



# CESA

Consulting Engineers South Africa

## BI-ANNUAL ECONOMIC AND CAPACITY SURVEY

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# 1. ECONOMIC OVERVIEW

## 1.1 International Developments

- IMF lower global economic forecast by 0.5 percent to 4.4 percent for 2022
- Emerging economies are facing increased risks to their economic outlook
- SA's growth outlook was lowered to 1.9 percent from 2.2 percent in 2022 and 1.4 percent for 2023
- Risks remain in the form of declining private and public sector investment, lack of structural reforms, higher inflation and the impact of tighter monetary policy leading to higher lending rates.

According to the IMF's latest World Economic Outlook Report (February 2022), the global economy is expected to be in a significantly weaker position. With several countries posing travel and economic restrictions in response to the Omicron Covid-19 wave, as longer than expected supply disruptions along with higher energy prices (also as a result of geo-political tensions in Russia), resulted in higher inflation and a weaker than expected economic performance globally. The downward revisions are largely due to significant downward revisions in the expected performance of the world's two biggest economies, namely the United States and China. Fiscal spending in the United States has been lower than expected (in terms of the infrastructure spending package, which did not get the buy in of Republicans). Add in a faster than expected withdrawal of monetary policy, as well as the supply chain disruptions, this led to the IMF downgrading the growth forecast by 1.2 percentage points. In the case of China, the IMF cites pandemic induced disruptions related to their zero-tolerance Covid-19 policy, and protracted stress amongst property developers, led to a 0.8 percent downgrade of China's growth forecast for 2022. This meant that the global growth forecast for 2022 was revised to 4.4 percent, 0.5 percent lower to previous forecasts.

According to the IMF, emerging market economies like South Africa are facing increased risks to their economic outlook and financial stability, as advanced economies start to raise interest rates and pull back monetary support, this is going to put huge pressure on emerging market economies, specifically those that have high levels of public debt, which is very much the case in South Africa. The IMF also downgraded their forecast for emerging markets by 0.3 percent from 5.1 percent to 4.8 percent and downgraded South Africa's growth forecast by the same magnitude, from 2.2 percent to 1.9 percent for 2022, and to 1.4 percent for 2023, which will again be below population growth, with the economy remaining in crisis.

**Table 1: Global economic outlook**

	2018	2019	2020	2021	2022	2023
<b>World</b>	3.6%	2.9%	-3.5%	5.9%	4.4%	3.8%
<b>Advanced Economies</b>	2.2%	1.7%	-4.9%	5.0%	3.9%	2.6%
US	2.9%	2.3%	-3.4%	5.6%	4.0%	2.6%
Eurozone	1.8%	1.2%	-7.2%	5.2%	3.9%	2.5%
UK	1.4%	1.3%	-10.0%	7.2%	4.7%	2.3%
<b>Emerging markets</b>	4.5%	3.7%	-2.4%	6.5%	4.8%	4.7%
Brazil	1.1%	1.2%	-4.5%	4.7%	0.3%	1.6%
Russia	2.3%	1.1%	-3.6%	4.5%	2.8%	2.1%
India	7.1%	4.8%	-8.0%	9.0%	9.0%	7.1%
China	6.6%	6.1%	2.3%	8.1%	4.8%	5.2%
Sub-Saharan Africa	3.0%	3.3%	-2.6%	4.0%	3.7%	4.0%
<b>SA</b>	0.8%	0.4%	-7.5%	4.6%	1.9%	1.4%

Source: IMF World Economic Outlook February 2022

## 1.2 Domestic Economy

The South African economy remains in crisis with extremely poor GDP figures released for the 3rd quarter of 2021 towards the end of last year, as the economy struggles to recover off the record lows of 2020, failing to get back anywhere near to 2019 pre-Covid levels. The economy contracted by 1.5 percent in the 3rd quarter relative to the 2nd quarter, with most sectors recording declines. This comes as the 3rd quarter was characterised by a lockdown costing the economy billions, the unrest in July, in both Gauteng and KwaZulu Natal, as well as a spat of load shedding, which continues to constrain an already ailing economy. Other remaining issues include the lack of a fiscal safety net in response to the pandemic and serious lack of structural reforms, which were again highlighted in the State of the Nation Address (SONA) this year.

**The construction industry was flat in the 3rd quarter of 2021 compared to the 2nd quarter, with a marginal contraction of 0.4 percent. This is off the back of a 1.4 percent decline in the previous quarter.** The construction industry remains one of the worst performing sectors in the economy despite promises of 'massive infrastructure investment' by government. Moreover, the economy is facing a myriad of risks and challenges going forward, which include a lack of policy reform, high inflation and in tighter monetary policy in the form of higher interest rates. One of the highest unemployment rates in the world as well as staggering inequality remain a significant challenge. A lack of investment by both the private and public sectors also remains a major concern. The economy desperately requires a kickstart in the form of promised structural reform, and while there has been some progress, it has been far too slow. The construction sector in general has underperformed economic growth.

### GDP VS CONSTRUCTION

Constant 2015 prices, annualised

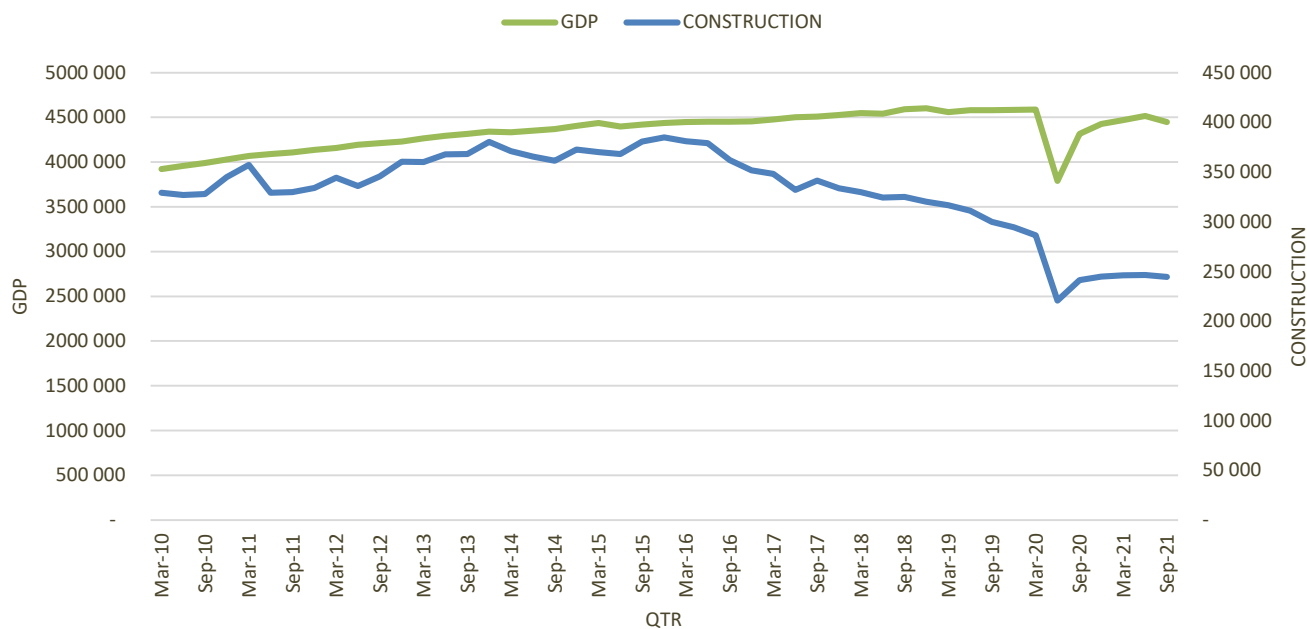


Figure 1: GDP vs Construction

**Table 2: National Treasury – Macro economic projections announced in the 2022 Budget.****Table 2.2 Macroeconomic performance and projections**

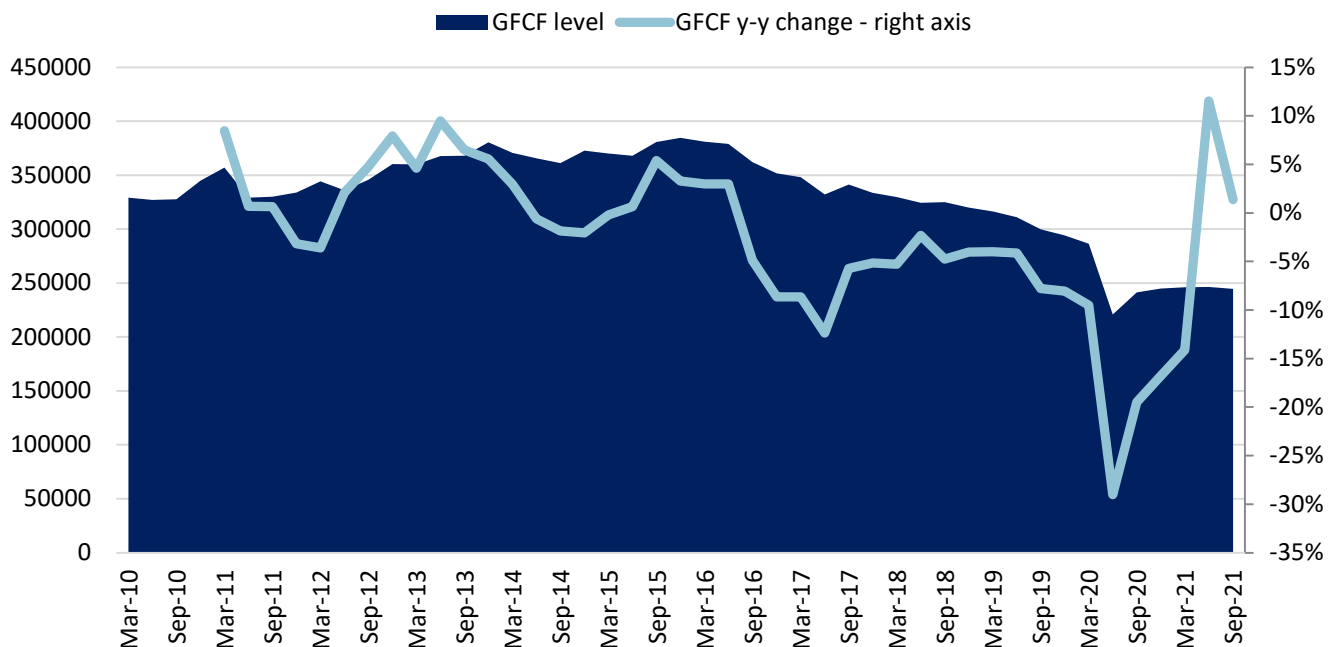
	2018	2019	2020	2021	2022	2023	2024
Percentage change	Actual			Estimate	Forecast		
Final household consumption	2.4	1.1	-6.5	5.6	2.5	1.8	2.0
Final government consumption	1.0	2.7	1.3	0.3	0.4	-2.0	-0.8
Gross fixed-capital formation	-1.8	-2.4	-14.9	1.2	3.2	3.8	4.1
Gross domestic expenditure	1.6	1.2	-8.0	4.6	2.7	1.9	1.9
Exports	2.8	-3.4	-12.0	9.3	2.9	2.8	2.7
Imports	3.2	0.5	-17.4	8.5	5.4	3.9	3.3
<b>Real GDP growth</b>	<b>1.5</b>	<b>0.1</b>	<b>-6.4</b>	<b>4.8</b>	<b>2.1</b>	<b>1.6</b>	<b>1.7</b>
GDP inflation	4.0	4.5	5.3	6.7	1.5	3.3	4.4
<b>GDP at current prices (R billion)</b>	<b>5 357.6</b>	<b>5 605.0</b>	<b>5 521.1</b>	<b>6 172.0</b>	<b>6 395.4</b>	<b>6 712.2</b>	<b>7 127.3</b>
CPI inflation	4.6	4.1	3.3	4.5	4.8	4.4	4.5
Current account balance (% of GDP)	-3.0	-2.6	2.0	3.8	0.3	-1.2	-1.5

Sources: National Treasury, Reserve Bank and Statistics South Africa

### 1.3 Gross Fixed Capital Formation

#### GROSS FIXED CAPITAL FORMATION

Y-Y Percentage Change and level by quarter

**Figure 2: GFCF (Y-Y percentage changes vs Percentage of GDP) Source SARB Quarterly Bulletin**

Investment ended flat in the 3<sup>rd</sup> quarter of 2021, as a 9.5 percent increase in fixed investment by public corporations, were counteracted by a 0.9 percent drop in investment by general government and a 1.2 percent decline in private sector investment. Compared to the contraction in economic growth during the same period, investment levels, albeit flat, outperformed the economy, and GFCF as a percentage of GDP edged up to 14.2 percent (from 14 percent in the 2<sup>nd</sup> quarter).

Investment in construction, fell by 0.7 percent q-q in the 3<sup>rd</sup> quarter, with decreases reported in investment in the non-residential sector (down 2.1 percent) and construction works (down 1.5 percent). Investment in residential buildings, in line with increased activity in mortgage loans, increased by 1.5 percent. Investment levels remain around 20 percent below pre-covid levels.

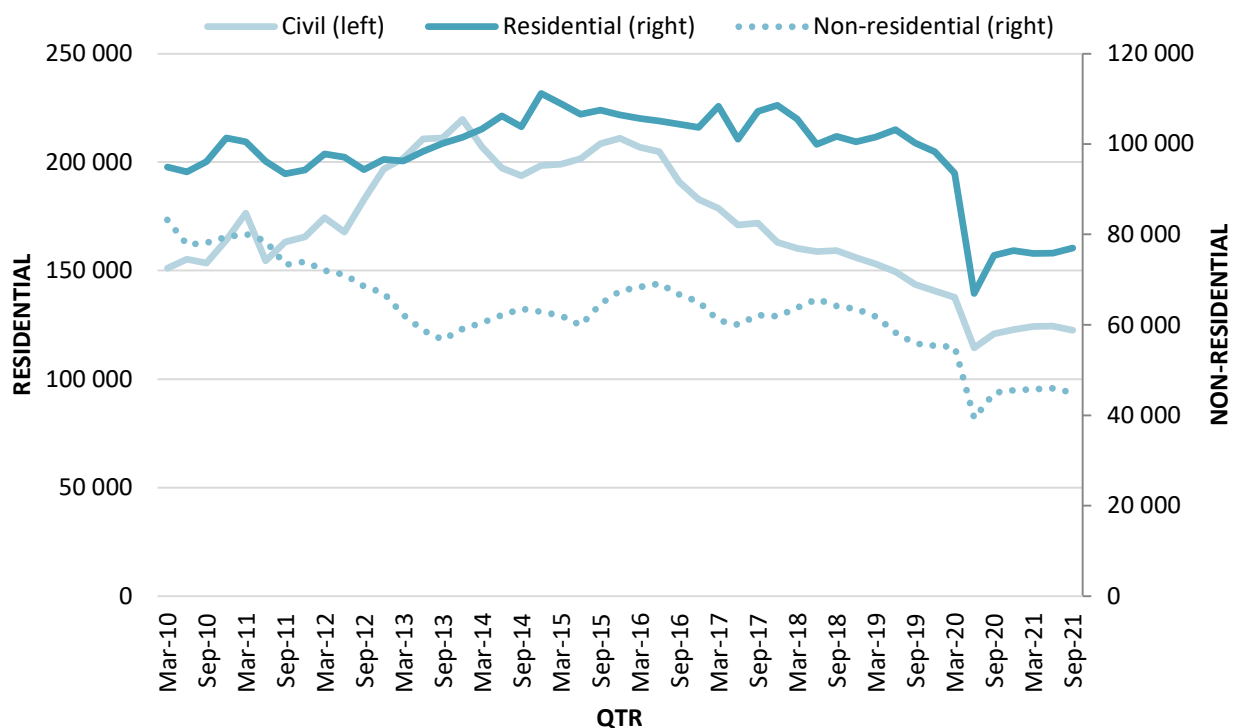
**Table 3: GFCF Residential, Non-Residential and Construction works, by client 2021Q3, constant 2015 prices (millions)**

2020	Government	SOE's	Private	Total
<b>Residential</b>	750	31	41729	42511
<b>Non-residential</b>	14134	1325	20173	35633
<b>Civil works</b>	51250	42786	43965	138002
<b>Total</b>	66134	44142	87711	216146

Source: South African Reserve Bank Quarterly Bulletin

### GROSS FIXED CAPITAL FORMATION BY CLIENT

Constant 2015 prices (Rm), annualised: Y-Y Percentage Change



**Figure 3: GFCF by client, constant 2015 prices (Source SARB)**

## 2. CESA SURVEY: Background

A total of 70 questionnaires were returned via both an on-line and hard copy system. The sample represents a cumulative fee income of R3.44bn, and 5695 employees for the period July – December 2021.

The analysis of the questionnaires completed by active firms in the consulting engineering profession provides a proxy for current and expected working conditions for the profession, which can be measured and benchmarked on a regular basis.

CESA welcomes commentary received from firms and invites all members to actively participate in sending commentary on either the survey or conditions in the workplace thereby increasing the relevance of these reports.

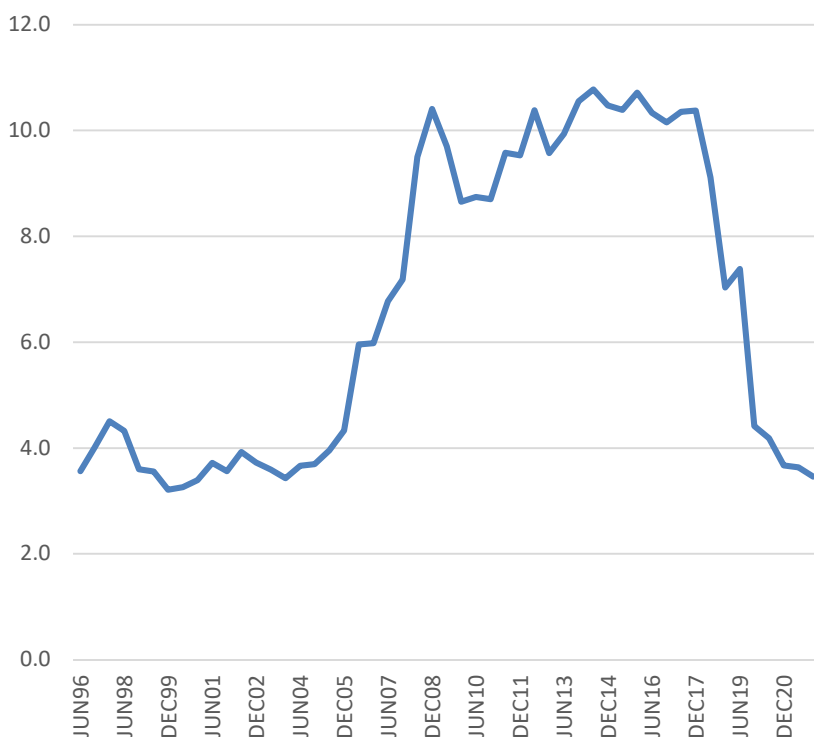
The survey is re-evaluated on a continuous basis to ensure that the questions asked are pertinent to current conditions in the industry. Several new questions were included in the current survey to improve the compilation of benchmark indicators.

## 3. PREVAILING CONDITIONS IN THE CONSULTING ENGINEERING INDUSTRY

### 3.1 FINANCIAL INDICATORS

#### FEE INCOME

Rbn, Constant prices Annualised



**Fee earnings disappointed for the last six months, as respondents expected earnings to increase by 5 percent from the first half of 2021 yet recorded a 1.7 percent decrease in actual earnings. Fee earnings are currently roughly at 2003/04 levels, with a significant delay in promised infrastructure spending keeping fee income at these moderate levels.**

Interestingly, there was a significant divergence between the large and small firms in terms of fee income in the latter half of 2021, with both larger and medium sized firms reporting declines of 3.1 percent and 1.3 percent (nominal), while smaller and micro firms reported a much better performance, with fee income of small firms increasing by a robust 59.0 percent and 23.7 percent for micro firms.

On average, engineers are still more optimistic about the future, on average expecting fee income to increase by 11.6 percent in the following 6-month period, with particularly larger firms hoping for a double digit increase in earnings.

A summary of fee earnings by firm size, as well as projected earnings for the first six months of 2022 is provided in the table below.

**Table 4: Fee earnings, actual vs projected by firm size**

Firm size category	Actual (Dec 2021 vs June 2021)	Projected for June 2022
Large	-3.1%	12.9%
Medium	-1.3%	-1.8%
Small	59.0%	6.1%
Micro	23.7%	-11.4%
Total	-1.7%	11.6%

### 3.1.2 Outsourcing

On average firms **outsourced** a higher percentage of turnover to black owned enterprises compared to that of external enterprises or that of public sector requirements. The percentage of turnover outsourced to black owned enterprises was down quite considerably over the last few surveys but increased slightly in this survey to 21.7 percent.

There was a mix between the different sized firms outsourcing work in the current survey, with medium sized firms again outsourcing the most to black owned enterprises, while large firms outsourced mostly to external enterprises. Overall outsourcing is lower compared to previous surveys.

**Figure 5: Matrix distribution of average percentage outsourced by firms, according to main purpose**

**Table 5: Average percentage of turnover outsourced, for consulting services only, by firm, size and purpose**

	<i>External enterprises or individuals including sub-consultants, joint ventures and contract workers</i>	<i>Black owned enterprises</i>
A	20.3	18.7
B	18.0	24.1
C	18.7	20.9
D	19.7	22.2
Average % of industry turnover	<b>19.1</b>	<b>21.7</b>
Average % of industry turnover June 2021 Survey	<b>20.3</b>	<b>18.7</b>



## PERCENTAGE OF TURNOVER OUTSOURCED

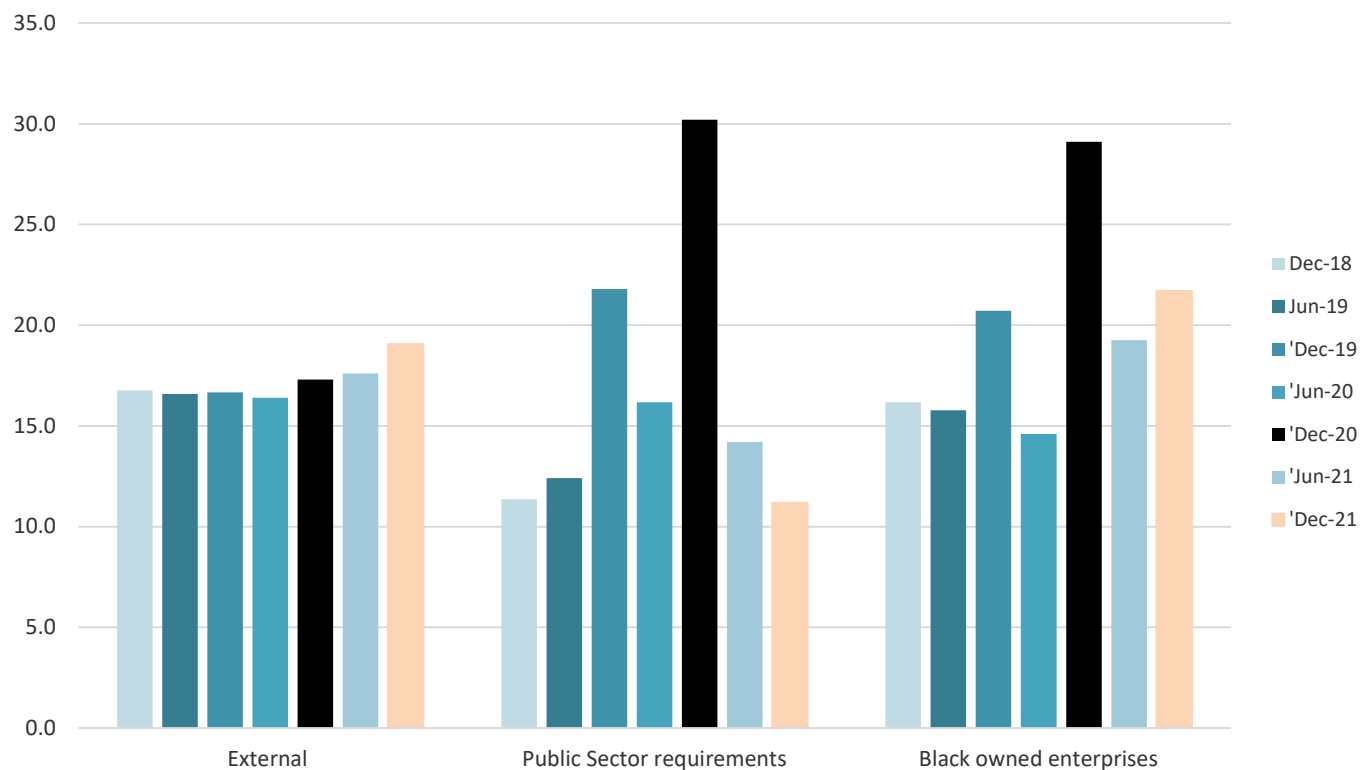
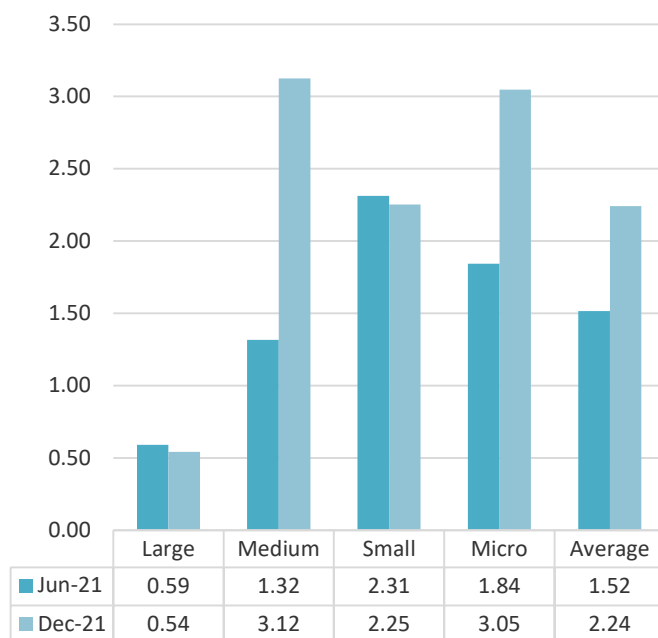


Figure 6: Percentage of turnover outsourced (average)

### 3.1.3 Break even revenue

#### AVERAGE BREAK EVEN RATIO



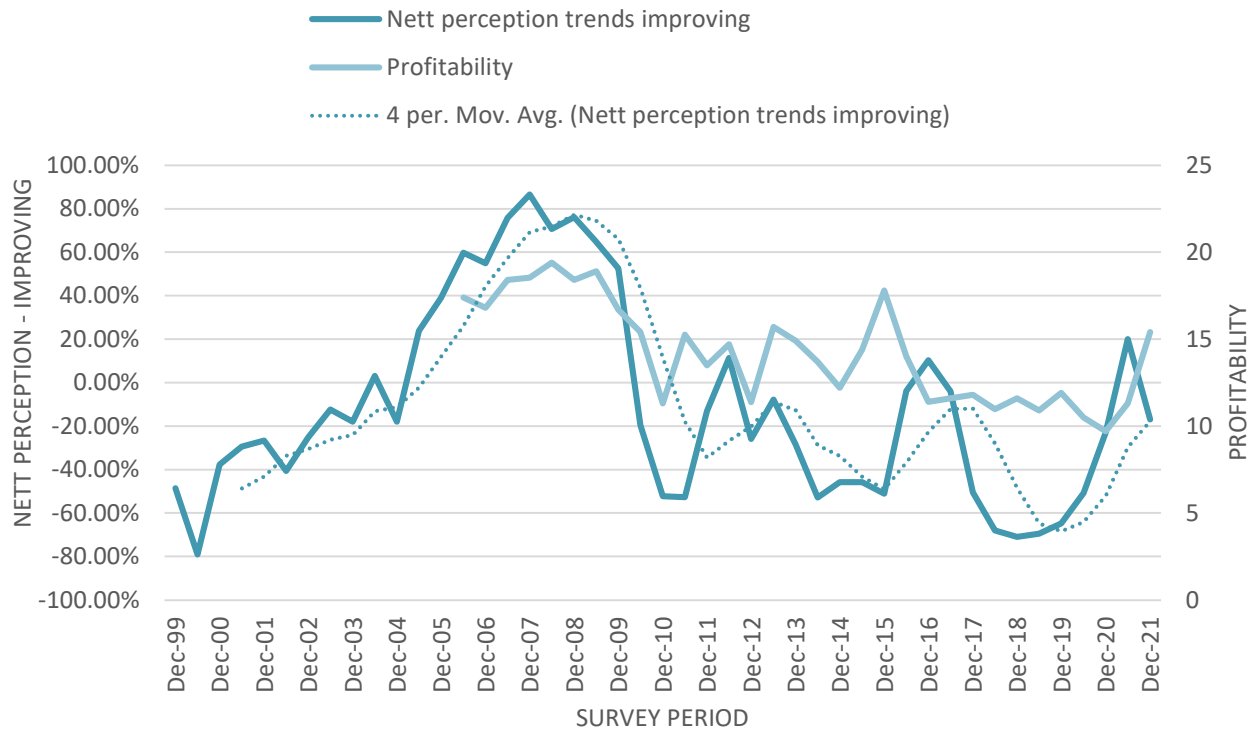
A break-even ratio of below 1.0 suggests a company is making insufficient revenue to break even, while a ratio above 1.0 suggests the company is making sufficient revenue to break even (and more). This new question was added to the survey in the previous edition, and as such trend lines are not yet available. However, based on the June 2021 and December 2021 responses, larger firms had a cumulative average break-even ratio of 0.54, depicting increasingly difficult conditions in the 2nd half of 2021 as well as the first.

The average break-even ratio for medium, small and micro firms were higher again in the 2<sup>nd</sup> half of the year, with the small firms at an average of 2.3, followed by the micro firms at 3.0 and the medium firms at 3.1. Conditions are significantly more challenging at the higher end of the market (due to economies of scale) where margins are potentially lower as well, with the lack of higher value projects over the last few years, making that segment of the market highly competitive.

### 3.1.4 Profitability and late payments

#### PROFITABILITY

Nett percentage satisfaction rate



**Figure 7: Profitability: Net % Satisfaction rate vs Average Profitability**

Nett profitability improved to an average of 15.4 percent in the last six months of 2021, from an average of 11.3 percent in the previous survey, and is finally above the average of 12.0 percent from 2016, when the market started turning for the worse.

Most firms expect profits to stabilise in the next six-month period (59.3 percent of firms), while 20.3 percent expect profits to increase, with the remainder (19.9 percent) more negative about the future of their business. In the previous survey, most respondents expected profits to stabilise.

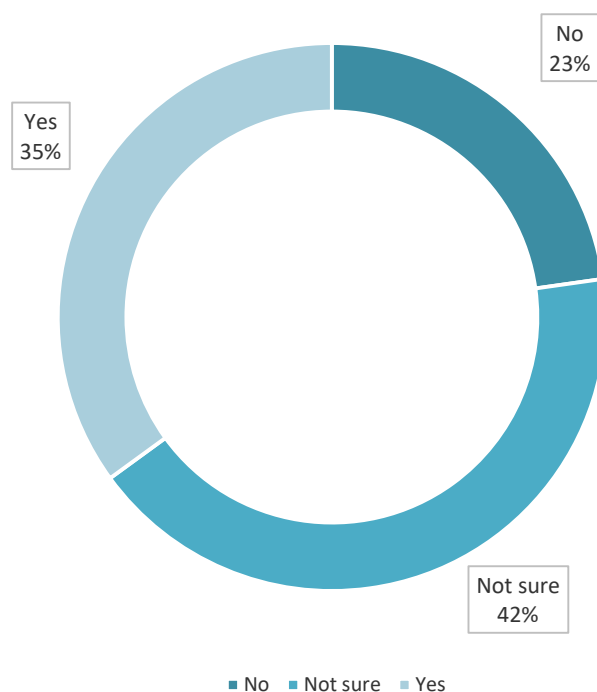
**Table 6: Outstanding fees payable for work already completed and invoiced: July – December 2021**

Firm size category	Total Gross Fee Earnings	Outstanding fee income	Proportion of overall income
Large	2,282,755,508	1,368,804,727	60%
Medium	995,962,330	113,736,866	11%
Small	108,208,087	27,401,356	25%
Micro	57,123,774	27,614,716	48%
Total	3,444,049,699	1,537,557,665	45%

Overall, the large firms had the highest proportion of their income outstanding after 90 days, which jumped significantly in the current survey, to 60 percent from 43 percent in the previous survey. Late payments are however lower compared to the previous quarter, which was to be expected, as late payment became a serious constraint considering the state of the industry, with many stakeholders struggling to meet their financial obligations. This situation was further exacerbated by the Covid-19 outbreak, and the broad impact of the economic lockdown. Overall, late payments as a proportion of total fee earnings declined to 45 percent, from 54 percent in the previous survey, remaining on a historically high level.

### 3.1.5 Project cancellations

Have you been involved in a tender that was later cancelled?



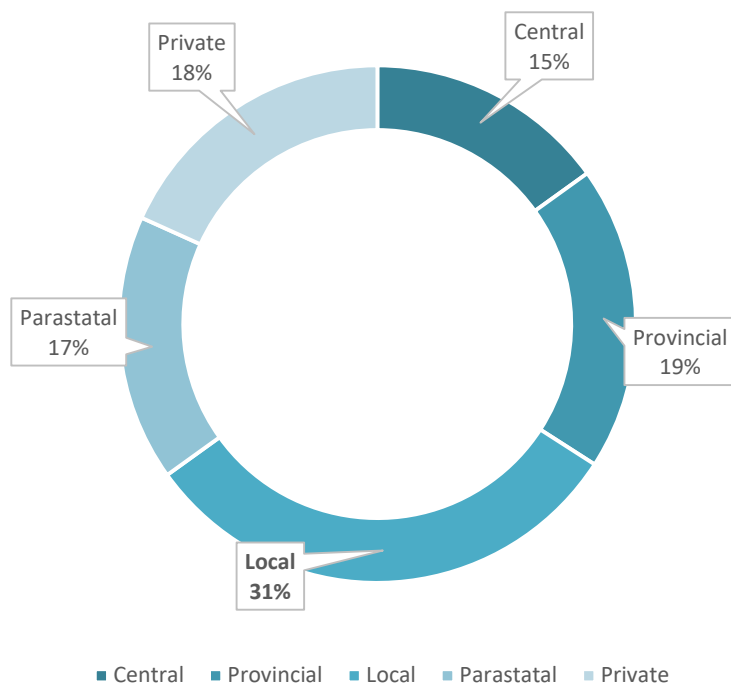
Anecdotally project postponements and cancellations have been rife within the construction industry for quite some time. The reasons for the cancellations vary, but can range from an uncertain economic environment, budget constraints, as well as a lack of skills in those implementing and awarding the tenders.

Fewer engineers reported project cancellations in the current survey, with 35 percent of the respondents saying that they had experienced a cancellation between July and December 2021. This is down from 54 percent reported in the previous survey. Most engineers were not sure in the current period (42 percent), while 23 percent of respondents said that they were not involved in a project cancellation in the survey period.

Comparison by firm size, shows a higher portion of larger firms (48.3 percent) experienced cancellations, compared to medium and smaller size firms again in the current survey.

**Table 7: Were you involved in a tender that was later cancelled?**

FIRM SIZE CATEGORY	YES	NO	UNSURE
Large	48.3%	13.8%	37.9%
Medium	30.4%	8.7%	23.9%
Small	24.6%	7.0%	19.3%
Micro	29.2%	8.3%	22.9%
Total	35.0%	22.8%	42.2%

**Origin of project cancellation**

Local government accounted for the largest contribution at 31 percent of tender cancellations, followed by provincial, private and parastatals. Difficulties within the public sector associated with project management, planning and implementation is well known resulting in an increased tendency of project cancellations, particularly within local governments. This is particularly concerning since local governments have over the last few years been allocated larger shares of the infrastructure budgets.

In terms of the experiences of the different sized firms, there were no big difference across the various groups, all reporting very similar shares of tender cancellations in specific spheres of the public and private sector. The small firms did however report the most cancellations in local government at 44.4 percent of their total, while the large firms had a relatively even split between the different categories, with the private sector being the least of their cancellation problems.

**Table 8: Percentage of total reported cancellation by category**

	CENTRAL	PROVINCIAL	LOCAL	PARASTATALS	PRIVATE	TOTAL
LARGE	19.4%	16.7%	25.0%	27.8%	11.1%	100%
MEDIUM	25.9%	22.2%	27.8%	5.6%	8.3%	100%
SMALL	20.0%	17.1%	44.4%	18.5%	25.9%	100%
MICRO	25.0%	21.4%	22.9%	11.4%	25.7%	100%
TOTAL	15.1%	19.0%	31.0%	16.7%	18.3%	100%

The data continues to show that smaller and micro firms are disproportionately affected by project cancellations due to the smaller number of projects they may be working on and shows the negative impact of project cancellations on these firms. On average micro firms reported that the cumulative costs associated with cancellations represented 29.1 percent of gross income, compared to between 3 and 7 percent for medium and smaller firms. Costs associated for larger firms contributed 1.9 percent of income in the last six months.

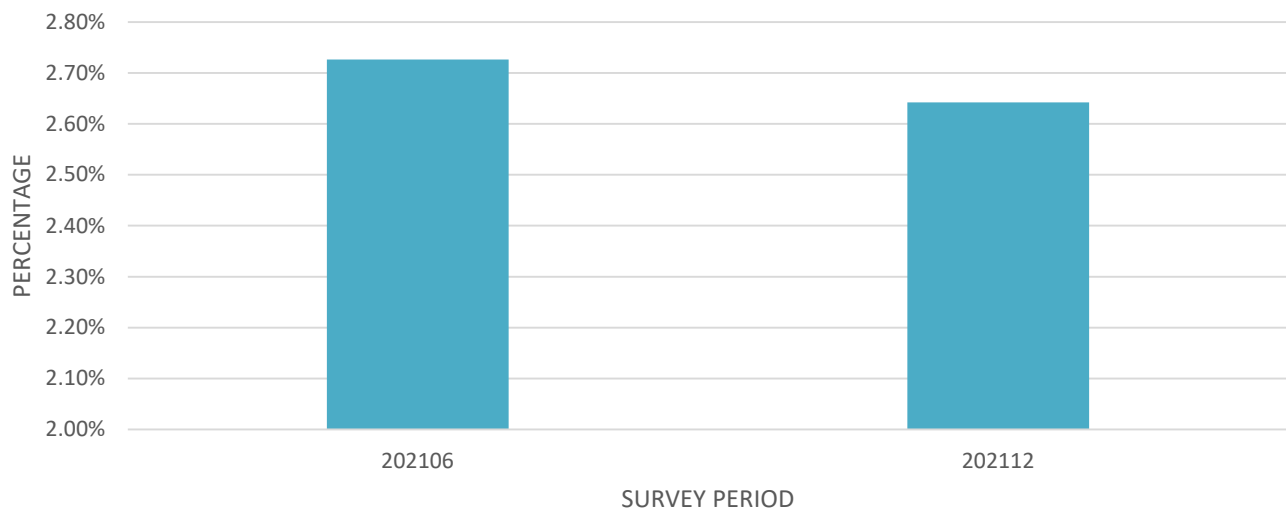
**Table 9: Cost of Cancellations by firm size**

Firm size category	Percentage of Earnings
Large	1.9%
Medium	3.1%
Small	6.9%
Micro	29.1%
Total	2.7%

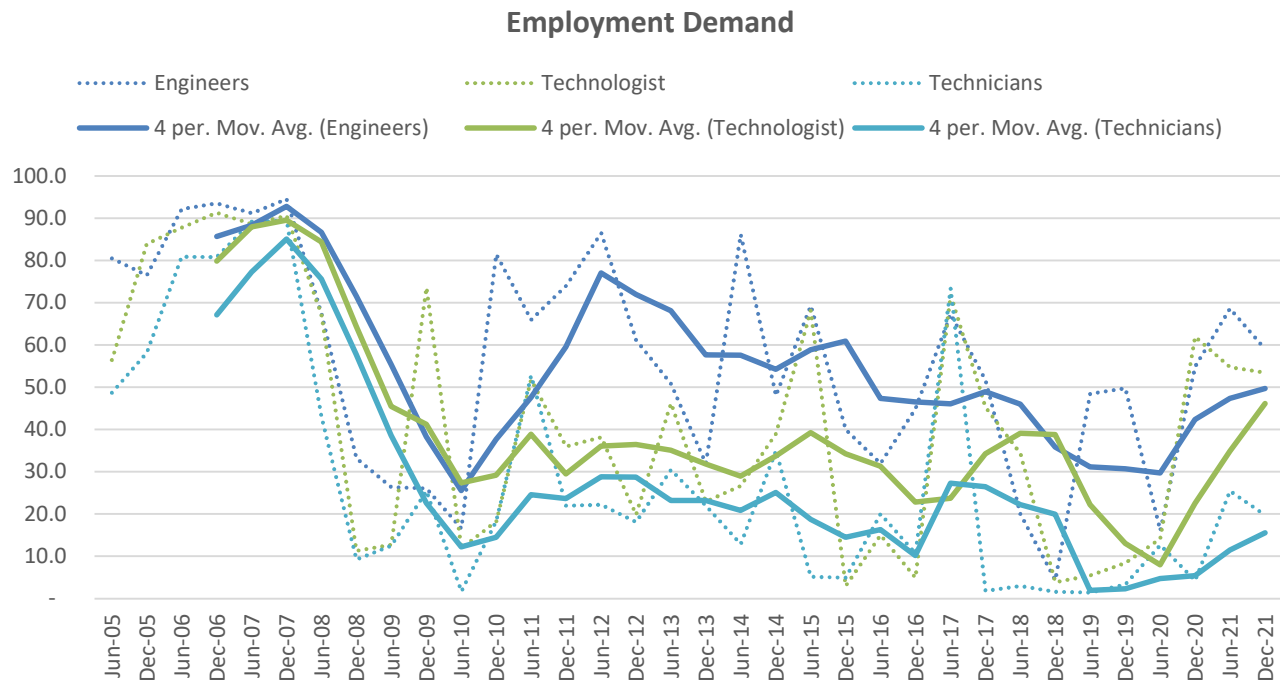
Client	Percentage of Earnings
Central Government	8.7%
Provincial	17.8%
Local	14.5%
SOE's	2.7%
Private	11.8%
Total	11.2%

**Table 10: Cost of Cancellations by Client Type****TENDER CANCELLATION COSTS IN RELATION TO INCOME**

Percentage of fee earnings

**3.2 HUMAN RESOURCES****3.2.1 Employment**

- **Employment increased by an average of 4.9 percent in the 2<sup>nd</sup> half of 2021** to an estimated 17 761, compared to the first six months of 2021, following the 10 percent decrease reported in the previous survey. This survey shows some recovery from a large decline in the previous quarter. All firm sizes except for micro firms experienced some increase in employment, the strongest increase being within the medium sized firms, who reported an increase of 10 percent, while larger firms reported an increase of 5 percent. Employment in micro firms fell by 3 percent for the survey period, compared to the previous 6-month period.
- There are mixed perceptions in terms of employment for the second half of 2021. A total of 59.1 percent of respondents expect to increase the number of engineers and 53.5 percent the number of technologists.

**Figure 8: Employment Demand****Table 11: % of firms wanting to increase staff, by type of personnel**

Type of personnel	% of firms wanting to increase staff December 2018	% of firms wanting to increase staff June 2019	% of firms wanting to increase staff December 2019	% of firms wanting to increase staff June 2020	% of firms wanting to increase staff December 2020	% of firms wanting to increase staff June 2021	% of firms wanting to increase staff December 2021
Engineers	4.4	48.5	49.8	16.1	54.9	68.6	59.1
Technologists	3.9	5.5	8.5	12.4	2.8	24.3	22.6
Technicians	1.6	10.4	3.3	14.2	62.0	54.8	53.5
Other technical staff	2.3	1.5	4.3	12.7	4.3	25.5	19.8
Support staff	7.5	2.4	1.6	11.3	0.9	0.9	2.1

### 3.2.2 Salary and Wage bill

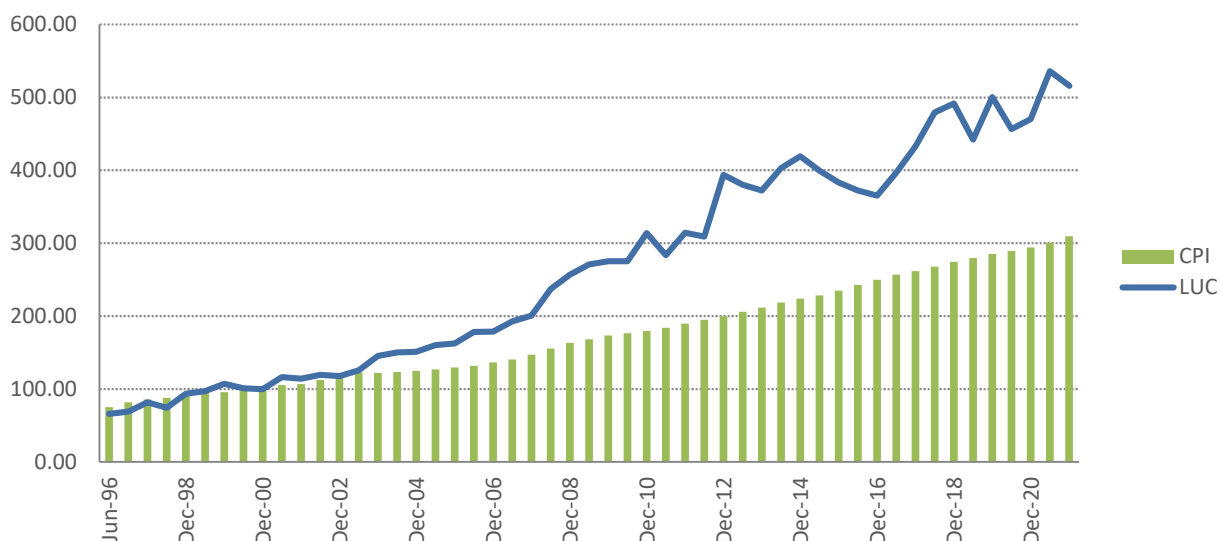
The salary and wage bill represent a significant contributor to the average cost of production in the consulting engineering profession.

- The contribution of the salary and wage bill to fee earnings generally averages between 63 percent and 66 percent but fell to 52 percent of total income in the current survey, the lowest level in quite some time. There are some disparities in the salary and wage bill in relation to earnings, amongst the different firm size categories. The contribution of the salary and wage bill was the highest amongst larger firms, at 69 percent, well above the industry average, while the medium sized firms reported a very low 16 percent.

- Average labour cost per unit (measured by the average salary and wage bill divided by number of full and part time employees and hours worked), increased by an average of 9.7 percent in the December 2021 survey, following an increase of 17.5 percent in the previous survey, compared to the same period in 2020. Inflation averaged 5.2 percent in the last six months of 2021 (from an average of 4.0 percent in the first six months of 2021) and although it is expected to remain under 6 percent for 2022 and 2023, according to the Reserve Bank, inflationary pressures are mounting.

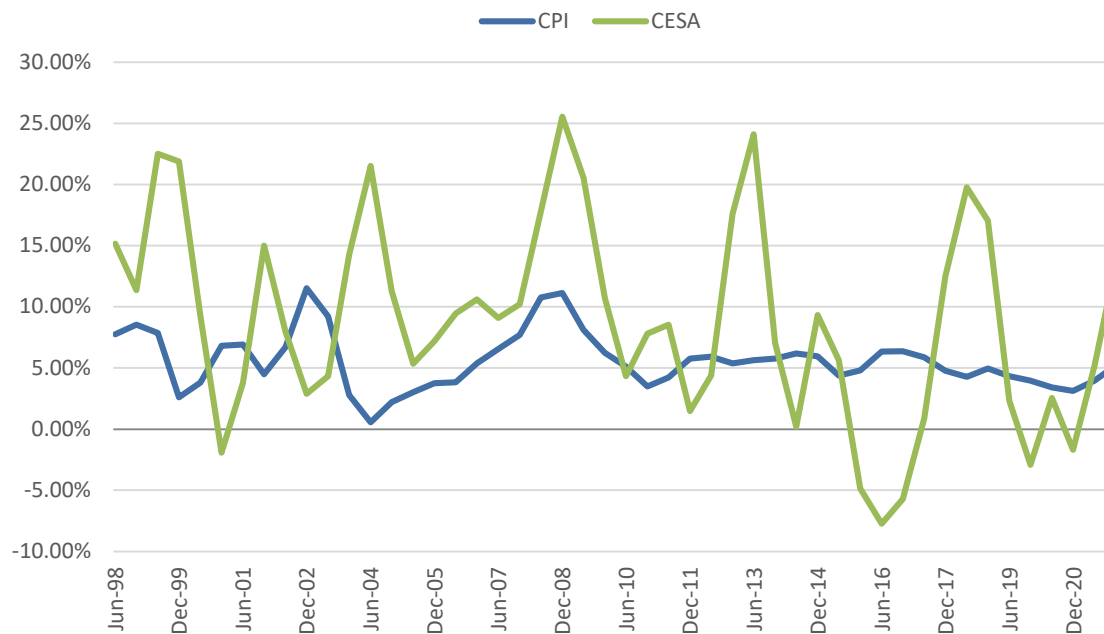
### CHANGE IN CESA LABOUR COST VS CPI

Index 2000 = 100



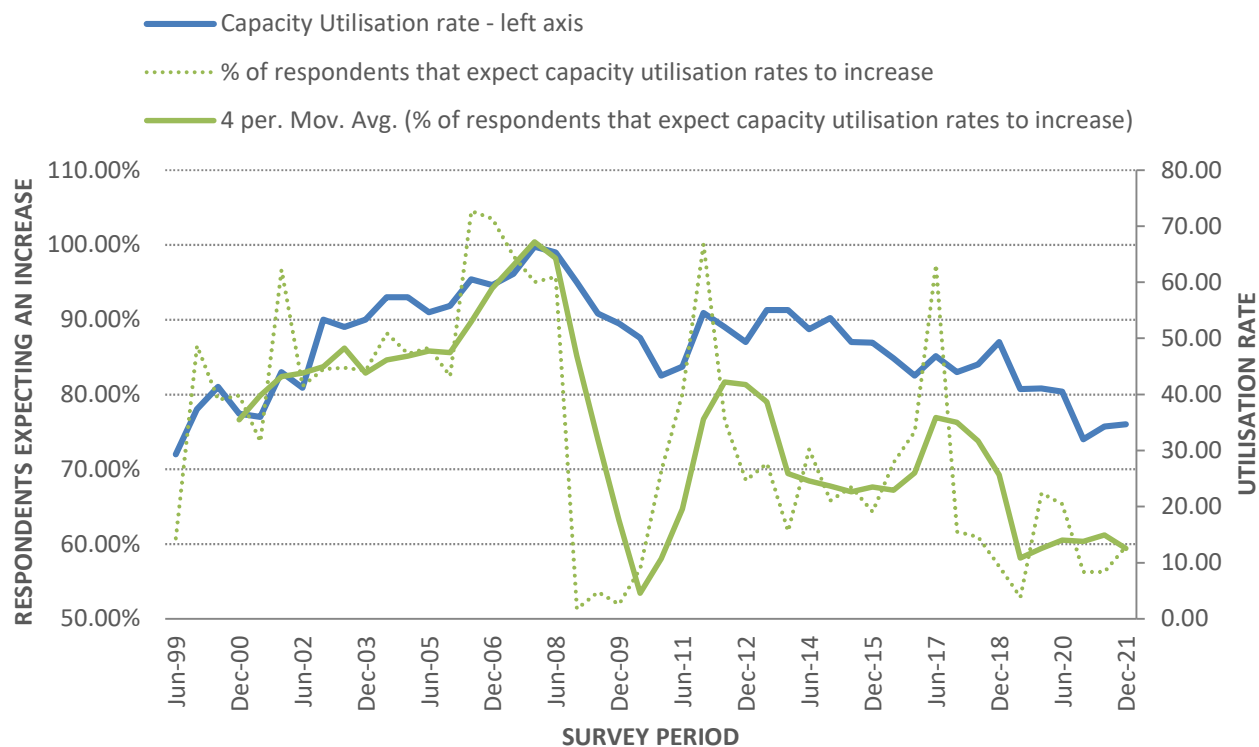
### LABOUR COST INDICATOR COMPARISON

CPI vs CESA labour unit cost index, Annual Percentage Change



### 3.3 CAPACITY UTILISATION

#### CAPACITY UTILISATION RATE



**Figure 9: Capacity Utilisation Rates**

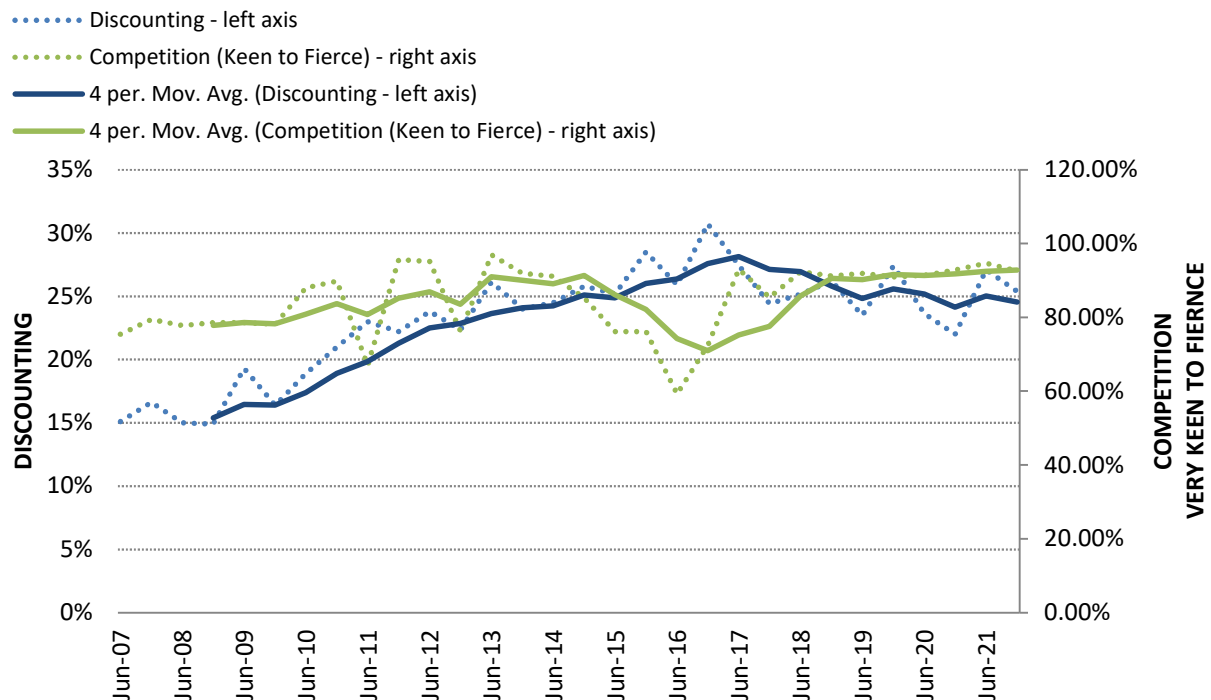
Capacity utilisation of technical staff has steadily decreased since 2013 and dropped to its lowest level since 1999 to 26 percent in the previous survey. The respondents do not expect much change going forward, with the majority (80.9 percent) expecting capacity to be static over the next six-month period.

Overall, only 12.9 percent of respondents expect capacity to increase, which is higher than the number of respondents which expect capacity to decrease (6.2 percent, vs 3.7 percent in the previous survey). An increasing number of respondents therefore expect further deterioration in the next six months, although this is not the majority view.



### 3.4 COMPETITION IN TENDERING

#### IMPACT OF COMPETITION ON DISCOUNTING



**Figure 10: Competition and Discounting**

Competition in tendering generally eases during a time when the availability of work increases and intensifies during periods of work shortages. An easing of competition will generally lead to an increase in prices, while price inflation is capped during periods of work shortages since an increasing number of firms tender on the same project driving prices down. The tendering process is costly and time consuming, while higher levels of competition significantly increase the risk for the engineering firm.

In line with a highly competitive environment, many firms continue to report very keen and fierce competition. **In this survey 92.5 percent reported “very keen to fierce” competition**, albeit slightly lower than the previous survey. As the potential pipeline for mega projects dry up, larger firms are competing with medium sized firms, while medium size firms move into smaller firms’ territory. Competition has intensified since the start of the pandemic and subsequent lockdowns and has steadily increased from an average of 65.8 percent in 2016. The majority (51.0 percent) reported fierce competition, although this was down from 65 percent in the first six months of 2021, which does suggest perhaps some alleviation in competition alongside a potential increase in pipeline projects, or a downsizing of market players (i.e fewer engineering firms to compete with). Liquidations are not broken down by type so supportive data is not available at this stage.

Larger firms experienced much higher levels of competition compared to smaller firms, as 52.9 percent of large firms reported fierce competition, compared to 45.6 percent of medium firms. Smaller and micro firms reported lower levels of competition.

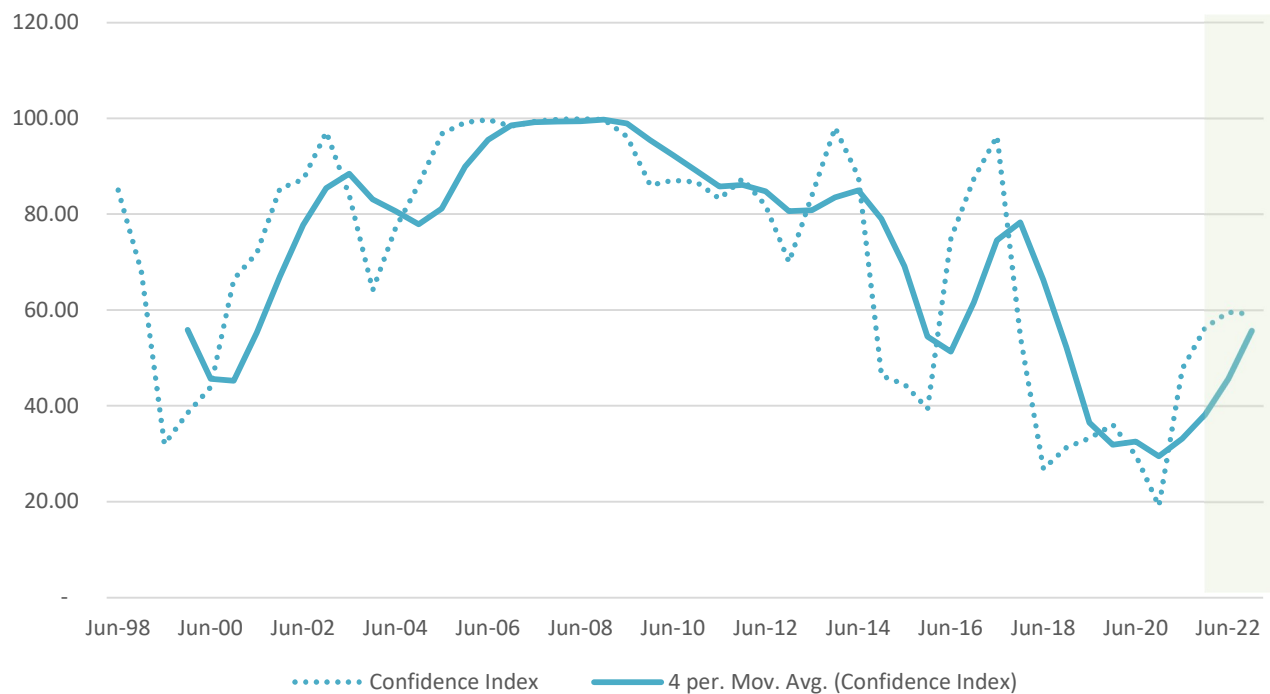
Higher levels of competition are supported by higher tendencies to discount hence the clear correlation between the level of discounting and competition. As competition started to intensify after 2009, the propensity to discount also started to accelerate. The average discounting rate has however remained relatively stable, albeit at high levels since around 2013, and in the current survey, although the discount rate was down slightly to just above 25 percent, this remains historically high. It has however been relatively stable at this rate since 2018.

Firm Size Category	Capacity Utilisation of existing technical staff during the past 6 months	% of Respondents that expect capacity utilisation of technical staff to increase over the next 6 months	Average discount being offered by respondents in tendering situation to clients, benchmarked against the ECSA guideline fee scales	% of Respondents that reported Very Keen to FIERCE Competition for work during the first six months
Large	74.8%	37.8%	25.5%	52.9%
Medium	76.0%	39.3%	30.8%	45.6%
Small	82.7%	36.7%	23.8%	32.8%
Micro	66.8%	21.0%	22.3%	32.3%
<b>Industry Average</b>	<b>76.0%</b>	<b>37.5%</b>	<b>25.0%</b>	<b>51.0%</b>

## 4. INDUSTRY OUTLOOK

### CONSULTING ENGINEERING INDUSTRY | CONFIDENCE INDEX

Satisfaction Rate



**Figure 11: Confidence Index**

Explanatory note: The confidence index, is an indicator of members' assessments regarding current and future prospects with regard to market developments and is a "weighted" index. The response of each company is weighted according to its total employment, including full and part time staff, and the index represents the net percentage of members satisfied with

business conditions.<sup>1</sup> The confidence index is used as a leading indicator to determine a short to medium term outlook for the consulting engineering industry.

The consulting engineering confidence index improved in the last six months to 56.4 index points, from 47.8 index points in the first half of the year. This is coming off the back of fallout from the Covid-19 pandemic and subsequent lockdowns, which seem to have been mostly felt in the latter half of 2020, with the index falling to an all-time low of under 20 points in the 2<sup>nd</sup> half of 2020. Although awarded tenders still seem to be somewhat lacking, tender activity in the civil construction sector has improved, and talk of several “mega projects” by government and “infrastructure priorities” by every provincial premier’s address delivered so far this year. While all the talk is there, we are still waiting to see clear evidence of this in the construction activity indicators.

In terms of the split between firm sizes, the data does not vary considerably. The larger firms continue to be the least confident, with a satisfaction rate of 55.8 percent, while micro firms were by far the most satisfied with conditions, with a satisfaction rate of 77.4 percent.

### More positive outlook for the first six months of 2022

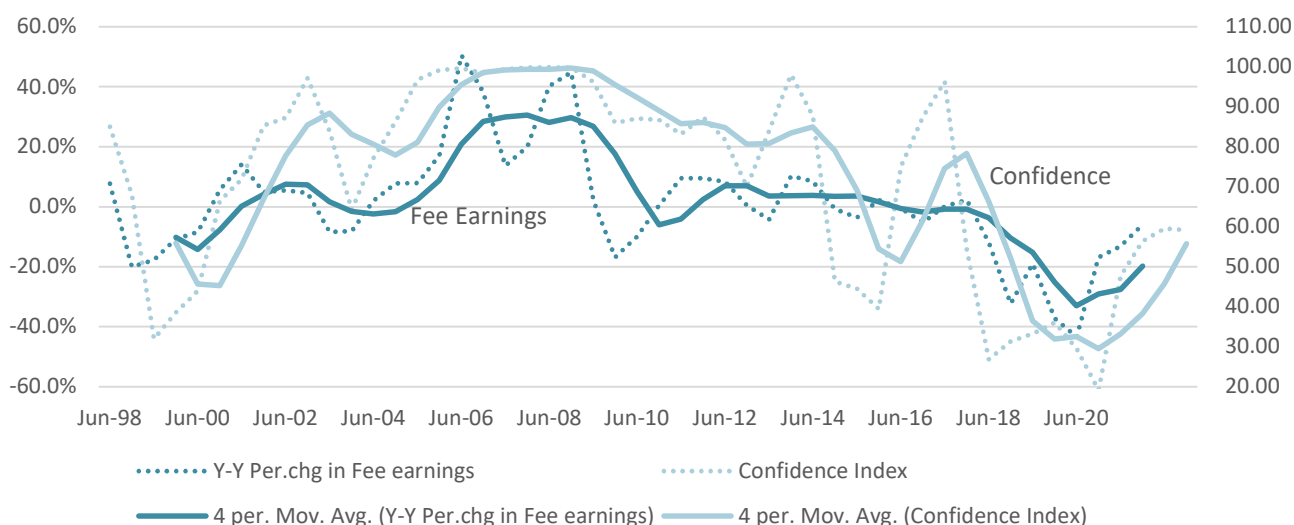
The outlook for the following six to twelve months is more positive, as satisfaction rates are expected to increase to 83.0 percent in the first six months of 2022, moderating to around 71.0 percent in the second half of 2022. This does paint a more optimistic picture of the future.

**Table 12: Confidence levels as at December 2021 by firm size category (% of respondents that experienced satisfactory business conditions)**

FIRM SIZE CATEGORY	LAST SIX MONTHS of 2021	NEXT 6 MONTHS	NEXT 12 MONTHS
Large	55.8%	55.8%	55.8%
Medium	58.4%	80.1%	80.1%
Small	58.3%	79.8%	76.1%
Micro	77.4%	86.3%	66.1%
<b>Industry Average</b>	<b>67.9%</b>	<b>83.0%</b>	<b>71.1%</b>

## FEE EARNINGS VS CONFIDENCE

### Annual Change in Real Fee Earnings vs Confidence



<sup>1</sup> The net percentage reflects only those members that expect conditions to be satisfactory, quite busy or very busy.

**Table 13: CESA Confidence index: % respondents satisfied with working conditions**

Survey Period	CESA Confidence Index	% Change on previous survey	% Change on survey same time last year
Dec-07	99.8	0.4%	1.4%
Jun-08	99.9	0.1%	0.5%
Dec-08	99.8	-0.1%	0.0%
Jun-09	96.2	-3.6%	-3.7%
Dec-09	86.0	-10.6%	-13.8%
Jun-10	87.1	1.3%	-9.4%
Dec-10	86.7	-0.5%	0.8%
Jun-11	83.2	-4.0%	-4.5%
Dec-11	87.4	5.0%	0.8%
Jun-12	81.8	-6.4%	-1.7%
Dec-12	70.0	-14.4%	-19.9%
Jun-13	84.0	20.0%	2.7%
Dec-13	98.1	16.8%	40.1%
Jun-14	87.7	-10.6%	4.4%
Dec-14	46.3	-47.2%	-52.8%
Jun-15	44.5	-3.9%	-49.3%
Dec-15	39.4	-11.5%	-14.9%
Jun-16	75.0	90.4%	68.5%
Dec-16	87.5	16.7%	122.1%
Jun-17	96.3	10.1%	28.4%
Dec-17	54.4	-43.5%	-37.8%
Jun-18	26.8	-50.6%	-72.1%
Dec-18	31.3	16.6%	-42.4%
Jun-19	33.2	6.1%	23.8%
Dec-19	36.1	8.4%	15.0%
Jun-20	29.6	-17.9%	-11.1%
Dec-20	19.2	-35.3%	-46.9%
Jun-21	47.8	149.4%	61.4%
Dec-21	56.4	18.1%	194.5%
Jun-22 (forecast)	59.6	5.7%	24.8%
Dec-22 (forecast)	59.2	-0.7%	5.0%

## 5. MARKET PROFILE

### 5.1 Sub-Disciplines of fee income earned

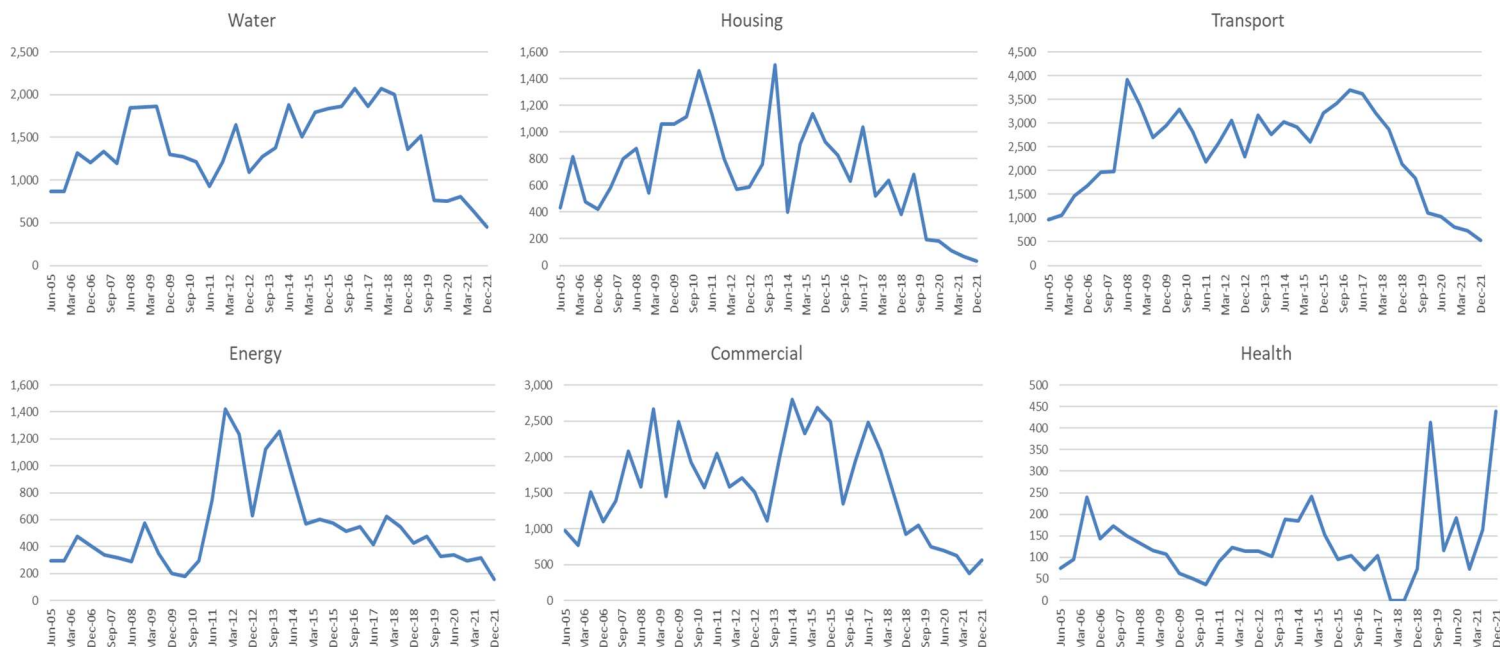
The South African consulting engineering industry is represented by many different sub-disciplines. The most common disciplines within larger firms include civil and structural services, contributing 29.4 percent and 18.8 percent in earnings during the last months of 2021. The contribution of mechanical work increased to 13.4 percent (compared to the 5-year average of just 3.3 percent). Electrical decreased to just 2.8 percent, from, breaching 10 percent in previous surveys.

Details of the various sub-disciplines are provided for under Statistical Tables.

### 5.2 Economic Sectors

The economic sectors include all infrastructure associated within that sector including expenditure related to soft issues such as feasibility studies or environmental assessments. Transportation is generally the most prominent, but in the current survey, the contribution of transport fell to 15.2 percent, from an average of 26.3 percent over the last five years. The mining sector increased its contribution to 19.2 percent (from an average of 11 percent), while education and health also reported a stronger contribution to fee earnings. Surprisingly the contribution by the Water sector slipped to 13 percent in the current survey from an average of 19.6 percent over the last five years.

The charts below depict trends in rand terms.



The table below provides a snapshot of earnings by sector categorized between large, medium, small and micro firms.

**Table 14: Distribution of fee earnings by economic sector, by firm size**

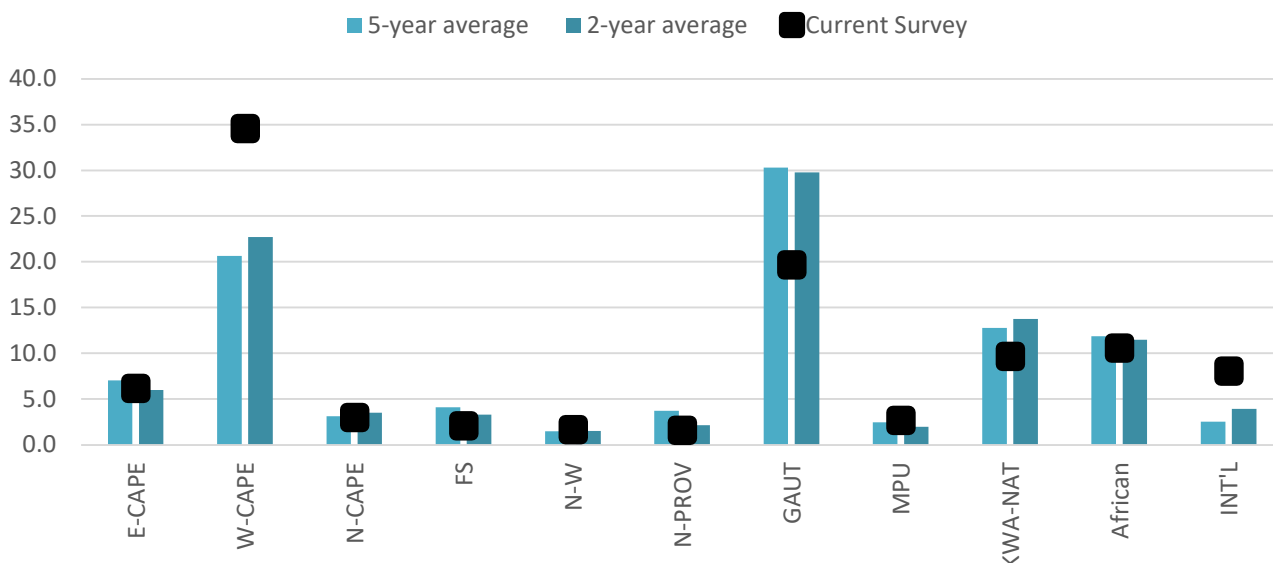
	GAU	KZN	WC	EC	NC	MPU	FS	LIM	NW	AFRICA	INT
A	24%	12%	18%	7%	3%	2%	1%	2%	2%	16%	12%
B	10%	3%	74%	2%	2%	4%	3%	1%	1%	1%	1%
C	12%	22%	7%	16%	6%	16%	9%	3%	1%	6%	0%
D	17%	8%	39%	14%	1%	6%	6%	5%	4%	0%	0%
Grand Total	20%	10%	35%	6%	3%	3%	2%	2%	2%	11%	8%

**Table 15: Distribution of fee earnings by province, by firm size**

	WATER	Transportation	Energy	Mining	Education	Health	Tourism	Housing	Commercial	Agriculture	Eco other
A	13%	19%	5%	28%	1%	10%	0%	1%	10%	0%	12%
B	9%	5%	3%	0%	21%	22%	0%	1%	30%	0%	8%
C	41%	20%	0%	5%	3%	4%	0%	2%	17%	5%	3%
D	16%	2%	10%	0%	2%	4%	0%	6%	24%	9%	28%
Grand Total	13%	15%	4%	19%	7%	13%	0%	1%	16%	0%	11%

## 5.3 Geographic Location

### PROVINCIAL DISTRIBUTION OF FEE EARNINGS



**Figure 12: Provincial Distribution of earnings**

There were some big movements in terms of geographic splits in the 2<sup>nd</sup> half of 2021, with the share of Western Cape's earnings as a proportion of total earnings jumped to almost 35 percent, from less than 20 percent in the previous

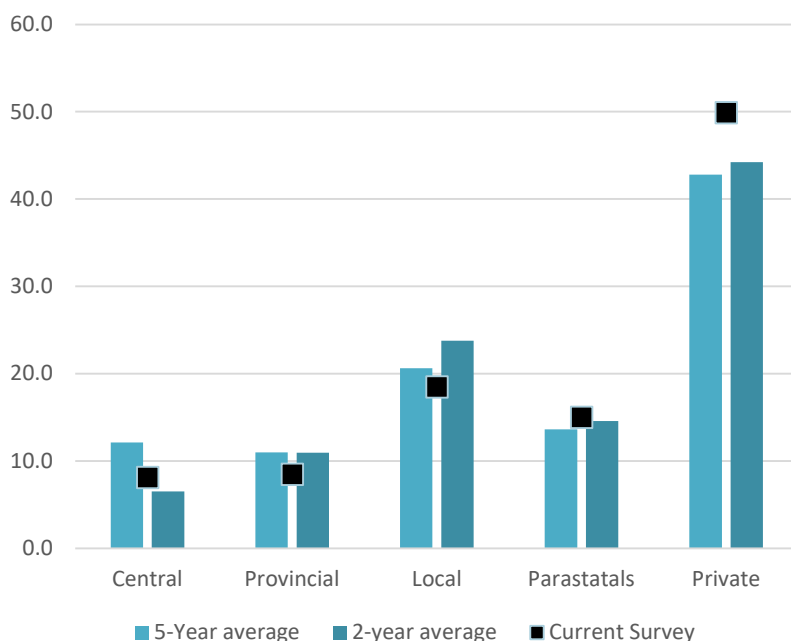
survey. This was also well above the average for the last 2 and 5 years. This shift was at the expense of Gauteng, where its contribution falling to under 20 percent compared to the long term average of 30 percent.

#### 5.4 Fee earnings by client type

The contribution to fee earnings by the private sector remained high in the current survey at 50.0 percent, compared to 49.6 percent in the previous survey. This is more or less in line with the longer-term average but has increased over the last 10 years or so, with the private sector playing a more prominent role in the construction industry, as the state disinvested from the broader industry over time.

The contribution by SOE's remained flat at low levels of just 14.8 percent, which has come down considerably over the years. There is a broad consensus that there has been less work coming from SOE's over the past few years, as they have become increasingly cash strapped having to rely less on government transfers and more on tariff increases. This along with high incidences of corruption and broad-based inefficiencies, severely dampened infrastructure investment from these entities. Nonetheless, there has been some developments as SANRAL has a healthy pipeline of road projects out to tender, while Transnet is actively pursuing private sector investors in its port upgrades and developments. DBSA has also called for proposals in the embedded generation investment programme.

**CLIENT DISTRIBUTION BASED ON FEE EARNINGS**



**Figure 13: Distribution of earnings by client type**

The public sector is generally regarded as the most important client to the industry, but due to the increased contribution by the private sector in the last few surveys, the combined representation of the public sector (including central, provincial, local government and SOE's) remained at 50.0. The role of the public sector however remains critical to the engineering profession and particular for medium and smaller firms. A breakdown of earnings by client type and firm size is provided in the table below.

**Table 16: Fee earnings distribution by client by firm size**

	Central	Provincial	Local	Parastatals	Private	Total
Large	9%	5%	17%	16%	53%	100%
Medium	5%	29%	18%	12%	36%	100%
Small	5%	22%	40%	2%	32%	100%
Micro	17%	5%	30%	9%	39%	100%
Total	8%	8%	18%	15%	50%	100%
Average 2-Year	6.5%	11.0%	23.8%	14.6%	44.2%	100.0%
Average 5-year	12.1%	11.0%	20.6%	13.6%	42.8%	100.0%

## 6. INDUSTRY CHALLENGES AS NOTED BY RESPONDENTS

Many of the challenges were noted before but as they are still applicable are included again in this report. No **additional** challenges were raised by respondents in the December 2021 survey.

- Regulation issues, including the procurement of consulting engineering services, remain one of the biggest challenges faced by the industry. Procurement is currently based on price and broad-based black economic empowerment (BBBEE) points, with functionality or quality having a minimum threshold, thus being largely price driven. This is affecting tender prices, as firms sometimes tender below cost in view of the diminished availability of projects.
- Unrealistic tendering fees remain a concern for members, while the extended time it takes in which to finalise a proposal is affecting profitability in the industry.
- The quality of technical personnel is argued by some firms to have deteriorated, putting greater risk on the built environment sector. Skills shortage is regarded as one the most significant institutional challenges faced by the private and the public sector. CESA has offered their services to government to procure and implement projects.
- Fraud and corruption are affecting the ethos of our society, with a lot of talk and little action accompanying the growing evidence of corruption. CESA is aware that members are under pressure from contractors and corrupt officials, to certify payment for work not completed. This is regarded as an extremely serious matter for CESA and as such will be relentless in holding those in power accountable.
- Unlocking greater private sector participation is seen as a critical element to fast-track delivery which will support engineering fees and as such engineering development in the industry. Transnet for example has recently called for private sector investment to support their capital investment programme. Private sector participation in this context refers to involvement on a more technical level (and not as a client), to improve municipal capacity and efficiency. Government must create an environment for the private sector so that it can play a much bigger role in infrastructure delivery. Many of the projects highlighted in the NDP can be carried out by the private sector through public-private partnerships.
- Service delivery, especially at municipal level remains a critical burning issue. The consulting engineering industry is threatened by incapacitated local and provincial governments. As major clients to the industry, it is important that these institutions become more effective, more proactive in identifying needs and priorities and more efficient in project implementation and – management.
- The involvement of non-CESA members in government tenders and procurement continues to threaten the standard and performance of the industry. Non-CESA members do not seem to comply with the same standards and principles as those firms that are members of CESA. Whether this is linked to complaints of “below cost” tendering during 2009, is not certain, but CESA members should be better informed about engaging in below cost tendering.
- Firms from across South African borders are tendering at rates that are not competitive for local firms. Complaints have been received of some of these firms not producing proper drawings and not attending site visits. Clients, unfortunately, are not always properly experienced or educated to conduct proper procurement assessments and unknowingly award contracts to these “unscrupulous” firms. While these occurrences may be limited to smaller rural areas, it remains an unacceptable practice.
- Lack of attention to maintain infrastructure poses a serious problem for the industry. Not only is it much more costly to build new infrastructure, but dilapidated infrastructure hampers economic growth potential. The cost of resurfacing a road after seven years at current prices, is estimated at R175 000 per kilometer, compared to R3 million per kilometer to rebuild, less than 6% of the construction price. In many cases, infrastructure is left to deteriorate to such a state, that maintenance becomes almost impossible.
- A further challenge to the industry is to find a way to standardize the procurement procedures applied by the different government departments. Procurement procedures should be standard for the country, or at least for the specific tier of government.
- Adapting to a low growth environment as outlook for infrastructure spending is hampered by poor economic growth, lower than expected revenue by government, international economic instability and price volatility, and low private sector confidence.
- Requirement as set out in the Construction Sector Charter inhibit small firms to competitively tender on government projects, requiring them as such to be more reliant on private sector work. In this survey small and micro enterprises earned between 44 percent and 62 percent from the private sector.



## **STATISTICAL TABLES**

**Table 17: General financial indicators**

Survey period	Employment <sup>2</sup>	Salaries / Wages 2000 prices (Annualised)	Fee Income, R mill (Annualised)			Cost Deflator	
			Current prices	Constant 2000 prices	Y/Y real % change	CPI Index 2000 = 100	CPI y/y % Change
Dec-12	19 964	6 316	19 109	9 569	0.4%	199.7	5.4%
Jun-13	24 356	6 557	20 446	9 935	-4.3%	205.8	5.6%
Dec-13	23 625	6 226	22 286	10 552	10.3%	211.2	5.8%
Jun-14	23 389	7 006	23 557	10 799	8.5%	218.2	6.2%
Dec-14	22 921	6 808	23 439	10 474	-0.7%	223.8	5.9%
Jun-15	23 838	6 857	23 697	10 389	-3.6%	228.1	4.4%
Dec-15	24 315	6 748	25 119	10 712	2.3%	234.5	4.8%
Jun-16	24 072	6 511	25 068	10 335	-0.5%	242.6	6.3%
Dec-16	23 349	6 699	25 319	10 150	-5.2%	249.4	6.4%
Jun-17	24 283	6 522	26 585	10 352	0.2%	256.8	5.9%
Dec-17	21 369	6 226	27 117	10 377	2.2%	261.3	4.8%
Jun-18	23 934	6 288	24 405	9 113	-12.0%	267.8	4.3%
Dec-18	21 540	4 851	19 280	7 030	-32.3%	274.3	5.0%
Jun-19	21 002	5 109	20 687	7 384	5.0%	279.4	4.3%
Dec-19	19 843	2 756	12 584	4 414	-40.2%	285.1	4.0%
Jun-20	18 851	2 859	12 081	4 182	-5.3%	288.9	3.4%
Dec-20	18 813	2 498	10 800	3 674	-12.2%	294.0	3.1%
Jun-21	16 932	2 434	10 908	3 632	-1.1%	300.3	4.0%
Dec-21	17 761	2 281	10 690	3 456	-4.9%	309.3	5.2%

**Table 18: Consulting Engineering Profession: Financial indicators: Annual Percentage Change (Real)**

Survey period	Employment	Salary and Wage bill	Fee income	Cost escalation based on CPI index (Stats Sa)
Dec-12	1.8%	5.2%	0.4%	5.40%
Jun-13	17.1%	7.1%	-4.3%	5.60%
Dec-13	18.3%	-1.4%	10.3%	5.80%
Jun-14	-4.0%	7.0%	8.7%	6.20%
Dec-14	-2.9%	9.4%	-0.7%	5.90%
Jun-15	1.9%	-2.1%	-3.6%	4.4%
Dec-15	6.1%	-0.9%	2.3%	4.8%
Jun-16	1.0%	-5.0%	-0.5%	6.3%
Dec-16	-3.9%	-0.7%	-5.2%	6.4%
Jun-17	0.9%	0.2%	0.2%	5.9%
Dec-17	-8.5%	-7.1%	2.2%	4.8%
Jun-18	-1.4%	-3.6%	-12.0%	4.3%
Dec-18	0.8%	-22.1%	-32.3%	5.0%
Jun-19	-12.3%	-18.7%	-18.7%	4.3%
Dec-19	-7.9%	-38.1%	-37.2%	4.0%
Jun-20	-10.7%	-43.4%	-43.3%	3.4%
Dec-20	-0.2%	-16.8%	-8.6%	3.1%
Jun-21	-10.0%	-13.1%	-23.1%	4.0%
Dec-21	-5.6%	-28.1%	-9.8%	5.2%

<sup>2</sup> Revised June 2007

**Table 19: Sub-disciplines: Percentage share of earnings**

Sub-discipline	Dec-20	Jun-21	Dec-21	5-year average	2-year average	Deviation 5-year	Deviation 2-year	Deviation last six months
Agricultural	0.9%	0.2%	<b>0.3%</b>	0.6%	0.6%	-0.3%	-0.3%	0.1%
Architecture	1.7%	2.3%	<b>0.8%</b>	1.0%	1.8%	-1.0%	-1.0%	-1.5%
Mechanical building Services	1.3%	1.0%	<b>13.4%</b>	3.3%	1.9%	11.5%	11.5%	12.4%
Civil	54.6%	40.0%	<b>29.4%</b>	51.5%	47.7%	-18.4%	-18.4%	-10.6%
Electrical / Electronic	9.6%	7.8%	<b>2.8%</b>	7.0%	8.8%	-6.0%	-6.0%	-5.0%
Environmental	0.3%	2.0%	<b>0.6%</b>	2.6%	1.4%	-0.7%	-0.7%	-1.4%
Facilities Management (New)	0.8%	0.2%	<b>0.3%</b>	0.5%	0.5%	-0.2%	-0.2%	0.1%
Geotechnical	0.3%	0.6%	<b>0.5%</b>	1.1%	1.0%	-0.5%	-0.5%	-0.1%
Industrial Process / Chemical	0.0%	9.9%	<b>3.2%</b>	1.7%	3.1%	0.1%	0.1%	-6.7%
GIS	0.0%	0.0%	<b>0.1%</b>	0.5%	0.1%	0.0%	0.0%	0.1%
Hydraulics (New)	0.4%	0.4%	<b>0.0%</b>	0.8%	0.9%	-0.9%	-0.9%	-0.4%
Information Systems / Technology	0.4%	0.3%	<b>1.4%</b>	1.1%	0.5%	0.8%	0.8%	1.1%
Marine	0.5%	1.1%	<b>1.0%</b>	0.4%	0.5%	0.5%	0.5%	-0.1%
Mechanical	2.0%	1.0%	<b>4.3%</b>	1.7%	1.9%	2.4%	2.4%	3.3%
Mining	2.3%	11.0%	<b>11.7%</b>	3.3%	4.0%	7.8%	7.8%	0.7%
Project Management	9.4%	6.0%	<b>8.0%</b>	7.7%	9.1%	-1.2%	-1.2%	2.0%
Quantity Surveying	3.8%	3.8%	<b>1.4%</b>	1.5%	3.4%	-2.0%	-2.0%	-2.4%
Structural	11.3%	11.9%	<b>18.8%</b>	12.9%	12.1%	6.6%	6.6%	6.9%
Town planning	0.5%	0.5%	<b>2.1%</b>	0.7%	0.6%	1.5%	1.5%	1.6%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>			

**Table 20: Sub-disciplines. Fee income R mill. Real 2000 prices**

Sub-discipline	DEC20	JUN21	DEC21	Change last six months	Change last 12 months
Agricultural	33	7	9	20%	-74%
Architecture	62	84	28	-67%	-55%
Mechanical building Services	48	36	463	1176%	870%
Civil	2.006	1.453	1,015	-30%	-49%
Electrical / Electronic	353	283	96	-66%	-73%
Environmental	11	73	22	-70%	100%
Facilities Management (New)	29	7	9	30%	-68%
Geotechnical	11	22	17	-20%	58%
Industrial Process / Chemical	0	360	110	-69%	-
GIS	0	0	4	-	-
Hydraulics (New)	15	15	2	-89%	-89%
Information Systems / Technology	13	11	47	335%	269%
Marine	18	40	35	-12%	96%
Mechanical	73	36	150	312%	104%
Mining	85	400	405	1%	375%
Project Management	344	218	275	26%	-20%
Quantity Surveying	140	138	49	-64%	-65%
Structural	415	432	648	50%	56%
Town planning	17	18	71	293%	332%
<b>Total</b>	<b>3.672</b>	<b>3.632</b>	<b>3.456</b>	<b>-5%</b>	<b>-6%</b>

**Table 21: Provincial Distribution. R mill. Real 2000 prices (Annualized. two survey average)**

Province	Survey period							
	Jun-18	Dec-18	Jun-19	Dec-19	Jun-20	Dec-20	Jun-21	Dec-21
EC	650	683	893	296	280	222	201	242
WC	1 738	2 119	1 757	1 015	974	865	832	806
NC	155	179	532	132	118	138	155	90
FS	379	365	347	154	159	125	106	126
NW	158	128	103	71	62	57	58	76
LIM	768	814	170	110	97	78	75	113
GAU	2 688	3 194	1 972	1 148	1 155	1 183	1 193	1,107
MPU	315	240	89	132	102	61	56	111
KZN	1 425	967	923	742	716	494	396	455
AFRICAN	1 234	1 400	554	393	462	472	443	351
INT'L	235	168	44	221	173	135	140	207
<b>Total</b>	<b>9 745</b>	<b>10 256</b>	<b>7 384</b>	<b>4 414</b>	<b>4 298</b>	<b>3 830</b>	<b>3 655</b>	<b>3 684</b>

**Table 22: Provincial Distribution Y-Y percentage Change**

(Trend – SMOOTHED over two consecutive surveys. to remove short term volatility)

Province	Survey period							
	Jun-18	Dec-18	Jun-19	Dec-19	Jun-20	Dec-20	Jun-21	Dec-21
EC	-8.7%	-9.1%	19.0%	18.1%	-60.0%	-62.7%	-28.2%	10.3%
WC	-2.6%	16.5%	26.3%	-13.5%	-39.9%	-37.6%	-14.6%	-15.0%
NC	-35.7%	4.9%	7.3%	118.0%	-64.7%	-58.3%	31.2%	-30.4%
FS	-33.5%	-34.8%	21.6%	-5.4%	-51.1%	-50.1%	-33.2%	12.4%
NW	10.4%	-27.3%	-18.3%	-13.3%	-35.8%	-34.8%	-7.4%	32.3%
LIM	87.8%	175.6%	-74.1%	-80.0%	-36.1%	-44.5%	-22.9%	56.5%
GAU	-22.2%	-4.1%	35.1%	-34.6%	-47.8%	-24.2%	3.3%	4.7%
MPU	-9.4%	-18.8%	-62.7%	-52.6%	-13.9%	-44.6%	-44.6%	60.3%
KZN	16.2%	-40.2%	-44.8%	7.8%	-2.2%	-40.7%	-44.7%	0.3%
AFRICAN	4.8%	16.9%	12.0%	-60.5%	-47.2%	-0.2%	-4.1%	-21.2%
INT'L	27.7%	11.5%	-91.7%	-16.6%	335.7%	2.0%	-19.1%	20.7%
<b>Total</b>	<b>-4.9%</b>	<b>-1.0%</b>	<b>1.0%</b>	<b>-26.9%</b>	<b>-40.4%</b>	<b>-35.1%</b>	<b>-15.0%</b>	<b>-1.4%</b>

**Table 23: Provincial Distribution percentage share of earnings**

Province	Survey period								5-year average	2-year average
	Jun-18	Dec-18	Jun-19	Dec-19	Jun-20	Dec-20	Jun-21	Dec-21		
EC	5.5	7.8	12.3	6.7	6.3	4.5	6.5	6.20	7.0	5.9
WC	18.9	22.4	23.7	23.0	22.3	25.8	19.7	34.60	20.6	22.7
NC	1.8	1.7	7.1	3.0	2.5	5.1	3.4	3.00	3.1	3.5
FS	2.5	4.6	4.6	3.5	3.9	3.5	2.3	2.10	4.1	3.3
NW	1.2	1.3	1.5	1.6	1.3	1.5	1.7	1.70	1.5	1.5
LIM	13.9	2.1	2.6	2.5	2.0	1.6	2.5	1.60	3.7	2.2
GAU	25.4	36.8	26.5	26.0	27.8	34.0	31.3	19.70	30.3	29.8
MPU	3.5	1.2	1.7	3.0	1.7	1.2	1.9	2.70	2.4	1.9
KZN	11.0	7.9	12.3	16.8	16.5	9.6	12.1	9.70	12.8	13.7
AFRICAN	13.2	14.1	7.3	8.9	12.7	11.5	12.8	10.60	11.9	11.5
INT'L	3.1	0.2	0.5	5.0	3.0	1.8	5.9	8.10	2.5	3.9
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>		

**Table 24: Client Distribution Fee income earned. R mill. Real 2000 prices (Annualized)**

Client	Survey period						
	Dec-18	Jun-19	Dec-19	Jun-20	Dec-20	Jun-21	Dec-21
Central	2 165	591	265	209	276	272	280
Provincial	506	738	486	585	382	305	294
Local	710	2 068	1 104	1 004	955	730	639
State Owned	689	1 034	618	669	509	523	518
Private	2 953	3 027	1 942	1,715	1,552	1,802	1,725
<b>Total</b>	<b>7 023</b>	<b>7 458</b>	<b>4 414</b>	<b>4 182</b>	<b>3 673</b>	<b>3 632</b>	<b>3 456</b>

**Table 25: Client distribution Percentage share of earnings**

Client	Survey period							5-year average	2-year average
	Dec-18	Jun-19	Dec-19	Jun-20	Dec-20	Jun-21	Dec-21		
Central	30.8	8.0	6.0	5.0	7.5	7.5	<b>8.1</b>	12.1	6.5
Provincial	7.2	10.0	11.0	14.0	10.4	8.4	<b>8.5</b>	11.0	11.0
Local	10.1	28.0	25.0	24.0	26.0	20.1	<b>18.5</b>	20.6	23.8
State Owned	9.8	14.0	14.0	16.0	13.9	14.4	<b>15.0</b>	13.6	14.6
Private	42.0	41.0	44.0	41.0	42.2	49.6	<b>49.9</b>	42.8	44.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>		

**Table 26: Economic sector Percentage share of earnings**

Economic sector	Dec-20	Jun-21	Dec-21	5-year average	2-year average	Deviation 5-year	Deviation 2-year	Deviation last six months
Water (Full water cycle)	22%	17%	13.1%	19.6%	18.7%	-6.5%	-5.6%	-4.3%
Transportation (land. air. road. rail. ports)	22%	20%	15.2%	26.3%	23.0%	-11.0%	-7.8%	-5.0%
Energy (electricity. gas. hydro)	8%	9%	4.5%	7.1%	8.1%	-2.6%	-3.6%	-4.2%
Mining / Quarrying	10%	23%	19.2%	11.0%	11.6%	8.1%	7.6%	-3.9%
Education	4%	2%	6.9%	1.9%	2.7%	5.1%	4.3%	5.0%
Health	2%	5%	12.7%	2.5%	3.4%	10.1%	9.3%	8.2%
Tourism/Leisure	1%	0%	0.2%	0.4%	0.7%	-0.2%	-0.5%	-0.2%
Housing (residential inc. land)	3%	2%	0.9%	5.1%	3.4%	-4.1%	-2.5%	-1.0%
Commercial <sup>3</sup>	17%	10%	16.3%	15.6%	15.3%	0.7%	1.0%	5.9%
Agriculture / Forestry / Fishing	0%	0%	0.4%	0.5%	0.2%	-0.1%	0.1%	0.2%
Other	11%	11%	10.7%	10.1%	12.9%	0.6%	-2.2%	-0.5%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>					

<sup>3</sup> Commercial includes: Manufacturing, industrial buildings, communication, financial, facilities management

**Table 27: Economic Sector Rm. Real 2000 prices. Annualized**

Economic sector	Dec-19	Jun-20	Dec-20	Jun-21	Dec-21	Per. Change last 6 months	Per. Change Last 12 months
Water (Full water cycle)	766	755	808	632	454	-28.2%	-43.9%
Transportation (land. air. road. rail. ports)	1 110	1.036	808	734	526	-28.2%	-34.9%
Energy (electricity. gas. hydro)	328	337	294	316	155	-51.1%	-47.4%
Mining / Quarrying	319	252	367	839	662	-21.0%	80.3%
Education	141	66	147	69	239	246.5%	62.8%
Health	116	192	73	163	438	168.2%	496.6%
Tourism/Leisure	44	15	37	15	6	-60.3%	-84.3%
Housing (residential inc. land)	195	186	110	69	32	-53.1%	-70.7%
Commercial	751	699	624	378	562	48.7%	-10.0%
Agriculture / Forestry / Fishing	16	15	0	7	12	70.4%	-
Other	629	629	404	407	369	-9.2%	-8.6%
<b>Total</b>	<b>4 414</b>	<b>4 182</b>	<b>3 674</b>	<b>3 629</b>	<b>3 456</b>	<b>-4.8%</b>	<b>-5.9%</b>



**Table 28: Proposed CESA Labour unit cost index**

Survey period	Labour Unit cost (LUC) per hour	Index (2000 = 100) Smoothed	Year on Year percentage change in Index	Annual Average Annual Increase
Jun-07	R122.3	185.61	9.1%	
Dec-07	R127.21	196.49	10.2%	9.7%
Jun-08	R150.43	218.65	17.8%	
Dec-08	R162.80	246.68	25.5%	21.7%
Jun-09	R171.98 r	263.65 r	20.6% r	
Dec-09	R174.77	273.07	10.7%	15.6%
Jun-10	R174.50	275.06	4.3%	
Dec-10	R199.3	294.37	7.8%	6.1%
Jun-11	R179.8	298.5	8.5%	
Dec-11	R199.5	298.7	1.5%	5.0%
Jun-12	R196.2	311.6	4.4%	
Dec-12	R249.8	351.2	17.6%	10.9%
Jun-13	R241.3	386.7	24.1%	
Dec-13	R236.1	375.9	7.0%	15.6%
Jun-14	R255.8	387.4	0.2%	
Dec-14	R266.1	411.0	9.3%	4.8%
Jun-15	R253.5	409.2	5.6%	
Dec-15	R243.08	391.06	-4.9%	0.4%
Jun-16	R236.34	377.56	-7.7%	
Dec-16	R231.78	368.66	-5.7%	-6.7%
Jun-17	R251.81	380.84	0.9%	
Dec-17	R 274.81	432.84	12.5%	6.7%
Jun-18	R 304.36	479.39	19.8%	
Dec-18	R 311.95	491.35	17.0%	18.4%
Jun-19	R 280.5	441.83	2.3%	
Dec-19	R 317.74	500.47	-2.9%	-0.3%
Jun-20	R 289.76	456.39	2.5%	
Dec-20	R 298.39	469.98	-1.7%	0.4%
Jun-21	R 300.30	536.17	5.2%	
Dec-21	R 309.30	515.49	13.5%	9.3%

**Table 29: CESA Confidence index: % respondents satisfied with working conditions**

Survey Period	CESA Confidence Index	% Change on previous survey	% Change on survey same time last year
Dec-07	99.8	0.4%	1.4%
Jun-08	99.9	0.1%	0.5%
Dec-08	99.8	-0.1%	0.0%
Jun-09	96.2	-3.6%	-3.7%
Dec-09	86.0	-10.6%	-13.8%
Jun-10	87.1	1.3%	-9.4%
Dec-10	86.7	-0.5%	0.8%
Jun-11	83.2	-4.0%	-4.5%
Dec-11	87.4	5.0%	0.8%
Jun-12	81.8	-6.4%	-1.7%
Dec-12	70.0	-14.4%	-19.9%
Jun-13	84.0	20.0%	2.7%
Dec-13	98.1	16.8%	40.1%
Jun-14	87.7	-10.6%	4.4%
Dec-14	46.3	-47.2%	-52.8%
Jun-15	44.5	-3.9%	-49.3%
Dec-15	39.4	-11.5%	-14.9%
Jun-16	75.0	90.4%	68.5%
Dec-16	87.5	16.7%	122.1%
Jun-17	96.3	10.1%	28.4%
Dec-17	54.4	-43.5%	-37.8%
Jun-18	26.8	-50.6%	-72.1%
Dec-18	31.3	16.6%	-42.4%
Jun-19	33.2	6.1%	23.8%
Dec-19	36.1	8.4%	15.0%
Jun-20	29.6	-17.9%	-11.1%
Dec-20	19.2	-35.3%	-46.9%
Jun-21	47.8	149.4%	61.4%
Dec-21	56.4	18.1%	194.5%
Jun-22 (forecast)	59.6	5.7%	24.8%
Dec-22 (forecast)	59.2	-0.7%	5.0%

**Table 30: Employment profile of the consulting engineering industry: Percentage contribution: Jul – Dec 2021**

Job Category	Black	Coloured	Asian	White	Total	% Share by type
Professional Engineer Pr.Eng	9.3%	2.9%	8.7%	79.1%	100.00%	3%
Professional Architects	9.1%	4.5%	13.6%	72.7%	100.00%	8%
Professional Quantity Surveyors	13.0%	2.6%	13.0%	71.4%	100.00%	1%
Professional Other	16.6%	5.3%	13.4%	64.7%	100.00%	11%
Technologists Pr TEChENG	13.9%	10.5%	8.7%	66.9%	100.00%	5%
Technicians PrTechni	37.5%	12.5%	2.3%	47.7%	100.00%	8%
Unregistered technical staff: Engineer	26.2%	8.9%	16.3%	48.6%	100.00%	8%
Unregistered technical staff: Technologist	44.2%	13.1%	14.9%	27.7%	100.00%	2%
Unregistered technical staff: Technician	55.0%	14.0%	6.4%	24.6%	100.00%	8%
Unregistered technical staff: Other	39.1%	10.0%	7.3%	43.6%	100.00%	0%
Technical Assistants	38.0%	12.2%	9.6%	40.3%	100.00%	25%
Draughts Persons	13.5%	19.4%	4.4%	62.7%	100.00%	3%
Laboratory / Survey Assistants	76.4%	14.5%	3.6%	5.5%	100.00%	8%
Administration / Support staff	14.5%	4.3%	3.2%	78.0%	100.00%	1%
Total	47.9%	15.4%	48.7%	72.0%	100.00%	100.00%

**Table 28: Employment profile of the consulting engineering industry: Change in contribution Jan-Jun 2021 vs July-Dec 2021**

Job Category	Black	Coloured	Asian	White
Professional Engineer Pr.Eng	0.9%	0.4%	4.2%	-5.4%
Professional Architects	-15.9%	4.5%	13.6%	-2.3%
Professional Quantity Surveyors	-2.8%	0.0%	-0.2%	3.0%
Professional Other	3.6%	1.0%	9.1%	-13.7%
Technologists Pr TEChENG	-4.5%	5.7%	-0.5%	-0.8%
Technicians PrTechni	11.4%	-0.1%	-4.9%	-6.3%
Unregistered technical staff: Engineer	0.7%	0.7%	4.6%	-6.0%
Unregistered technical staff: Technologist	1.7%	-0.9%	5.9%	-6.8%
Unregistered technical staff: Technician	-2.4%	-3.1%	0.2%	5.3%
Unregistered technical staff: Other	4.4%	-0.7%	0.4%	-4.1%
Technical Assistants	-16.1%	0.9%	5.5%	9.6%
Draughts Persons	-5.6%	4.4%	0.7%	0.4%
Laboratory / Survey Assistants	59.7%	14.5%	-13.0%	-61.2%
Administration / Support staff	-31.5%	-8.3%	-2.1%	41.9%
Total	-10.4%	-2.8%	0.3%	12.9%

**Table 29: Executive Staff profile - contribution by BLACK people, as percentage of TOTAL Executive Staff, by company type (Black include Black, Asian and Coloured)**

Company Type	Owner category	Professional Category	Dec-16	Jun-17	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21
(PTY) LTD	Executive Directors	Pr.Eng	18.4%	13.7%	17.8%	20.3%	21.1%	25.0%	25.0%
		PrTechEng	33.3%	44.8%	50.0%	58.3%	47.4%	48.0%	48.0%
		Other	50.0%	56.1%	105.9%	64.0%	53.8%	75.0%	75.0%
		TOTAL	29.7%	29.7%	15.3%	42.9%	43.5%	41.4%	41.4%
	Non-Executive Directors	Pr.Eng	100.0%	40.0%	64.2%	0.0%	44.4%	100.0%	100.0%
		PrTechEng	100.0%	0.0%	79.4%	100.0%	47.1%	100.0%	100.0%
		Other	100.0%	76.2%	21.4%	33.3%	0.0%	100.0%	100.0%
		TOTAL	100.0%	64.3%	78.5%	71.4%	25.0%	100.0%	100.0%
CC	Members	Pr.Eng	60.0%	23.1%	51.2%	57.1%	0.0%	40.0%	40.0%
		PrTechEng	100.0%	75.0%	41.5%	33.3%	0.0%	0.0%	0.0%
		Other	66.7%	77.8%	17.8%	100.0%	0.0%	0.0%	0.0%
		TOTAL	66.7%	50.0%	50.0%	0.0%	-	20.0%	20.0%
Partnership	Partners	Pr.Eng	33.3%	50.0%	105.9%	45.7%	36.2%	0.0%	0.0%
		PrTechEng	100.0%	100.0%	15.3%	20.3%	21.1%	0.0%	0.0%
		Other	50.0%	50.0%	50.0%	64.2%	58.3%	47.4%	0.0%
		TOTAL	20.0%	57.1%	62.5%	79.4%	64.0%	53.8%	0.0%
Total			40.8%	45.7%	37.4%	21.4%	42.9%	43.5%	44.77%

Job category	Black			Coloured			Asian			White			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Professional Engineer Pr.Eng	180	58	237	62	12	74	161	62	223	1,757	267	2,025	2,161	398	2,559
Professional Architects	2	2	5	2	0	2	7	0	7	21	16	37	32	18	51
Professional Quantity Surveyors	9	14	23	2	2	5	21	2	23	71	55	127	104	74	177
Professional Other	51	21	71	7	16	23	25	32	58	134	145	279	217	214	431
Technologists Pr TEchENg	90	14	104	64	14	78	51	14	64	477	21	498	682	62	744
Technicians PrTechni	60	16	76	16	9	25	2	2	5	83	14	97	161	41	203
Unregistered technical staff: Engineer	246	175	422	88	55	143	157	106	263	532	249	781	1,023	585	1,608
Unregistered technical staff: Technologist	203	131	334	78	21	99	64	48	113	182	28	210	527	228	755
Unregistered technical staff: Technician	382	134	516	94	37	131	53	7	60	173	58	230	703	235	937
Unregistered technical staff: Other	131	67	198	32	18	51	32	5	37	159	62	221	355	152	507
Technical Assistants	198	104	302	53	44	97	32	44	76	184	136	320	468	327	795
Draughts Persons	55	23	78	78	35	113	23	2	25	226	138	364	382	198	580
Laboratory / Survey Assistants	85	12	97	9	9	18	2	2	5	2	5	7	99	28	127
Administration / Support staff	366	716	1,083	76	244	320	76	161	237	177	5,641	5,818	696	6,763	7,458
<b>Total</b>	<b>2,059</b>	<b>1,486</b>	<b>3,545</b>	<b>663</b>	<b>516</b>	<b>1,179</b>	<b>707</b>	<b>488</b>	<b>1,195</b>	<b>4,178</b>	<b>6,834</b>	<b>11,012</b>	<b>7,608</b>	<b>9,324</b>	<b>16,932</b>

**Table 30: Employment Breakdown, by race, gender and job category July – December 2021**

**Table 31: Employment Breakdown, by race, gender and job category July – December 2021: Percentage share**

Job category	Black			Coloured			Asian			White			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Professional Engineer Pr.Eng	1.1%	0.3%	1.4%	0.4%	0.1%	0.4%	1.0%	0.4%	1.3%	10.4%	1.6%	12.0%	12.8%	2.4%	15.1%
Professional Architects	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.1%	0.3%
Professional Quantity Surveyors	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.4%	0.3%	0.7%	0.6%	0.4%	1.0%
Professional Other	0.3%	0.1%	0.4%	0.0%	0.1%	0.1%	0.1%	0.2%	0.3%	0.8%	0.9%	1.6%	1.3%	1.3%	2.5%
Technologists Pr TEChEng	0.5%	0.1%	0.6%	0.4%	0.1%	0.5%	0.3%	0.1%	0.4%	2.8%	0.1%	2.9%	4.0%	0.4%	4.4%
Technicians PrTechni	0.4%	0.1%	0.4%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.5%	0.1%	0.6%	1.0%	0.2%	1.2%
Unregistered technical staff: Engineer	1.5%	1.0%	2.5%	0.5%	0.3%	0.8%	0.9%	0.6%	1.6%	3.1%	1.5%	4.6%	6.0%	3.5%	9.5%
Unregistered technical staff: Technologist	1.2%	0.8%	2.0%	0.5%	0.1%	0.6%	0.4%	0.3%	0.7%	1.1%	0.2%	1.2%	3.1%	1.3%	4.5%
Unregistered technical staff: Technician	2.3%	0.8%	3.0%	0.6%	0.2%	0.8%	0.3%	0.0%	0.4%	1.0%	0.3%	1.4%	4.1%	1.4%	5.5%
Unregistered technical staff: Other	0.8%	0.4%	1.2%	0.2%	0.1%	0.3%	0.2%	0.0%	0.2%	0.9%	0.4%	1.3%	2.1%	0.9%	3.0%
Technical Assistants	1.2%	0.6%	1.8%	0.3%	0.3%	0.6%	0.2%	0.3%	0.4%	1.1%	0.8%	1.9%	2.8%	1.9%	4.7%
Draughts Persons	0.3%	0.1%	0.5%	0.5%	0.2%	0.7%	0.1%	0.0%	0.1%	1.3%	0.8%	2.1%	2.3%	1.2%	3.4%
Laboratory / Survey Assistants	0.5%	0.1%	0.6%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.2%	0.7%
Administration / Support staff	2.2%	4.2%	6.4%	0.4%	1.4%	1.9%	0.4%	1.0%	1.4%	1.0%	33.3%	34.4%	4.1%	39.9%	44.0%
Total	12.2%	8.8%	20.9%	3.9%	3.0%	7.0%	4.2%	2.9%	7.1%	24.7%	40.4%	65.0%	44.9%	55.1%	100.0%

Comp any Type	Owner category	Profession al Category	Black			Coloured			Asian			White			Total		
			Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Femal e	Total	Male	Female	Total
(PTY) LTD	Executive Director	PrEng	30	7	37	7	0	7	25	14	39	184	2	187	246	23	269
		PrTechEng	14	0	14	12	0	12	16	0	16	44	0	44	85	0	85
		Other	18	18	37	7	7	14	7	7	14	30	5	35	62	37	99
	Non- Executive Director	PrEng	5	0	5	0	0	0	0	0	0	14	0	14	18	0	18
		PrTechEng	2	0	2	0	0	0	0	0	0	5	2	7	7	2	9
		Other	14	9	23	5	2	7	5	2	7	0	2	2	23	16	39
CC	Member	PrEng	9	0	9	0	0	0	0	0	0	14	0	14	23	0	23
		PrTechEng	7	2	9	5	0	5	0	0	0	5	0	5	16	2	18
		Other	2	2	5	0	0	0	2	0	2	0	0	0	5	2	7
Partnership	Partner	PrEng	2	0	2	0	0	0	0	0	0	0	0	0	2	0	2
		PrTechEng	5	0	5	0	0	0	0	0	0	0	0	0	5	0	5
		Other	0	0	0	0	0	0	0	2	2	0	0	0	0	2	2
GRAND TOTAL			108	39	147	35	9	44	55	25	81	295	12	306	493	85	578
% Distribution of executive staff			18.7%	6.8%	25.5%	6.0%	1.6%	7.6%	9.6%	4.4%	13.9%	51.0%	2.0%	53.0%	85.3%	14.7%	100.0%
% Directorship only			13.7%	5.6%	19.3%	5.6%	1.5%	7.1%	10.7%	4.6%	15.2%	56.9%	1.5%	58.4%	86.8%	13.2%	100.0%
Total employment			2 059	1 486	3 545	663	516	1 179	707	488	1 195	4 178	6 834	11 012	7 608	9 324	16 932
Executive Staff as % of total employment			5.3%	2.6%	4.2%	5.2%	1.8%	3.7%	7.8%	5.2%	6.7%	7.1%	0.2%	2.8%	6.5%	0.9%	3.4%

Table 32: Executive Staff profile: Employment, company type, race &amp; gender: July – December 2021

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**END OF REPORT**

For further information please contact

**Consulting Engineers South Africa**

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CESA Head Office contact information is available below. The CESA also has branches throughout South Africa.

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