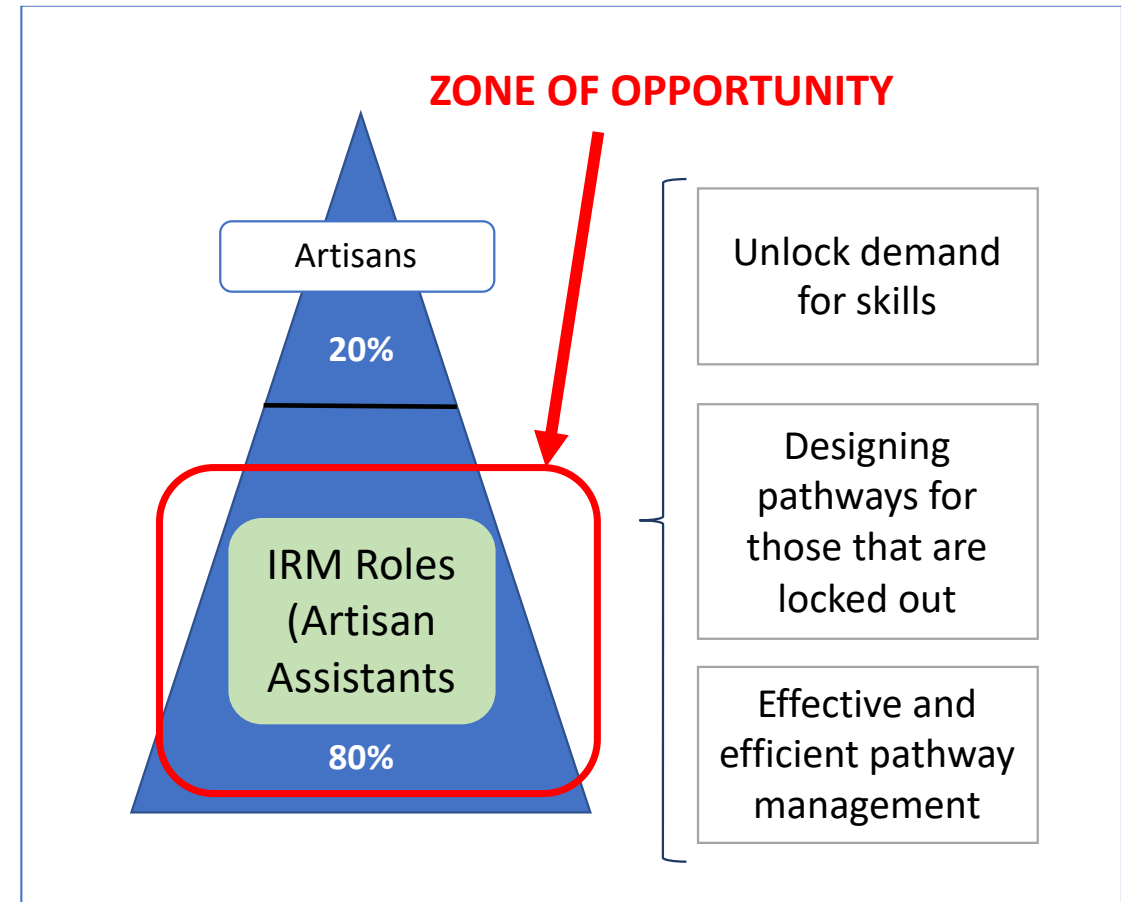
Dr Anthony Gewer  
17<sup>th</sup> October 2019

# Problem statement

- Despite significant investments in TVET and skills development, the pathways for technical occupations are blocked for large numbers of young people in South Africa.
- These blockages are created by constraints in both supply and demand, as well as in the supply-demand interface.
- For those who embark on artisanal pathways, relatively few get access to formal apprenticeship opportunities that lead to a trade.
- For the majority of youth, their best option is to be employed in a low skilled role and hope that an opportunity emerges to progress towards a trade over time.
- The most common outcome is that large number of young people get trapped in low-skilled, low-paying and highly precarious jobs with little opportunity for career progression.

# The IRM Zone of Opportunity

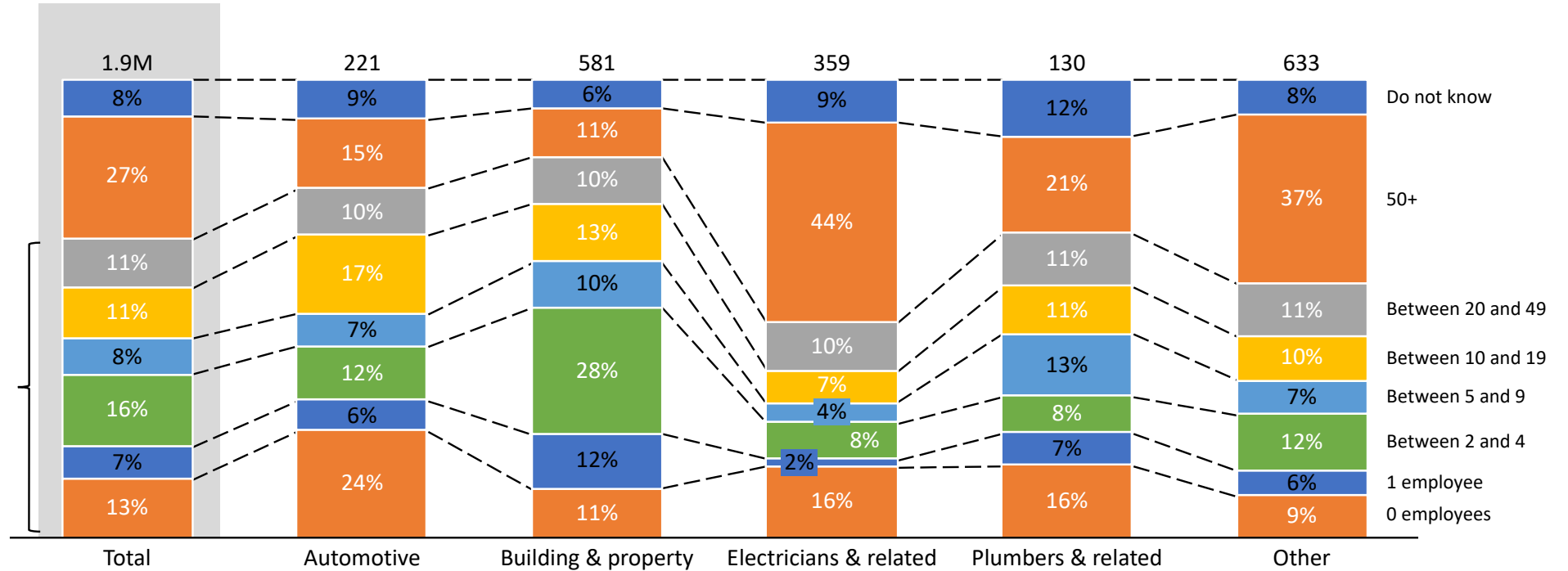
- The entry points for artisanal occupations are restrictive
- Our engagement with a range of employers in the industrial sector suggests a zone of opportunity – **expansion of pathways with lower barriers to access**
- This requires the combined efforts of a range of role players through a social compact
- This zone of opportunity currently has no formal designations or recognition
- A joint focus on upskilling and formalizing of existing skills as well as creating environment for absorption of new entrants.



# SMEs are the key

## Number of employees at place of work

Total (thousands), percent of total

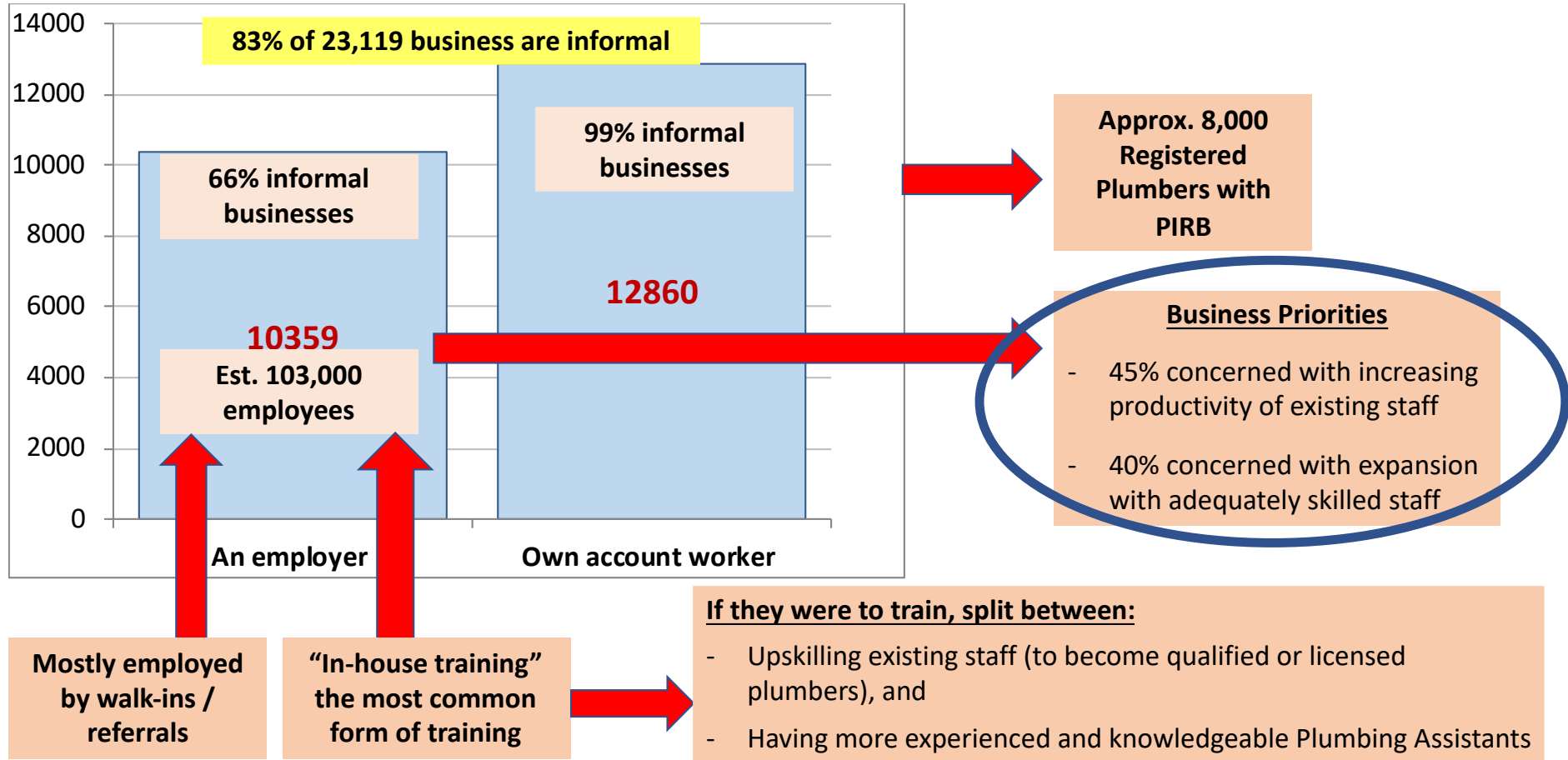


~66% of IRM jobs are within companies that have less than 50 employees, constituting these firms as micro and small enterprises<sup>1</sup>

Substantial variation...

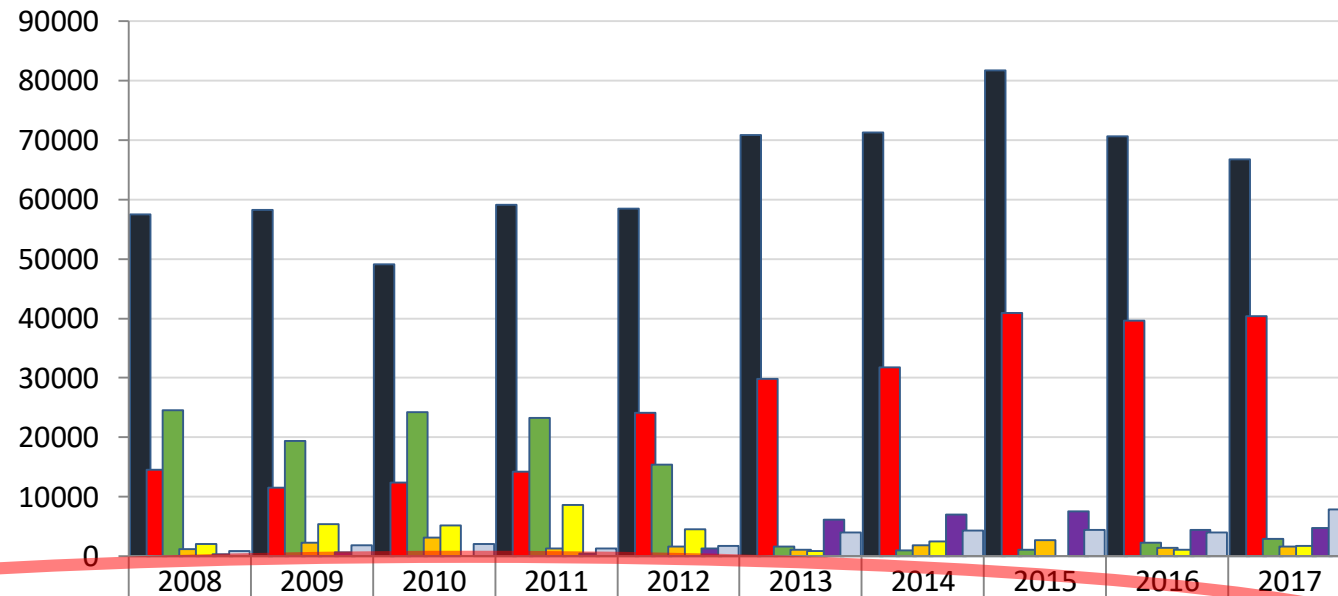
# Many Artisanal Business are Informal

## Profile of Plumbing Industry



# Limitations for Growth off Low Skills Base

## Profile of Plumbing Industry



**85% have Grade 12 or less and no technical qualification**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
■ Incomplete matric	57507	58220	49060	59137	58452	70808	71292	81739	70580	66696
■ Matric	14592	11574	12397	14206	24142	29807	31741	40953	39632	40358
■ N1-N3	24595	19440	24258	23307	15380	1605	1041	1108	2259	2940
■ N4-N6	1266	2315	3211	1359	1677	1083	1813	2703	1402	1676
■ Certificate/Diploma without matric	2094	5448	5233	8697	4532	927	2496	0	1153	1708
■ Certificate/Diploma with matric	404	680	0	484	1358	6164	7047	7572	4484	4731
■ University qualification	946	1869	2107	1347	1711	4027	4299	4465	3985	7872

Source: Statistics SA, LMD 2008-2017

# Various Demonstration Projects

- J.P. Morgan NS4Y Pilot in Orange Farm
- Nedbank SWH project with Harambee and IOPSA
- S4GJ SWH project with IOPSA and short-term insurance industry in Gauteng and Western Cape
- Newly launched Plumbing Assistant / Solar Water Heating pilot Programme with IOPSA and GIZ (funded by Nedbank and the Confederation of Danish Industries)

# Comparing the Models

	NS4Y Pilot	Nedbank Foundation / NBI Pilot	GIZ S4GJ	Plumbing Assistant Pathway Programme
Target Group	Unemployed youth in informal settlement community.	Unemployed TVET College Graduates.	Employed workers of various ages working in plumbing/related companies who have experience but had not had formal training opportunities.	Unemployed TVET graduates and under-qualified workers in the plumbing industry
Approach	Making technical skills accessible to youth in an impoverished community on the outskirts of JHB through a newly established skills centre, managed by a private artisan training provider.	Using an existing public TVET College in the vicinity of industry with additional industry capacity.	Providing employed workers to upskills and gain specialized skills through a local private training provider and public TVET College.	Provide an integrated technical and work readiness programme through Public TVET Colleges. Technical High Schools and Community Colleges.
Industry Focus	The intended focus was on both formal and non-formal industries which would easily accessible for the candidates from the informal settlement.	Focused on formal sector SMEs in and around central Johannesburg.	Focused on formal sector employees in the plumbing industry across Johannesburg and Cape Town.	Focus on both formal and non-formal plumbing SMEs in Gauteng, Cape Town, Nelson Mandela Metropole and Northern KZN
Recruitment / Selection	Recruitment and selection by Harambee	Recruitment and selection by Harambee	Recruitment and selection by participating employers	Harambee to assist TVET College partners to do selection
Curriculum	12-week technical training curriculum, combining credit bearing (Solar Water) and non-credit bearing (Photovoltaic) units of learning.	6-week technical training, 5-week work readiness training / entrepreneurship boot and 6-month workplace learning. Comprises 34 credits at NQF level 2.	Approximately 72 hours of knowledge and practical training combined with 80 hours of workplace learning. Comprises 34 credits at NQF level 2.	12-weeks integrated technical skills and work readiness (including entrepreneurship education) and minimum 6 months of workplace learning. Aligned to first year of new Plumbing Trade qualification (NOCC) + Solar Water.



# IRM Solution

## DEMAND SIDE

## SUPPLY SIDE

OPPORTUNITIES AND OPPORTUNITY HOLDERS	NATURE OF INTERVENTION NEEDED	SUPPLY SIDE	NATURE OF INTERVENTION NEEDED
<p><b>JOBS:</b></p> <ul style="list-style-type: none"> <li>• Large Corporate</li> <li>• Government</li> <li>• SME Employers (These may also be linked to Corporate Value Chains)</li> </ul> <p><b>ENTREPRENEURSHIP (SERVICING CORPORATES, SMEs or Households):</b></p> <ul style="list-style-type: none"> <li>• Structured SMEs</li> <li>• Unstructured SMEs/ Self Employment</li> </ul>	<ul style="list-style-type: none"> <li>• Unlock Opportunities (Remove Barriers To Employment/ Incentivise &amp; Advocate Hiring Etc.)</li> <li>• Structure and/ or Organise The Demand</li> <li>• Create Visibility Of Demand</li> <li>• Scaffolding for SMEs</li> </ul>	<p><b>PUBLIC:</b></p> <ul style="list-style-type: none"> <li>• Technical and Vocational Education and Training Colleges</li> <li>• Community Colleges</li> <li>• Technical High Schools</li> </ul> <p><b>PRIVATE:</b></p> <ul style="list-style-type: none"> <li>• Private Colleges</li> <li>• Skills Development Providers</li> </ul>	<ul style="list-style-type: none"> <li>• Build the capability of public institutions to deliver demand aligned interventions</li> <li>• Shift the private institutions to being outcomes focused</li> <li>• Shift towards an outcomes-aligned credentialing and recognition system</li> </ul>

**PATHWAY MANAGEMENT**

**ECOSYSTEM MANAGEMENT**

# Lessons: Recruitment and Selection

- NBI and GIZ programmes explicitly targeted candidates who were either on a pathway to a technical occupation or were already working in the plumbing industry
- NS4Y programme was less prescriptive about selection
- Risk of youth in Orange Farm applying for the programme because of a lack of alternative opportunities in the community rather than out of a particular interest in the programme
- GIZ programme had the least structured selection process and candidates were generally unclear about whether selection had taken place - many learners could not cope with the mathematics or English requirements of the programme

# Lessons: Curriculum Content

- Short skills programmes focused on addressing the necessary technical skills that would enable the candidates to perform effectively in the workplace.
- All three programmes offered credit bearing skills in Solar Water Heating Installation, which are recognised as industry standard.
- The scope of training for both the NBI and GIZ programmes was linked specifically to opportunities in the plumbing industry, the NS4Y programme was limited did not explicitly offer a pathway to plumbing.
- NS4Y and NBI programmes included foundational hand skills prior to the specific green skills training.
- GIZ initiative assumed that the candidates would have many of these foundational skills in place but there was variation in the levels of plumbing skills and some learners needed additional content covering basic plumbing.
- Despite this, employers on the GIZ programme were happy with coverage - programme introduced learners to changing processes and students were empowered because they now understood how their work fitted into the broader picture.
- NBI programme was strengthened by the inclusion of work readiness and entrepreneurship skills - employers (supervisors and mentors) were satisfied with the level of candidate work-readiness

# Lessons: Integration of Theory, Practical and Workplace Learning

- While all three programmes set out to provide a combination of institutional (theory and practical) and workplace learning, only the NBI and GIZ programmes achieved this - **industry partners determined the programme requirements and were instrumental in selecting and recruiting the participating workplaces**
- Plans for workplace learning were not fully in place at the start of the NS4Y programme
- NBI candidates indicated that more time should be spent on basic handskills, particularly the handling of tools.
- NBI programme spent 6 months in workplace learning which was found to be insufficient for optimising the workplace learning opportunity.
- GIZ candidates struggled to apply their SWH skills in the workplace, majority only applied them in the college.

# Lessons: Employment Outcomes

- NS4Y project illustrated that most candidates were not interested in starting their own business.
- Issue of how to create demand for such skills in the Orange Farm context.
- All NBI students retained by employers but not applying SWH skills much.
- Similarly the GIZ candidates mostly went back to what they were doing before the course and did not apply their SWH skills much.
- Challenge of determining demand for skills upfront so that the programmes could lend themselves to effective pathways into career progression or microenterprise.

# Overall Lessons Learned

- Effective activation and unlocking of demand upfront.
- Emphasising effective learner recruitment, selection, matching & work readiness.
- Integration of theory, practical and work-experience components.
- Important role of the industry in identifying and driving demand and the curriculum (IOPSA was a critical partner in this regard for the NBI pilot).
- Government is a key roleplayer, particularly in township economies, but firm commitments and exit strategies must be established upfront.
- Sector-level partnerships are important for harnessing resources and opening pathways.

# Overall Lessons Learned

- Structure of workplace learning and the role of workplace mentors must be clearly defined upfront
- Critical role of programme management and coordination to effectively address both supply and demand and the interface thereof
- Programme scale and sustainability
  - College readiness and capacity requires intensive hands on support over a sustained period
  - Understanding institutional complexities and the level of support needed
  - Need upfront agreement on a sustainable funding mechanism which is driven by social partners

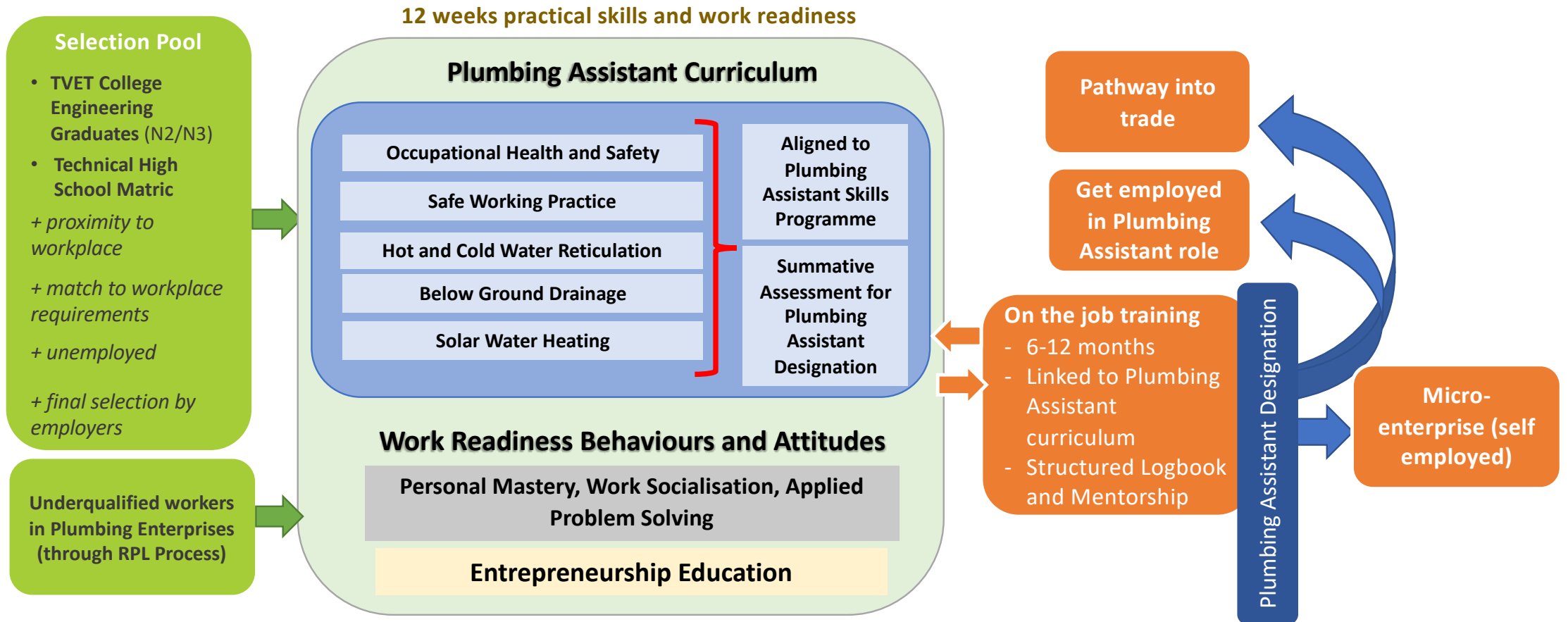
# What do we need to do?

Through industry partnerships,

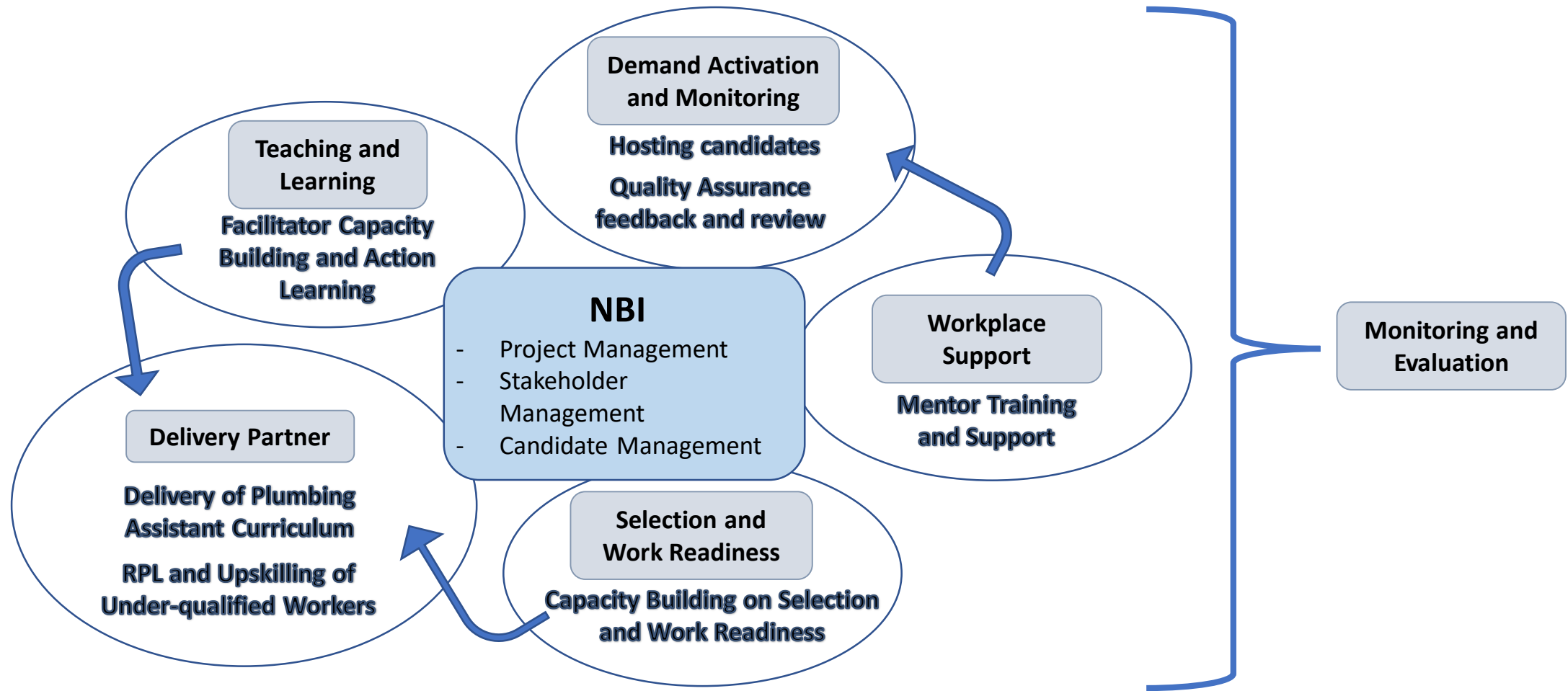
- Agreement with industry on a competency/credentialing framework to recognize new artisan pathways – e.g “technical plumbing assistant”.
- Mobilize SMEs to participate in employment creation that can add value to their enterprise
- Design dual learning pathways through public institutions that align to sustainable employment and result in formal industry recognition
- Strengthen the capacity of public institutions to deliver on blended and project-based demand-driven skills interventions that enhance competence and work readiness,
- Unlock workplace learning opportunities in SMEs for young candidates from public institutions to achieve applied competence and work towards a trade,
- Formalizing the skills of young people already working in these SMEs thus enabling them to be formally recognized and progress towards a trade
- Supporting SMEs to create effective learning environments to grow skills and productivity.



# Plumbing Assistant Pathway



# Plumbing Assistant Interventions



# IRM Strategy 2019-2021

- 7,500 IRM employment opportunities, including:
  - 630 in plumbing industry (with solar water heating installation and maintenance) through public institutions
  - 630 in electrical industry (including photovoltaic installation and maintenance) through public institutions
- Through industry partnerships with public institutions,
  - design dual learning pathways through public institutions that align to sustainable employment and result in formal industry recognition,
  - strengthen the capacity of public institutions to deliver on blended and project-based demand-driven skills interventions that enhance competence and work readiness,
  - unlock workplace learning opportunities in SMEs for young candidates from public institutions to achieve applied competence and work towards a trade,
  - formalizing the skills of young people already working in these SMEs thus enabling them to be formally recognized and progress towards a trade
  - supporting SMEs to create effective learning environments to grow skills and productivity.

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The NBI is a global network partner of the World Business Council for Sustainable Development (WBCSD), and an implementation partner of the CEO Water Mandate, We Mean Business and the CDP.

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