MINING QUALIFICATIONS AUTHORITY

MINING QUALIFICATIONS AUTHORITY (MQA)

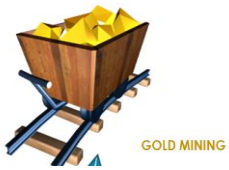
ANALYSIS OF THE WORKPLACE SKILLS PLAN AND ANNUAL TRAINING REPORT BOOKLET FOR 2017

Table of Contents

Table of Figures

List of Tables

FOREWORD



The Mining Qualifications Authority (MQA) prides itself in ensuring that the Mining and Minerals Sector (MMS) remains at the cutting edge of skills development. One of the MQA's strategic objectives is to improve skills development planning and decision-making through research in the sector. The MQA intends on contributing to the existing body of skills development knowledge within the MMS by identifying the skills needs of the sector as well as planning, managing and reporting on appropriate responses identified as critical needs in the sector.

The Workplace Skills Plans (WSPs) and Annual Training Reports (ATRs) forms part of the MQA's research agenda and is of critical importance to the SETA's mandate. Through this research, the SETA is able to outline current and future learning and qualifications needs of the sector and develop interventions that address them.

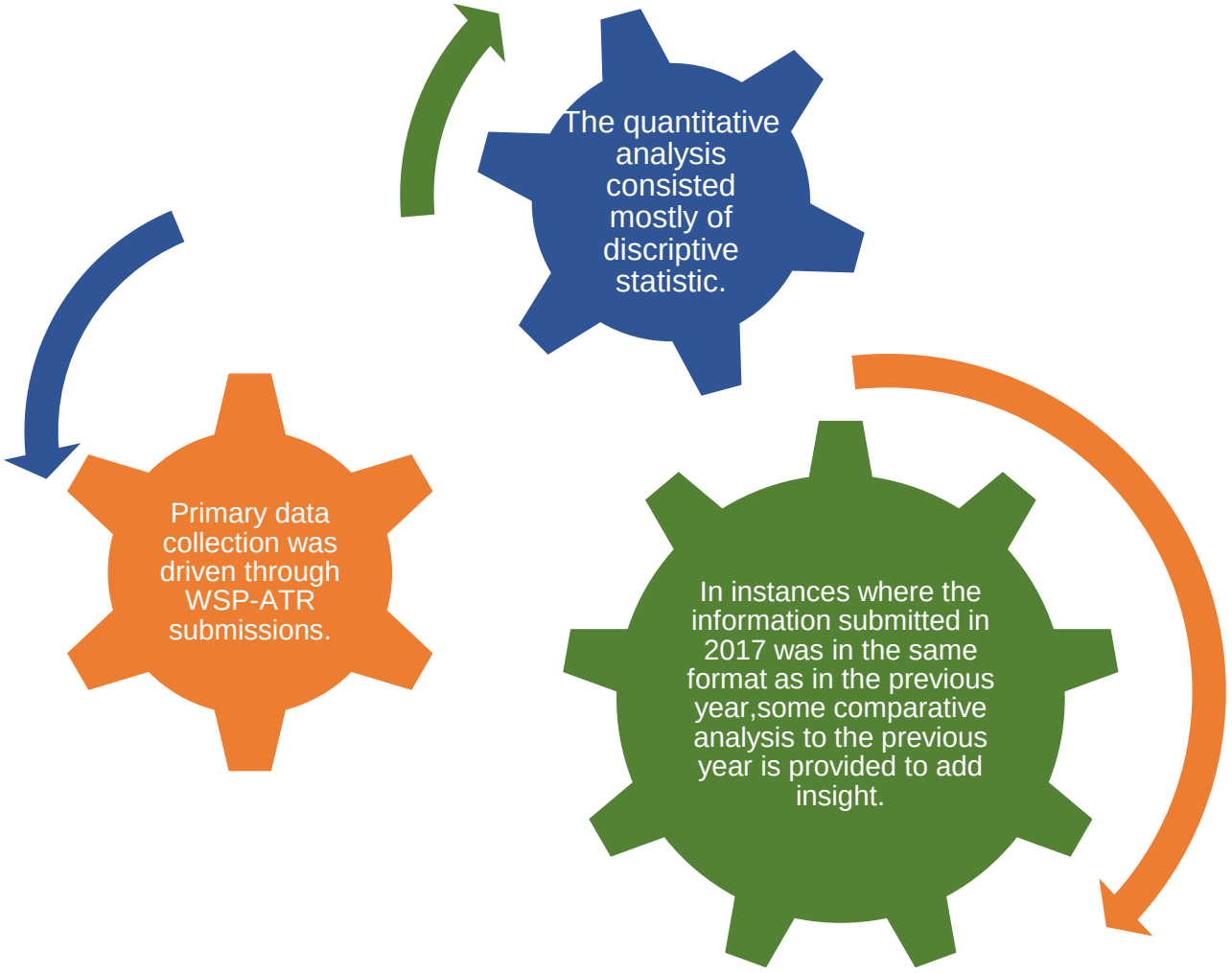
The main purpose of this research report is to provide an analysis of the sector in terms of the geographic location, size, and composition of the organisations that have submitted a WSP-ATR to the MQA during the period 2017. This report further profiles the MMS workforce as well as the training offered during the period under review. It is the result of not only a thorough research process, but also of extensive data analysis of the WSP-ATR submissions as a primary data source.

THE NINE SUBSECTORS

Figure 1 : The 9 Subsectors of the MMS

The MMS has 9 subsectors and within the subsectors there 44 SIC Codes which are used for the purpose of identification of subsectors that fall under the MMS.

METHODOLOGY



EMPLOYER SUBMISSIONS PROFILE

SUBMISSIONS & APPROVALS

The WSP-ATR submissions provide an insight into the nature, the extent of skills supply and demand in the sector that could inform better decision making around skills planning and interventions going forward.

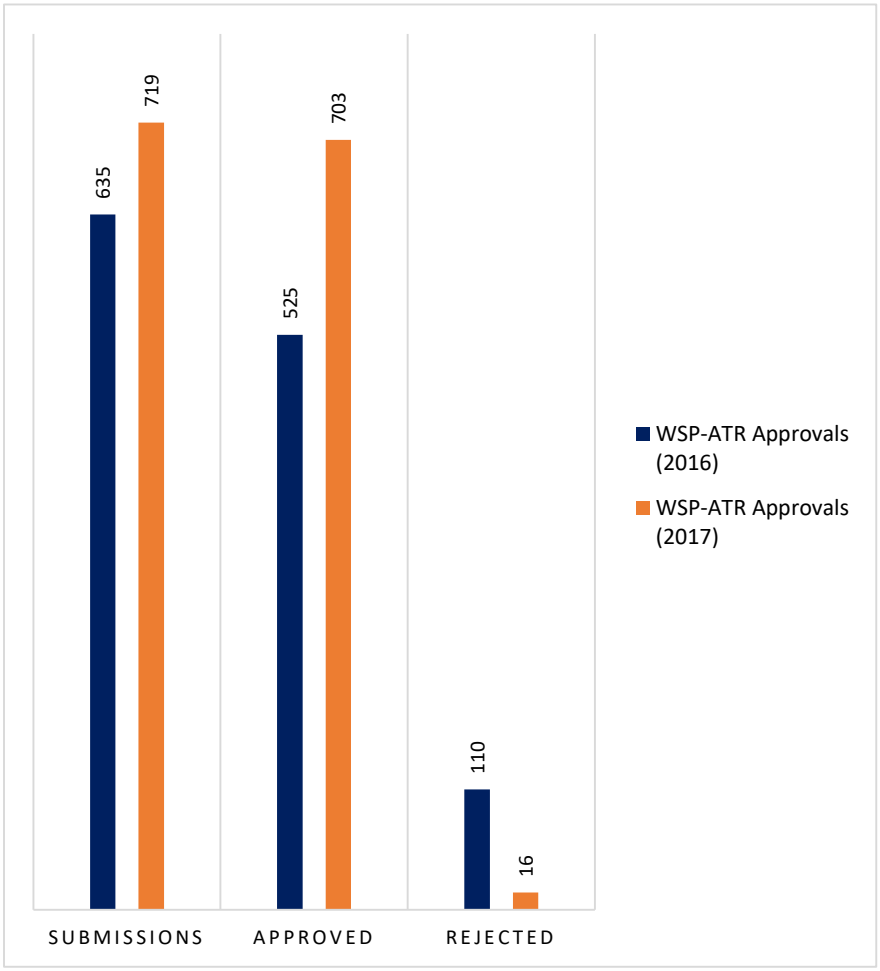


Figure 2: WSP-ATR Submissions (Approvals & rejections)

In 2017, 719 submissions were received, and 703 (97.8%) were approved. The submissions that were rejected were as a result of missing signatures or incomplete WSP-ATR.

SUBMISSIONS BY PROVINCES

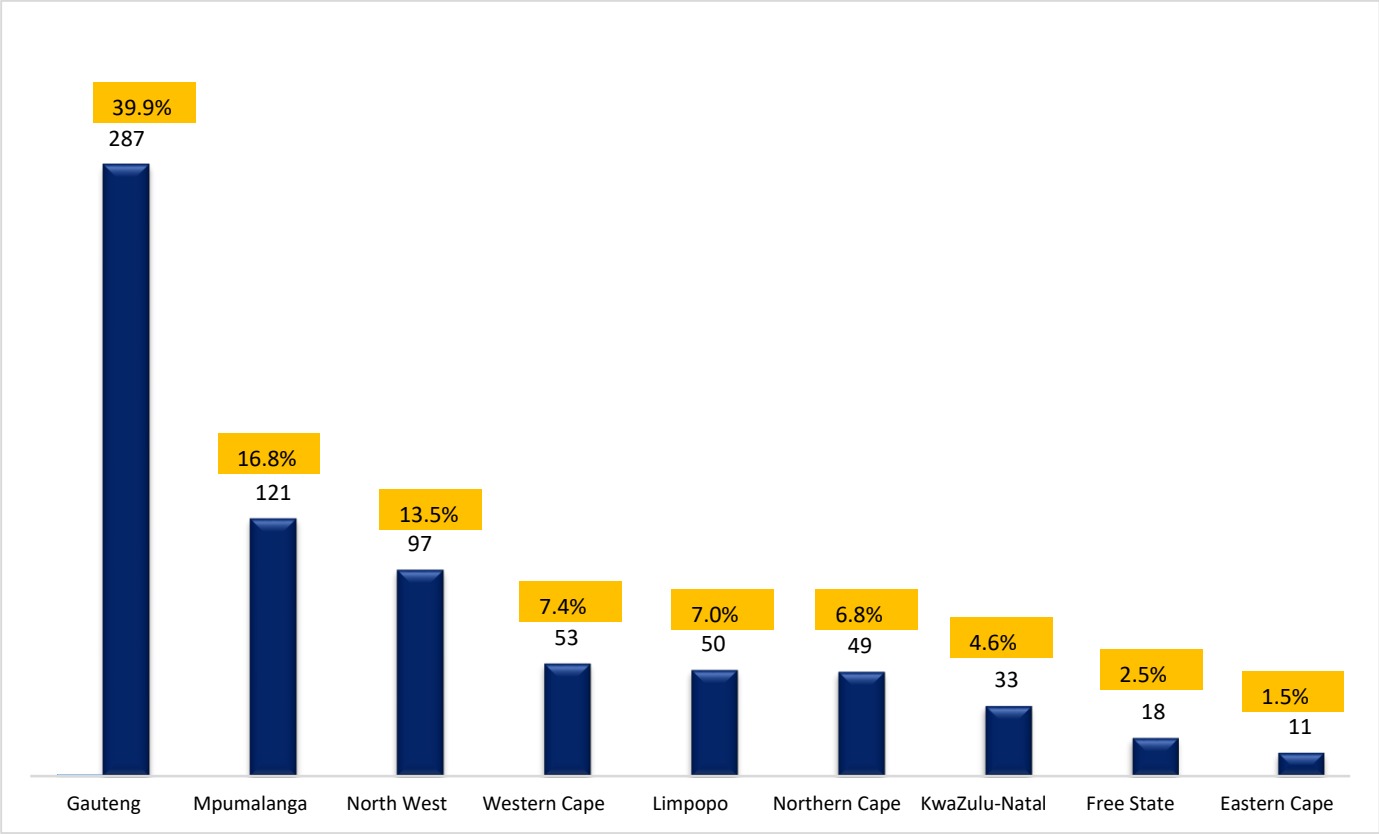


Figure 3: Submissions by provinces

Provinces such as Gauteng, Mpumalanga and the North West had the highest submissions resulting in a majority of approvals (WSP-ATRs in 2017).

The 2017 WSP-ATR analysis by province also revealed a major increase in the submissions for Limpopo and North West as compared to 2016.

SUBMISSIONS BY SUBSECTORS AND COMPANY SIZES

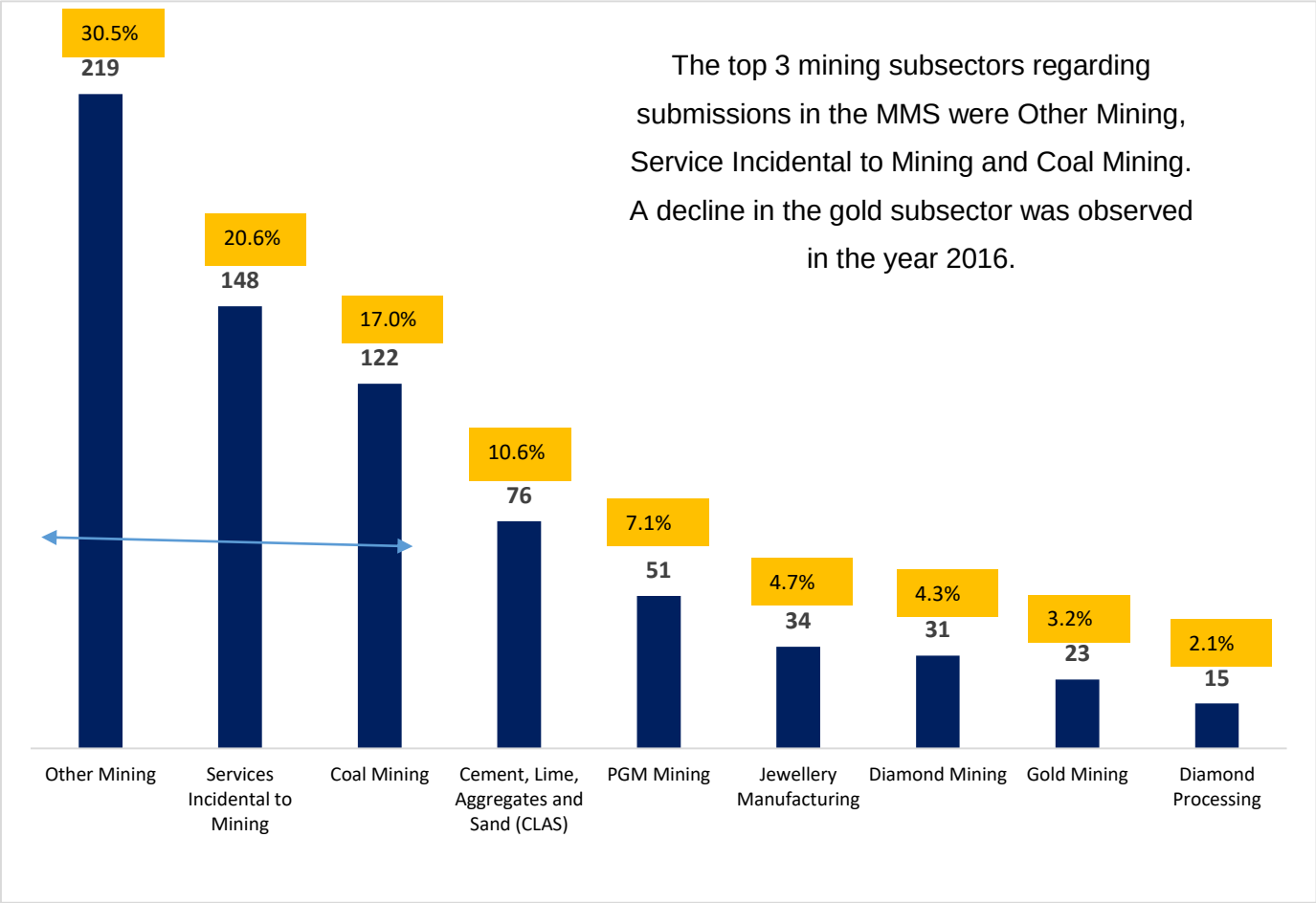


Figure 4: WSP-ATR Submissions by Subsectors

Small companies (283) dominate the sector in terms of WSP/ATR submissions. Large companies (256) are second highest, with medium companies (180) being the least in terms of submissions.

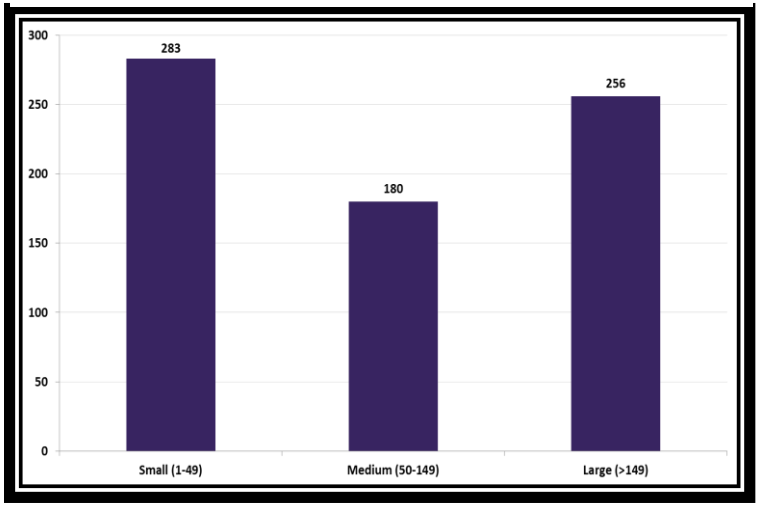


Figure 5: Submissions by Company Sizes

EMPLOYMENT PROFILE

The 2016 WSP-ATR submissions contained a total 424 487 employees, whilst 2017 comprised a total of 534 411.

EMPLOYMENT BY SUBSECTORS

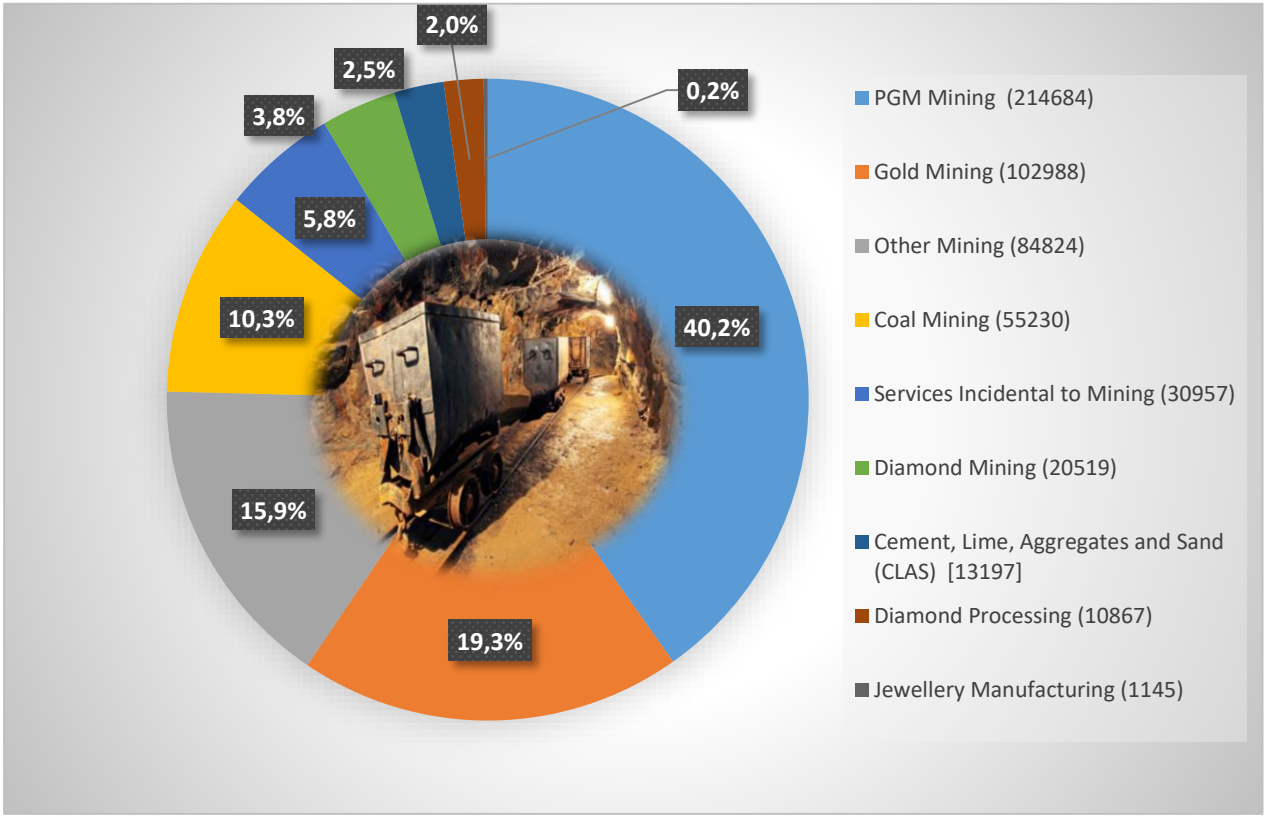


Figure 6: Employment by Subsectors

The PGM Mining sector has the highest percentage (40.2%) of workers in the sector, followed by the Gold Mining subsector (19.3%).

The PGM, Diamond Mining and Diamond Processing subsectors saw an increase in 2017 in the number of employees compared to 2016.

EMPLOYMENT BY PROVINCES

The North West province had the highest number of employees. This is attributed by the fact that the majority of the PGM companies are based there.

The Gauteng province had the second highest number of employees, followed by the limpopo province.

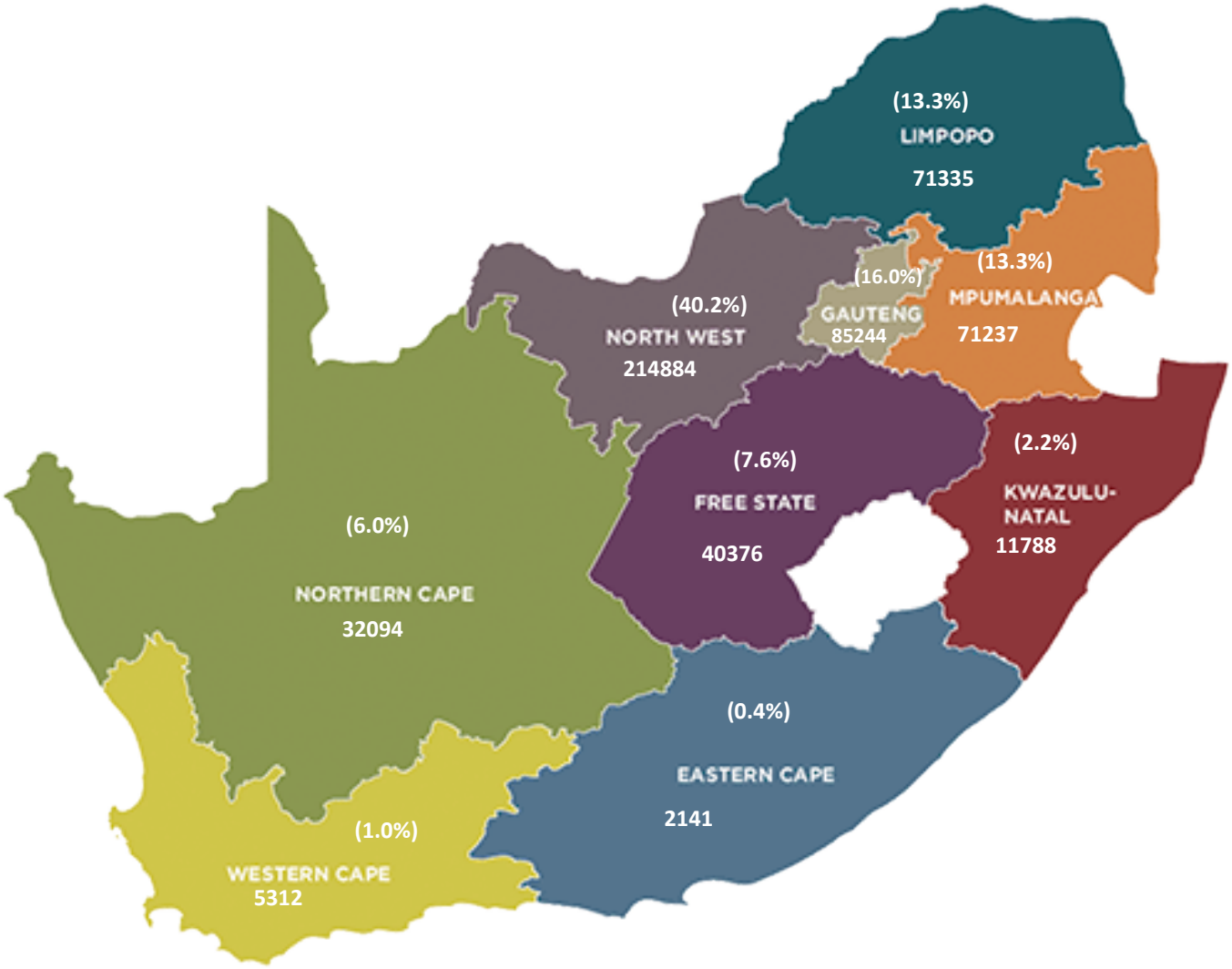


Figure 7: Employment by Provinces

EMPLOYMENT DEMOGRAPHICS

EMPLOYMENT BY GENDER

The statistics in South Africa notes that only 44% of professional posts are held by women in South Africa. Since the beginning of 2000, the percentage of women employed in mining increased from roughly 4% to 14% in 2017.

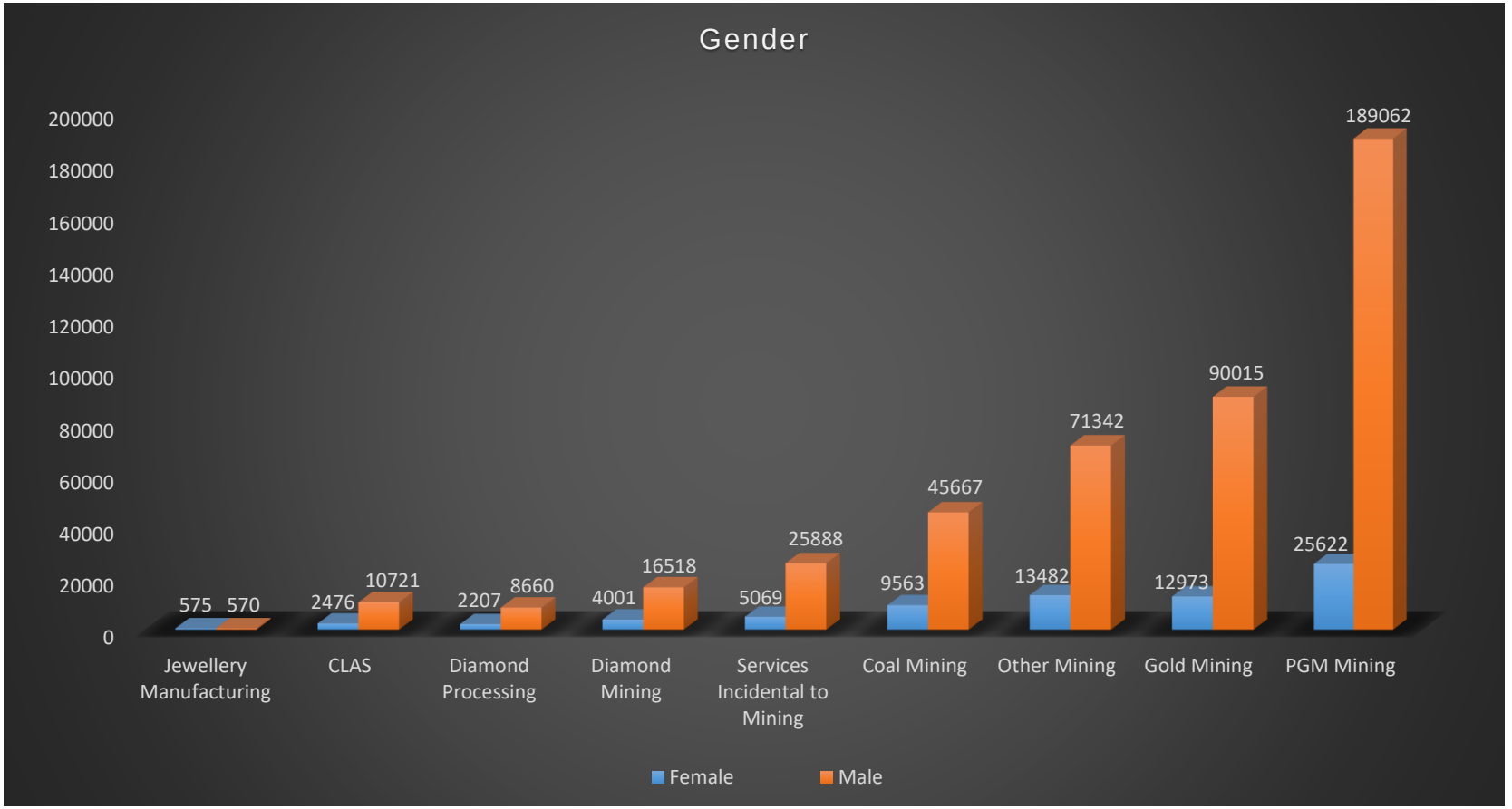


Figure 8: Employment by Gender

Females still remain under-represented, with Gold and PGM Mining being the subsectors with the lowest female employees.

Contrary to this, the Jewellery Manufacturing subsector employs 50.2% of the females within the sector, which is slightly higher than their male counterparts.

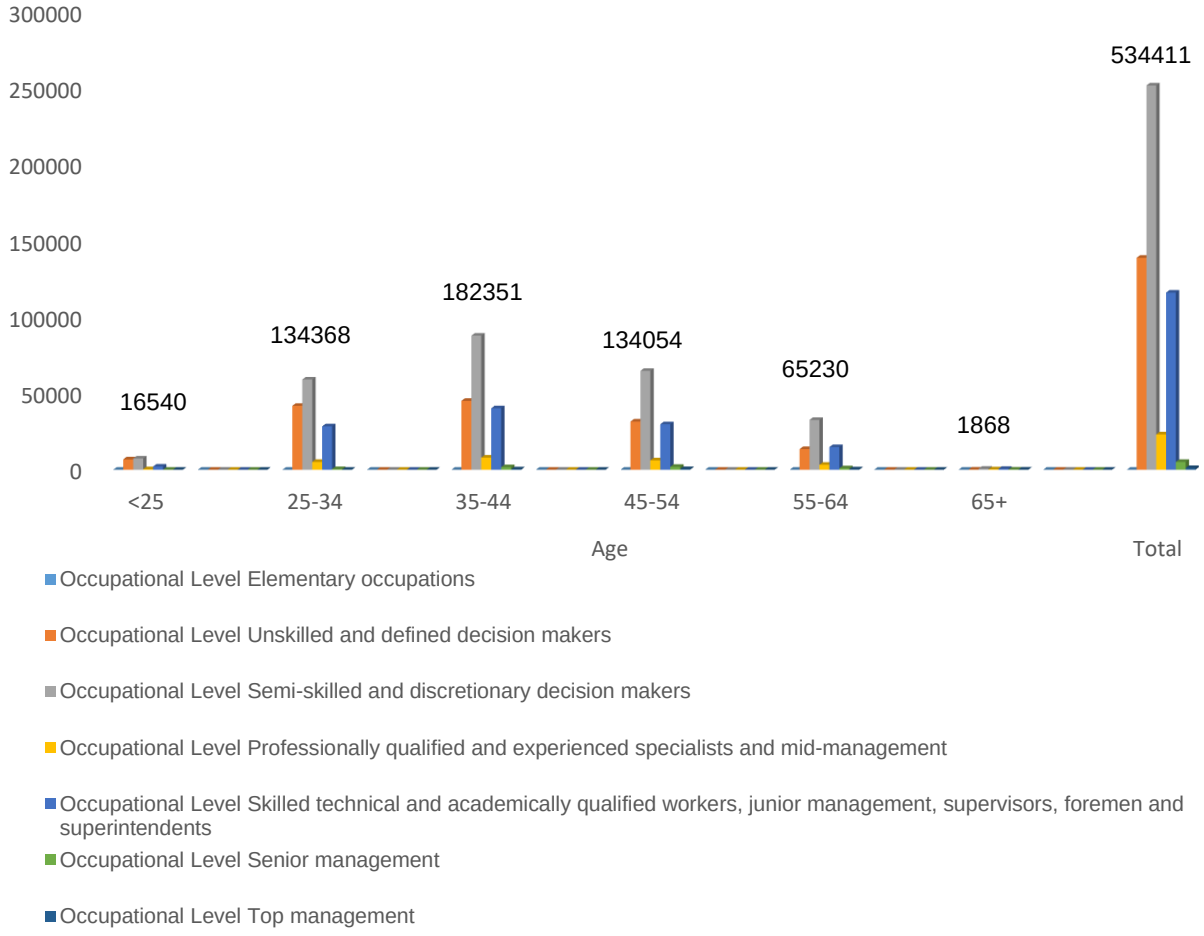


Figure 9: Employment by Age

The age distribution of employees within the MMS consists of mostly middle-aged adults. The average age of the employees was 41 years, with the youngest employee aged 18.

On the other hand, those above 65 were found to be in more skilled and senior positions due to their years of experience in the sector.

EMPLOYMENT BY DISABILITY

			DISABLED		
			Employees without Disabilities	Employees with Disabilities	Total
SUBSECTOR	Cement, Lime, Aggregates and Sand (CLAS)	Count	13053	144	13197
		%	98.9%	1.1%	100.0%
	Coal Mining	Count	54813	417	55230
		%	99.2%	.8%	100.0%
	Diamond Mining	Count	20412	107	20519
		%	99.5%	.5%	100.0%
	Diamond Processing	Count	10818	49	10867
		%	99.5%	.5%	100.0%
	Gold Mining	Count	102579	409	102988
		%	99.6%	.4%	100.0%
	Jewellery Manufacturing	Count	1130	15	1145
		%	98.7%	1.3%	100.0%
	Other Mining	Count	84171	653	84824
		%	99.2%	.8%	100.0%
	PGM Mining	Count	210777	3907	214684
		%	98.2%	1.8%	100.0%
	Services Incidental to Mining	Count	30803	154	30957
		%	99.5%	.5%	100.0%
Total		**Count**	**528556**	**5855**	**534411**
		%	**98.9%**	**1.1%**	**100.0%**

Table 1 : Employment by Disability

The Employment Equity Act, states that at least 3% of an organisation's workforce should be employees with disabilities (Vallie, 2017).The representation of disabled individuals remains low (1.1% - 5855 out of 534411 employees) in the MMS. The diamond processing subsector had the largest number of employees living with a disability in 2016, whilst in 2017 there were less than 1% employees reported as disabled.

EMPLOYMENT BY POPULATION GROUPS

According to Stats SA, Africans represent the majority (81%) of the race groups in South Africa (StatsSA, 2017). It is encouraging to note that the majority of the MMS workforce is above the national average as African employees comprise 85.3% employees. Whites on the other hand, came in second (11.3%), whilst Coloureds (2.8%) and Indians (0.6%) were the least represented race groups.

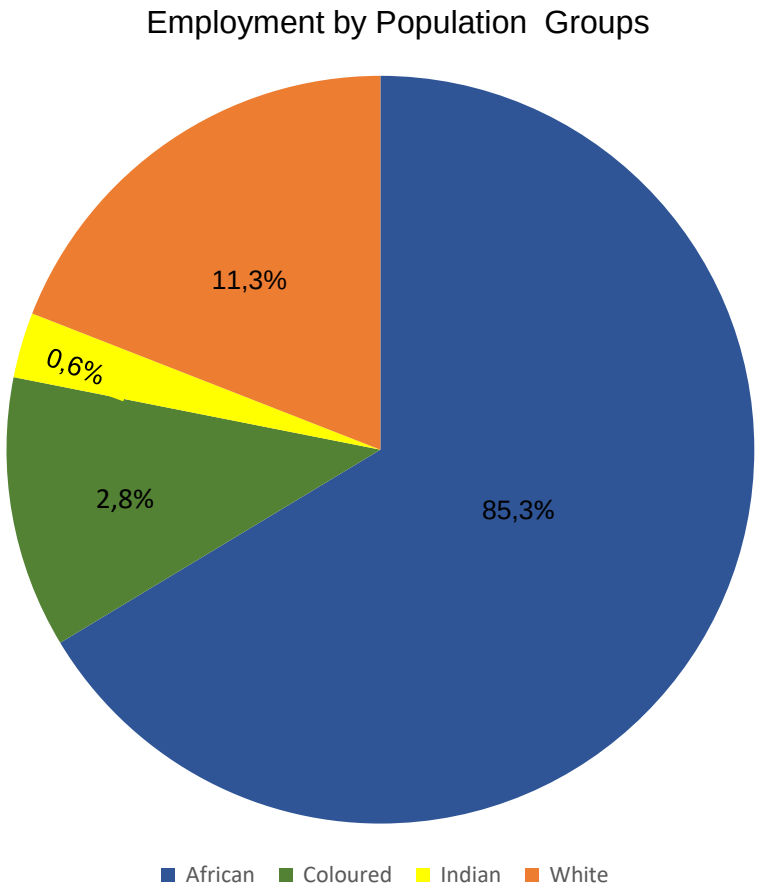
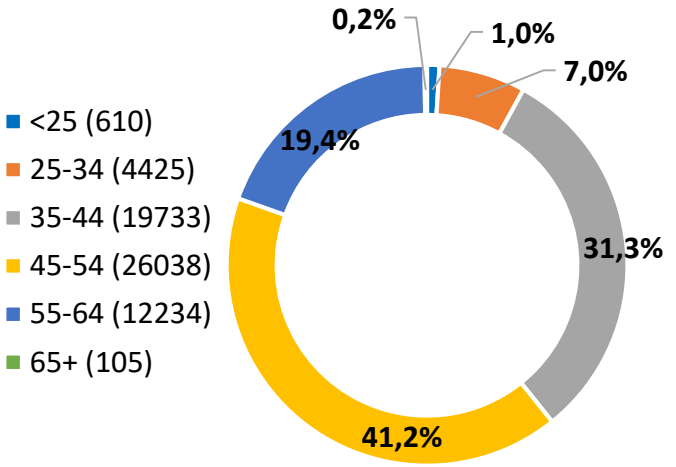


Figure 10: Employment by Population Groups

EMPLOYMENT BY NATIONALITY

Nationality			
Subsector	Non SA	SA	Total
Cement, Lime, Aggregates and Sand (CLAS)	204	12993	13197
	1.50%	98.50%	100.00%
Coal Mining	1164	54066	55230
	2.10%	97.90%	100.00%
Diamond Mining	106	20413	20519
	0.50%	99.50%	100.00%
Diamond Processing	115	10752	10867
	1.10%	98.90%	100.00%
Gold Mining	**24823**	78165	102988
	24.10%	75.90%	100.00%
Jewellery Manufacturing	36	1109	1145
	3.10%	96.90%	100.00%
Other Mining	3157	81667	84824
	3.70%	96.30%	100.00%
PGM Mining	**30695**	183989	214684
	14.30%	85.70%	100.00%
Services Incidental to Mining	2845	28112	30957
	9.20%	90.80%	100.00%
	63145	**471266**	**534411**
	11.80%	**88.20%**	**100.00%**



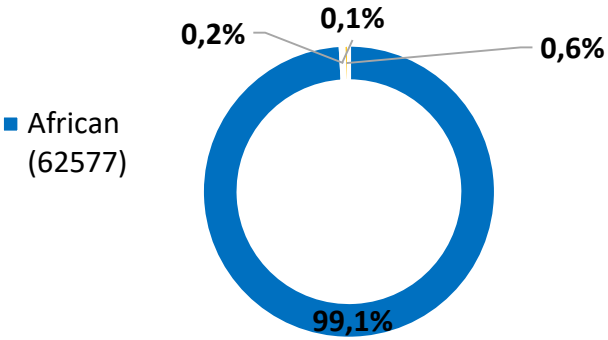


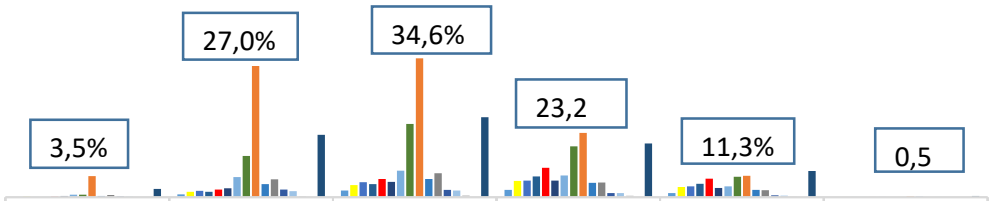
Table 2 : Non South Africans by Employment Status

There was a minor decrease of foreign nationals in comparison to South African employees in 2017 (11.8% vs. 12.7% in 2016). The Gold subsector employs the largest number of non-South African citizens.

The composition of non-South African citizens is made up of an older workforce with the majority aged between 45-54 years and mostly black males (99.1%).However, these employees occupy low skilled occupations which are neither scarce nor critical skills.

QUALIFICATION & AGE

The opportunities to advance in the mining industry becomes better if an employee has a relevant qualification related to mining and the job specification.



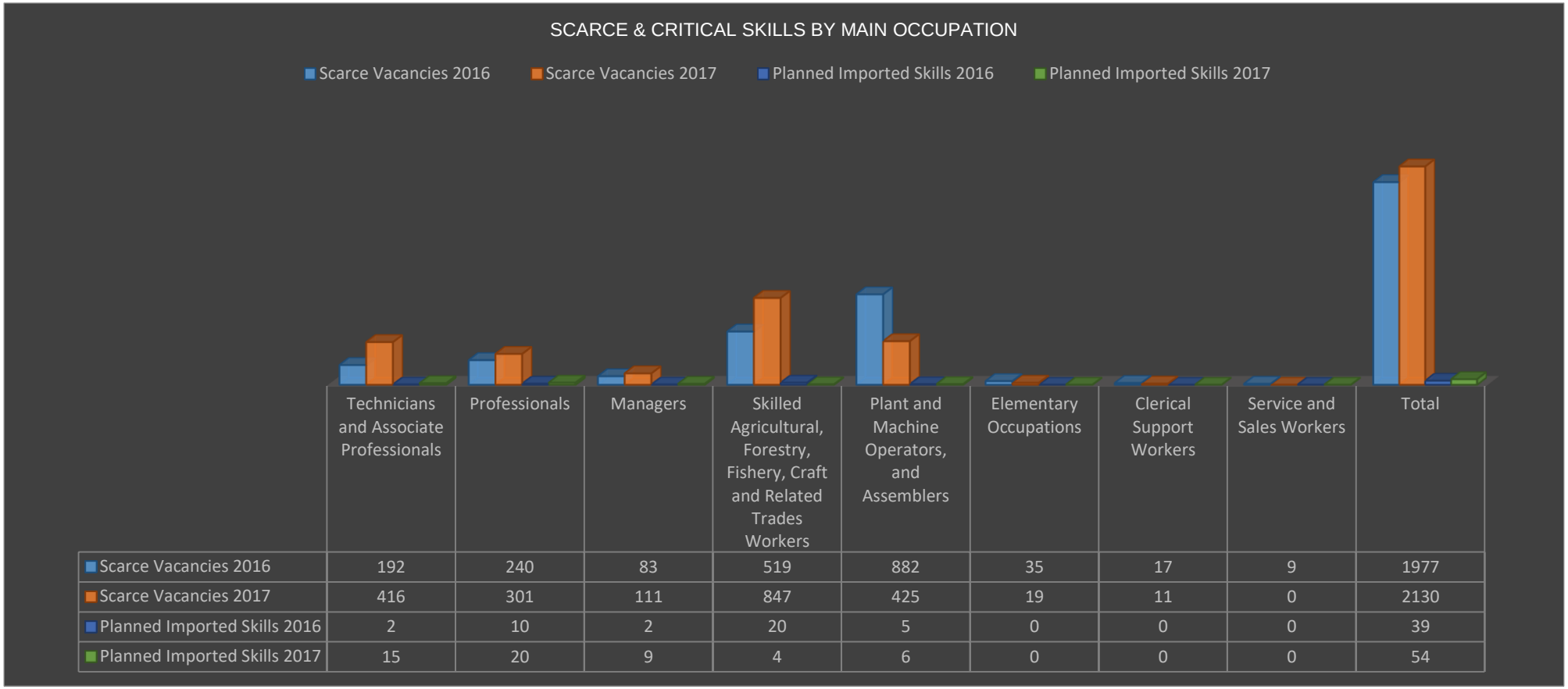
	<25	25-34	35-44	45-54	55-64	65.00
	Age					
No Schooling Count	118	1144	2644	2849	1641	54
Pre-AET / Grade 1-3 Count	168	2109	4802	6430	4025	33
AET 1 / Std 2, Grade 4 Count	114	2525	5976	6652	4342	56
AET 2 / Std 3/4, Grade 5/6 Count	102	2178	5225	8309	5335	70
AET 3 / Std 5/6, Grade 7/8 Count	248	3047	7225	11725	7401	91
AET 4 / Std 7, Grade 9 Count	473	3561	6128	6591	3707	111
Std 8 / Grade 10, NATED 1 / NCV Level 1 Count	961	7988	10544	8649	4348	110
Std 9 / Grade 11, NATED 2 / NCV Level 2 Count	1014	16433	29224	20326	8194	63
Std 10 / Grade 12, NATED 3 / NCV Level 3 Count	8360	52386	55426	25628	8587	350
National/ Higher Certificate Count	471	5167	7248	5756	2844	156
Higher Certificate/ Diploma/ Advanced Certificate/ NATED 4 – 6 Count	800	7072	9595	5779	2721	148
Advanced Diploma/ B-Tech Degree/ Bachelor's Degree (360 credits) Count	314	3041	2961	1619	701	66
Bachelor Honour's Degree/ Postgraduate Diploma/ Bachelor's Degree(480 credits) Count	151	2423	2584	1565	616	63
Master's Degree Count	4	319	716	647	277	22
Doctoral Degree & Post-doctoral Degree Count	0	23	74	63	39	9
Undefined Count	3242	24952	31979	21466	10452	466

The employees, who are mostly young and possess some form of formal education are employed in either unskilled or semi-skilled occupations.

Some employees possess qualifications, but not relevant to the sector. Those that are older and close to retirement (55+) are mostly employed in senior positions and some possessing no form of formal education.

Figure 11: Employees by Qualification & Age

SCARCE & CRITICAL SKILLS OCCUPATIONS



	Technicians and Associate Professionals	Professionals	Managers	Skilled Agricultural, Forestry, Fishery, Craft and Related Trades Workers	Plant and Machine Operators, and Assemblers	Elementary Occupations	Clerical Support Workers	Service and Sales Workers	Total
Scarce Vacancies 2016	192	240	83	519	882	35	17	9	1977
Scarce Vacancies 2017	416	301	111	847	425	19	11	0	2130
Planned Imported Skills 2016	2	10	2	20	5	0	0	0	39
Planned Imported Skills 2017	15	20	9	4	6	0	0	0	54

Figure 12: Scarce & Critical Skills by main Occupation

The rise in the demand for high-skilled employees could signify the reliance of modern skills involving technological innovations within the MMS, an increase in the skills planned and to import more technicians, professionals and managers.

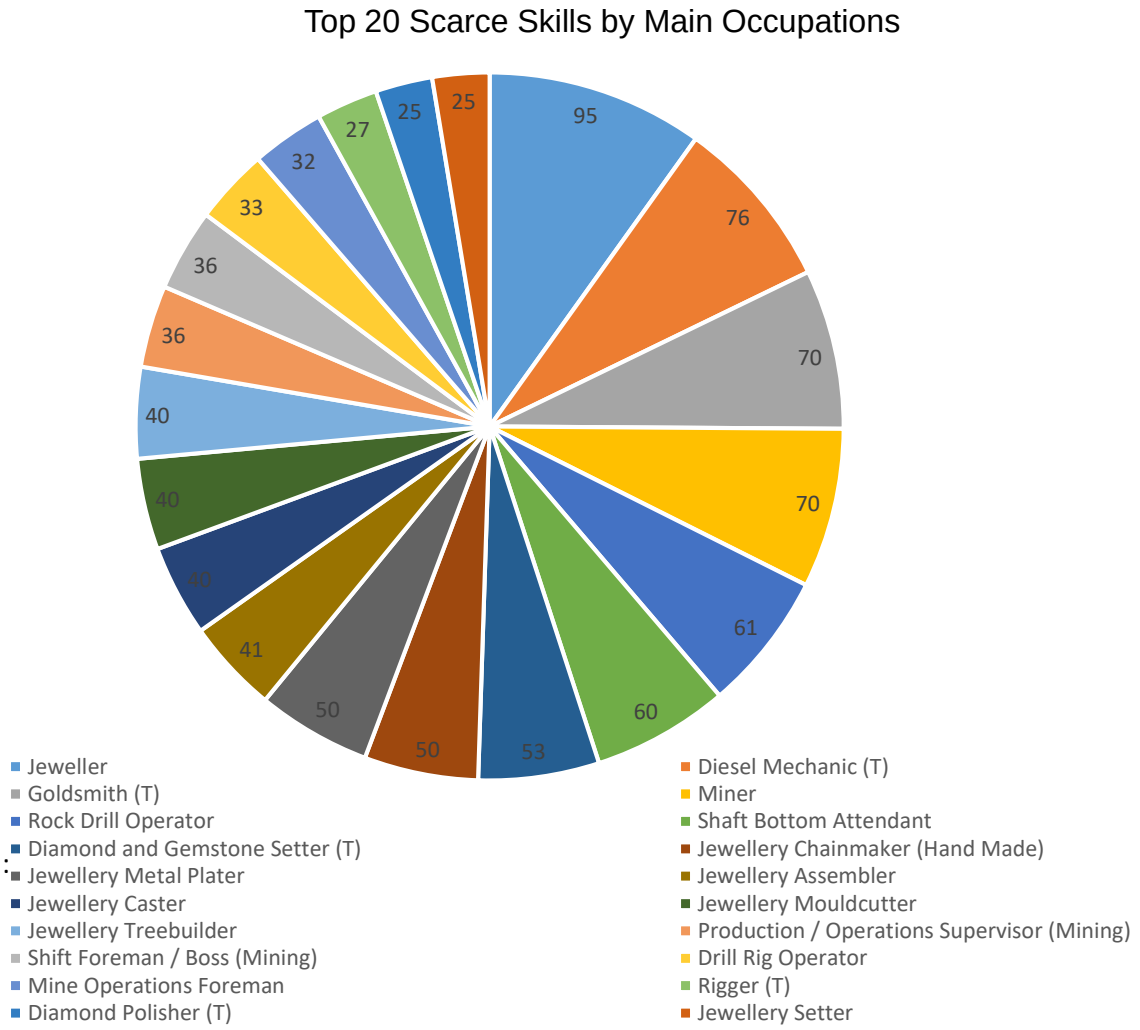


Figure 13: Top 20 Scarce Skills by Main Occupation

The top 4 scarce and critical occupations according to the employers are Jewellers, Diesel Mechanics and equally Goldsmiths and Miners.

SUBSECTORS

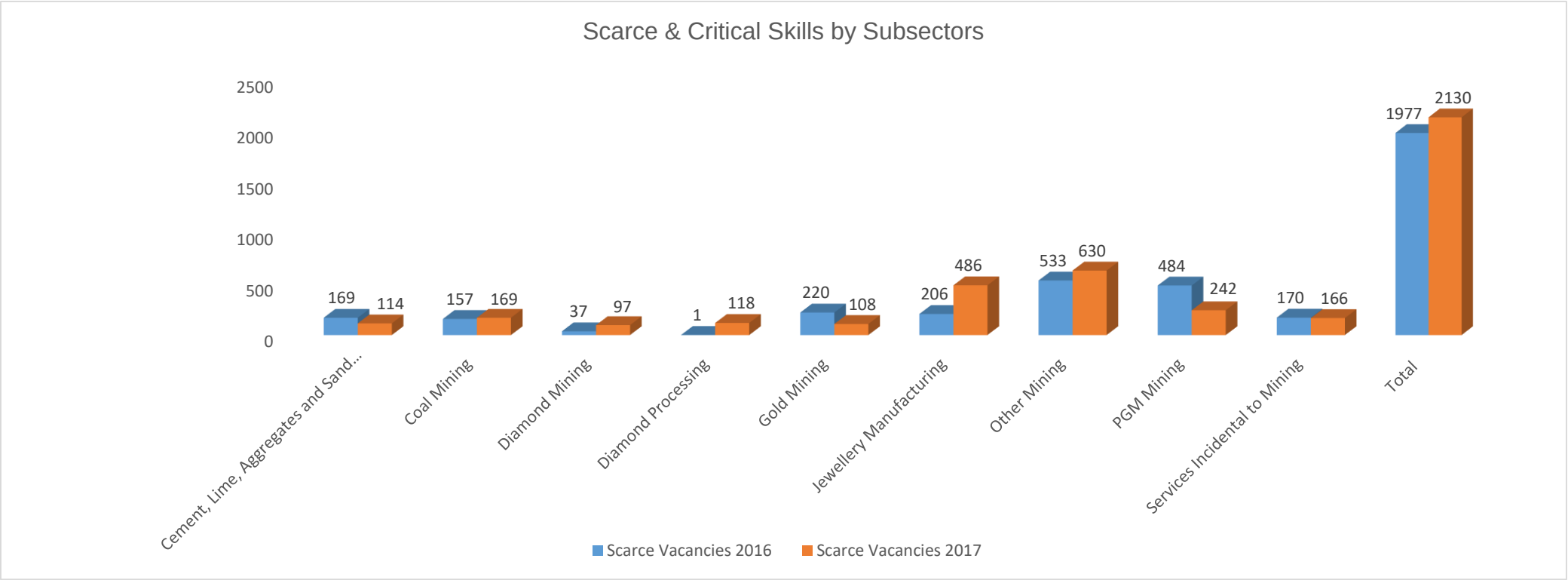


Figure 14: Scarce & Critical Skills by Subsectors

The largest number of scarce vacancies are found in the PGM and Jewellery Manufacturing subsectors. These subsectors experienced an upsurge of scarce vacancies in 2017 compared to 2016. The Jewellery Manufacturing reported 486 scarce vacancies in 2017 compared to 206 in 2016, whilst Other Mining reported 630 in 2017 vs. 533 in 2016.

SKILLS SCARCITY

SKILLS SCARCITY BY PROVINCES

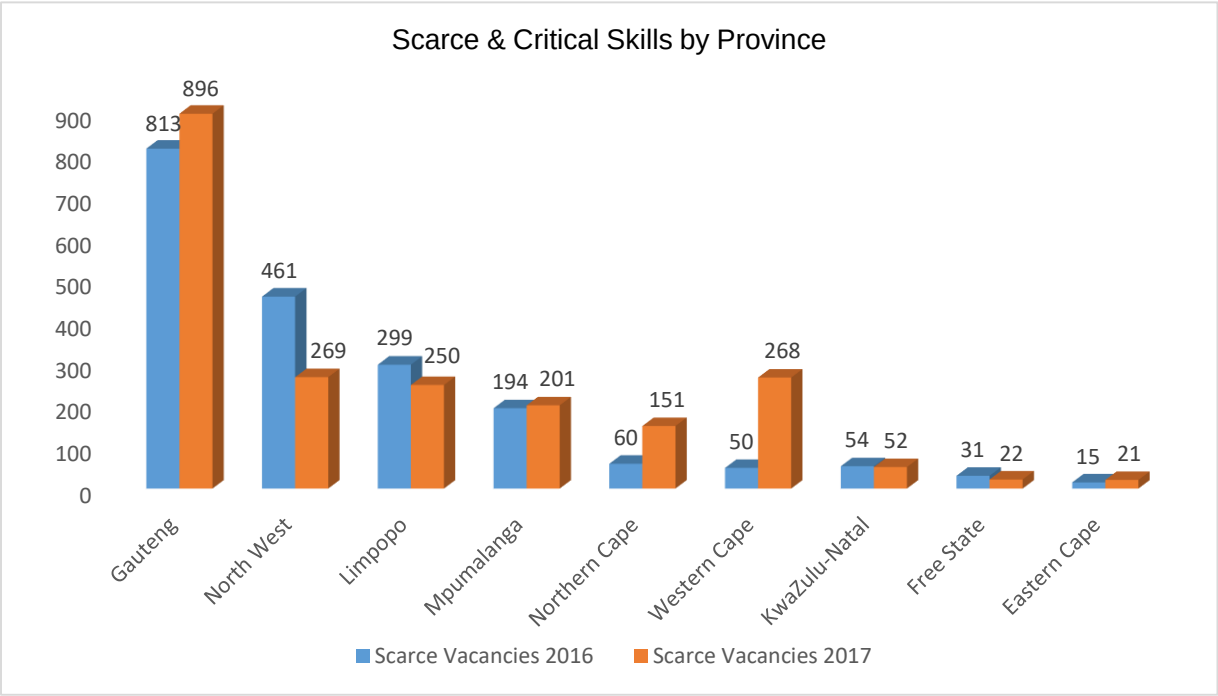
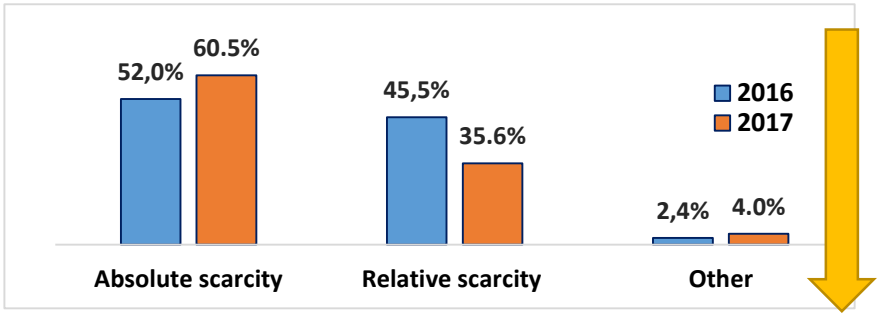


Figure 15: Scarce & Critical Vacancies by Provinces

REASONS FOR SKILLS SCARCITY



Reasons for scarce skills	Number of organisations	%
Absolute - lack of skilled people	251	32.2%
Absolute - lack of qualified people	155	19.9%
Absolute - replacement demand	58	7.4%
Absolute - new or emerging occupation	7	.9%
Relative scarce skill - geographic location	87	11.2%
Relative scarce skill - employment equity	67	8.6%
Relative scarce skill - industry attractiveness	54	6.9%
Relative scarce skill - replacement demand	43	5.5%
Relative scarce skill - remuneration	26	3.3%
Other	31	4.0%

The main reasons attached to the increase of skills scarcity is attributed to absolute and relative scarcity. Absolute scarcity relates to the suitably skilled people but are not available in the labour market, whilst relative scarcity relates to suitably skilled people but do not meet other employment criteria. The Western Cape had the highest number of scarce vacancies - five times higher (268 in 2017 vs. 50 in 2016), this was followed by the Northern Cape and Gauteng provinces. Although the Western Cape and Northern Cape posted the highest number of scarce vacancies, none of the companies intended on importing skills.

TRAINING IMPLEMENTED

TRAINING PROVIDED BY SUBSECTORS

SUBSECTOR	2015	2016	2017
Gold Mining	18.4%	17.7%	4.2%
Other Mining	26.0%	32.3%	28.5%
Coal Mining	22.3%	21.8%	18.5%
CLAS	2.9%	2.5%	1.5%
Diamond Mining	2.4%	1.8%	8.3%
Diamond Processing	0.1%	0.1%	6.9%
PGM Mining	22.7%	20.2%	26.5%
Services Incidental to Mining	5.1%	3.6%	5.5%
Jewellery Manufacturing	0.1%	0.1%	0.1%
TOTAL	**552 973**	**757 974**	**653 032**

Figure 16: Training by Subsectors

Training implemented in the sector fluctuated on a year to year basis. However, during 2015-2017 there has been a decline in the Gold Mining, Other Mining and Coal Mining subsectors and an increase in the Diamond Mining, Diamond Processing, PGM Mining, Services Incidental to Mining and Jewellery Manufacturing. Gold Mining posted the lowest training provided in 2017 out of all other subsectors. The decline in this subsector could suggest that some companies would under-invest in training for the purpose of sustaining their companies.

TRAINING BY PROVINCES

Province	Limpopo	Mpumalanga	North West	Western Cape	Free State	KwaZulu-Natal	Gauteng	Eastern Cape	Northern Cape	Total
2015	1.1%	25.8%	22.0%	0.5%	3.7%	18.2%	9.9%	3.6%	15.2%	**100% (552973)**
2016	0.9%	23.9%	21.7%	0.2%	3.1%	16.7%	15.2%	5.8%	12.5%	**100% (757974)**
2017	15.7%	32.7%	26.9%	1.0%	3.8%	3.6%	4.8%	0.2%	11.0%	**100% (653032)**

Figure 17: Training by Province

The Limpopo province had an increase of 14.6% since 2015, Following Limpopo's increase was Mpumalanga whose training provision has been increasing since 2015. The Gauteng province had a low training contribution to employees compared to the year 2016.

TRAINING PROVIDED BY GENDER

Subsectors		Gender			
		Female ♀		Male ♂	
		Number of Training Interventions Provided	Number of Employees	Number of Training Interventions Provided	Number of Employees
Cement, Lime, Aggregates and Sand (CLAS)	Count	1539	2476	8480	10721
	%	15.40%	18.80%	84.60%	81.20%
Coal Mining	Count	18458	9563	102117	45667
	%	15.30%	17.30%	84.70%	82.70%
Diamond Mining	Count	8673	4001	45818	16518
	%	15.90%	19.50%	84.10%	80.50%
Diamond Processing	Count	6744	2207	38014	8660
	%	15.10%	20.30%	84.90%	79.70%
Gold Mining	Count	2619	12973	24982	90015
	%	9.50%	12.60%	90.50%	87.40%
Jewellery Manufacturing	Count	181	575	172	570
	%	51.30%	50.20%	48.70%	49.80%
Other Mining	Count	26047	13482	160149	71342
	%	14.00%	15.90%	86.00%	84.10%
PGM Mining	Count	21336	25622	151545	189062
	%	12.30%	11.90%	87.70%	88.10%
Services Incidental to Mining	Count	4518	5069	31640	25888
	%	12.50%	16.40%	87.50%	83.60%
Total	**Count**	**90115**	**75968**	**562917**	**458443**
	%	**13.80%**	**14.20%**	**86.20%**	**85.80%**

Table 3: Training interventions provided by gender

The number of females trained is still low and slightly below the percentage representation in the sector (13.8% vs. 14.2% in 2017) making males the highest recipients of training.

TRAINING PROVIDED BY DISABILITY

Subsector		Disability		Total
		With no Disabilities	With Disabilities	
Cement, Lime, Aggregates and Sand (CLAS)	Count	9944	75	10019
	%	99.3%	.7%	100.0%
Coal Mining	Count	120181	394	120575
	%	99.7%	.3%	100.0%
Diamond Mining	Count	54333	158	54491
	%	99.7%	.3%	100.0%
Diamond Processing	Count	44690	68	44758
	%	99.8%	.2%	100.0%
Gold Mining	Count	26441	1160	27601
	%	95.8%	4.2%	100.0%
Jewellery Manufacturing	Count	343	10	353
	%	97.2%	2.8%	100.0%
Other Mining	Count	185323	873	186196
	%	99.5%	.5%	100.0%
PGM Mining	Count	169484	3397	172881
	%	98.0%	2.0%	100.0%
Services Incidental to Mining	Count	36078	80	36158
	%	99.8%	.2%	100.0%
Total	**Count**	**646817**	**6215**	**653032**
	%	**99.0%**	**1.0%**	**100.0%**

Table 4 : Training by disability status

Training provided to disabled individuals is in line with the population's representation of 1.1% which is below the Employment Equity Act threshold (3%).

TRAINING POPULATION GROUPS

The majority of trained employees are African, followed by White, Coloured and Indian employees being the least trained.

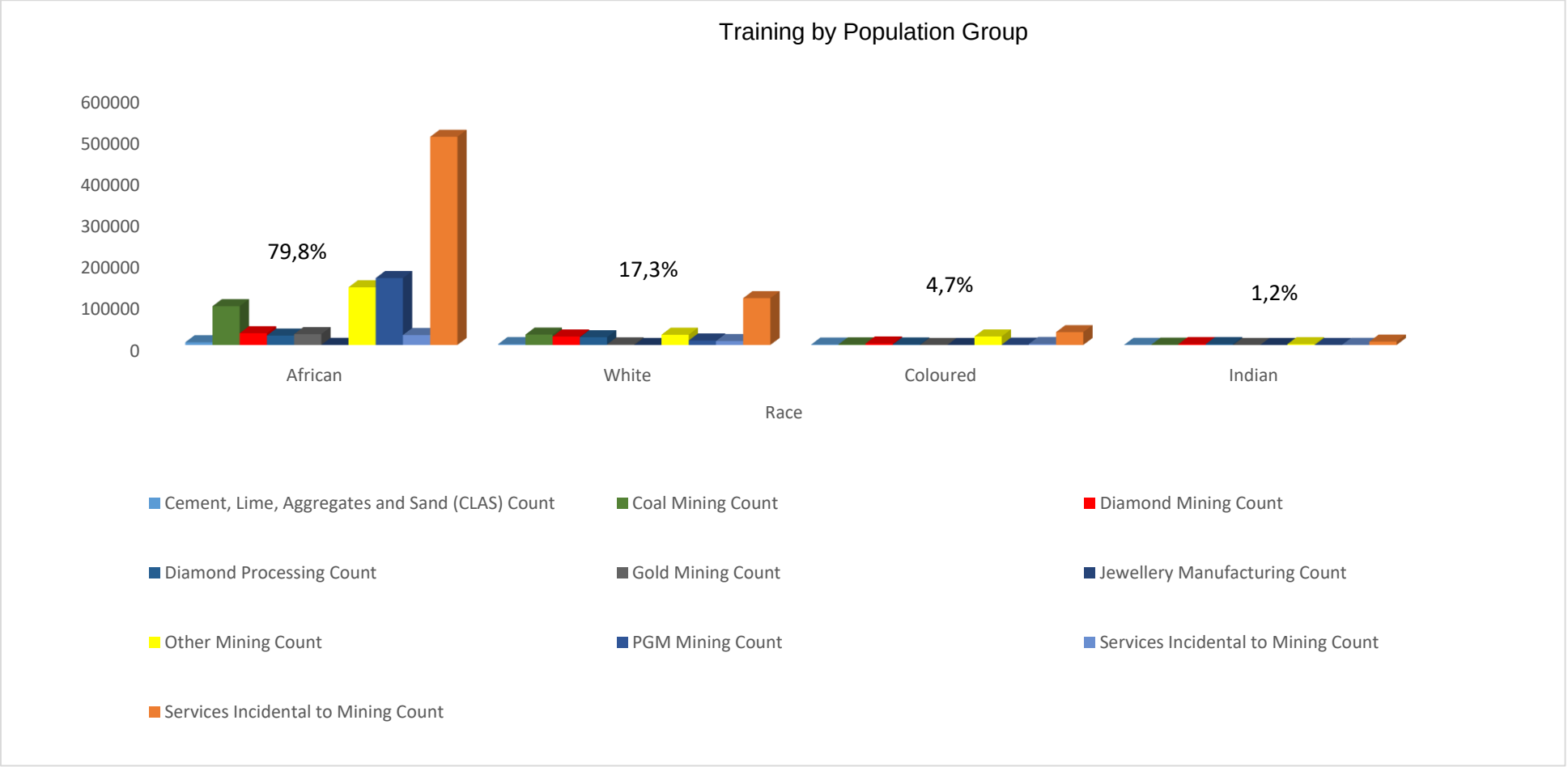


Figure 18: Training by Population

TRAINING INTERVENTIONS PLANNED

SUBSECTORS (2017)

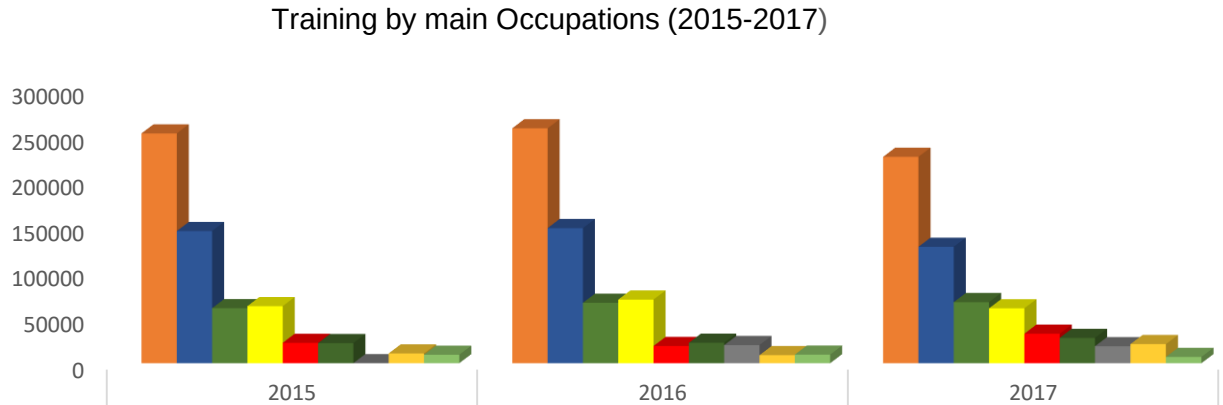
		2017 (Training Planned)	2017 (Training Conducted)	Difference
SUBSECTOR	Diamond Processing	778	44758	43980
	Diamond Mining	14278	54491	40213
	Coal Mining	90660	120575	29915
	PGM Mining	150415	172881	22466
	Other Mining	1177654	186196	-991458
	Gold Mining	127173	27601	-99572
	Cement, Lime, Aggregates and Sand (CLAS)	19344	10019	-9325
	Services Incidental to Mining	38576	36158	-2418
	Jewellery Manufacturing	394	353	-41
	Total	**619272**	**653032**	**33760**

Table 5 : Training by Subsector

The top 4 subsectors that had the highest number of training planned were Diamond Processing, Diamond Mining, Coal Mining and PGM Mining. Diamond Mining, Diamond Processing, Coal Mining and PGM Mining were the subsectors that overachieved in training. The subsectors with the least implemented planned training were the Gold Mining and CLAS subsectors.

TRAINING BY MAIN OCCUPATIONS (2015-2017)

The investment in the planned training that is centered on scarce and critical occupations, i.e. Managers, Professionals and Technicians is crucial for the sector as these occupations have been established according to research, essential for driving and sustaining the sector.



	2015	2016	2017
Plant and Machine Operators and Assemblers	251244	256844	225659
Elementary Occupations	144493	147704	127284
Technicians and Associate Professionals	60151	66025	66791
Skilled Agricultural, Forestry, Fishery, Craft and Related Trades Workers	62410	69556	60055
Clerical Support Workers	22234	18849	32267
Professionals	21959	22346	27690
Learners[1]	0	19809	18585
Managers	10642	8825	20884
Service and Sales Workers	9211	9314	6887

Table 6 : Training by main Occupations (2015-2017)

A total of 586 102 training interventions were reported for 2017 but this is a 5% decrease from 2016's 619 272.

TRAINING INTERVENTIONS FOR UNEMPLOYED BY SUBSECTORS & GENDER

Subsectors	Total Training planned (2016)	Male		Female		Total Training done (2017)	Male		Female	
		N	%	N	%		N	%	N	%
PGM Mining	8421	4072	29.1%	4349	29.8%	13849	6633	32.1%	7216	33.2%
Coal Mining	7801	3982	28.4%	3819	26.2%	8552	4199	20.3%	4353	20.0%
Other Mining	6357	2963	21.2%	3394	23.3%	10173	5033	24.4%	5140	23.6%
Diamond Mining	3533	1728	12.4%	1805	12.4%	3546	1655	8.0%	1891	8.7%
Gold Mining	1248	637	4.6%	611	4.2%	2613	1337	6.5%	1276	5.9%
Cement, Lime, Aggregates and Sand (CLAS)	469	238	1.7%	231	1.6%	1853	820	4.0%	1033	4.7%
Services Incidental to Mining	410	194	1.4%	216	1.5%	986	568	2.8%	418	1.9%
Jewellery Manufacturing	323	157	1.1%	166	1.1%	718	346	1.7%	372	1.7%
Diamond Processing	3	3	0.0%	0	0.0%	120	59	0.3%	62	0.3%
Total	**28565**	**13974**	**100%**	**14591**	**100%**	**42411**	**20651**	**100%**	**21761**	**100%**

Table 7 : Training for Unemployed by Subsector & Gender

The majority of the subsectors upskilled (80%) females in the sector. In 2016, all subsectors, except Gold Ming and Services Incidental to Mining had most of their planned training allocated to females than males.

TRAINING PLANNED FOR PEOPLE WITH DISABILITY IN 2018

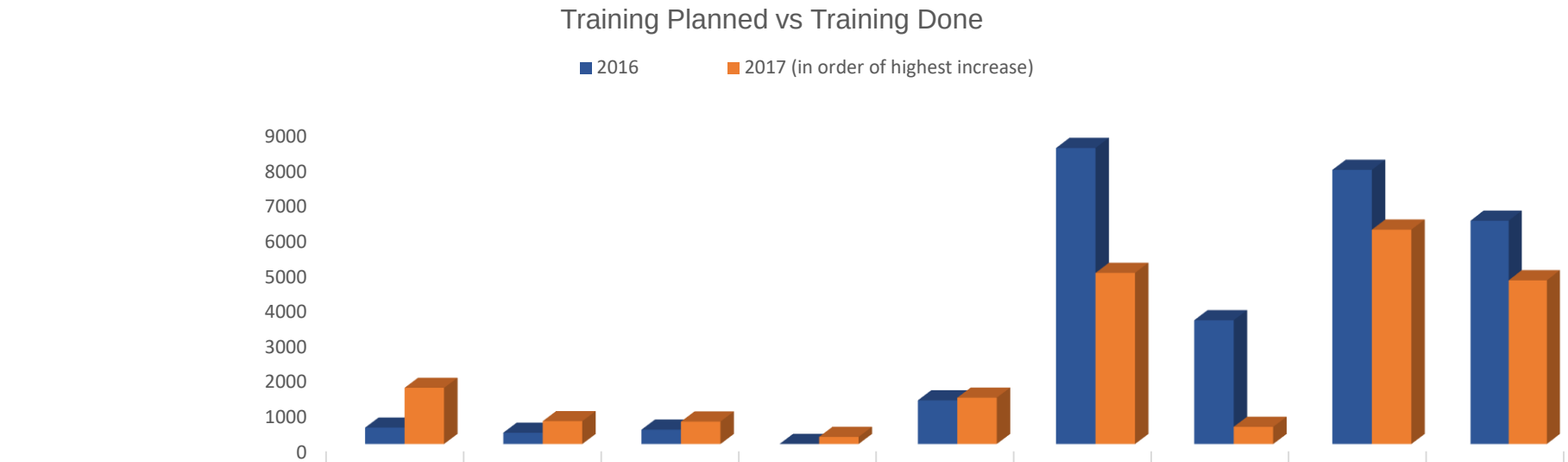
	Other Mining	PGM Mining	Diamond Mining	Coal Mining	Services Incidental to Mining	Cement, Lime, Aggregates and Sand (CLAS)	Gold Mining	Diamond Processing	Jewellery Manufacturing	Total
2017	1612	5098	1102	5936	72	28	2	3	11	13864
2018	413	162	97	94	64	63	26	5	2	926

Figure 5 : Training for the Disable

In 2017, there were 13 864 training interventions planned at developing disabled people, 44.8% (6215) of that training was implemented. There was a decrease in the number of planned training for 2018 but an increase is only seen for the CLAS, Gold Mining and Diamond Processing Mining subsector.

TRAINING PLANNED VS. TRAINING DONE FOR UNEMPLOYED COMMUNITY MEMBERS

During the year 2016, the PGM, Coal and Other Mining subsectors had the highest targeted planned training totals. However in 2017 where all of these subsectors planned on decreasing the number of training to be provided to community members. The number of training interventions done in 2016 for unemployed community members tends to be higher than the reported training interventions in 2017.



	Cement, Lime, Aggregates and Sand (CLAS)	Jewellery Manufacturing	Services Incidental to Mining	Diamond Processing	Gold Mining	PGM Mining	Diamond Mining	Coal Mining	Other Mining
2016	469	323	410	3	1248	8421	3533	7801	6357
2017 (in order of highest increase)	1606	653	642	204	1324	4876	491	6105	4666

Figure 20: Training Planned vs Training Planned

TRAINING PLANNED FOR 2018

The analysis of training by subsector indicate that Services Incidental to Mining had the highest planned training for 2018 (192 655). Its planned training for 2018 is 5 times higher than what it achieved in 2017. The PGM and Other Mining were the second and third highest subsectors with the most planned training, but below what they had planned and achieved the previous year. A similar trend can be seen for Diamond Processing, Diamond Mining and Coal Mining, who implemented more training than had planned for 2017, but plans on training less people in 2018.

Figure 21: Training Planned for 2018

CONCLUSIONS

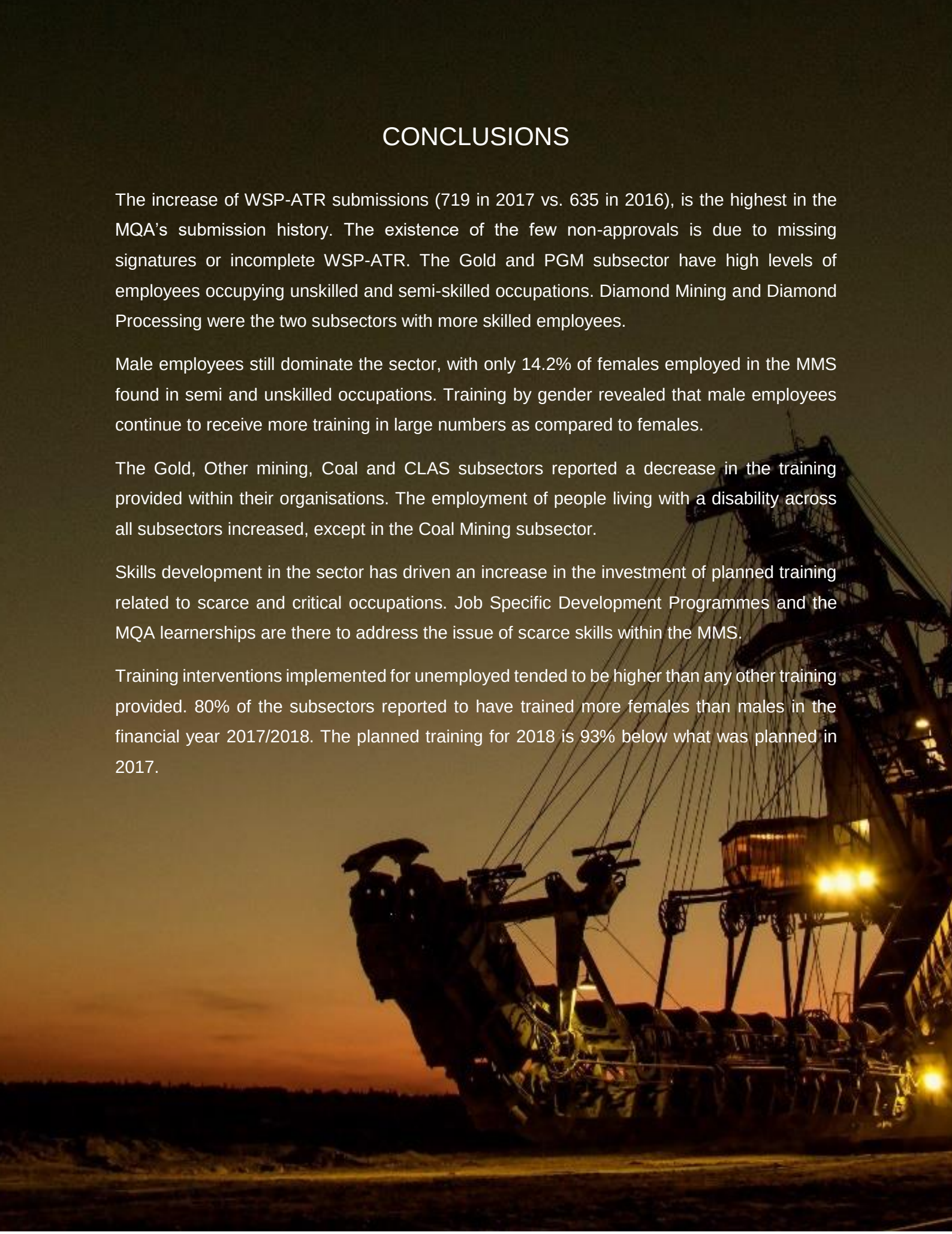
The increase of WSP-ATR submissions (719 in 2017 vs. 635 in 2016), is the highest in the MQA's submission history. The existence of the few non-approvals is due to missing signatures or incomplete WSP-ATR. The Gold and PGM subsector have high levels of employees occupying unskilled and semi-skilled occupations. Diamond Mining and Diamond Processing were the two subsectors with more skilled employees.

Male employees still dominate the sector, with only 14.2% of females employed in the MMS found in semi and unskilled occupations. Training by gender revealed that male employees continue to receive more training in large numbers as compared to females.

The Gold, Other mining, Coal and CLAS subsectors reported a decrease in the training provided within their organisations. The employment of people living with a disability across all subsectors increased, except in the Coal Mining subsector.

Skills development in the sector has driven an increase in the investment of planned training related to scarce and critical occupations. Job Specific Development Programmes and the MQA learnerships are there to address the issue of scarce skills within the MMS.

Training interventions implemented for unemployed tended to be higher than any other training provided. 80% of the subsectors reported to have trained more females than males in the financial year 2017/2018. The planned training for 2018 is 93% below what was planned in 2017.



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