INTRODUCTION
Various methods were used to triangulate the research which aimed at describing the futures of work in South Africa towards 2030. This project aimed to gain insights by focusing on a sectoral analysis, the potential impact of skills development and emerging trends.

NEDLAC stakeholders and decision makers are urged to read the complete report to ensure that they experience and benefit from the richness of the information gathered.

General environmental context
A number of global trends are influencing the world of work. In South Africa, we are feeling the influence of these trends in the economy as a whole, but also on industry and personal levels.

Demographic context
South Africa has the potential to benefit from a demographic dividend – the fact that the numbers of the working age population are growing faster than those of children and older people, creates the potential for a demographic dividend.

Interesting trends of the South African population projections are the stagnation in the numbers of people aged 0-19 and 20-29, and the rapid growth in the number of people aged 30-59 and those older than 60.

The population of South Africa is urbanising at a rapid rate. 19 million people were living in rural areas in 2014; this number is projected to decrease to 14.3 million in 2050. In 2014, 34.2 million people lived in urban areas, projected to increase to 49.1 million by 2050.

Significant progress has been made in providing basic schooling to everyone in South Africa. However, there are still many people with low levels of education among the population. The majority of people of working age in South Africa have completed less than 12 years of schooling.
The South African problematique

The South African economy finds itself in the grips of significant forces in a crisis-prone and volatile external environment as well as some self-inflicted inherent weaknesses.

**EXTERNAL FACTORS: A crisis-prone and volatile environment**

- Mediocrity and entitlement
- Greed
- Productivity constraints
- Ignorance
- Global recession
- Tepid growth in Western Europe
- Growth slowdown in China
- Debilitating drought
- Decline in resource prices

**SELF-INFLICTED INHERENT WEAKNESSES**

Dynamics and dimensions of the South African labour market

The October Labour Force Survey for 2018 showed that during the third quarter of 2018:

- 15.4m (40.5% of all persons of working age, including discouraged work seekers) were not economically active;
- 2.7m (7.2% of persons of working age) were discouraged work seekers;
- 6.2m (16.4% of persons of working age) were unemployed; and
- 16.4m (43.1% of persons of working age) were employed.

According to the strict definition, 27.5% of the economically active population was unemployed at the end of the third quarter of 2018.

South Africa suffers from frictional and seasonal unemployment, but structural and cyclical unemployment are the most significant. The number of new employment opportunities created each year is fewer than the new inflows of people of working-age. In an IMF comparison of fast and slow job creators, South Africa compared unfavourably in a number of respects.

Since the beginning of the Industrial Revolution there has been a general tendency towards capital deepening. This means that every unit of production has required increasingly less labour and more capital.
investment. In South Africa, comparatively high labour costs per unit of labour – especially since the mid-1970s – have encouraged the introduction of labour saving technologies, despite an over-supply of unskilled labour.

In the light of South Africa’s comparatively disappointing productivity record over the last three decades, and the indisputable need to achieve higher economic growth, it is clear that broad-based, well-integrated development strategies are required in order to raise productivity and, therefore international competitiveness.

Some 56% of unemployed South Africans have fewer than 12 years of formal schooling. By contrast, approximately 54% of those employed have at least 12 years of formal education. These relationships match conventional wisdom. However, counter-intuitively, just over 40% of the unemployed have 12 or more years of education. This suggests an oversupply of young people with an inappropriate education – an extremely serious problem for South Africa, no matter how its future develops. It results in many young people entering the labour market with only a slim hope of finding productive and permanent employment.

This state of affairs is obviously inappropriate for an economy that displays a structural composition similar to that of a developed nation. A modern economy is primarily dependent on its managerial and professional classes for continued innovation, long-term competitiveness, sustained economic growth and development. The structural imbalance in South Africa’s economically active population (shortage of skilled labour; surplus of unskilled and semi-skilled labour) not only entrenches structural unemployment; it also compromises economic growth and, ultimately, development.

Analysis of selected industries

12 Industries were analysed in terms of the trends that could influence the industry in general, and employment in the industry in particular, toward 2030. Examples of roles that could decrease and increase toward 2030 were identified. The analysis of the manufacturing industry is portrayed here as an example.

Trends driving industry change

South Africa has a well-established and diversified manufacturing base, supported by fairly efficient transport and logistics systems. A number of multinational organisations have operations in South Africa and we are in close proximity of emerging African markets. But, South African operations are quite expensive and our productivity levels are low in comparison to our other BRICS partners.

Competition from low-wage, high-productivity nations like Brazil, India and China will continue to have a significant influence on our local manufacturing sector.

Changes in consumer preferences and a general slowing in individual consumption in our traditional export markets are putting pressure on manufacturers, pushing them to find markets for their products elsewhere.

Our currency is one of the most volatile in the world and will probably remain so for some time to come; it has a significant influence on the profitability of manufacturing operations that trade globally.
The growth in the number of people, especially from the rest of Africa, reaching middle income status holds promise for manufacturing; these ‘new’ consumers represent a potentially lucrative market in relative close proximity to us.

**Automation and digitisation** of manufacturing processes as well as processes along the entire value chain will continue to influence the number and kinds of jobs in the industry.

Automation and digitisation facilitates the **crashing of the value chain**, reducing (even eliminating) the need for intermediaries and bringing the manufacturer in closer contact with the final consumer. It opens opportunities like manufacturers offering consumers hampers of products on subscription basis or consumers being able to engage with manufacturers directly to order a customised product.

**Technologies** like mobile applications, sensors, next-generation robotics, autonomous things, artificial intelligence, 3D printing, wearables, nanotechnology, and advanced materials could change not only the kind of products produced but also the way in which it is done.

**Roles and activities expected to decrease**

![Manufacturing industry: decreasing roles](image)
Roles and activities expected to increase

Manufacturing industry: increasing roles

- Digital manufacturing
- Worker experience creators
- Factory automation
- Value chain ‘greeners’
- Digital fluency trainers
- Production line worker coaches and re-skilling
- Creators and facilitators of customised offers
- Supervisor: autonomous things
- Africa markets analyst

Scenarios: The world of work in South Africa in 2030

During the course of two engagements, a set of scenarios was developed. 12 driving forces were identified and assessed using the intuitive logics approach. The six pivotal uncertainties were further analysed using an impact analysis, producing the two axes for the scenario set. Groups developed the details for each scenario, taking the driving forces into account.
In 2030, we are going down a cul-de-sac; a dead-end road. There are some positives (like patches of economic growth), but mostly negatives. In terms of skills development, business spent minimal money on developing people, labour focused on protecting existing jobs and did not collaborate with other parties about developing next skills. In this scenario, the social compact deteriorates because each of the social partners are focusing on their deemed immediate needs and rights and not on what is best for the country as a whole over the longer term.

We call the scenario Demand and Control, because it describes what happens. There is a constant tug of war between government wanting to control (they design plans for society and individuals) and what those individuals demand based on what they deem themselves to be entitled to. But, as a nation, we are succeeding in developing the appropriate skills. Our people are able to work and earn a livable wage, mostly in permanent jobs in the designated industries, under the guidance of a descriptive and directive government. Collective bargaining now happens between government and a newly formed coalition of business, labour and the community.

In the Missing the mark (for now) scenario, we did not see a great change in time for 2030. However, the structures and environment are a lot more enabling than what it was in 2019 and we believe that we will see the benefits as a result of the enabling environment being in place and our people operating from a true sense of empowerment. If only we realised sooner that our skills development initiatives were stuck in the past.

Accomplished game-changers are accomplished because they have the appropriate, in-demand skills, and they are game changers because as empowered people, they change the rules of the game - they change the labour market for the better. In 2030, empowered people – women and men – with the right skills are active agents of change.

Concluding remarks
This research project highlighted a number of insights:

- If we continue on our current path, South Africa’s economy and her people may suffer greatly.
- We are in a position to gain from a demographic dividend, but only if our working age population have the appropriate skills.
- The reality is that we are competing against international providers that have access to low-cost, productive labour and locally, our people will increasingly ‘compete against’ robots, automated systems, and machines that learn and are able to perform the same activities with higher efficiency and at lower cost.
- Education needs a total ‘face-lift’; the entire education environment, from pre-school to post-graduate education, needs to be re-imagined and aligned with emerging skills requirements. Lifelong learning must become an imperative; not simply a ‘nice-to-have’.
- We should not steer ourselves toward a situation that pegs people against robots, automated systems, and machines that learn, but rather one that works toward people working with new technologies.
• Leaders on all levels of society should engage with their people, to facilitate understanding and share knowledge and insights about emerging opportunities and potential threats.

• The outcomes and insights gained from this research resonates with the three pillars of recommendations in the ILO Global Commission on the future of work report, namely investing in the capabilities of people, investing in the institutions of the world of work and investing in decent, sustainable work.

A number of non-negotiable truths exist:

• The 4IR is a given

• Production could happen without people. This implies the potential substitutability of smart robots and artificial intelligence for human beings in the labour force in the primary, secondary and tertiary sectors of the economy.

• Economic growth is not the panacea to job creation

• The growing democratisation of the workplace presents the firm possibility that full-time employment contracts might, in some instances, give way to less formal, gig-economy workplace agreements.

Given the above, the labour landscape, in the event of inappropriate skills and entitlement, will be very unfavourable for the majority of workers in South Africa and they will indeed run the risk of being replaced by robots, automated systems and machines that learn. That said, we do have a young population creating the opportunity for a demographic dividend which will probably only be fully exploited in the event of appropriate skills development and a growing sense of empowerment. In this kind of scenario labour is augmented by 4IR artifacts and increased production creates more jobs. It should be noted that, in the short run, a number of jobs may be destroyed; in the longer run, however, new job families are likely to be created. This is a typical manifestation of the process of creative destruction.

One of the key imperatives to both escape the Dead-end scenario and to achieve the Accomplished Game Changers scenario is a total re-haul of the education / training / skilling system. Here all stakeholders have roles to play.

NEDLAC should play a leading, coordinating, orchestrating, integrating role in engaging all the relevant stakeholders, and a social labour market compact should be facilitated. The trade-off between efficiency and equity should be taken into account; decision makers should explore the trade-offs and design policies and procedures that both acknowledge that trade-offs exist and reward efforts to mitigate job losses, reduce poverty and narrow income inequality.

NEDLAC is a well-established organisation, respected for its role in bringing stakeholders together and facilitating social dialogue. As such, NEDLAC could also bring the voices of the unemployed and people involved in the informal economy, as well as those who do unpaid work (like caring for family members) and small business to this discussion.

Moreover, NEDLAC could be instrumental in ensuring more investment towards digital infrastructure. This will not only help to close the digital divide, but also contribute towards sharpened digital fluency.
NEDLAC could consider further research on topics such as:

- Issues other than skills that influence access to economic opportunities in SA (gender, age, geographic location, vulnerability, etc.)
- The futures of worker representation, collective bargaining and the role of trade unions

All four of the scenarios that were generated as part of this research, are plausible. The preferable scenario is that of the Accomplished Game Changers and, in the words of President Cyril Ramaphosa during his address at the launch of the ILO Global Commission on the Future of Work report: “... we are optimistic that with the right approach, an approach that is proactive and inclusive, we can achieve what we set out to.”

Research Team

The research team acknowledges and appreciates the inputs from the NEDLAC Research Reference Group, ILO representatives, interviewed NEDLAC stakeholders and the IFR Research Colloquium.

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